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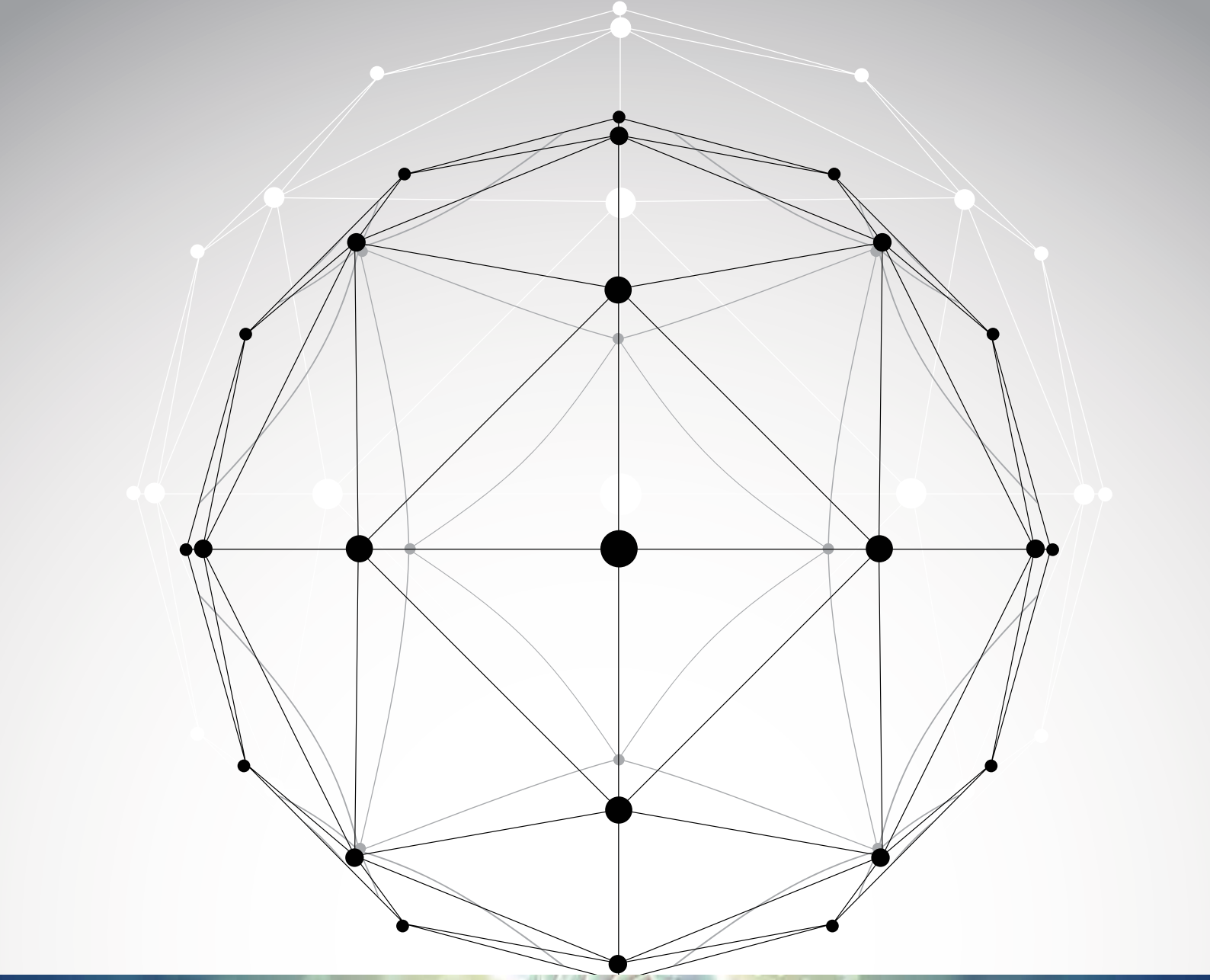
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

Table of contents

LIST OF TABLES



PART A: GENERAL INFORMATION

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2. List of abbreviations

AGSA	Auditor-General of South Africa
APP	annual performance plan
ASCA	Agulhas System Climate Array
ASSAf	Academy of Science of South Africa
AU	African Union
AVN	African Very Long Baseline Interferometry Network
BIDC	Biomanufacturing Industry Development Centre
BRICS	Brazil, Russia, India, China and South Africa
CSIR	Council for Scientific and Industrial Research
DHET	Department of Higher Education and Training
DST	Department of Science and Technology
DTI	Department of Trade and Industry
ECDoE	Eastern Cape Department of Education
ENE	Estimates of National Expenditure
EU	European Union
Exco	DST Executive Committee
FEI	Fluorochemicals Expansion Initiative
HCD	human capital development
HSRC	Human Sciences Research Council
HySA	Hydrogen South Africa
ICT	information and communication technology
IKS	indigenous knowledge systems
IKS Bill	Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill
IP	intellectual property
IPR Act	Intellectual Property Rights from Publicly Financed Research and Development Act
ISI	Institute for Scientific Information
IT	information technology
LED	local economic development
MTEF	Medium Term Expenditure Framework
MTSF	Medium Term Strategic Framework
NACI	National Advisory Council on Innovation
Necsa	South African Nuclear Energy Corporation
NEP	National Equipment Programme
NHLS	National Health Laboratory Service
NIC	nanotechnology innovation centre
NIPMO	National Intellectual Property Management Office

List of abbreviations (continued)

NMDN	Nuclear Materials Development Network
NNEP	National Nanotechnology Equipment Programme
NRF	National Research Foundation
NSI	National System of Innovation
NSW	National Science Week
OTT	office of technology transfer
PFMA	Public Finance Management Act
R&D	research and development
RDI	Research, development and innovation
S&T	science and technology
SACNASP	South African Council for Natural Scientific Profession
SADC	South African Development Community
SAMREF	South African Marine Research and Exploration Forum
SANAP	South African National Antarctic Programme
SANReN	South African National Research Network
SANSA	South African National Space Agency
SARIR	South African Research Infrastructure Roadmap
SETI	science, engineering, technology and innovation
SIF	Sector Innovation Fund
SKA	Square Kilometre Array
SME	small or medium enterprise
STI	science, technology and innovation
TIA	Technology Innovation Agency
TWAS	The World Academy of Sciences

3. Foreword by the Minister

Mrs GNM Pandor, MP
Minister of Science and Technology

Allocated a budget of R7,482 billion for the 2015/16 financial year, the Department of Science and Technology prioritised investment in research and development towards new knowledge, new industries, and new technology.

New knowledge

Ten years ago the Department decided to establish 210 university research chairs. The programme is known as the South African Research Chairs Initiative (SARChI). It's aim was to attract top-ranking foreign scientists to South Africa to boost our scientific competitiveness. It was also designed to encourage South Africans to stay at South African universities in the face of what was seen at the time as a brain drain abroad of senior academics. It started with 21 chairs. A third of them came from outside South African universities, from universities in Germany, Sweden, Britain, Italy, the Netherlands, Ethiopia, Nigeria and Kenya. Some were South Africans coming home. The remainder were established professors set free of teaching and able to research full time. Over 10 years SARChI has grown to 194 chairs. It still attracts a mix of foreigners, South Africans at home, and South Africans from abroad.

In 2015 the Department established 45 new SARChI chairs for women, as only 35 out of 150 chairs were held by women at the time. Now 116 (60%) are male, 78 (40%) are female, 143 (74%) are white and 51 (26%) are black (African, Asian, Indian, Coloured). SARChI is a R404-million-a-year government-funded programme. It is a huge opportunity for our country and our continent. It nurtures research talent. This is vital for our future prosperity.

New research and development-led industries

The Fluorochemical Expansion Initiative is one of the new industry projects that the Department is driving. The aim is to expand the country's fluorochemical industry through increased local beneficiation of the country's reserves. South Africa has the world's largest reserves of fluorspar, with an estimated 41 million tons. The country currently supplies about 10% of the fluoride requirements to the $16 billion (R262bn) per annum global fluorochemicals industry, but earns less than 0,5% of the revenue owing to the low levels of local beneficiation. About 10 years ago the Department began to invest in R&D competence with Pelchem SOC Ltd, a subsidiary of Necsa. A multipurpose fluorination pilot plant was established in 2010. Successful technology development would see Pelchem's turnover increase from R200 million a year to almost R400 million a year in 2019, and R1 billion by 2025.

The Hydrogen Fuel Cell Technologies RDI Programme is yielding results with the launch of prototypes in sectors like mining. South Africa's first prototype hydrogen fuel cell forklift and refuelling station was launched at Impala Refining Services. The prototype is a collaborative effort between the DST, through HySA Systems (Hydrogen South

Foreword by the Minister (continued)

Africa's centre of competence for systems integration and technology validation) based at the University of the Western Cape, and Implats, through Impala Refining Services.

Fuel-cell-powered forklifts are gaining significant attention worldwide, and are now entering mainstream commercialisation. However, the limited availability of refuelling infrastructure, coupled with the challenge of finding the most appropriate onboard hydrogen storage technology, remains a challenge. Through this demonstration project, HySA Systems has addressed both challenges through the use of a novel metal hydride material for both hydrogen compression and storage.

New technology

The Department's strategic investment in developing a new technology to produce titanium metal powder continues. It has redesigned the pilot plant to restart test runs from October 2016. Titanium powder is widely used in industries such as aerospace, medical applications, transport and chemical processing to create high-performance, lightweight parts. But titanium powder has become even more important because of its use in 3D printing, which is establishing itself as an alternative mode of manufacturing. Revenue of approximately $400m per annum is expected from the titanium powder production once the commercial plant is operational in 2023.

A number of manufacturing advances are being made in the MeerKAT project. A tender has been awarded to build the local manufacturing capability for PC Board and big data manufacturing that will allow for the local manufacture of the SKARAB. In addition, independent manufacturing capabilities for the MeerKAT panels and the sub-reflectors have been established. This has ensured the necessary skill transfers to the industry and also the creation of new technically skilled jobs.

The work undertaken on the MeerKAT receivers has also attracted external funding from the Max Planck Society in Germany, who have invested approximately R150 million for the S-Bad receivers on the MeerKAT. IBM has launched a research centre at the University of the Witwatersrand with an investment of R700 million, which among other things, will develop skills in Big Data in partial support of the SKA. Cisco has invested R50 million at the Nelson Mandela Metropolitan University for a Centre for Broadband Research, also in support of the SKA.

Since the Intellectual Property Rights from Publicly Financed Research and Development Act came into effect in 2010, the number of disclosures made by technology transfer agencies has tripled, with the number of patents being managed by these agencies doubling. Since 2011 over 1 000 disclosures have been received by the National Intellectual Property Management Office from institutions, of which 71% relate to inventions for patent protection.

The year under review saw the launch of the National Cleanroom Facility at the DST-Mintek Nanotechnology Innovation Centre (NIC). The facility will enable the NIC and researchers from other entities to conduct research, development and innovation in an appropriate environment. A polymer nanocomposites and nano-additives scaling-up facility at the CSIR was also launched. This makes the industrial-scale production of nanostructures and nano-applications required for industrial testing possible. The lack of such a facility had previously hampered the NIC's ability to translate discoveries into viable industry applications.

Ten indigenous knowledge-based community development projects were assessed for commercialisation viability. Commercialisation and entrepreneurship training for these communities and organisations are ongoing at the South African Bureau of Standards, the Innovation Hub, the CSIR and the University of Pretoria. A commercialisation agreement for an HIV immune modulator was signed between the University of the Free State and a commercial manufacturer, Afriplex.

In the year under review, the CSIR established the Biomanufacturing Industry Development Centre (BIDC), a hub for innovation in the biomanufacturing sector. The BIDC is the first of its kind in South Africa, and aims to support SMEs involved in biomanufacturing to meet their customers' needs comparatively quickly and to exploit market opportunities.

During the 2015/16 financial year the collaborative research between the CSIR and traditional healers led to the extraction of the active chemical component of an indigenous plant. Scientists and traditional healers

are collaborating in studies on indigenous plants which have led to the development of mosquito-repellent candles. During the reporting period, ***Lippia javanica*** (an indigenous plant that is traditionally used to repel mosquitoes) was introduced to the Rose Geranium project as an additional product. The project has been creating jobs and skills, especially for the local youth.

Intellectual property rights related to South Africa's valuable indigenous knowledge systems will be better protected through the Indigenous Knowledge Systems Bill. This should facilitate economic growth and spin-offs resulting from the application of such knowledge.

Maritime research

With 3 000 km of coastline, South Africa is a major maritime nation and unlocking marine resources has the potential to increase the country's gross domestic product by more than R20 billion over five years. Through initiatives such as the South African Marine Research and Exploration Forum (SAMREF) established between the DST and the Offshore Petroleum Association of South Africa to exploit research opportunities in offshore oil and gas exploration in South Africa. An initiative of Operation Phakisa, the aim of SAMREF is to enhance cooperation between the public and private sectors and improve the exchange of information and data on a voluntary basis among all stakeholders.

International cooperation

South Africa ranks highest among BRICS nations in terms of the percentage of scientific papers published by the country's researchers with international authors, pointing to the country's status as a sought-after partner for international STI partnership, according to a recently released OECD study.

South Africa participates successfully in competitive international research funding programmes. In the EU's prestigious Horizon 2020 Framework Programme for Research and Innovation, South Africa's success in terms of the number of projects involving the country's researchers is, among countries outside Europe, bettered only by the United States of America and Canada.

In partnership with the Department several major multinational companies like Pfizer, Nestlé and Hitachi have invested in research, innovation and human capital development activities in South Africa. The Department is also an important strategic partner for such major philanthropic organisations as the Bill & Melinda Gates Foundation, which has invested in programmes to harness science and technology for poverty alleviation.

The Department continues to provide leadership in the science structures of organisations such as the African Union and the Southern African Development Community. It led the preparation of the first BRICS multilateral framework programme for collaborative research and innovation.

Recently, the Department and Academy of Science of South Africa hosted the International Network for Government Science Advice Conference, the first dedicated workshop to build the capability of Africa's scientists to present science advice to governments.

Science diplomacy and the promotion of South Africa as a preferred international partner for STI partnership initiatives remain an important aspect of the Department's work, with another outstanding achievement in the reporting period being the hosting of the first Science Forum South Africa, an international public science event. The forum was attended by more than 1 500 participants, including influential decision-makers from more than 50 countries.

Closing

I am grateful to the Deputy Minister, Ms Zanele kaMagwaza-Msibi, the Director-General, Dr Phil Mjwara, and the management and staff of the Department and the public entities. Thanks are also due to the Portfolio Committee on Science and Technology, especially Dr Bevan Goqwana, its chair, and our many public and private-sector partners, both domestic and international.

Mrs GNM Pandor, MP
Minister of Science and Technology

Isendlalelo sikangqongqoshe

UMnyango Wezesayensi Nobuchwepheshe wabelwa izigidigidi ezi-7,482 zamarandi onyakeni wezimali we-2015/16 ubeke phambili ukutshalwa kwemali olwazini olusha, ezimbonini ezintsha kanye nakubuchwepheshe obusha.

Ulwazi olusha

Eminyakeni eyishumi edlule uMnyango wanquma ukusungula izinhelo zokucwaninga ezi-210 emayunivesi. Lolu hlelo lwaziwa ngoHlelo Locwaningo LwaseNingizimu Afrika (i-SARChI). Inhloso yalo kwakuwukuheha ososayensi abasezingeni eliphezulu basemazweni angaphandle eNingizimu Afrika ukuze kunyuke izinga lethu lokukwazi ukuncintisana kwezesayensi. Lwaphinda lwasungulelwa ukukhuthaza abantu baseNingizimu Afrika ukuba bahlale emanyuvesi aseNingizimu Afrika ngenxa yalokho okwakuthathwa njengokufuduka kwezifundiswa ziya emazweni aphesheya. Abaningi balaba sosayensi babevela emanyuvesi angaphandle kwezwe laseNingizimu Afrika, emanyuvesi aseJalimane, eSweden, eBrithani, e-Italy, eNetherlands, e-Ethiopia, e-Nigeria naseKenya. Abanye kwakuyizakhamizi zaseNingizimu Afrika ezazibuyela ekhaya. Ingxenye kwakungosolwazi abahlonishwayo abayeke umsebenzi wokufundisa ukuze bagxile kucwaningo ngokuphelele. Eminyakeni eyishumi izinhelo ze-SARChI zikhule zaba nga-194. Isaqhubeka nokuheha izakhamizi zakwamanye amazwe, abantu baseNingizimu Afrika abazinze kuleli, kanye nabantu baseNingizimu Afrika abazinze emazweni aphesheya.

Ngo-2015 uMnyango wasungula Izinhlelo ezi-45 ezintsha Zocwaningo ZaseNingizimu Afrika (i-SARChI) zabesifazane, kwazise zazinga-35 kwezi-150 izinhlelo zocwaningo ezaziqhutshwa abantu besifazane ngaleso sikhathi. Manje kunabesilisa aba-116 (60%), abesifazane aba-78 (40%), abamhlophe aba-143 (74%) kanye nabamnyama aba-51 (26 %) (Abamnyama, Abase-Eshiya, Amandiya, Amakhaladi). I-SARChI iwuhlelo lukahulumeni oluxhaswa ngezigidi ezi-404 zamarandi ngonyaka. Yithuba elihle lezwe lethu kanye nezwekazi lethu. Lifukula amakhono okucwaninga. Lokhu kubalulekile ekukhuleni kwethu.

Izimboni ezintsha

Uhlelo Lokukhuliswa kwe-***Fluorochemical*** ngolunye lwezinhlelo ezintsha zemboni eziqhutshwa nguMnyango. Inhloso wukukhulisa imboni yezwe ye-***fluorochemical*** ngokukhulisa imihlomulo yendawo yemithombo yezwe. INingizimu Afrika ine-***fluorspar*** eningi emhlabeni jikelele, nelinganiselwa kumathani ayizigidi ezi-41. Njengamanje izwe lihlinzeka ama-10% ezidingo zefloridi ngezigidigidi ezi-16 zamadola aseMelika (R262bn) (ngonyaka embonini yomhlaba ye-***fluorochemicals***), kodwa ithola ngaphansi kwama-0,5% email engenayo ngenhla yamazinga aphansi emihlomulo yendawo. Eminyakeni eyi-10 edlule, uMnyango waqala ukutshala imali kumsebenzi we-R&D ngokusebenzisana ne-***Pelchem SOC Ltd***, inkampani elawulwa yi-Necsa. Indawo yokwakha ye-***fluorination*** yasungulwa ngonyaka we-2010. Ukuthuthukiswa kobuchwepheshe okuyimpumelelo kuzoholela ekukhuleni kwemali engenayo ye-***Pelchem*** isuka kuzigidi ezi-200 zamarandi ngonyaka iya kwizigidi ezi-400 zamarandi ngonyaka we-2019, kanye nesigidigidi esi-1 ngonyaka we-2025.

Uhlelo lwe-***Hydrogen Fuel Cell Technology*** lukhiqiza izithelo ngokuthulwa ngokusemthethweni kwemikhakha yokuhlola efana nezokuvukuza. Isiteshi sokugcwalisa kanye nesithuthi sokuthwala sokuqala eNingizimu Afrika sathulwa ngokusemthethweni e-***Impala Refining Services***. Lokhu kuhlola ngumzamo wokusebenzisana phakathi kwe-DST, ngokusebenzisa Izinhlelo ze-***HySA*** (Isizinda se-***Hydrogen*** saseNingizimu Afrika sokudidiyela izinhlelo kanye nokwenza ubuchwepheshe bube semthethweni) esizinze eNyuvesi YaseNtshonalanga Kapa, kanye ne-***Implats***, ngokusebenzisa i-***Impala Refining Services.***

Ama-***forklift*** asebenzisa uwoyela wamaseli ayacutshungulisiswa emhlabeni jikelele, futhi njengamanje kungenwa ezingeni lokuthengiswa kwawo ezimakethe. Kodwa ukuswelakala kwengqalasizinda yokugcwalisa, kanye nezinselele zokuthola izindawo ezifanele eziwubuchwepheshe bokugcina i-***hydrogen***, kusalokhu kuyinselele. Ngale phrojekthi yokuhlola, i-***HySA Systems*** ixazulule zombili izinselelo ngokusebenzisa iziqukathi zensimbi ukugcina nofuguqula i-***hydrogen***.

Ubuchwepheshe obusha

Utshalomali loMnyango ekuthuthukisweni kobuchwepheshe obusha ukukhiqiza impuphu yethayithiniyamu kuyaqhubeka. Wakhe indawo yokukhiqiza ukuze kuqalwe kabusha ukuhlola ngoMfumfu 2016. Impumpu yethayithiniyamu isetshenziswa kakhulu ezimbonini ezifana nezamabhanoyi, ukwakhiwa kwemithi,

ezokuthutha kanye nasekwenziweni kwezingxenye ezilula ezisebenza kahle. Kodwa impuphu yethayithiniyamu ibaluleke kakhulu ngoba isebenzisa ukugaya kwe-3D, njengethathwa njengomkhiqizo engasetshenziswa ukukhiqiza. Imali engenayo elinganiselwa kuzigidi ezi-400 zamadola asemelika kulindeleke ukuthi izuzwe ekukhiqizweni kwempuphu yethayithiniyamu uma indawo yokwakha isisebenza ngonyaka we-2023.

Kunenqubekela phambili kakhulu kwezokusungula kuphrojekthi ye-MeerKAT. Ithenda likhishiwe ukuze kwakhiwe indawo yokwakha ama-***PC Board*** ezovumela abasunguli bendawo be-***SKARAB***. Phezu kwamandla okwakha ezinkampani ezizimele yamaphaneli e-MeerKAT kanye nama-***sub-reflector*** isunguliwe. Lokhu kuqinisekise ukuthi amakhono afanele adluliselwa embonini kanye nokusungulwa kwamakhono emisebenzi kwezobuchwepheshe.

Umsebenzi owenziwa yi-MeerKAT uthole okunye ukuxhaswa kwangaphandle okuqhamuka eJalimane, abaye batshale imali elinganiselwa kuzigidi ezi-150 zamarandi ye-S-Bad e-MeerKAT. I-IBM ithule ngokusemthethweni isikhungo socwaningo eNyuvesi yase-Witwatersrand ngotshalomali lwezigidi ezi-700 zamarandi lapho eminye yemizamo wukuthuthukisa amakhono kwi-***Big Data*** ekusekeleni indawo ye-SKA. I-Cisco itshale imali eyizigidi ezi-50 zamarandi eNyuvesi i-Nelson Mandela ukuze kwakhiwe Isikhungo Socwaningo Lweze-inthanethi, kanye nokusekela i-SKA.

Kusukela kuqale ukusebenza kwaMalungelo Abasunguli aseMthethweni Wokuthuthukisa Nocwaningo Oluxhaswe Nguhulumeni ngonyaka we-2010, isibalo sokudalula okwenziwe yizikhungo ezidlulisa ubuchwepheshe siphindaphindeke kathathu, ngamalungelo aphethwe yilezi zikhungo ephindaphindeka kabili. Kusukela ngowe-2011 kudalulwe ukusungula oku-1 000 okwamukelwe yiHhovisi Lokuphathwa Kwamalungelo Abanikazi Babasunguli kuqhamuka ezikhungweni, ama-71% akho kumayelana nokuvikelwa kwamalungelo okusungula.

Kulo nyaka obuyekezwayo kusungulwe ***i-National Cleanroom Facility e-DST - Mintek Nanotechnology Innovation Centre*** (i-NIC). Lesi sikhungo sizonikeza i-NIC nabacwaningi abavela kwamanye amabhizinisi ithuba lokwenza ucwaningo, ukuthuthukiswa kanye nokusungulwa kwezinto ezintsha endaweni efanele. I-***polymer nanocomposites*** kanye nendawo yokukhuphula izithasiselo yathulwa ngokusemthethweni e-CSIR. Lokhu kwenza ukukhiqizwa okulingana nokwezimboni kwenzeke kwama-***nanostructure*** kanye nama-***nano-application*** adingekayo ukuhlola ezimbonini. Ukungabi khona kwesikhungo esifana nalesi ngaphambilini bekuvimba ikhono le-NIC lokwenza izinto ezintsha ezisunguliwe zibe yizinto ezithengiswayo ezimbonini.

Amaphrojekthi ayishumi okuthuthukiswa komphakathi ngokusebenzisa ulwazi lwendabuko ahlolwa ukuthi angaphumelela yini ngakwezohwebo. Ukungeniswa kwemikhiqizo emisha emakethe kanye noqeqesho lokuqala amabhizinisi kwale miphakathi nezinhlangano kuyaqhubeka Enhlanganweni Ebhekelele Amazinga YaseNingizimu Afrika, Esizindeni Sokusungula, e-CSIR kanye naseNyuvesi YasePitori. Isivumelwano sokungenisa emakethe isisetshenziswa sokagezi se-HIV sasayinwa phakathi kweNyuvesi YaseFreyistata nomkhiqizi wemikhikhiqizo yokuhweba, i-Afriplex.

Onyakeni obuyekezwayo, i-CSIR isungule Isizinda Sokuthuthukiswa Kwemboni Yokukhiqiza Imikhiqizo Yezempilo (i-BIDC), indawo yokusungula izinto ezintsha emkhakheni wokusungula imikhiqizo yezempilo. I-BIDC eyokuqala ngqa eNingizimu Afrika, futhi ihlose ukusekela ama-SME abamba iqhaza ekukhiqizeni imikhiqizo yezempilo ukuhlangabezana nezidingo zamakhasimende ngokushesha nokusebenzisa amathuba ahlinzekwa yimakethe.

Ngonyaka wezimali we-2015/16 ucwaningo lokubambisana phakathi kwe-CSIR kanye nabalaphi bendabuko kwaholela ekutholakaleni kwekhemikhali esebenzayo yesihlahla sendabuko. Ososayensi kanye nabalaphi bendabuko bayasebenzisana ocwaningweni lwezihlahla zendabuko nokuholele ekwakhiweni kwamakhandlela axosha omiyane. Ngokuhamba kwesikhathi esibika ngaso, i-***Lippia javanica*** (isihlahla sendabuko esisetshenziselwa ukuxosha omiyane) sathulwa kuphrojekthi ye-***Rose Geranium*** njengomkhiqizo wesintu. Le phrojekthi yakha amathuba emisebenzi futhi yahlomisa ngamakhono, ikakhulukazi entsheni yendawo.

Amalungelo obunikazi abasunguli amayelana nezinhlelo zolwazi lwendabuko lwaseNingizimu Afrika angavikelwa kangcono ngoMthethosivivinywa Wezinhlelo

Isendlalelo sikangqongqoshe (uyaqhubeka)

Zolwazi Lwendabuko. Lokhu kufanele kwenze lula ukukhula komnotho kanye nemihlomulo ebangelwa ukusetshenziswa kwalolu lwazi.

Ucwaningo lwasolwandle

Njengoba inogu olu-3 000 km, iNingizimu Afrika iyizwe elikhulu ezindabeni zasolwandle futhi ukusebenzisa ngokuphelele imihlomulo yasemanzini kungandisa umkhiqizo wezwe ngezigidigidi zamarandi ezingaphezulu kwama-20 eminyakeni emihlanu. Ngezinhlelo ezifana neSithangami Sokubheka Nocwaningo Lwasolwandle SaseNingizimu Afrika (i-SAMREF) esibujwe phakathi kwe-DST kanye neNhlangano Kaphethroli Ombiwa Olwandle YaseNingizimu Afrika ukusebenzisa amathuba ocwaningo ekubhekeni igesi kanye nowoyela ogwini lwaseNingizimu Afrika. Uhlelo olubizwa nge-***Operation Phakisa***, inhloso ye-SAMREF wukukhuthaza ukubambisana phakathi komkhakha ozimele nokahulumeni kanye nokwenza ngcono ukwabelana ngolwazi ngokuzithandela phakathi kwalabo ukusetshenziswana nabo.

Ukubambisana emhlabeni jikelele

INingizimu Afrika elele phezulu phakathi kwamazwe e-BRICS uma kuya ngakumaphesenti amaphepha esayensi ashicilelwe ngabacwaningi bezwe nabalobi bomhlaba, nokuveza isimo sezwe njengelifunwa kakhulu njengezwe okungabambiswana nalo kubudlelwano bomhlaba be-STI, ngokubeka kocwaningo olusanda kukhishwa lwe-OECD.

INingizimu Afrika ibamba iqhaza ngempumelelo ezinhlelweni zokuncintisana zomhlaba zokuxhasa ucwaningo. Ohlelweni oluhlonishwayo lwe-EU i-***Horizon 2020 Framework Programme for Research and Innovation***, impumelelo yeNingizimu Afrika mayelana nenani lamaphrojekthi elibandakanya abacwaningi bezwe, phakathi kwamazwe angaphandle kweYurophu, idlulwe yi-United States of America ne-Canada kuphela.

Ngokubambisana noMnyango, izinkampani zamazwe eziningana njenge-Pfizer, i-Nestlé ne-Hitachi zitshale imali kucwaningo, ekusunguleni izinto ezintsha kanye nasekuthuthukisweni kwabasebenzi eNingizimu Afrika. UMnyango ubuye ube ngumnyango obalulekile okungasetshenziswana nawo kuzinhlangano ezinkulu ezinikela ngemali njenge-***Bill & Melinda Gates Foundation***, etshale izimali ezinhlelweni zokufukula isayensi nobuchwepheshe ukuze kuqedwe ububha.

UMnyango uyaqhubeka nokuhlinzeka ubuholi kuzinhlaka zesayensi zezinhlangano ezifana neNhlangano Yamazwe Ase-Afrika kanye neNhlangano Yamazwe AseNingizimu Ne-Afrika. Uhole amalungiselelo ohlelo lohlaka lokuqala lwamazwe e-BRICS lokucwaninga kanye nokusungula izinto ezintsha ngokubambisana.

Muva nje, uMnyango kanye neSikhungo Sesayensi saseNingizimu Afrika sasingatha Umhlangano Womhlaba Wokweluleka Uhulumeni Ngesayensi, umhlangano wokucobelelana ngolwazi wokuqala wokwakha amandla ososayensi base-Afrika uhlinzeka izeluleko zesayensi kohulumeni.

Ukusebenzisana namanye amazwe kwezesayensi kanye nokukhangiswa kweNingizimu Afrika njengezwe okungasetshenziswana nalo kuzinhlelo zokusebenzisana ze-STI kusalokhu kuyinto ebaluleke kakhulu emsebenzini woMnyango, nenye impumelelo emangalisayo ngesikhathi sokubika okube ukusingathwa kokuqala kweSithangami Sesayensi eNingizimu Afrika, umhlangano wesayensi womphakathi wasemhlabeni jikelele. Isithangami sasithanyelwe ababambiqhaza abangaphezu kuka-1 500, kuhlanganisa abanamandla ekuthatheni izinqumo abavela emazweni angaphezu kwa-50.

Ukuphetha

Ngibonga Iphini Likangqongqoshe, uNkz. Zanele kaMagwaza-Msibi, uMqondisi-Jikelele, uDkt Phil Mjwara, kanye nabaphathi nabasebenzi boMnyango kanye nezinkampani zikahulumeni. Siyabonga futhi eKomidini Elibhekelele ukusebenza koMnyango Wezesayensi Nobuchwepheshe, ikakhulukazi uDkt Bevan Goqwana, usihlalo walo, kanye nalabo esisebenzisana nabo emikhakheni kahulumeni neyangasese, kuleli lizwe kanye nasemhlabeni jikelele.

Nkk. GNM Pandor, MP
UNgqongqoshe Wezesayensi Nobuchwepheshe

Ketapele ya tona

Go filwe tekanyetšokabo ya R7,482 bilione ngwageng wa ditšhelete wa 2015/16, Kgoro ya Saense le Theknolotši e beile pele dipeeletšo go tsebo ye mpsha, di-intasteri tše difsa le theknolotši ye mpsha.

Tsebo e mpsha

Mengwaga e lesome ye fetilego kgoro e tšeere sephetho sa go hloma ditulo tše 210 tša diphatišišo diyunibesithing. Programo ye e tsebja ka the South African Research Chairs Initiative (SARChI). Maikemišetšo a yona ke go goketša boramahlale ba go tšwa ntle ba maemo a godimo go kaonafatša phadišano ya rena ya saenthefiki. Programo ye e hlametšwe gape go hohleletša ma-Afrika Borwa go tsena diyunibesithing tša Afrika Borwa go efoga kgonagalo ya seo se ilego sa bonwa ka yona nako yeo bjalo ka tšhologelo ya ditsebidigolwane dinageng tša ntle. Programo ye e thomile ka ditulo tše 21. Teetharong ya ditsebidigolwane tše e tšwa diyunibesithing tša ka ntle ga Afrika Borwa bjalo ka diyubesithing tša Germany, Sweden, Britain, Italy, the Netherlands, Ethiopia, Nigeria le Kenya. Ba bangwe ba bona e be e le ma-Afrika Borwa bao ba bego ba boya gae. Palo ye šetšego e be e le diprofesara tša go tsebega tšeo di lokolotšwego bofahlošing ebile di kgona go fatišiša goyagoile. Mo mengwageng e lesome SARCHi e gotše go fihla ditulong tše 194. E santše e goketša batšwantle bago fapafapana, ma-Afrika Borwa mo gae, le ma-Afrika Borwa go tšwa nageng tša ka ntle.

Ka 2015 Kgoro e hlomile ditulo tše difsa tše 45 ba Diphatišišo ba Afrika Borwa (SARChI) bakeng sa basadi, ka ge ditulo tše 35 godimo ga tše 150 di be di swerwe ke basadi nakong yeo. Gabjale 116 (60%) ke banna, 78 (40%) ke basadi, 143 (74%) ke bathobašweu mola 51 (26%) e le bathobaso (Bathobaso, Maindia, Bammala). SARChI ke programo ya mmušo ye thekgwago ka R404 milione ka ngwaga. Ke monyetla wo mogolo nageng ya rena le kontinenteng ya rena. E godiša talente ya diphatišišo. Programo ye e bohlokwa kudu katlegong ya rena ya ka moso.

Diintasteri tše difsa

Maihlamelo a Katološo ya ***Fluorochemical*** (botswakadikhemikhale) ke a mangwe a diprotšeke tše difsa tša intasteri ao Kgoro e lego gare ka ona. Maikemišetšokgolo ke go katološa intasteri ya naga ya botswakadikhemikhale ka kholo ye hlatlogilego ya mafelo a fao a matlotlo a naga. Afrika Borwa e na le dipolokelo tše kgolokgolo lefaseng tša ***fluorspar***, ka dipolokelo tše balelwago ditone(tons) tše 41 milione. Gabjale, naga ye e aba palo ya go batamela 10% ya dinyakwa tša ***fluoride*** go fihla go $16 bilione (R262bn) (intasteri ya bolefase ya botswakadikhemikhale ka ngwaga), eupša e buna fela ka fase ga 0.5% ya letseno ka baka la maemo a fase a kholego ya mafelo a selegae. Mengwageng e lesome ye fetilego Kgoro e thomile go beeletša bokgoning bja R&D gotee le Pelchem SOC Ltd, lekalakgwebo la Necsa. Polante ya mediromentši ya makgoraditsela ya botswakadikhemikhale e hlomilwe ka 2010. Kgatelopele ye atlegilego ya theknolotši e tla dira gore letsenomoka la Pelchem'sle hlatloge go tloga go R200 milione ka ngwaga go fihla go letseno la go balelwa R400 milione ka ngwaga ka 2019, le R1 bilione ka 2025.

Programo ya ***Hydrogen Fuel Cell Technology*** e tliša dipoelo ka go tsebagatšwa ga disampolo mo disektareng tše bjalo ka tša meepo. Sampolo ya mathomo ya Afrika Borwa ya foklifithi ya go sepela ka makhura a sele le seteišene sa go tšhela makhura e tsebagaditšwe kua Impala Refining Services. Sampolo ye ke maitekelo a mohlakanelwa magareng ga DST, ka HySA Systems (senthara ya ***Hydrogen*** ya Afrika Borwa ya bokgoni bja kopantšho ya dipeakanyo le kgonthišišo ya theknolotši) yeo e lego Yunibesithing ya Kapa Bodikela le Implats, ka Impala Refining Services.

Difoklifithi tša go sepela ka makhura a sele di hwetša šedi ye kgolo lefaseng ka bophara ebile gabjale di tsena dikgwebišatšanong tša moragorago. Le ge go le bjalo, khumanego ye hlaelelago ya mananeokgoparara a diteišene tša makhura a sele ge e kopana le tlhotlo ya go humana theknolotši ye maleba ya bobolekelo bja haedrotšene e santše e le tlhotlo. Ka yona protšeke ye ya go šupetša, HySA Systems e rarolotše ditlhotlo tšeo ka bobedi ga tšona ka tšhomišo ya matheriale wa moswananoši wa tšhipi ya ***hydrite*** bobeding go kgatelelo ya haedrotšene le bobolokelo bja yona ka bobedi.

Theknolotše e mpsha

Dipeeletšo tša leanopeakanyo tša Kgoro tšweletšong ya theknolotši ye mpsha go tšweletša lerole la tšhipi la ***titanium*** di gare di a kgatlampana. Tšona di hlamile ka lefsa polante ya makgoraditsela go thomiša ka lefsa tsamaišo ya diteko go thoma ka Diphalane 2016. Lerole la ***titanium***

Ketapele ya tona

le šomišwa ka boati diintastering tše bjalo ka tša diphofo, didirišwa tša bongaka, tša dinamelwa le tša dikhemikhale go bopa diphatse tše bofefo tša go šoma gabotse ka maatla. Le ge go le bjalo lerole la ***titanium*** le bile bohlokwa kudu ka baka la tšhomišo ya lona dikgatišong tša 3D mola le ntše le tsenelela bjalo ka mokgwa wo mongwe wa botšweletši. Letseno la go batamela $400m ka ngwaga le letetšwe go tšwa botšweletšing bja lerole la ***titanium*** ge polante ya kgwebo e thoma go šoma ka 2023.

Palo ya dikgatelopele tša botšweletši e ya dirwa protšekeng ya MeerKAT. Thendara e šetše e filwe go aga mabokgoni a selegae a botšweletši go tšweletša tšweletšo ya PC Board yeo e tla dumelelago tšweletšo ya SKARAB mono nageng ya rena. Godimo ga mo, mabokgoni a moemanoši a botšweletši a diphanele tša MeerKAT le ditaetši le ona a hlomilwe. Se se netefaditše phetišetšo ya mabokgoni a maleba intastering le gape tlholego ya mešomo ya mabokgoni a sethekniki.

Mošomo wo dirilwego diamogeding tša MeerKAT le wona o gokeditše thekgo ya mašeleng go tšwa go Max Planck Society gola Germany, bao ba beeleditšego tšhelete ya go batamela R150 milione mo diamogeding tša S-Bad go MeerKAT. IBM e tsebagaditše senthara ya diphatišišo Yunibesithing ya Witwatersrand ka peeletšo ya R700 moo šedi ye nngwe ya yona e lego go tšweletša mabokgoni go Big Data ka thekgo ya letsheke ya SKA. Cisco e beeleditše R50 milione Yunibesithing ya Nelson Mandela Metropolitan bakeng sa Senthara sa Diphatišišo tša Broadbrand le ka go thekga SKA.

Go tloga mola molao ***wa Intellectual Property Rights from Publicly Financed Research and Development Act*** o thomago go šoma ka 2010, palo ya ditokollo tše dirilwego ke dikemedi tša phetišetšo ya theknolotši e gotše gararo mola palo ya maloka a go laolwa ke dikemedi tše e gotše gabedi.Go tloga ka 2011 ditokollo tša go feta 1 000 di amogetšwe ke ***National Intellectual Property Management Office*** go tšwa dihlongweng tšeo ditlhamo tša tšhireletšo ya maloka.

Mo ngwageng wo re lego go ona go tsebagaditšwe National Cleanroom Facility kua DST-Mintek Nanotechnology Innovation Centre (NIC). Senolofatši se se tla kgontšha NIC le badiradiphatišišo go tšwa makalakgwebong a mangwe go dira diphatišišo le go tliša diphetogo tikologong ye maleba. Kua CSIR, go tsebagaditšwe gape le senolofatši sa go tšwetšapele maphoto a dikhemikhale a mehuta ya ***polymer nanocomposites*** le ***nano-additives***. Se se dira tšweletšo ya diintasteri ya dibopego tša maphoto a tša dikhemikhale (nanostructures) le didirišwa tša tšona tše nyakegago ditekong tša intasteri tše ka kgonagalago. Tlhokego ya senolofatši seo kua morago e šitišitše go kgona go NIC go fetolela tšeo ba di utolotšego gore e be didirišwa tše swarelelago tša intasteri.

Diprotšeke tše lesome tša tsebo ye tšwago setšhabeng sa mono gae di lekotšwe bakeng sa kgonagalo ya kgwebo. Tlhahlo ya kgwebišetšano le ya go ithomela kgwebo ditšhabeng tše le mekgatlong e ya kgatlampana kua South African Bureau of Standards, the Innovation Hub, the CSIR le Yunibesithi ya Pretoria. Kwano ya kgwebišetšano bakeng sa sedirišwa sa kokwanahloko ya HIV e saennwe magareng ga Yunibesithi ya Freistata le motšweletšikgwebong, ebago Afriplex.

Mo ngwageng wo re lego go ona, CSIR e hlomile Biomanufacturing Industry Development Centre (BIDC), hapo ya diphetogo sektareng ya botšweletši bja tlhago. BIDC ke ya mathomo ya moswananoši ka mohuta wa yona mono Afrika Borwa, ebile maikemišetšomagolo a yona ke go thekga di-SME tše amegago botšweletšing bja tlhago go fihlelela dinyakwa tša bareki ba bona ka lebelo le go thupetša menyetla ya mebarakeng.

Mo ngwageng wa ditšhelete wa 2015/16 diphatišišo tša mohlakanelwa magareng ga CSIR le dingaka tša setšo di dirile gore go humanwe motswako wo šomago gabotse kudu wa khemikhale wa mohlare wa mono gae. Boramahlale le dingaka tša setšo ba šoma mmogo dithutong tša mehlare ya ka mo nageng ye tlišitšego go dirwa go makgantlele a go leleka menang. Mo nakong ya go fa dipego, ***Lippia javanica*** (mohlašana wa ka mo nageng ya rena wo šomišwago ka setšo go leleka menang) o tsebagaditšwe protšekeng ya Rose Geranium bjalo ka setšweletšwa sa tlaleletšo. Protšeke ye e be e ntše e hlola mešomo le mabokgoni, kudukudu go bafsa.

Ditokelo tša tsebo ya kelello tše amanago le dipeakanyo tše nago le mohola tša tsebo ye tšwago Afrika Borwa di tla šireletšega bonolo ka molao ***wa Indigenous Knowledge Systems Bill*** ebago Molaokakanywa wa Dipeakanyo tša Tsebo ya Selegae**.** Se se swanetše go nolofatša kgolo ya ikonomi le ditšweletšwa tše tšwago tirišong ya tsebo ye bjalo.

Diphatišišo tša mabopong

Ka dikhilomithara tše 3 000 tša mabopo, Afrika Borwa ke setšhaba se kgolo go tša mabopo ebile go utolla didirišwa tša mabopo go na le kgonagalo ya go oketša bolengkakaretšo bja dithoto tša naga ka boleng bja ka godimo ga R20 bilione mo mengwageng ya ka godimo ga ye mehlano. Ka maihlamelo a bjalo ka South African Marine Research and Exploration Forum (SAMREF) ao a thakgotšwego magareng ga DST le Offshore Petroleum Association of South Africa go thupetša menyetla ya mebarakeng mo oling ya ka ntle ga mabopo le phuruphutšo ya gase mo Afrika Borwa. Ka maihlamelo a Lesolo la Phakisa, maikemišetšo a SAMREF ke go kaonafatša tšhomišano magareng ga disektara tša bohle le tša praebete le go kaonafatša neeletšano ya tshedimošo le datha ka boithaopo magareng ga bakgathatema.

Tšhomišano ya boditšhabatšhaba

Afrika Borwa e amemong a godimo magareng ga ditšhaab tša BRICS go ya ka peresente ya ditokomane tša saenthefiki tše phatlaladitšwego ke badiradiphatišišo ba naga ye gotee le bangwadi ba boditšhabatšhaba gomme seo ke sešupo se bontšhago sa seemo sa naga bjalo ka mogwebišani yo a hlokometšwego bakeng sa kgwebišano ya boditšhabatšhaba ya STI, go ya ka thuto ye e lokolotšwego malobanyana mo ke OECD.

Afrika Borwa e kgatha tema ka katlego mo diprogramong tše phadišago tša thekgo ya ditšhelete ya diphatišišo tša boditšhabatšhaba. Mo programong ya EU ya mamoratwa ya Horizon 2020 Framework Programme for Research and Innovation, dikatlego tša Afrika Borwa go ya ka palo ye amago badiradiphatišišo ba naga godimo ga tše dingwe, e fetwa fela ke United States of America le Canada.

Ka kgwebišano le Kgoro dikhamphani tše mmalwa tše kgolo tša boditšhabatšhaba tše bjalo ka Pfizer, Nestlé le Hitachi di beeleditše diphatišišong, diphetogong le ditiragalong tša tšweletšo ya didirišwa tša batho mono Afrika Borwa. Kgoro ye ke gape mogwebišani wo bohlokwa wa leanopeakanyo ya mekgatlokgolo ya go thuša bahloki bjalo ka Bill & Melinda Gates Foundation, elego mokgatlo wo beeleditšego mo diprogramong tša go kopantšha saense le theknolotši phedišong ya bodiidi.

Kgoro e sa tšwelapele go fana ka boetapele dihlongweng tša saense tša mekgatlo ye bjalo ka African Union le Southern African Development Community. Kgoro ye e eteletše pele boitukišetšo bja mathomothomo bja programo ya tlhako ya BRICS ya matlhakoreohle bakeng sa diphatišišo le diphetogo tša mohlakanelwa.

Malobanyana mo, Kgoro ye le Academy of Science of South Africa ebile benggae ba Khonferense ya Boditšhabatšhaba ya Network for Government Science Advice Conference, elego wekšopo ya mathomothomo ye ikgafetšego go aga mabokgoni a boramahlale ba Afrika go hlagišetša mebušo dikeletšo tša saense.

Mabokgoni a saense le tlhohleletšo ya Afrika Borwa bjalo ka mogwebišani wa boditšhabatšhaba wa mamoratwa bakeng sa maihlamelo a kgwebišano ya STI a tla dula e le kokwane ye bohlokwa ya mošomo wa Kgoro ye, ka phihlelelo ye nngwe ye lego gona mo nakong ye ya go fa dipego e lego go ba monggae wa Foramo ya mathomo ya Saense ya Afrika Borwa, ebago tiragalo ya boditšhabatšhaba ya bohle ya saense. Foramong ye go tlile bakgathatema ba go feta 1 500, go akaretšwa le batšeadiphetho ba go ba le seabe go tšwa dinageng tša go feta 50.

Thumo

Ke leboga Motlatšatona, Mohumagadi Zanele kaMagwaza-Msibi, Molaodipharephare, Ngaka Phil Mjwara, le balaodi le bašomedi ba Kgoro le makalakgwebo a yona a bohle. Ke lebiša malebo a ka go Komiti ya Photefolio ya Saense le Theknolotši, kudukudu Ngaka Bevan Goqwana, modulasetulo wa yona le bagwebišani ba rena ba bantši ba makala a bohle le a sektara, ba selegae le ba boditšhabatšhaba.

Mohumagadi GNM Pandor, MP
Tona ya Saense le Theknolotši

4. Statement by the Deputy Minister

Zanele kaMagwaza-Msibi
Deputy Minister of Science and Technology

Today, a growing percentage of wealth in the world's largest economies is created by knowledge-based industries that rely heavily on human capital and technological innovation. The Department of Science and Technology is working to create a society that uses its knowledge systems and human capital to solve the problems of our country and continent, while exploiting economic opportunities in a sustainable way. Our investments during the year under review demonstrate how we continue to position South Africa as a strategic player in the knowledge-based economy.

Science, technology, engineering, mathematics and innovation Olympiads

In the 2015/16 reporting period, the DST continued to provide support to Olympiads and other competitions aimed at encouraging young people to develop interest and ability in science, technology, engineering, mathematics and innovation (STEMI).

The same period saw the launch of a community of practice and its inaugural annual conference, creating an opportunity the sharing of knowledge and best practices to enhance STEMI Olympiads and competitions in South Africa.

This platform is expected to increase the number of schools participating in such activities. Current figures show that a fraction of schools countrywide participate. For example, in 2015, only 82 164 learners (1 039 schools) participated in the South African Mathematics Olympiad, and only 9 500 primary school learners (378 schools) participated in the South African Mathematics Challenge. This is a cause for concern considering that there are 6 000 high schools and 20 000 primary schools in the country.

Internship programme

Through the internship programme, the DST provides unemployed graduates with work experience to help them obtain gainful employment or further studies. This makes a significant contribution to the absorption of postgraduate students in the job market, allowing them to follow research careers, reducing unemployment levels and improving equality.

During the period under review, the Department supported a total of 1 353 interns, which 1 044 were placed in science, engineering, technology and innovation institutions, and 309 were placed in positions to gain experience in R&D related to design, manufacturing and product development.

A long and healthy life for all South Africans

Harnessing health innovation and investing in science and technology to improve the living conditions of South Africans and their neighbours across the continent remains one of the country's key strategic priorities.

As part of the DST's health innovation portfolio, a web-based application for processing drug-resistance data was developed. It has been shown that the app, Seq2Res™, vastly reduces the costs and time involved in analysing data on viral DNA compared to conventional methods.

The application enables researchers and clinicians to process their drug-resistance testing data routinely and easily, without needing expert bioinformatics assistance.

Further development was undertaken in collaboration with partners at the National Health Laboratory Service (NHLS) genotyping units in Tygerberg, the NHLS/University of the Witwatersrand Medical School, and the National Institute for Communicable Diseases. When completed, the University of the Western Cape will present Seq2Res™ for clinical, research and surveillance use, enabling the establishment of routine HIV drug resistance testing in Southern Africa.

Discussions were initiated with the Bill & Melinda Gates Global Health Investment Fund, which had expressed interested in expanding the project globally.

Inclusive economic growth

In order to support local suppliers to access opportunities related to public procurement, a new pipeline of interventions was reviewed for approval. There are 147 companies in the register of companies that are receiving or have received technology assistance packages.

With regard to support for small-scale producers (agriculture, forestry and fisheries), a review of existing information and communication technology (ICT) agricultural platforms was initiated.

Discussions with the KwaZulu-Natal Provincial Government are ongoing, with the aim to secure cooperation and co-funding in the implementation of an ICT-enabled agriculture model.

A skilled and capable workforce to support an inclusive growth path

The development of a knowledge-based economy is dependent on the country's capacity to produce new knowledge, innovation and products.

During the reporting period, the DST, in conjunction with the National Research Foundation, contributed significantly to a skilled and capable workforce in the country by offering bursary support for postgraduate training in higher education institutions, without which no postgraduate training could take place.

The Department has adopted and embraced the globally accepted notion of a PhD as a driver of innovation and global competitiveness, given the skills set that a PhD requires. Accordingly, we have completed a document which models the financial implications for the DST human capital development and research infrastructure programmes if the relevant National Development Plan targets (5 000 PhD graduates per annum) are to be met, and to ensure that 75% of all academic staff have obtained a doctoral qualification.

The DST also completed and commissioned several high-level investigations of issues related to the transformation of the postgraduate and researcher cohorts in (mainly) the higher education sector. These studies provide insight into some of the challenges faced in driving the demographic transformation of these cohorts in a quest for sustainability and growth in the research system.

The ICT Research, Development and Innovation Roadmap

The ICT Research, Development and Innovation (RDI) Roadmap has allowed the DST investment in ICT RDI to grow significantly and to be aligned with national priorities, creating an ICT RDI ecosystem that is attractive to foreign direct investment.

Statement by the Deputy Minister (continued)

One of the notable DST investments in the implementation of the ICT RDI Roadmap was the continuation of mLAB, a mobile application company, which has enabled the support and establishment of 20 companies (five of which are established companies and 15 of which are new) as a way of strengthening the mobile innovation ecosystem in South Africa.

Exciting mobile applications have emerged from these companies, addressing socio-economic challenges in areas such as transport, health, education, tourism and gaming. Furthermore, the mLab initiative was extended to the Western Cape in a partnership with the Cape IT Initiative's Bandwidth Barn. Expansion to other provinces is planned for the 2016/17 financial year.

Responsive, coordinated and efficient national system of innovation

During the 2015/16 financial year, the DST approved a framework for science and technology (S&T) cooperation with other government departments. The purpose of the framework was to guide the prioritisation of the DST's S&T cooperation with other departments in line with its 2014-2019 Strategic Plan.

Accordingly, a joint government-industry task team was established in November 2015 to formulate recommendations about measures to improve the design and administration of the R&D tax incentive. This work has been completed.

Among the issues examined were the design of the tax incentive and how it compares with practices in other countries, the procedure for accessing the incentive by companies, specific refinements of qualification criteria, and administrative capacity.

The DST recognises that the NSI must help improve South Africa's global competitiveness by leading the creation and application of new knowledge. If South Africa's economy is to advance along the trajectory set out in the NDP and reduce poverty, it will require a strong, coherent and effective NSI, working in a coordinated manner to achieve national priorities.

The DST contributes towards this goal by facilitating close collaboration with Department of Higher Education and Training in research development and support.

The DST also collaborates on various joint projects with the Department of Basic Education and provincial education departments. One of these is the planned building of a science centre in Cofimvaba.

Conclusion

The above are only some of the Department's successes in its quest for a better life through science and technology. I would like to thank the Portfolio Committee on Science and Technology for their great support, the Minister of Science and Technology for the solid leadership she provides to the Department, and the Director-General and employees of the Department for their dedication.

Zanele kaMagwaza-Msibi
Deputy Minister of Science and Technology
31 July 2016

5. Report of the Accounting Officer

Dr PM Mjwara
Accounting Officer

1. Introduction

The Department of Science and Technology (DST) seeks to realise the full potential of science, technology and innovation (STI) through the development, coordination and management of the national system of innovation (NSI) by providing policy leadership and creating an enabling environment.

The implementation of the National Research and Development Strategy and the Ten-Year Innovation Plan has continued to be the primary focus of the DST in the 2015/16 financial year, and financial resources were committed to this end. The DST will continue playing a significant role in addressing the triple challenge of inequality, poverty and unemployment and other national priorities.

2. Overview of departmental operations

The DST continued implementing its policies and key priorities. Strategic, operational and functional risk profiles were finalised, and risk assessments were conducted for key projects. The Audit Committee continued to review the effectiveness of internal controls, and the content and quality of in-year reports, among other functions.

3. Significant developments and major projects undertaken

National Intellectual Property Management Office

A good pipeline will be developed for the realisation of research and development (R&D) outputs with socio-economic impact. The transition of research along the various technology-readiness levels to commercialisation, and the support measures implemented to achieve this, will be assessed and the information used towards the development and implementation of a framework or methodology quantifying the actual and potential impact of science and technology innovation on economic growth and development. The incentives, support, funding and compliance requirements of the National Intellectual Property Management Office will play a key role in this context, by supporting six offices of technology transfer for capacity development annually, training candidates in intellectual property (IP) matters and specialised technology transfer skills, awarding a rebate to eligible claims from institutions annually from the IP Fund in line with the requirements of the IP Fund Guideline, and encouraging the receipt of disclosures from publicly funded institutions.

Decision support

StepSA (Spatial and Temporal Evidence for Planning in South Africa) is a collaborative initiative between the DST, CSIR and HSRC. Outputs and findings are disseminated to support high-impact and transformative investment decisions affecting South Africa's cities, towns and settlements. Innovative R&D enables the profiling of growth and development dynamics and simulating the spatial outcomes of growth and public investment in cities and towns. A number of role players have invested in building capability to provide spatial planning, analysis, modelling and platform support to government, with a focus on strengthening strategic regional, inter-regional and intergovernmental planning, resource allocation, and monitoring and evaluation in South Africa to help address the ongoing growth in the demand for services and economic opportunities in cities, towns and settlements, coupled with the continued urgent need for transformation, by enabling profiling, identification, calculations and analysis of development information and trends.

In November 2015, the Department of Health, in partnership with the DST, launched a mobile application on Primary Health Care Standard Treatment Guidelines and Essential Medicines List. Developed with financial support from the Strategic Health Innovation Partnerships (SHIP) the app provides guidelines for the use of essential drugs in primary health care settings.

The DST has pioneered several evidence-based knowledge products that support local governments across the country to make decisions to improve the provision of public services in sectors such as water, sanitation, energy and housing. These include the Bioenergy Atlas and the development of a Sanitation Technology Evaluation and Assessment Database and Tool.

Mineral Beneficiation Strategy

In line with the Minerals Beneficiation Strategy and the Nine-Point Plan on mineral beneficiation, support for the lithium ion battery precursor material pilot plant was increased from the previous allocation to include the development of a nickel, cobalt and manganese precursor material. The precursor pilot plant is part of the energy storage research, development and innovation programme, which seeks to beneficiate manganese, nickel and other minerals in order to meet the global demand for batteries, support the deployment of renewable energy, and address other applications such as e-mobility.

Bio-energy Atlas for South Africa

The Bio-energy Atlas for South Africa, a web-based decision-making support tool targeting both energy policy makers and potential investors in the energy sector, was developed. The Atlas assists with gaining a scientific understanding of the potential of bioenergy resources that may be converted into transport fuels in support of the implementation of the Biofuels Industrial Strategy, as well as to provide guidance on how rural communities can use combustible biomass to transition to modern electricity services. The Bio-energy Atlas for South Africa was approved by the Minister for launch in the 2016/17 financial year to the broader stakeholder community.

The DST continued to implement the Bio-economy Strategy, which was published in 2014, in areas such as agriculture, health, industry and environmental biotechnology, where there could be strong emphasis on the triple challenge of poverty, unemployment and inequality. Currently, however, the resources for socio-economic impact (particularly via commercialisation) are hugely inadequate, and this reduces the potential for impact and undermines the knowledge generation components of the work.

Despite this, the second survey on the public opinion of biotechnology will be published this year, outlining growing awareness of biotechnology and genetically modified foods in South Africa. There is ongoing participation in the Agriculture, Land Reform and Rural Development aspects of Operation Phakisa.

Funding leveraged from international partners

The DST secured R619 533 000 in foreign funds from international partners in support of the South African

national system of innovation. The European Union remains one of the largest contributors, notably through its Horizon 2020 Framework Programme. Substantial investments were also made by philanthropic organisations and foundations. A concerted effort is made to promote foreign investment in the NSI, including from multinational companies, as part of a dedicated strategy.

Bilateral cooperation with international partners

Bilateral cooperation with a wide variety of partners was intensified. Cooperation with the United Kingdom continued, with significant funding being made available by both countries under the Newton Fund to support partnerships. New agreements concluded during the financial year include Austria, the Netherlands and Vietnam, while new programmes of action were agreed on with the United States and Canada. Furthermore, there has been excellent progress, with South Africa as the lead country, in developing a BRICS (Brazil, Russia, India, China and South Africa) Science and Technology Framework Programme, which will support cooperation between the BRICS partners. This Programme will enable significant new international cooperation opportunities for South Africa with the BRICS partners.

The development of a Global Knowledge Platform

Increased focus was put on human capital development, through the development of a Global Knowledge Platform, which will support the engagement of international partners in training South African postgraduate students abroad. The initiative was met with an enthusiastic response from international partners.

Cooperation with other African partners and support for STI capacity-building in Africa remained a strategic priority for the DST. In this context, accessing its extensive network of international partners, the DST managed to secure R113 748 000 from international partners to support collaborative projects in Africa. The DST itself has invested in 61 jointly funded projects with African partners, for example Egypt, Kenya, Tunisia and Zambia. In the multilateral context, the DST actively supported 13 African Union and Southern African Development Community (SADC) partnership initiatives. In supporting this growing focus area of the DST, a South African Science and Technology Office was established in Addis Ababa. A DST official remains seconded to the SADC Secretariat in Gaborone.

As part of its science diplomacy work, the Department hosted a highly successful international public science event, Science Forum South Africa, which attracted over 1 500 participants from more than 50 countries.

Research and innovation infrastructure

In the 2015/16 financial year, the DST's ring-fenced infrastructure allocation allowed it to award 84 research infrastructure grants, most of which were directly managed by the National Research Foundation (NRF) through the National Equipment and National Nanotechnology Equipment Programmes for scientific equipment grants to universities, science councils and museums, and to provide access to global infrastructure and support to the national research facilities.

Good progress is being made in finalising the South African Research Infrastructure Roadmap (SARIR), which includes plans for infrastructure in the domains of humans and society; health, biological and food security; earth and environment; materials and manufacturing; energy; and physical sciences and engineering. Of the 17 research infrastructures originally proposed by the national research community, 13 remain in the plan after careful review and scrutiny, and the DST is currently finalising specific proposals on how to prioritise their roll-out. Funds have been earmarked to begin implementing the SARIR plan in 2016/17, and approval will be sought to begin with at least four of the selected infrastructures. The completion of the SARIR to strategically steer and direct national research infrastructure will be a first and major achievement for the country.

Report of the Accounting Officer (continued)

Human capital development projects

The number of supported postgraduate students increased from 11 335 in 2014/15 to 13 545 in the 2015/16 financial year. The number of researchers supported with grants increased from 4 064 in 2014/15 to 4 315 in 2015/16.

In the year under review the DST supported a total of 1 044 students and postgraduate students in workplace preparation programmes. These programmes place students and postgraduates in work environments where they can gain work experience to increase their employability.

Various collaborative projects are also undertaken with the Department of Basic Education. During the reporting period, the following progress has been made towards the building of a science centre in Cofimvaba. The Eastern Cape Department of Education (ECDoE) has secured an available building site, which was provided by the Intsika Yethu Local Municipality. A written commitment has been made by the ECDoE regarding long-term support to sustain the science centre in teacher and curriculum development programmes, incorporating the science centre human resources into the ECDoE staff establishment, facilitating transfer of the science centre building to the Department of Roads and Public Works (DRPW) in order for the science centre to qualify for repairs, maintenance and related benefits provided to provincial government buildings by the DRPW, and including the science centre in the inventory of facilities under the ECDoE's custodianship to enable coverage of the science centre's occupancy costs by the ECDoE. Such costs include security services, electricity, water, sanitation and municipal rates.

The appointment of the council for the South African Council for Natural Scientific Professions

The Minister appointed the new council for the South African Council for Natural Scientific Professions (SACNASP), and inaugurated the members on 25 June 2015. The Council's mandate is to provide a credible professional registration and regulatory body that allows natural scientists to establish, direct, sustain and ensure a high level of professionalism and ethical conscience in the natural scientific professions sector. The new Council was appointed for four years, from 1 May 2015 to 30 April 2019. The Minister inaugurated the SACNASP Council on 25 June 2015 in Pretoria.

Centre of Excellence for HIV and AIDS prevention

During the reporting period, the Minister launched a new Centre of Excellence for HIV and AIDS prevention. It is co-hosted by the Centre for the AIDS Programme of Research in South Africa (CAPRISA) and the University of KwaZulu-Natal. CAPRISA is a well-established, internationally recognised independent HIV/AIDS research centre. The main goal of the centre is to undertake research aimed at understanding and ameliorating the high risk of HIV in women, especially young women, in South Africa.

National Science Week

National Science Week (NSW) activities were held from 1 to 8 August 2015 in all nine provinces, under the theme "Light and light-based technologies". The number of organisations awarded grants enabled about 83% (43) of the 52 municipal districts all over South Africa to host NSW programmes during the focus week. Sixty-two grant holders and 10 service providers organised NSW activities countrywide.

The overall estimated number of participants in DST-led science engagement activities exceeded two million in 2015/16. This figure includes participants in the annual National Science Week, DST-supported science festivals, and STEMI Olympiads and competitions. NSW was launched by the Minister on 1 August 2015 at the Mafikeng campus of North-West University.

National Strategy for Multiwavelength Astronomy

The Minister of Science and Technology approved the National Strategy for Multiwavelength Astronomy, which was developed after a consultative process. The strategy highlights the current status of astronomy in South Africa, its importance to the South African socio-economic landscape, the astronomy heritage in South Africa and

how this could be further strengthened, and a strategic approach for continued investments in astronomy in South Africa. The strategy sets out objectives and an agenda defined by the key priority areas for astronomy, and outlines relevant cross-cutting support programmes needed to give effect to the shared vision.

The Senior Officials Meeting of the SKA African partner countries took place in Mauritius on 5 November 2015. The meeting reached consensus on the final draft of a memorandum of understanding that was to be signed at the SKA African Ministerial Meeting in Cape Town in April 2015.

Indigenous knowledge systems

In May 2015, the first International Conference on Indigenous Knowledge and Environmental Ethics was hosted by the DST-NRF Centre in Indigenous Knowledge Systems at the University of KwaZulu-Natal, in partnership with the Africa Programme of the UN University for Peace in Addis Ababa in Ethiopia and the University of Rwanda. The conference, which examined the implications for peace-building and sustainable development of indigenous knowledge systems (IKS), was attended by approximately 100 delegates.

The eighth Indigenous Knowledge Systems Documentation Centre (IKSDC) was officially launched on 26 June 2015 at the Barolong Cultural Village in Thaba Nchu, in the Free State. The IKSDC is hosted in partnership with the University of the Free State's Centre for Africa Studies. It will serve as a dedicated platform for the recoding and documentation of indigenous knowledge in the Thaba Nchu villages.

The DST, in partnership with the Office of the Free State Premier, hosted the fifth IKS Expo in Mangaung, Free State, in September 2015. The expo ran concurrently with the annual Mangaung African Cultural Festival. The IKS Expo is held every two years to raise public awareness about IKS.

The Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill was approved by Cabinet on 18 February 2016 for submission to Parliament. The Bill puts in place mechanisms to facilitate economic growth through the Bio-economy Strategy in the form of economic spin-offs from protecting the intellectual property of holders of indigenous knowledge to alleviate poverty in communities, and providing fair and equitable sharing of economic benefits arising from the use of this.

Launch of the South African Marine Research and Exploration Forum

In January 2016, the South African Marine Research and Exploration Forum (SAMREF) was launched. The main vision behind SAMREF is to see, by 2024, South Africa's knowledge of its marine living natural resources, marine environment, and ocean-related renewable energy resources greatly enhanced through collaborative research with private sector exploration activities. The primary objective of SAMREF is to grow public sector research in the marine and oceanic environment through the exploitation of new opportunities presented by explorations and cruises. SAMREF will contribute to the successful implementation of Operation Phakisa's B3 laboratory (Exploiting the broader research opportunities presented by offshore oil and gas exploration), and give effect to the Marine and Antarctic Research Strategy as it relates to synchronising and strengthening South Africa's research agenda in the marine and Antarctic spheres.

South African Strategy for the Palaeosciences

In September 2015, the Centre of Excellence in Palaeosciences, based at the University of the Witwatersrand, announced the discovery of a new species in the human lineage. This discovery consisted of 1 550 fossil elements, 99% of which are hominin remains. Analysis of these fossils led researchers to conclude that they are similar to early remains of the genus Homo (a human genus); however, they are different from other early human species previously identified in fossil history. The remains were named ***Homo naledi***, after the Dinaledi ("Star") Chamber where they were discovered, west of Johannesburg. The announcement speaks to the goals of the South African Strategy for the Palaeosciences, which articulates the need to transform the minds of South Africans and create public awareness of the value of the palaeosciences.

Sector Innovation Funds

The DST is encouraging industry innovation partnerships as part of a broader government effort to support industry competitiveness. The main objective is to create an environment where government can effectively partner with industry and support co-investments in research, development and innovation in key strategic sectors of the economy. Nine Sector Innovation Funds had received support by 31 March 2016. Seven of these funds are fully functional, while two experienced some difficulties. A total of R53 million worth of co-funding was secured from industry against the DST's R139 million investment over four years (2013/14 to 2017/18). In the 2015/16 financial year, the Sector Innovation Fund enabled support for 104 postgraduate (honours, master's and PhD) students, the employment of five interns, the creation of 10 jobs, the publication of eight articles in accredited journals and the development of five innovation and knowledge products.

Innovation for inclusive development

A computer-based curricula project to boost mathematics and science education was launched in the uMkhanyakude District in rural KwaZulu-Natal. The initiative, led by the DST, saw four mobile laboratories, each with 40 computers, donated to Mpilonhle, an NGO, to assist 29 schools in the district. ICTs are crucial in benefiting marginalised communities by providing mathematics and science skills to learners, and thus a gateway to wide-ranging career options. The mobile labs will also see teachers in the district receiving training in teaching computer-based curricula. The DST is also rolling out the large-scale initiative in the Eastern Cape to test how ICT can improve education in rural areas, and participated in the ICTs in Basic Education Operation Phakisa process.

Imvelisi is a partnership initiative between GreenMatter and the South African Young Water Professionals Network, funded by the DST, with the aim of supporting the business development of young water and biodiversity-focused innovators and their ideas. The intention is to increase the pool of enviropreneurs who can be taken up by mainstream incubators and business funding streams.

Through a partnership with Green Talent, which focuses on sustainable careers for alternative futures and the Awethu Project, which is a leader in entrepreneurship and business development, the Entrepreneurial Bootcamp was developed during the period under review.

The DST also presented findings of the benchmark study on Innovative Building Technologies to the Department of Economic Development. Furthermore, the DST's cooperation with the Department of Cooperative Governance saw the two departments working to introduce the Innovation for Local Economic Development (LED) agenda by crafting the science, technology and innovation themes into the National Local Economic Development Framework, which will inform the practice of LED in South Africa over the next five years..

Operation Phakisa: Mining Economy

The DST provided strong support in preparations for the Mining Phakisa and for the Mining Phakisa itself. The DST was represented in the workstreams "Enabling the mining cluster", "Beneficiation" and "R&D and Manufacturing". The contributions and role of the DST, currently and in the future, was highlighted as essential, as technology and increased R&D was stated as one of the key future focus areas. The Mining Phakisa also confirmed that the DST will be the lead department for R&D (mining and mining equipment). The current DST allocation for mining R&D needs to grow substantially in order to meet the Mining Phakisa's R&D plans. The positive statements around additional R&D funds from National Treasury will be followed up to ensure that the funds are actually allocated.

Collaboration efforts with leading service delivery departments

The DST's relationship with leading service delivery departments continues to strengthen. The DST participated in the ICTs in Basic Education Operation Phakisa process, and some of its recommendations (e.g. the Theory of Change session) were integrated as part of the planning and implementation of this Operation Phakisa. The DST also presented findings of the benchmark study

on Innovative Building Technologies to the Department of Economic Development. The DST's cooperation with the Department of Cooperative Governance and Traditional Affairs continues to improve. Collectively, the two departments are working to introduce the Innovation for Local Economic Development agenda by crafting the STI themes into the National Local Economic Development Framework, which will inform the practice of local economic development (LED) in South Africa over the next five years. Strengthening departmental ties in this area signifies a shift towards a new LED agenda in the country, i.e. fostering innovation-led LED that is linked to specific areas (as opposed to the historical approach of small, isolated, government-dependent projects that were not linked to the local economy and were not self-sustainable). This is the start of a shared strategic outlook and programming over the Medium Term Strategic Framework period, which will gradually bring other LED actors in the country on board.

Square Kilometre Array

The European Union continues to see the Square Kilometre Array (SKA) project as an important global project, and has recently made available an amount of R40,3 million, which brings the total amount from its research and innovation programme, Horizon 2020, to €5 million. The award was made to the SKA SA infrastructure consortium to boost the SKA infrastructure design, both in South Africa and Australia

Winter research expedition

The DST, in collaboration with the Department of Environmental Affairs, the NRF and the South African National Antarctic Programme (SANAP), embarked on the first winter research voyage in the Southern Ocean (around Antarctica) between July and August 2015 for 26 days. The SANAP researchers on board the SA Agulhas II collected physical, biological and chemical oceanographic data for research purposes. The expedition aimed to fill a significant research void in the ocean and climate numerical models, which are unable to accurately simulate seasonal processes. This voyage was valuable as oceanographic observations in the Southern Ocean are sparse, owing to its remote location. In the winter months, sea ice and hostile weather conditions present additional logistical challenges. The state of seasonal observations and modelling of the Southern Ocean is therefore not as developed as it is in other regions of the ocean and atmosphere.

The voyage provided a unique opportunity to map large-scale spatial patterns of phytoplankton and zooplankton using the Continuous Plankton Recorder between the ice edge and Cape Town in winter. The data obtained from this voyage, along with data obtained during other seasons, will contribute towards a more detailed description and understanding of the spatial, seasonal, inter-annual and multi-decadal changes in the ocean's structure. This voyage was particularly important as it will highlight changes in the abundance, distribution and diversity of plankton communities in the Atlantic and Indian sectors of the Southern Ocean, which has generally not been studied in much detail, particularly in winter.

Report of the Accounting Officer (continued)

4. Overview of the financial results of the Department:

Departmental receipts

The table below highlights receipts collected by the DST in the financial year under review and the past financial year (2015/16 and 2014/15).

Departmental receipts	2014/15			2015/16		
	Estimate	Actual amount collected	(Over)/ Under-collection	Estimate	Actual amount collected	(Over)/ Under-collection
	R'000	R'000	R'000	R'000	R'000	R'000
Sale of goods and services other than capital assets	28	50	(22)	29	46	(17)
Interest, dividends and rent on land	2	3	(1)	8	6	2
Financial transactions in assets and liabilities	1 277	1 549	(272)	320	453	(133)
Total	**1 307**	**1 602**	**(295)**	**357**		**(148)**

The DST does not generate revenue on a recoverable basis from the general public. The revenue generated was mainly from commission on Persal transactions, interest received from a deposit account held with a commercial bank, payments of bursary debts by officials and other recoverable expenditure.

The over-collection for 2015/16 was due to an increase in the number of officials who paid commission for their insurance policies, interest received from deposits in a commercial bank and surpluses on project funds that were refunded to the Department.

Spending trends

The DST's appropriation for the year under review was R7,466 billion, a 15% increase from the 2014/15 appropriation of R6,480 billion. The increase is due to additional funds that were allocated to the Department during the 2013 Medium Term Expenditure Framework period. The additional funds were mainly acquired under the SKA, Human Resource Development, and Research and Development Infrastructure items.

The table below shows the budget and actual expenditure per Programme for the financial year under review (2015/16) and the previous financial year (2014/15).

Programme	2015/16			2014/15		
	Final appropriation	Actual expenditure	(Over)/ Under-expenditure	Final appropriation	Actual expenditure	(Over)/ Under-expenditure
	R'000	R'000	R'000	R'000	R'000	R'000
Administration	309 823	301 996	7 827	284 070	278 412	5 378
Technology Innovation	1 070 645	1 063 297	7 348	1 049 150	974 040	75 410
International Cooperation and Resources	116 921	114 968	1 953	111 519	107 589	3 930
Research Development and Support	4 226 922	4 218 854	8 068	3 492 889	3 489 837	3 052
Socio-economic Innovation Partnerships	1 741 795	1 738 346	3 449	1 542 262	1 539 166	3 076
Total	**7 466 106**	**7 437 461**	**28 645**	**6 479 890**	**6 389 044**	**90 846**

The DST's spending performance has been consistently above 90% since its inception. It was 99,65% for the 2015/16 financial year.

The table below shows a summary of the budget expenditure analysis per economic classification:

Details	2015/16 R'000	2015/16 %
Amount voted	7 466 106	100
Actual expenditure	7 437 461	99,6
Unspent funds	28 645	0,4
Economic classification		
Current payments	464 810	6,2
Transfer payments	6 956 057	93,5
Payments for capital assets	16 467	0,2
Payments for financial assets	127	0,002
Total payments	**7 437 461**	**99,6**

Virements

The DST effected virements amounting to R130 million after the Adjusted Estimates of National Expenditure process, which represents 2% of the adjusted budget. An amount of R28,4 million was moved between major items and R71,4 million was moved between Programmes.

Payments for capital assets received were R28,4 million, with the largest share released from goods and services, and these funds were redirected to machinery and equipment for the procurement of IT infrastructure. The virements under transfers were redirected towards the IP Fund, to capacitate offices of technology transfer, and for the absorption of SunSpace (the satellite manufacturer) into the South African National Space Agency.

5. Future plans for the Department

Below are some of the activities the Department will be implementing in 2016/17 financial year:

Bio-economy Strategy

The Department will continue to implement the Bio-economy Strategy, which seeks to derive socio-economic benefits from biotechnology (new or improved products, new companies/industries, and new wealth, new jobs, reduced environmental impact, etc.).

New partnerships

The DST will continue building on success areas in international relations and will develop new partnerships to contribute to the mandate of the DST, with a specific focus on African partnerships and international public-private partnerships. A major orientation will be to promote innovation partnerships, including commercialisation and the involvement of industry, especially small and medium enterprises. Specific attention will also be paid to promoting the participation of South Africa's historically disadvantaged institutions in international partnership initiatives.

6. Discontinued activities and activities that are to be discontinued and the implications for the operations of the Department

The following is a list of activities that will be discontinued and the effect this will have on the DST's operations and service delivery:

- Funding for high school, undergraduate and honours students under the South African Nuclear Human Asset and Research Programme will be discontinued, as the DST is not responsible for funding students below honours level (this is the mandate of the Department of Higher Education and Training). The funding for undergraduates to whom commitments have been made will continue until the end of the contract. The overall budget of the activity will not be reduced, but will be redirected to other activities.
- The Public Understanding of Biotechnology (PUB) Programme of the South African Agency for Science and Technology Advancement (SAASTA) and the NRF will no longer be funded as an ongoing programme. Rather, SAASTA and other stakeholders will be asked to bid for funding for time-bound communication projects with specific objectives. This is because the biosafety environment is changing with an improved understanding of biotechnology by the South African public. PUB has been the DST's means of promoting awareness of the controversial topic of biotechnology, to ensure that government cannot be found to have implemented the Bio-economy Strategy (or its predecessor, the National Biotechnology Strategy) without public consent/awareness. The risk of public concern is considered to be reduced (the PUB survey indicates a growing awareness of biotechnology), and there are unlikely to be repercussions.

7. New and proposed activities

No new activities are proposed.

8. Supply Chain Management

The DST developed the Supply Chain Management Policy, which was approved and is being implemented. The Department also submitted the Procurement Plan on time. With regard to capacity challenges, the Department operated without a Director: Supply Chain Management for eight months of the financial year, and had to request secondments from other departments to strengthen capacity.

The DST established the Bid Specification and Bid Adjudication Committees to ensure that compliance with procurements processes was not compromised. The Department continued appointing Bid Evaluation Committees on an ad hoc basis, depending on the services or goods required.

No unsolicited bids were approved during the year under review. The DST continued with its implementation

mechanism to ensure that invoices are paid within 30 days.

9. Gifts and donations received in kind from non-related parties

No gifts or donations were received in kind from non-related parties.

10. Standing Committee on Public Accounts (SCOPA) resolutions

There were no SCOPA resolutions.

11. Prior modifications to audit reports

The Auditor-General found no matters of significance regarding the administration of the Department.

12. Exemptions and deviations received from National Treasury

No exemptions or deviations were requested from the National Treasury.

13. Events after the reporting date

No significant events occurred after the reporting date.

14. Other

The project to install the remaining dishes for the Square Kilometre Array project will be accelerated in the next financial year.

15. Acknowledgements and appreciation

I would like to thank the staff of the Department for their dedication and sterling performance. Their hard work enabled the Department to achieve most of its objectives. I would also like to thank the Minister and Deputy Minister for the support they provided in the year under review. Their leadership is always appreciated.

16. Conclusion

The Department will endeavour to achieve its objectives for the next financial year despite funding constraints arising from budget cuts.

17. Approval and sign-off

The Annual Financial Statements have been approved by the Accounting Officer.

Dr PM Mjwara
Accounting Officer
31 May 2016

6. Statement of responsibility and confirmation of accuracy of the annual report

I confirm that, to the best of my knowledge and belief:

- All information and amounts disclosed throughout the Annual Report are consistent.
- The Annual Report is complete, accurate and free from any omissions.
- The Annual Report has been prepared in accordance with the Guidelines on Annual Reports issued by National Treasury.
- The Annual Financial Statements (Part E) have been prepared in accordance with the modified cash standard and the relevant frameworks and guidelines issued by the National Treasury. The Accounting Officer is responsible for the preparation of the Annual Financial Statements and for the judgements made in this information.
- The Accounting Officer is responsible for establishing, and implementing a system of internal control that has been designed to provide reasonable assurance as to the integrity and reliability of the performance information, the human resources information and the Annual Financial Statements.
- External auditors are engaged to express an independent opinion on the annual financial statements.

In my opinion, the annual report fairly reflects the operations, the performance information, the human resources information and the financial affairs of the Department for the financial year ended 31 March 2016.

Phil Mjwara
Director-General
31 May 2016

7. Strategic overview

7.1 Vision

Increased well-being and prosperity through science, technology and innovation.

7.2 Mission

To provide leadership, an enabling environment and resources for science, technology and innovation in support of South Africa's development.

7.3 Values

- **Professionalism**

  The Department is professional and delivers high-quality performance to both internal and external stakeholders.

- **Innovation**

  The Department is innovative in solving problems and enhancing effectiveness and efficiency.

- **Ethical behaviour**

  The Department and its employees are consistent in their actions, and accountable and transparent in dealing with public funds and other resources.

- **Knowledge sharing**

  The Department and its employees share and use knowledge constructively to ensure it contributes to the building of a robust and productive knowledge economy.

8. Legislative mandate

8.1 Academy of Science of South Africa Act, 2001

This Act establishes the Academy of Science of South Africa to promote common ground in scientific thinking across all disciplines, including the physical, mathematical and life sciences, as well as human, social and economic sciences; to encourage and promote innovative and independent scientific thinking; to promote the optimum intellectual development of all people; to advise and facilitate appropriate action in relation to the country's needs, opportunities and challenges; and to link South Africa with high-level scientific communities within the Southern African Development Community, the rest of Africa and internationally.

8.2 Astronomy Geographic Advantage Act, 2007

This Act provides for the preservation and protection of areas in South Africa uniquely suited to optical and radio astronomy, and for intergovernmental cooperation and public consultation on matters concerning such areas.

8.3 Human Sciences Research Council Act, 2008

This Act provides for the continued existence of the Human Sciences Research Council, which carries out research that generates critical and independent knowledge relative to all aspects of human and social development.

8.4 Income Tax Act, 1962

Section 11D of the Income Tax Act gives the Minister of Science and Technology authority to approve scientific and/or technological research and development undertaken or funded in South Africa for a tax deduction in order to promote private sector R&D activities in the country.

8.5 Intellectual Property Rights from Publicly Financed Research and Development Act, 2008

This Act provides for the more effective use of intellectual property (IP) emanating from publicly financed research and development, through the establishment of the

Legislative mandate (continued)

National Intellectual Property Management Office, the Intellectual Property Fund, and offices of technology transfer at higher education institutions and science councils.

8.6 National Advisory Council on Innovation Act, 1997

This Act establishes the National Advisory Council on Innovation to advise the Minister of Science and Technology and, through the Minister, the Cabinet, on the role and contribution of science, mathematics, innovation and technology in promoting and achieving national objectives.

8.7 National Research Foundation Act, 1998

This Act establishes the National Research Foundation (NRF) to promote basic and applied research, as well as the extension and transfer of knowledge in the various fields of science and technology.

8.8 Natural Scientific Professions Act, 2003

This Act establishes the South African Council for Natural Scientific Professions and legislates the registration of professional natural scientists, natural scientists-in-training, natural science technologists and natural science technologists-in-training.

8.9 Scientific Research Council Act, 1988

This Act refers to the activities of the Council for Scientific and Industrial Research (CSIR), which undertakes directed research and development for socio-economic growth in areas that include the built environment, defence, the environmental sciences, and biological, chemical and laser technology.

8.10 South African National Space Agency Act, 2008

This Act establishes the South African National Space Agency (SANSA) to promote space science research, cooperation in space-related activities, and the creation of an environment conducive to the development of space technologies by industry.

8.11 Technology Innovation Act, 2008

This Act established the Technology Innovation Agency (TIA) to promote the development and exploitation of discoveries, inventions, innovations and improvements in the public interest.

9. Organisational structure

The Minister of Science and Technology
Mrs Naledi Pandor

Deputy Minister of Science and Technology
Mrs Zanele kaMagwaza-Msibi

Director-General
Dr Phil Mjwara

Deputy Director-General: Institutional Planning and Support
Mr Tommy Makhode

Deputy Director-General: Corporate Services
Ms Nombuyiselo Mokoena

Deputy Director-General: International Corporation and Resources
Mr Daan du Toit

Deputy Director-General: Technology Innovation
Mr Mmboneni Muofhe

Deputy Director-General: Research Development and Support
Dr Thomas Auf Der Heyde

Deputy Director-General: Socio-Economic Innovation Partnerships
Mr Imraan Patel

10. Entities reporting to the Minister

Academy of Science of South Africa

Overview of objectives

The Academy of Science of South Africa (ASSAf), as the only national science academy to be officially recognised by the South African government, recognises and rewards excellence; promotes innovation and scholarly activity; provides effective, evidence-based scientific advice to government and other stakeholders; promotes public interest in and awareness of science and science education; and promotes national, regional and international linkages. Below are some of the highlights for the period under review.

Membership

The core function of a national science academy is to honour the country's most outstanding scholars by electing them to membership of the academy. ASSAf members are drawn from all disciplines.

In the year under review, 31 new members were elected, of which 35 were women and 32% black people. Of the total membership of 470, 25% of members are now women, and 28% black people.

Policy Advisory Programme

In order for ASSAf to fulfil its science advisory role in support of policy development regarding key challenges facing the nation, a variety of consensus studies were undertaken. ASSAf published four consensus studies, among which were ***Diversity in Human Sexuality: Implications for Policy in Africa*** and ***The State of Biosafety and Biosecurity in South Africa***.

ASSAf also produced three conference or workshop proceedings reports, namely, ***On being controversial***, ***The humanities reach out***, ***Measuring deprivation in order to promote human development in South Africa***, ***and Proceedings of Environment and Health Symposium.*** Studies generally fall into broad categories related to health, education, humanities, climate change, energy, the science-policy nexus, biosafety and biosecurity, and poverty reduction.

Scholarly Publishing Programme

The Scholarly Publishing Programme is regarded as a major intervention in the NSI and makes a direct and significant contribution to the promotion of innovation and scholarly activity. The programme's strategic goal is to enhance the national capacity to produce and publish research, on the one hand, and to increase the quality and visibility of South African research publications, on the other.

Access to knowledge resources

SciELO SA is an open-access (free to access and free to publish) searchable database of selected, high-quality South African scholarly journals. The SciELO SA platform aims to increase visibility, accessibility and searchability of South Africa's accredited scholarly journals. In the year under review, the SciELO SA collection grew from 51 to 62 titles.

It has been listed in the Department of Higher Education and Training (DHET) list of accredited indices since January 2016, and is included in the SciELO Citation Index in the Web of Science portal.

A significant barrier to real improvement in the scholarly performance of South Africa's researchers is lack of access to international literature. One or more national site licences for access to high cost, commercial electronic full-text and other journal databases is under investigation. The final business case was submitted to the two departments at the end of November 2015.

Quality assurance

ASSAf assisted DHET in the evaluation of conference proceedings and books for subsidy purposes.

New applications and reapplications by journals for DHET accreditation were evaluated through an ad hoc panel review on 25 November 2015. The peer-review process is centred on a multiperspective, multidisciplinary ad hoc evaluation panel appointed by ASSAf and comprising of experts in the field. The panel evaluated 12 journals from various disciplines.

Interaction continued with the National Scholarly Book Publishers' Forum and the National Scholarly Editors' Forum to enhance and promote the quality of South African scholarly publishing.

New generation technology

As scholarly journals make the transition from traditional print to the digital and open access environment, opportunities for increased visibility arise. Several activities were conducted to support editors with this transition.

ASSAf conducted an audit of DHET-accredited SA scholarly journal publications. The purpose of audit was to establish the percentage of open access journals, the level of visibility and online presence, the status in terms of online journal management, and whether the journals adhered to the necessary criteria in terms of proper online journal management (quality). The audit confirmed that SA scholarly journals need leadership and authoritative/informed support/input to improve the online quality and visibility of SA scholarly output.

South African Journal of Science

The ***South African Journal of Science*** (SAJS) is now in its 112 year of publication. There has been enormous growth in the number of formal submissions to the journal – an average of 20% per year over the past five years. During the year under review 471 formal submissions were received from 51 countries – 44% from South Africa, 15% from the rest of Africa, 12% from China and 7% from India.

The number of visits to the SAJS website grew from 47 000 in 2014/15 to 52 000 in 2015/16, i.e. 12%. This is an average of 4 330 visits per month. In February 2016, the SAJS website was upgraded to include article-level metrics that indicate the impact of each article published. The SAJS social media pages also showed considerable growth.

Quest: Science for Society

Quest, ASSAf's quarterly, full-colour, popular science magazine, directed at a learners, educators and the public, has extended its reach. The print run of 25 000 copies per issue is circulated to schools, public libraries, universities, government departments, embassies, media houses and subscribers, with the balance of copies used for science promotion and career guidance.

Quest participated in five festivals, five career guidance events, four conferences and 10 science events. Over 25 500 copies of the ***Quest*** magazine were donated to various events aimed at learners. Facebook and Twitter accounts were set up for the magazine.

To align the magazine to the school curriculum, curriculum commentary and indigenous language boxes were introduced.

Liaison programme

The purpose of this programme is to establish and give effect to strategic partnerships with other national science academies and academy networks, and to establish, strengthen and enhance interactions with stakeholders in key national government departments, policymakers in government, and relevant national and international scientific networks and organisations. ASSAf assumed hosting responsibilities for the International Council for Science (ICSU) Regional Office of Africa in 2015/16 and continued serving as host of The World Academy of Sciences Regional Office for sub-Saharan Africa. ASSAf continues to maintain a close relationship with and play leadership roles in international science academies such as the G-Science Academies and the Network of African Science Academies.

Entities reporting to the Minister (continued)

InterAcademy Partnership

Academies of science and medicine have traditionally aligned themselves into three major global networks – the Global Network of Science Academies, the InterAcademy Council and the InterAcademy Medical Panel – in order to build on and amplify their individual strengths when facing pressing global issues. These three inter-related organisations have now formed an umbrella organisation – the InterAcademy Partnership (IAP) – which was launched in March 2016.

ASSAf hosted the IAP General Assembly and Conference in February/March 2016 in Hermanus. The conference was funded by the DST and the NRF, among others, and was attended by more than 200 delegates. The conference theme was science advice, which is aligned to global science-policy agendas such as the Sustainable Development Goals, and science and technology for development dialogues, giving an opportunity for the voice of African scientists and policy makers to be heard.

Science Academy Development in Africa

A five-year strategic plan was implemented to guide future academy development in Africa. This followed a workshop hosted by the DST and ASSAf in February 2015, at which 24 academies and other stakeholders were represented.

The plan succeeds the major 11-year African Science Academy Development Initiative (ASADI), led by the US National Academies, which successfully and formally ended in 2015. It is named Africa's Science Academy Development Agenda (ASADA) in recognition of this second phase of academy development, which is distinguished from its predecessor in that it was conceptualised by the African academies of science.

European-South African Science and Technology Advancement Programme (ESASTAP) Plus

ASSAf partnered with a number of organisations (based in South Africa and Europe) in ESASTAP Plus, an instrument that aims to strengthen technology, research and innovation cooperation between South Africa and the European Union. ASSAf was engaged in road shows to disseminate information about Horizon 2020 and produced the first quantitative report assessing South Africa's participation in the 7th Framework Programme. The report, ***Insights into South Africa's Participation in the 7th Framework Programme for Research and Technological Development of the European Commission***, was launched on 7 December 2015 in Pretoria.

Young Scientists' Conference

Women's empowerment and research being conducted across Africa to address gender equality challenges were addressed at the fifth ASSAf Annual Young Scientists' Conference, held from 16 to 18 September 2015. The conference was addressed by the Minister of Science and Technology and the Minister for Women in the Presidency.

Lindau Foundation Agreement

ASSAf, as academic partner, has signed a three-year memorandum of understanding with the Lindau Foundation to enable the participation of young scientists in the annual Lindau Nobel Laureate meetings held in Lindau, Germany. The programme is funded by the DST.

Organisation for Women in Science for the Developing World (OWSD)

ASSAf hosts the national chapter of the OWSD, through which all ASSAf's activities on gender and science, technology and innovation are implemented. The OWSD SA executive committee, chaired by Prof. Jennifer Thomson, continued to provide strategic direction to OWSD activities and met several times in 2015/16.

GenderInSITE

ASSAf is the southern African focal point for GenderInSITE, an international initiative to raise awareness about the gender dimension of science, innovation, technology and engineering among policy makers in science institutions, academies and other decision-making bodies for sustainable development.

Women for Science: Inclusion and Participation in Academies of Science

The publication of this report, which was launched on 29 February 2016 at the IAP conference in Hermanus, was a major achievement. The study was supported by IAP and coordinated by ASSAf, together with three partners, namely, OWSD, the Inter-American Network of Academies of Science, and the Network of African Science Academies. It was the first comprehensive survey of member academies of the IAP and found that women's representation and participation in national science academies globally are insignificant despite efforts to promote the role of women in science.

Recognition of excellence

ASSAf Science for Society gold medals are the apex awards of the Academy and the South African science system, and are awarded in recognition of outstanding achievements by individuals. ASSAf recognised Prof. Anusuya Chinsamy-Turan, who is a palaeobiologist and Head of the Department of Biological Sciences at the University of Cape Town (UCT).

The AU-TWAS award scheme recognised and rewarded two talented young scientists for outstanding achievements. Prof. Yahya Choonara, of the University of the Witwatersrand, received the award for Basic Sciences, Technology and Innovation, and Prof. Marlien Pieters, of North-West University, received the award for Earth and Life Sciences.

Two other top young South African scientists, Dr Dorit Hockman and Dr Justin Nono Komguep, both from UCT, received prestigious Sydney Brenner Fellowships at ASSAf's annual awards ceremony.

Visiting scholars and regional lectures

ASSAf hosted Prof. Catherine Campbell from the London School of Economics as a distinguished visiting scholar in March 2016.

Several regional lectures were hosted. Lecturers included Dr Jane Lubchenco, Distinguished Professor at Oregon State University and the United States Science Envoy for the Ocean, Prof. Richard Catlow, University College London and Fellow of the Royal Society (London), and Professors Christopher Mathew and Michèle Ramsay, both from the University of the Witwatersrand. Three regional lectures and a panel discussion on "Youth Perspectives on Science Advice to Government" were held in collaboration with the South African Young Academy of Science.

Council for Scientific and Industrial Research

Overview of objectives

The Council for Scientific and Industrial Research (CSIR) is one of the leading scientific and technological research, development and innovation organisations in Africa. It undertakes directed research and development for socio-economic growth in areas including the built environment; defence; the environmental sciences; and biological, chemical and laser technology. Below are some of the highlights for the period under review.

Economy and employment

As can be seen from the examples below, the CSIR's responses range from the immediate (improving the efficiency of production processes, and supporting local economic development through localisation programmes), through the medium-term (technologies for the beneficiation of local mineral resources), to interventions that may only pay off in the longer term, in areas such as the bioeconomy and additive manufacturing.

Entities reporting to the Minister (continued)

Nanotechnology

The DST-CSIR Nanomaterials Industrial Development Facility was launched in December 2015. The facility will be used to develop nanostructures and nanocomposites, as well as commercialise such products for the benefit of the country. The facility will provide the South African plastics industry with nanostructures at a lower cost than is available on the international market. This will enable the plastics industry to compete on an international level in advanced polymers. Other industries, such as cosmetics and catalysis, are also expected to benefit from the local production of nanostructures, saving up to an estimated R10 million (cosmetics) and R20 million (building materials, including paints) per annum.

Advanced composites and functional polymer products

A new filter bag for use by Eskom was developed and tested. The bag uses 30% less material, while maintaining the properties of the filters currently used. Discussions are under way to fund large-scale testing and accreditation by Eskom.

Two proof-of-concept products were developed for industry partners in the agricultural sector using CSIR encapsulation technologies. This is significant as it makes it possible to use the encapsulation technologies developed for drug reformulation for other applications. The CSIR is in discussions with these partners.

Aluminium casting

The CSIR has been investing in alloy development and modification for aluminium casting alloys. A non-disclosure agreement has been signed with a local component manufacturer to assist with the development of the tilt casting of three aluminium components. Three industrial components have been demonstrated, namely, a balance box for the aerospace industry, an airgun frame, and a speaker frame.

Enterprise creation

The Tshivhase Botanical Extracts Project aims to investigate, identify and pilot the production of value-added products based on the tea crops cultivated at Tshivhase Tea Estate. The project was successfully completed and a business plan (based on industrial-scale production of botanical extracts) was presented to the Venteco board of directors in February 2016.

The CSIR was awarded a R5,5 million European Union grant for completing the Rosa damascena project in Ficksburg. The project aims to produce Rosa oil of equivalent quality to the highly valuable Bulgarian Rosa oil. A small-scale hydro-distillation unit was piloted at Ficksburg in 2015/16 and, on the basis of favourable results from chemical analysis, the project will go ahead with the implementation of a full-scale hydro-distillation unit.

Skills development

The National Foundry Technology Network (NFTN) skills development and training programmes continue to receive interest from the local foundries, with 257 workers registering for training, and 520 worker training modules being completed in 2015/16. The training collaboration with the South African Institute for Foundrymen has proven to be extremely successful and the number of trainees learning foundry-related skills has exceeded the training targets for the year. The feasibility study for the establishment of a training centre in KwaZulu-Natal was completed, and a plan developed for the establishment of a suitable programme for the province.

The Duvha Foundry has been assisted (by the NFTN) in the manufacture of samples for a prototype trial of cast bogie components. This has enabled the Foundry to win a contract for the supply of five bogie components to Transnet at a value of more than R10 million, and to tender for work worth more than R72 million.

Agri-parks

The CSIR has supported the agri-parks initiative run by the Department of Rural Development and Land Reform (DRDLR). The key outputs of this project included defining an agri-park and refining the conceptual thinking around agri-parks; developing a model for the deployment of agri-parks; and developing a guide pack for the implementation of the model. With the results of the above project, the DRDLR has commissioned the development of agri-park business plans for 44 district municipalities, and the CSIR will be responsible for nine of these plans.

Bioeconomy

The Biomanufacturing Industry Development Centre programme, funded by the Jobs Fund and DST's Industrial Innovation Partnership Fund has provided technology support to 19 SMEs. The programme has to date resulted in the creation of 105 permanent and 171 temporary jobs in the biomanufacturing industry. So far, 33 products have been developed and transferred to SME partners. A total of 54 interns have been trained through the programme, with an additional 16 interns currently undertaking their year-long internship.

Additive manufacturing

Additive manufacturing is one of the key potential growth sectors in our industrial economy. Comparative studies are in progress between different additive manufacturing machine platforms available in the South African additive manufacturing network. A test component obtained from Airbus was successfully printed at the Central University of Technology, and the same design is being printed on the Optomec LENS system at the National Laser Centre. This particular design was the largest single titanium metal print in the history of additive manufacturing in South Africa.

The component produced with the different machine platforms will be subjected to a range of mechanical and metallurgical evaluations and will form an important benchmark study within the Collaborative Programme on Additive Manufacturing's metal additive manufacturing programme. When this test component is produced by Aeroswift, it will be used by Airbus for the technology readiness level assessment of the Aeroswift platform. The economic benefits of being able to participate in international manufacturing processes are significant.

Laser-based refurbishment

The National Laser Centre was awarded a contract from Eskom to carry out a refurbishment procedure on a Kendal steam turbine shaft, which was damaged during operations. This is a very important technology demonstrator project, which will first demonstrate the technology on an unused Kriel rotor, and then in the repair of the Kendal rotor. These components currently have to be shipped abroad for repair, at great cost. This project will demonstrate that local technologies can be used for refurbishment development and implementation services for the power utility.

Agriculture and indigenous knowledge

After three years of extensive research on various indigenous South African edible plants, the CSIR, Nestlé South Africa and the Agricultural Research Council announced on 8 October 2015 that their collaborative research had resulted in the development of an innovative commercial product, the new Maggi 2-Minute Noodles with real morogo (Amaranthus). Various leafy green vegetables, including morogo, cleome and cow pea were screened to assess nutrient bioavailability during digestion. After conducting thorough research and consumer studies, Amaranthus was ultimately chosen for development because of its proven health benefits – particularly the presence of beta-carotene, minerals and protein.

Advanced Fire Information System

As part of a memorandum of understanding signed with the University of Energy and Natural Resources in Ghana, a direct broadcast receiver and software data processing installation was completed. This new data reception and processing station improves the detection and reporting of wildfires in West Africa to within 20 minutes of a satellite

overpass. All wildfires detected are made available on the publically accessible Advanced Fire Information System web view and reported directly to priority users six times a day from three polar orbiting satellites. This is the first implementation of a close to real time detection system for West Africa. It will be linked to the similar Southern and Eastern African systems, providing an Africa-wide, close-to-real-time monitoring solution.

Digital opportunities

The integration of the Micro-Enterprise Media Engine for Workflow (MEME-W) platform into the Big Fish School of Digital Filmmaking was completed with the purpose of preparing students to create their own micro-enterprises after graduation. Seven unemployed youth will participate in this programme.

Capable state

A new change detection classification system methodology (shape aggregation via machine learning to produce extraction of usable building outlines) was developed to strengthen the automatic identification of building system outlines in aerial imagery. This module is integrated in the existing settlement classification system to improve change detection in urban environments.

The CSIR was approached by the Integrated Justice System Board to assist the Department of Home Affairs to refresh the Home Affairs National Identification System (HANIS). In March 2016 a CSIR team delivered successfully on the final specifications, which will be used by the State Information Technology Agency and the Department of Home Affairs to procure a new HANIS system. The next phase of the project will involve an integrated national identity system that will combine biometric and biographical information on immigrants, visitors and citizens so that everyone in South Africa can be uniquely identified. This will be a key part of a foundational system for future e-government and e-commerce.

Asset management

The CSIR has a long-term partnership with Limpopo Department of Education to provide technical support in immovable asset management. It has also successfully completed the City of Cape Town housing assessment project, and continues to provide technical support in immovable asset data management to the KwaZulu-Natal Department of Public Works. The CSIR has trained 28 technical staff of the Mpumalanga Department of Public Works, Roads and Transport to conduct performance assessments of the provincial estate, hence reducing the department's reliance on consultants for this professional service.

Social and economic infrastructure

Transport

Through long-term contractual arrangements, the CSIR is assisting the Gauteng and Limpopo provincial governments to deal with matters related to road asset management. In particular, the CSIR is supporting the functional classification of road networks, the management of roads pavement surveillance measurements, and the strategic analysis of paved roads conditions.

Broadband

Meraka successfully completed the international qualification of its television white spaces spectrum database. The international project, led by Ofcom, the United Kingdom's communications regulator, places CSIR as one of seven global spectrum database providers (the others are Microsoft, Spectrum Bridge, Google, Sony, Fairspectrum and Nominet).

The infrastructure for the new high performance computing system was delivered in November 2015. The system implementation was done by 24 December 2015 and was handed over to research scientists for them to install and to test the applications. The system will have the peak performance of approximately 800 petaflops.

Water resources

The CSIR is working on the treatment of acid mine drainage with cryptocrystalline magnesite. This invention makes use of the addition of cryptocrystalline magnesite to acid

mine drainage to allow the neutralisation of acidic water as well as the precipitation of heavy metals from the water. The process can remove aluminium, manganese, calcium, magnesium, iron, cobalt, copper, nickel, lead and zinc.

With drought conditions prevailing in many parts of the country, CSIR researchers were asked to present the latest findings from research on the water use of high-yielding apple orchards to a group of 10 apple farm managers in the Ceres area of the Western Cape. The information will be used by the farmers to schedule irrigation applications more accurately, reduce water usage and improve efficiencies on their farms. The total area cultivated by this group of farmers is approximately 6 000 ha.

CSIR scientists have collaborated with scientists at the Engineer Research and Development Center of the US Army Corps of Engineers on the development of new tools for assessing the ecological significance of contaminants in sediment that require dredging. Part of the Port of Cape Town is being used as a demonstration site. In addition to standard methods, the study is investigating the use of innovative tools, such as solid phase micro-extraction, to assess the toxicity/bioavailability of contaminants in sediment. The research will be used as a case study on the need for toxicity testing of sediment as a tool to aid decision-making on whether sediment identified for dredging in ports can be disposed of offshore without adversely affecting the ecology of the disposal environment, or whether alternate methods of disposal are required.

Rapid pathogen detection

Field trials of the ColiSpot rapid pathogen detection method were started at the Daspoort wastewater treatment plant. The results showed a very good correlation with the laboratory results as well as with alternative commercial products. The analysis time was reduced from 24 hours to six hours.

Municipal Strategic Programme Support

The CSIR supports local government in providing effective and efficient service delivery through scientific and technological solutions with the aim of increasing the quality of life of all South Africans. The programme has completed a R9,6 million water plant improvement project with the City of uMhlathuze. This improved the capacity and functionality of the plant, allowing for unimpaired service delivery.

The CSIR's Water Quality Monitoring System projects have been of value to municipalities in terms of decision making and service delivery commitments. The group has successfully completed a three-year green drop implementation programme with the municipality. The CSIR's comprehensive solution focused on addressing systems, processes and procedures to ensure the availability of management information and decision support for the achievement and sustainability of green drop certification.

Pavement construction

Over the past couple of years a new structural and materials design methodology for high modulus asphalt has been developed. This technology has now been successfully tested by the South African National Roads Agency Limited (SANRAL) on a number of heavily trafficked roads. The technology can either extend the life of a road pavement by 10 years or reduce the material cost by 30% if the road is designed for the usual 20-year design life. This technology will lead to a significant reduction in the resources needed for building and maintaining South Africa's road network.

Transition to a low-carbon economy

The CSIR has developed an online GIS atlas of the National Carbon Sink Assessment that was previously conducted through extensive geospatial modelling and remote sensing. The online atlas allows users to explore carbon stocks and fluxes and GIS data layers and download these directly from the shared South African Environmental Observation Network (SAEON) spatial data infrastructure. The project client was the Department of Environmental Affairs (DEA), and GIZ, the German agency for international cooperation, provided funding. The data and interface will

allow policy makers and managers to explore adaptation and mitigation options to fix and store carbon in woodland biomass and soil.

A description of the carbon stocks and flux model is currently being developed for an international journal. The CSIR strengthened its consortium partnership with the UN's Climate Technology Centre and Network to bring opportunities to Africa, developing a response plan for technology prioritisation for the Namibian government, and being nominated to lead the implementation of the plan. The CSIR is also responsible for implementing the request incubator programme in five of the continent's least developed countries. This will help the countries to produce quality requests for funding and improve climate technology transfer.

Decision support for pollution-management

Specific gaps in integrated hydrogeological decision-support tools have been identified and a phased approach in addressing these from a science, engineering and technology perspective has commenced, mainly through research activities associated with a Limpopo River Basin study on surface water hydrology, a Cradle of Humankind monitoring study on karst terrains in South Africa, a Cape Flats geohydrology study, and a vegetation water use study in the Northern Cape focusing on the invasive alien species Prosopis.

Waste sector

The CSIR has taken a leading role in the implementation of the DST's Waste RDI Roadmap. The team has an integral role in further developing the national science agenda, and directing national research investment from DST to realise the development opportunities of the waste sector. Following a call for research and development proposals, 11 new initiatives are currently being funded, four of them within the CSIR.

The team is influencing the continental waste research agenda through Horizon 2020 African-European partnerships and invited participation in the Global Green Growth Forum.

Batteries and supercapacitors

Materials were synthesised and characterised for printed power sources (batteries and supercapacitors) and printed electrochemical sensors.

The CSIR completed the production of 12 kg of cathode materials using three different methods, including its patented microwave step. Pouch cells are being manufactured for further testing at the University of the Western Cape.

Operation Phakisa (Oceans Economy)

As part of the Oceans Economy Phakisa, the CSIR will use Earth observation and associated Earth observation advanced spatial data systems to implement accessible decision-support tools for the effective governance of South Africa's oceans. Operation Phakisa aims to implement an overarching, integrated ocean governance framework for sustainable growth of the oceans economy within the next five years, maximising socio-economic benefits while ensuring adequate environmental protection.

The creation of the decision-support tools is a key requirement for the implementation of the 2000 White Paper for Sustainable Coastal Development in South Africa, the National Environmental Management: Integrated Coastal Management Act, 2008, the 2014 White Paper on National Environmental Management of the Ocean, and the outcomes of Operation Phakisa.

Environmental impact assessments

The CSIR is managing a number of environmental impact assessments for the DEA. One of these is the Solar Photovoltaic Phase 2 strategic environmental assessment (SEA), which is aimed at updating the first solar SEA (completed by the CSIR in March 2015) and extending the scope of the SEA to also include the provinces of Gauteng, Limpopo and Mpumalanga. A key additional focus will be to assess the potential for previously mined areas to be used for solar PV facilities. CSIR will be working in close collaboration with the DEA, Eskom and other government bodies.

A second SEA is for the development of aquaculture in South Africa (for both marine and freshwater species) as part of government's Operation Phakisa programme. The SEA will be conducted in close collaboration with the DEA, the Department of Agriculture, Forestry and Fisheries (DAFF) and other stakeholders. A key objective of the SEA is to streamline and integrate the various authorisations currently required from national, provincial and local authorities for regulation of aquaculture projects.

These SEAs are commissioned by the DEA as part of the Strategic Integrated Projects of the Presidential Infrastructure Coordinating Committee, which facilitates the implementation of the National Development Plan.

Building safer communities

Inundu pod

Maintaining the capabilities of the South African Defence Force is important for ensuring the long-term welfare of the people of South Africa. The successful test flight of the Inundu pod was a milestone achievement in the year under review. Attached to a fast jet aircraft the pod enables evaluation and testing of radar and electronic warfare systems from the sky. It is not only useful for systems evaluation, but also has a strong role to play in training engineers and radar and electronic warfare system operators.

Cybersecurity

A capability to collect latent fingerprints from typical materials found at crime scenes was successfully demonstrated and has been registered as a technology demonstrator. The Virtual Cybersecurity Hub was launched at the CSIR's Pretoria campus on 30 October 2015. The Minister of Telecommunications and Postal Services addressed a crowd of about 150 people, including industry stakeholders. The hub is part of the implementation of the 2012 National Cybersecurity Policy Framework, and is intended to assist the government, business organisations and members of the public to use the Internet safely. The hub will serve as a central point for collaboration between industry, government and civil society on all cybersecurity-related incidents in South Africa.

Support for counter-poaching operations

The CSIR has assisted in establishing the counter-poaching operations centre (MAJOC) for the South African National Parks (SANParks). Various capabilities have been integrated into the MAJOC counter-poaching centre at Skukuza. Predictive modelling algorithms were developed and integrated into the Cmore platform. The algorithm is able to predict possible future poaching activities within the Kruger National Park. Optical and radar sensors have been integrated for the detection of illegal cross-border movement of humans. The discrimination between human and animal movement has been demonstrated successfully. The Cmore platform installed at MAJOC was upgraded to provide improved data analysis and reporting capabilities to SANParks. In the past, counter-poaching data was manually captured and analysed by SANParks personnel, then again manually transferred to weekly and monthly reports. Cmore has greatly accelerated this process by automatically collating the data and generating reports in near-real time on demand.

Improving health

An automated high-throughput system has been successfully developed to accelerate compound library screens for malaria transmission blocking and other priority health areas. Screening approximately 5 000 compounds that previously required 18 months to complete can now be undertaken within one week. High-throughput screening capabilities were supported by capital investment from the Medical Research Council/ Strategic Health Innovation Partnerships project for the acquisition of an automated incubator and centrifuge.

The point-of-care detection and reporting technology for veterinary diseases has been developed to an extent where a technology demonstration is possible. This has been requested by Namibia's national department of agriculture, which was considering the possibility of integrating this technology into their foot and mouth disease control protocols pending full validation.

Entities reporting to the Minister (continued)

A CSIR spin-out company, Persomics AB (located in Boston, Massachusetts) launched a beta-testing programme for its miniaturised RNA interference screening technology in 2015. The company was officially launched at the Discovery on Target Conference on 22 September 2015. Persomics AB has signed its first custom services agreement with NovellusDx, a leading precision cancer analysis company. Persomics AB is currently in discussions with a number of potential partners with a view to concluding relevant technology access partnerships with leading life-science companies.

Medical devices and information systems

The CSIR is working to develop a portfolio of medical devices, sensors and information systems to provide point-of-care assistance, including screening technologies for foetal health and cardiovascular diseases, biosensors, point-of-care blood screening systems, medical visualisation and analytical tools, and national medical databases.

Biomedical translational research

The Biomedical Translational Research Initiative (BTRI) has been launched and a collaboration agreement signed with UCT. Work has started on the establishment of a joint laboratory at the Institute of Infectious Disease and Molecular Medicine, in UCT's Medical School. The aim of the BTRI is to bring scientists from a number of institutions to work in close proximity with each other in a suitable environment, with access to an academic hospital and medical school to support translational research. The proposed translational research will help to advance cutting-edge gene-based therapies, treatments, diagnostics, training and education, and lead to job creation for scientists in South Africa.

Cellnostics

ISO13485 certification was granted by the international notifying body for Umbiflow and Cellnostics, and a surveillance audit was successfully completed in November 2016.

The final modifications to the Cellnostics handheld platform were completed and the manufacturing of units with the printer modules is under way. This will form part of the National Health Laboratory Service roll-out to support its current SMS printer deployment.

The Cellnostics backend technology was successfully deployed as the interface between the Umbiflow device and the CSIR Health Information Exchange.

Umbiflow

The technical file for Umbiflow, required for submission to achieve CE marking (declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation), has been prepared and awaits a final test result from National Physical Laboratories in the UK. The technical file will then be submitted to CE for audit purposes.

The Umbiflow clinical trial was started with a view to collecting data on 2 000 patients over a two-year period. It is being undertaken in the Tshwane district as part of the CSIR Health Flagship in partnership with the University of Pretoria's Department of Family Medicine. One thousand patients have been recruited into the study and the interim results are promising.

Health information systems

In 2012 the CSIR entered into a three-year contract with the national Department of Health to develop and implement a patient registration and identity verification system in all 700 National Health Insurance (NHI) pilot clinics. Implementation of the Health Patient Registration System (HPRS) began on a pilot basis at 50 clinics in 2014 and in earnest in 2015. By the end of the year under review, HPRS was deployed in all 700 NHI clinics as originally planned.

More than 750 000 patients and 1,2 million patient visits have been registered on the system. The deployment of HPRS, in conjunction with a new system for the physical filing of patient health records, has led to significant improvements in patient administration at clinic level,

reducing patient waiting times. The system also provides the ability to track patient visits across multiple clinics. A demonstration of HPRS was presented to health stakeholders at the NHI consultative meeting in March 2016 at the request of the Minister of Health. The system was lauded as key in enabling various aspects of the NHI as envisioned in the White Paper on National Health Insurance.

In 2014, the national Department of Health commissioned the CSIR to conduct an assessment of all patient information systems deployed in primary health facilities in South Africa, in both the public and private sectors. All identified systems were assessed against a set of functional and non-functional requirements, and against compliance with the National Health Normative Standards Framework for Interoperability in eHealth. A detailed costing exercise for all eligible systems was conducted and the results were presented to the National Health Council in April 2015. Provincial level results were also presented to all relevant provincial heads of department. Following this exercise, the National Health Council requested that the CSIR assess systems that are deployed in hospitals in South Africa.

Human Sciences Research Council

Overview of objectives

The Human Sciences Research Council (HSRC) is mandated to initiate, undertake and foster strategic basic 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 in the rest of the world. Below are some of the highlights for the period under review.

Race and higher education

In respect of both higher education and race relations, 2015 was a significant year in South Africa. The five-year qualitative longitudinal study "Race, education and emancipation", funded by the Department of Higher Education, looks at who succeeds and who does not in higher education. It is a timeous investigation into the experiences of black students at South African universities, and captured information on student protests around fees and institutional racism, as well as students' experiences of administrative and personal obstacles. The study will conclude in April 2017 with a final report and a documentary aimed at helping first-year students navigate the many potential obstacles to success in higher education.

Constitutional Justice Project

The HSRC and the University of Fort Hare were appointed by the Department of Justice and Constitutional Development to assess the impact of the decisions of the Constitutional Court and the Supreme Court of Appeal on the transformation of society. The research focused on the lived experiences of all South Africans, particularly in respect of the adjudication and implementation of socio-economic rights. In this project an in-depth legal analysis of the transformative jurisprudence of the apex courts was complemented with a strong empirical component that sought to investigate the broader impact of these court decisions on South African society, as well as the extent to which South Africa's highest courts are accessible. Insights were gained about how government officials, judges, lawyers, NGOs and communities understand the role of the court in attaining social justice.

State of the Nation 2016

The 2016 State of the Nation volume "Who is in charge? Mandates, accountability and contestations in the South African state", uses multiple research lenses to analyse the dynamic interface of power and authority structures that characterise the state and South African society. It looks at the way towards a dynamic constitutional democracy

Entities reporting to the Minister (continued)

in the context of a heightening struggle with structural economic problems like unemployment, inequality, poverty and land redistribution.

South African Social Attitude Survey

The official Independent Electoral Commission pre-election survey was conducted ahead of the 2016 Municipal Election. This is the latest round of the official pre-election survey series, which dates back to the late 1990s and is conducted in the months prior to national, provincial and municipal elections. The survey examines electoral attitudes and behaviour, and provides evidence on the extent to which these are changing over time. It therefore offers insight into the voting-age public, which was used to inform planning for the election by the Independent Electoral Commission.

The health and environmental status in human settlements

The HSRC was commissioned by the Department of Human Settlements to collect data for use on the status of informal settlements targeted for upgrading in all nine provinces. The study explored physical environmental vulnerabilities in relation to informal settlements. This included risk and vulnerability in respect of fire, flooding, geotechnical conditions and planning constraints (zoned agricultural land). The health status of the informal settlements targeted for upgrading were also assessed in relation to burden of disease, the food and nutrition situation of children under five, the prevalence of tobacco smoking, alcohol consumption and substance abuse, the prevalence of diarrhoeal and respiratory diseases, and the state of general health.

Survey on educators' HIV/Aids status and health

The 2015 survey was the second national survey on the health of educators and officials in public schools in South Africa. Commissioned by the Department of Basic Education (DBE) and the South African Nationals Aids Council, with support from the Global Fund to Fight Aids, Tuberculosis and Malaria and the Networking HIV/Aids Community of South Africa, the study determined the changes that have occurred in the HIV epidemic and the impact of interventions since the last survey in 2004. It also determined the impact of interventions targeting educators, school support staff and officials in the provincial and national offices of the DBE, including the Prevention, Care and Treatment Access programme and other initiatives in schools by educators.

The primary objectives of this study were as follows:

- To estimate the prevalence and incidence of HIV among public educators, school support staff and DBE officials at national, provincial, district and circuit levels.
- To estimate the number of educators and school officials already receiving antiretrovirals.
- To assess the relationship between behavioural factors and HIV infection among public school learners, educators, school support staff and officials in South Africa.
- To compare HIV prevalence, and risky behaviour among public school educators in South Africa.
- To assess the type and frequency of exposure to HIV prevention, treatment and care and support programmes and the impact of these programmes among learners, public educators and school officials in South Africa.
- To assess the type and frequency of exposure to major national behaviour change communication programmes and assess the relationship between these programmes and HIV prevention, Aids treatment, care and support, and knowledge of and attitude towards tuberculosis.

The final report of the study will be launched later in 2016.

The Rural Innovation Assessment Toolbox

This is a Department of Science and Technology initiative aimed at fostering and strengthening the science, technology and innovation capabilities of public officials responsible for local economic development in priority

municipalities in rural areas. It is an integral part of the DST's innovation for inclusive development agenda. The project is in its third phase and involves five universities that are key knowledge-producing actors in local innovation networks, using their expertise to boost the innovative performance of municipalities and help achieve the developmental goals of local governments.

The Labour Market Intelligence Partnership

The challenge for any government is to know what skills are needed for the current and future economy. This information can be used to plan the size and shape of the post-school education and training system. Labour intelligence assists government and its partners to read the signals of demand from the economy, government growth strategies and industrial policies to allow for effective skills planning.

National Research and Experimental Development Survey

The annual R&D survey helps government's efforts to stimulate the country's research and development investment by providing evidence about the size, growth and composition of R&D expenditure and human capital devoted to R&D. During 2015/16, the 2013/14 R&D survey was completed on behalf of the DST by the Centre for Science, Technology and Innovation Indicators (CeSTII). According to the results of the survey, the gross expenditure on research and development has increased in nominal terms for the third consecutive year after shrinkage in the 2009/10 and 2010/11 years.

Attitudes towards and impact of construction of N2 highway between Port Edward and Port St Johns

The study, commissioned by SANRAL, was conducted among communities along the proposed new N2 route between Port St Johns and Port Edward, business operators around the area, and migrant workers who are originally from this area, but work in the mining areas of Gauteng and the North West. The research found that that the construction of the road will have a positive impact on the community, migrants from the community, and business in the area. The research results led to a decision made to go ahead with the construction of an N2 toll road, although there is still opposition from environmentalists.

World Social Sciences Forum

The World Social Science Forum was an important scientific gathering that brought together more than 10 00 researchers, policy makers and activists from 84 different countries to engage on "Transforming global relations for a just world" (the conference theme) and help set a global agenda for social science research on issues of inequality and social justice. Held in conjunction with the International Social Science Council (ISSC), the Council for the Development of Social Science Research in Africa, and the DST, the forum was a platform for presenting new knowledge and insights, rethinking received wisdom, charting new direction, promoting innovation in the research-policy-action nexus, and nurturing new international partnerships. The Forum Declaration outlines the key contributions that social science should make to the multiple transitions that affect global governance, resource utilisation, social relations, and quality of life. Significant changes are required in research to accompany and inform pathways toward greater equality.

Provision of affordable social housing in the BRICS countries

A key Brazil-Russia-India-China-South Africa (BRICS) research project is a review of public sustainable housing policy in South Africa in the context of Pillar Three of the BRICS Long-term Strategy, and the Sustainable Development Goals. The research found that housing in South Africa is dominated by the legacy of apartheid and social exclusion, and characterised by environmentally unsustainable living conditions. The net result of government policy has been a backlog in the supply of affordable social housing. The findings of the research in the South African context are applicable to BRICS countries with similar challenges from migration and urbanisation pressures. The ultimate aim is to develop a model for the provision of affordable social housing in BRICS member states.

Entities reporting to the Minister (continued)

National Advisory Council on Innovation

Overview of objectives

The National Advisory Council on Innovation (NACI) is a statutory advisory board that advises the Minister for Science and Technology and Cabinet on the role and contribution of science, technology and innovation to national objectives. The National Advisory Council on Innovation Act, 1997, gives NACI a broad policy (advisory) mandate over all aspects intrinsic to the functioning of the national system of innovation. Below are some of the highlights for the period under review.

Advice on the following was submitted to the Minister:

- Issues affecting food security in South Africa (7 September 2015).
- The results of 2012/13 R&D survey (25 June 2015).
- Issues relating to the sustainable use of biomass in South Africa (19 August 2015).
- The potential role of indigenous technologies in meeting the targets of the National Development Plan (11 November 2015).
- The development of indicators to monitor the implementation of South Africa's bioeconomy (1 December 2015).
- The development of a science, technology and innovation information portal (21 December 2015).
- Water and sanitation challenges (3 February 2016).
- Analysis of key issues in South Africa's prospective nuclear procurement programme (25 February 2016).
- Gender mainstreaming and race inclusion in the science, technology and innovation public sector environment (7 March 2016).
- The analysis of skills sustainability in government infrastructure flagship projects (7 March 2016).
- Energy efficiency and demand-side management still come to the rescue (9 March 2016).
- The results of 2015 South African Science, Technology and Innovation Indicators Booklet (30 March 2016).

National Research Foundation

Overview of objectives

The National Research Foundation (NRF) is a client-centred organisation that upholds excellence in its service to the research community. Its primary objective 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. To assist with this, the NRF promotes and supports research and researchers through the development of the human capital development pipeline, which is geared towards creating critical mass of high-end skills. Below are some of the highlights for the period under review.

Business and systems intelligence

The NRF made progress towards finalising and rolling out the internal business intelligence system (BIS) to staff. By integrating the internal NRF business intelligence data with data collected from external systems such as the Research Information Management System (RIMS) and the aggregated Higher Education Management Information System (HEMIS), the NRF can now start to provide system-

level intelligence. The provision of data at this level enables evidence lead strategic decision making at a business and system level.

Employment equity

In the period under review, staff demographics reflected an improvement. Black representivity was measured at 73%, against an annual target of 76%. Women made up 43% of staff, meeting the target set. Key challenges remain gender representation at executive and senior management levels, and black representation in the three highest employment categories.

Science engagement

The successful Science for Society lecture series initiative continued in the 2015/16 financial year with six lectures hosted and broadcasted on SAfm. The lectures were presented by the South African Research Chairs Initiative (SARChI) chair holders, and topics ranged from research in economic geology to HIV and water management.

More than 1 million members of the public were reached through the various science engagement interventions, including festivals and exhibitions. Through focused science education interactions, 19 410 educators and 370 624 learner were reached. These science education initiatives focused on improving performance in science, technology and mathematics.

A number of discipline-specific science communication programmes profiled South African science achievements. The Public Understanding of Biotechnology programme, Nanotechnology Public Awareness programme, and African Origins Programme were successfully presented.

To build capacity around science communication, various training opportunities were presented in the reporting period. The science engagement division of the NRF used the African Union Summit as an opportunity for a media "excursion" to two DST-NRF centres of excellence in Gauteng. This provided journalists with a deeper understanding of South African science, technology and innovation initiatives.

In addition, as part of the Comprehensive Rural Development Programme, the NRF implemented the Science and Technology Journalist programme in district municipalities. This programme was initiated by SAASTA in collaboration with the Media Development and Diversity Agency and also included the recruitment and placement of interns.

Transformation of the rated researcher cohort

The target for black rated researchers (768) was exceeded by 13% (866). The target for women rated researchers of 992 was exceeded by 6% (1 054). While there is definite improvement, the transformation of the rated researcher cohort remains a priority area.

Human capital development

The NRF invested 67% (R815m) of the funding for human capital development in the area of next generation researchers, i.e. honours, masters and doctoral students. Over the period, the NRF exceeded the target for doctoral students funded (2 996) by 6% (3 181). The number of PhDs per million of population has increased from 36 in 2014 to 41,8 in 2015.

A total of 569 postgraduate students were supported by the national research facilities, exceeding its target of 505 for the year by 13%. The national research facilities support research through access to cutting-edge infrastructure as well as data. To this end, the NRF supported 1 360 users of the research platforms.

Over the reporting period 337 interns exited the programme for new opportunities, 110 were retained in the workforce and 227 pursued tertiary education opportunities. A total of 728 new interns were selected for the DST-NRF Internship Programme for the new financial year.

Global competitiveness (internationalisation)

The willingness of the global community to collaborate with South African researchers is an indicator of research excellence and relevance. For the period under review,

Entities reporting to the Minister (continued)

against a target of 7 400 international co-publications, the system performed at 8 838 or 19% higher than target.

Research outputs

The National Research Facilities of the NRF produced 414 ISI (Web of Science) publications, exceeding the target of 330 by 25%. The overall citation impact for the publications was 1.28. The citation impact rating for iThemba LABS was exceptional, at 1.51. The citation impact rating is an indicator of relevance where the global average is 1.

The South African Institute for Aquatic Biodiversity (SAIAB) collaborated with the South African Environmental Observation Network (SAEON), Rhodes University, Nelson Mandela Metropolitan University (NMMU) and the Department of Agriculture, Forestry and Fisheries (DAFF) on a multidisciplinary review of the influence of global change on the coastal biota of South Africa.

IThemba LABS co-authored the first paper emanating from the climate change project, involving a novel application for stable light isotope analyses. The isotope was used to do carbon dating on ancient Baobab tree rings to determine rainfall patterns a thousand years ago. The paper, the first record of its kind for Southern Africa, was a collaboration between iThemba LABS, the University of Pretoria (UP), the University of Cape Town (UCT), SANParks, the Babeș-Bolyai University in Romania, the University of Swansea in the UK, the Namibian Polytechnic and the University of Botswana.

SAEON is involved in a strategic environmental assessment (SEA) project for the government on the shale gas exploration in the Karoo, with a view to long-term monitoring of the impacts. SAEON was also requested to participate in the Department of Environmental Affairs' SEA project on the expansion of the Square Kilometre Array Phase I.

SAIAB is leading the South African National Biodiversity Institute (SANBI) project on the inventory of freshwater fishes for the multidisciplinary Karoo BioGaps. The project aims to mobilise foundational biodiversity data to support the SEA for shale gas and other potential infrastructure development projects in the Karoo.

The National Zoological Gardens was involved in identifying genetic similarities discovered between South African and Zimbabwean rhino populations. This may enable free movement of rhinos between the countries without negatively impacting the gene pools, potentially assisting efforts to conserve the species.

The infrared investigations of a nearby galaxy discovered at least 14 long-period Mira variable stars. This discovery of unusual phenomenon was made by the South African Astronomical Observatory (SAAO) in collaboration with Japan.

Using both the SAAO 1,9m telescope and Southern African Large Telescope spectroscopy, amateur astronomers found a peculiar-looking nebula in the Orion constellation in 2010. A recent collaboration of astronomers at the SAAO, and in England, Chile, Spain and Mexico, discovered the origins of the nebula which seems to have been formed in a stellar explosion just over 1 500 years ago according to ancient Chinese records. This is a particularly rare combination of star and nebula, with only two other examples known. Discoveries such as these are uniquely placed to tell us how the long-term evolution of similar stars takes place over thousands of years.

One of the most important emerging VLBI applications is phase-referencing observations of spacecraft. Nodding observations (switching between spacecraft and quasar) of a spacecraft and nearby active galaxy nuclei allows for the precise measurement of position. The goal of such observations is to determine absolute positions of spacecraft and to increase the number of ecliptic plane calibrators in order to reach nanoradian accuracy of phase-referencing observations of spacecraft. The proposal between HartRAO and Shanghai Observatory has been accepted by the European VLBI Network and will be funded under the South African-China bilateral agreement.

MeerKAT has attracted international investment in the form of partnerships. The Max Planck Institute for Radio Astronomy is contributing receivers to the value of €11 million to MeerKAT.

During the period under review 20 MeerKAT dishes have been installed on site, with two additional pedestals installed and the third delivered to site. The correlator was fully demonstrated, with data captured from a MeerKAT receptor, gaining confidence in the solution for Array Release 1, 2 and 3 deployments. A total of 16 digitisers for AR1 were also completed.

The SKA SA site is 98,1% compliant with National Key Point requirements. Perimeter fencing has to be installed around the site complex. The sealing of the road is progressing well, with construction 20% complete. The agreement between ABSA and NMC to provide bridging finance to local subcontractors has been finalised.

The Africa VLBI Network (AVN) is being rolled out to the SKA partner countries, which include Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia, and Zambia. During the year under review, the AVN team prioritised the conversion of the 32m telecommunication antenna at Kutunse in Ghana. Draft memoranda of agreement were submitted to Zambia and Madagascar for the conversion of existing dishes and the team will work on conceptualising the plans for the new build projects in Namibia, Mozambique, Mauritius, and Botswana in the new financial year (2016/17).

South African Council for Natural Scientific Professions

Overview of objectives

The South African Council for Natural Scientific Professions (SACNASP) is the regulatory body for natural science practitioners (professional natural scientists, natural scientists-in-training, natural science technologists and natural science technologists-in-training) in South Africa. Below are some of the highlights for the period under review.

Registration of professional scientists

SACNASP has 8 900 registered scientists on their database, with over 400 scientists now being registered at each meeting. In the year under review, SACNASP undertook projects to raise awareness about the legal requirement for registration.

Extension scientists

In 2014/15 SACNASP collaborated with DAFF to begin registering extension scientists. During the 2015/16 period SACNASP registered 507 extension scientists. Despite challenges with referee reports, SACNASP is well prepared to finalise the registration of extension scientists in the first two quarters of 2016/17.

Critical skills visas

As a body accredited by the South African Qualifications Authority (SAQA), SACNASP has been able to assist foreign people who want to work in South Africa with their critical skills visa. A process was implemented so that SACNASP could verify the skills or qualifications of an applicant. The number of requests for critical skills visas is increasing.

New fields of practice

As part as SACNASP's ever broadening horizons, conservation science and statistical science were added as fields of practice.

Transformation

In the year under review, there were positive trends in registration with regard to representivity in race, age and gender. As SACNASP moved into 2016, with the registration of extension scientists, more young black people (aged 20 to 39) were registered. An analysis of the entire database of scientists (pending and registered) showed that there were more black scientists on the database than all other races. Over 7 000 black scientists were registered in 2015, more than 900 of which were between the ages of 30 and 39.

Entities reporting to the Minister (continued)

New council

In 2015/16 a new SACNASP Council was inaugurated. Dr Gerda Botha was elected President and Dr Khathutshelo Nephawe Vice President. The new Council created new committees to support the SACNASP office, namely, the Audit and Risk Committee, Professional Conduct Committee, HR and Remuneration Committee, and Special Projects Committee. The existing Registrations and Qualifications Assessment Committee continues to manage the registration of natural scientists.

Continuing professional development

The continuing professional development (CPD) programme has gained momentum with the completion of the first phase of the website. Training providers can now register their training courses for accreditation. Currently, 23 training providers are registered. The CPD programme is due to start in April 2017, but in the period under review the International Association of Impact Assessors and the Animal Feed Association held conferences at which scientists could obtain CPD points.

SAQA data loads by professional bodies

SACNASP continues to upload their data onto the National Learners' Records Database. It is the third largest professional body to do so.

DST funding

SACNASP has been a self-funding entity, which has meant that budget constraints limited progress in areas like marketing and information technology development. However, in January 2016, the DST awarded SACNASP a R12,6 million grant spread over three years. This funding will be used to support marketing initiatives, improve SACNASP's information technology infrastructure, and develop the CPD programme and the candidate mentoring phase.

South African National Space Agency

Overview of objectives

The South African National Space Agency (SANSA) is mandated 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. Below are some of the highlights for the period under review.

Space technology for socio-economic contribution

SANSA's focus in addressing South Africa's challenges in the year under review was on four main areas, namely, the (i) national geospatial decision-support data products, (ii) national land-use and land-cover base information layers, (iii) space weather services, and (iv) magnetic technology services. In terms of decision-support data products, SANSA increased its valuable satellite imagery acquisition from various satellites, including SPOT, Landsat, MODIS and CBERS-4. This has enabled the agency to serve the country and the region better by distributing a total of 47 485 images and empowering decision makers with geospatial information and intelligence.

The production of the information layers in (i) human settlements, (ii) national water, (iii) national vegetation, and (iv) flood risk have been further refined. This provides a good foundation for operationalising the associated base information that will strengthen the delivery of services and better decision making in spatial planning, water management, agriculture and disaster management. More especially, the human settlement information layer for 2012 and 2014 has been completed, which will enable a better analysis of human settlement changes in the context of rapid urbanisation.

Space weather services and space science research have continued to form the bedrock of South Africa's national security, with various services being provided to the South African National Defence Force, including prediction services, geospatial information and training. In particular, a new space weather information platform has been developed at the Maritime Control Centre at the Institute for Maritime Technology.

This facilitates real-time space weather monitoring for the efficient setting of communication paths for vessels at sea. This is complemented by a portfolio of magnetic services that are provided to various clients including, electromagnetic navigation ground support for the Institute for Maritime Technology and the South African Navy, protecting vessels from corrosion and saving the country millions of rands, while increasing the safely and reliability of the vessels.

Conducting cutting-edge research, development and innovation in space science

SANSA's research has continued to set new boundaries of knowledge in space, probe the unknown and question the underlying assumptions of scientific discourse. Its researchers have shown for the first time that sudden stratospheric warming also affects the upper thermosphere, which will lead to better modelling of the composition of the upper atmosphere.

For the first time, SANSA has observed sprites in South Africa using optical instrumentation. Some of the many other areas that have been probed are ionospheric densities; the derivation of non-linear plasma densities (working with the University of the Western Cape); ion-acoustic solitons; high-frequency non-linear waves; sudden magnetic storm commencements; geomagnetic-induced currents; the prediction of induced electric field components during geomagnetic storms; and travelling ionospheric disturbances.

This wide scope of knowledge creation has resulted in 26 research publications in high-impact research journals, approximately R4,5 million in research grant funding, four NRF research ratings, two book contributions, and nine graduated students. SANSA achieved a productivity score of 1992. SANSA researchers participated in research conferences and/or workshops in 10 different countries, including two African and five European countries.

Building a capacity and developing skills

For South Africa to become a knowledge economy, it is necessary to develop an extensive knowledge workforce. To this end, in 2015/16 SANSA supported a total of 53 postgraduates through programmes in space science, Earth observations, remote sensing and engineering. These are areas in which the country has to address a skills shortage, improve its global competitiveness and reduce the currently high trade deficit in high-technology products and services. In ensuring that there is a wide pipeline of leaners and an increased uptake of science, engineering and technology at schools, SANSA directly engaged 19 595 youth through various science advancement initiatives, including science exhibits/festivals, mobile outreach activities, and science centre activities. These efforts continue to excite and challenge young people, exposing them to new opportunities in the science arena.

High accuracy satellite global positioning system

SANSA's space operations activities, as in previous years, have positioned South Africa favourably in the space operations sector. SANSA is working with Avanti

Entities reporting to the Minister (continued)

Communications to address aviation safety through the SBAS-Africa project, a crucial air navigation project in Africa. Since satellite-based augmentation systems services can also contribute to other transport domains, an SBAS application in the maritime domain is being investigated.

A total of 12 launch support, one drift support and two in-orbit tests were conducted, including C-Band transfer orbit support services (TOSS) for Intelsat 34, TOSS for the ABS-3A, Ku-Band transfer-orbit support for about 10 days and support of the Jason-3 ocean altimetry mission (measuring ocean surface topography to aid in ocean circulation and climate change research). The significance of this work is that these support global navigation, communication, science, environmental management, and deep space exploration. In this way, SANSA makes a contribution to the advancement of humanity and improved livelihoods. Work on navigation has also increased with launch and early orbit phase support for the Galileo 9 and 10 satellites.

Positioning SANSA as an emerging space player

SANSA has developed international partnerships by positioning itself as one of the countries with space aspirations that embraces collaborations with experienced nations to become a full space agency complete with its own launch capabilities. A number of international research visitors were hosted from the UK, India, and Japan. These visitors engaged with students at SANSA, university partners, researchers and the public. Four international workshops were held in Hermanus with just over 100 international and African delegates, including the European Incoherent Scatter Radar (EISCAT) symposium, which was held in the Southern Hemisphere for the first time. SANSA's African partnerships have continued to grow, especially in the context of the African Resource Management Constellation.

Technology Innovation Agency

Overview of objectives

The Technology Innovation Agency (TIA) is a national public entity that is intended to serve as the key institutional intervention to bridge the innovation chasm and promote the development and exploitation, in the public interest, of discoveries, inventions, innovations and improvements. Below are some of the highlights for the period under review.

Innovation Funding and Commercialisation Support Programme

The programme focuses on de-risking technologies that are going through the various technology development phases. Below are some of the technology development projects undertaken during the year under review.

Advanced manufacturing

TIA's Advanced Manufacturing Strategic Technology Area (AM STA) contributes to the roadmap steering committee and task teams for the Department of Science and Technology's Advanced Manufacturing Technology Roadmap process. The roadmap is aimed at guiding the DST's research and development (R&D) programme and aligning it with industry priorities. The Centre for Technology Management at the University of Cambridge offered training in this regard.

The AM STA participated in the 2015 Africa Aviation Innovation Summit, AVI AFRIQUE, held over two days at the CSIR International Convention Centre. A TIA portfolio manager was appointed to the panel of the judges for

the awards, and the TIA CEO addressed delegates at the awards evening.

TIA was invited to attend the celebration of the 100th JS1 Revelation Sailplane produced by Jonker Sailplanes. (TIA funded the development of composite manufacturing standards that were later used in the manufacturing of the aircraft.) The TIA Executive Committee and other TIA personnel attended the event in Potchefstroom during the last quarter of the financial year.

Energy

PTiP, a spin-off company from a TIA investment in photovoltaic technology intellectual property, received an arbitration award from a German solar manufacturing company for claims on PTiP's patents. TIA expects to receive royalties from the award settlement.

Another success story is Clear Sky Energy (Pty) Ltd, which benefited from TIA technology development funding and has been able to operate independently from the TIA funding agreement after attracting additional funding from private parties.

In addition, a 100% South African heliostat technology is being developed for the fast-growing concentrating solar power industry. The unique design uses smaller, smarter and modular heliostats to overcome cost challenges. As part of the TIA-funded Helio100 technology development project, a pilot plant is being built.

Agriculture

As a result of TIA's funding and support programmes, and after the successful completion of technology demonstration, AgriProtein (Pty) Ltd is on schedule to start generating revenue from sales of its commercial product. The nutrient recycling technology will enable the company to make available alternative and cheaper animal feed protein for the poultry and aquaculture market. The company's employment numbers increased from 10 just before it received TIA funding to 45 at the end of the technology demonstration. This number is expected to increase to 60 when the production facility reaches full production capacity.

The University of the Western Cape has entered into an options agreement with a BBBEE company, Travallo Trading, to explore the feasibility of commercialising Indigenous Botanical Adjuvant Technology (iBATECH). The technology is based on a unique extraction activity from an indigenous plant called kraalbos, and the university is currently executing the final stages of technology development with crop field trials being conducted to validate the efficacy of the various products and/or applications. Travallo Trading has received R1 million from the National Empowerment Fund for the bankable feasibility study. The outcome of the study will inform and influence the terms of a licensing agreement between the two parties. The technology has a huge potential to fill the growing global demand for environmentally friendly alternatives to synthetic agrochemicals.

TIA supports the development of genomic technology for applications in livestock breeding and has approved the allocation of R9,4 million over three years towards the establishment of a dairy breeding technology innovation programme in partnership with the Holstein and Jersey breeders' societies, higher education institutions, and the Agricultural Research Council. The programme's technology development agenda is driven by the dairy industry's Milk Producers Organisation, which has committed a total of R44 million over the three-year period as their co-funding contribution to ensure the programme's success. The aim of this project is to develop commercially attractive genetic traits which are difficult to measure, using genomics as a tool.

Information communication technology

With the intention of directing investments in research, development and innovation capability and harnessing socio-economic benefits for South Africa, TIA funded and supported several initiatives, including Custos Media Technologies' software platform to obstruct the pirating of digital media content by tracking infringements and unauthorised distribution. Using total funding of over R5 million, the technology enables and incentivises anyone in the world to act as an anonymous informant, disclosing the identity of the first infringer as the pirate uploader.

Entities reporting to the Minister (continued)

Another initiative supported was a cognitive systems project, which, with total funding of R11,8 million, is working on a new generation big data analytics tool, in the form of a distributed artificial intelligence software engine that is able to discover previously unknown properties (data mining) from big data sources, in real time, on standard affordable hardware platforms.

There is also support for the mLab mobile applications project, with total funding of R5,5 million, a partnership with mLab Southern Africa to support innovation in the development of mobile apps.

Recognition of innovation excellence through awards

Global Cleantech Innovation Programme Awards

In partnership with TIA, the 2015 Global Cleantech Innovation Programme (funded by the Global Environment Facility and implemented by the United Nations Industrial Development Organization to promote environmentally friendly clean technologies in small businesses and SMEs around the world) held its annual awards ceremony for SMEs in South Africa. The environmental and technological innovations created by small businesses and start-ups were recognised for their economic and social impact in South Africa and the continent. The top performers in the programme were Khaya Power (for its efficient and safe micro-gasifier stove), Carbotect (for its work on cleaning validation and the optimisation of water usage), and Green Tower (which developed a hybrid solar heat pump for domestic hot water).

Gauteng Accelerator Programme Bioscience Awards

TIA, in partnership with The Innovation Hub and Emory University in Atlanta, Georgia, presented the Gauteng Accelerator Programme (GAP) biosciences programme. The programme is intended to address the gap that exists between the prototype stage and the commercialisation of life science technologies. This is done by transferring essential business skills to bioscience researchers and entrepreneurs so that they can pursue commercially viable opportunities in bioscience technologies and establish sustainable start-up companies. Extra Green, a project supported through TIA's Seed Fund, was awarded the first prize of R500 000 worth of incubation support for its unique patented extraction procedure for moringa. GAP contributes significantly to economic growth in Gauteng, in terms of job creation, supporting local innovative/biotechnology industries with economic value and contributing to socio-economic empowerment.

Swiss-South African Technology Entrepreneur Programme

This programme exposes technology innovators to entrepreneurship and entrepreneurship challenges inherent to the field of science, engineering and technology, providing a platform for skills exchange between Swiss and South African technology entrepreneurs. During the final phase of the programme, 13 South African entrepreneurs competed against the Swiss start-ups from the Swiss Venture Leaders Programme at the Google Pitch Fest in Zurich. The South Africans took five of the six finalists' spots, with Bandile Dlabantu of Khepri Biosciences winning the competition with his pitch for the bioconversion of waste products into high-value products through the use of fly larvae.

Seed Fund Programme

In the year under review the Seed Fund Programme issued two calls for proposals from higher education institutions, allowing it to add 101 new applications to its current portfolio, bringing the total to 275 and demonstrating the effectiveness of the call model.

A key stakeholder engagement was hosting a Seed Fund Best Practice Webinar in collaboration with the Southern African Research and Innovation Management Association as a means of sharing improvements that participating higher education institutions could adapt to their own funded project portfolios.

Technology Platforms Programme

This programme facilitates access to key infrastructure and expertise for technology innovation. During the period

under review, the Technology Platforms Programme attracted R57 million in third party funds for its portfolio. A significant amount of this funding (approximately R37 million) was foreign direct investment into local R&D activities.

The Human Drug Discovery and Development Centre (H3D) medicinal chemistry laboratory, launched towards the end of 2015, is aimed at boosting efforts to develop medicines. The laboratory, equipped with state-of-the-art instrumentation and infrastructure, will be able to integrate information and knowledge from various disciplines, and allow dedicated teams to design and synthesise molecules.

An agreement was signed between the Centre of Proteomics and Genomics Research and Tokeid Biotech (Pty) Ltd to provide support for the commercialisation of a food quality control testing service. The agreement allows the centre to evolve and provide on-site hosting of omics-based businesses as part of its technology development support offering.

A deal was also concluded between the National Metabolomics Platform and Next Bioscience (Pty) Ltd to commercialise and market a broad screening test for inherited metabolic diseases in newborn babies.

TIA's National Genomics Platform continued to provide sequencing services to underfunded researchers at local universities. One project examined microbial communities in treated industrial effluent water. The results indicated the presence of genes for antibiotic resistance and heavy metal metabolism. This information will be useful to local authorities in the management of industrial waste water at local treatment facilities.

The Bioprocessing Platform was instrumental in connecting farmers from the impoverished community in Kosi Bay with an opportunity to provide quality raw materials critical in the production of high-value products for international markets. Kosi Bay cooperatives involved in beekeeping were connected with Makana Meadery in Grahamstown, a mead producer whose products are internationally marketed through B. United International Inc. The opportunity enabled local farmers to generate foreign revenue.

Biosafety South Africa, TIA's Biosafety Platform, continued to play a leading role in shaping the region's biosafety agenda in the year under review. It held capacity building sessions in neighboring countries, including Namibia, Swaziland and Zimbabwe. These will have a significant impact on R&D and regional trade related to genetically modified organisms. Biosafety SA also made a significant strategic commitment through the development of a biosafety communication strategy, which aims to raise awareness of and build confidence in South Africa's well developed biosafety regulatory framework.

PART B: PERFORMANCE INFORMATION

1. Auditor-General's Report: Predetermined objectives

The Auditor-General currently performs certain audit procedures on the performance information to provide reasonable assurance in the form of an audit conclusion. The audit conclusion on the performance against predetermined objectives is included in the report to management, with material findings being reported under the Predetermined Objectives heading in the Report on other legal and regulatory requirements section of the auditor's report.

Refer to page 165 of the Report of the Auditor-General, published in Part E: Financial Information.

2. Overview of departmental performance

2.1 Service delivery environment

The DST derives its mandate from the 1996 White Paper on Science and Technology, which introduced the concept of a national system of innovation (NSI). The NSI concept is an enabling framework for the development of science, technology and innovation (STI) at national level. The NSI can be understood as a set of functioning institutions, organisations and policies that interact constructively in the pursuit of a common set of social and economic goals and objectives, seeking to promote change through the introduction of innovations.

The DST, as the custodial coordinator for the development of the NSI, influences it through key strategies such as the 2002 National Research and Development Strategy and the 2008 Ten-Year Innovation Plan. The latter, particularly, seeks to contribute to transforming the South African economy into a knowledge-based economy, in which the production and dissemination of knowledge lead to economic benefits and enrich all fields of human endeavour. In this regard, the measure of success will be the level to which STI plays a driving role in enhancing productivity, economic growth and socio-economic development.

2.2 Alignment with broader government policies

South Africa's National Development Plan (Vision 2030) (NDP) highlights the centrality of STI in national development. The NDP acknowledges that STI can play a vital role in addressing poverty, unemployment and inequality. Internationally, STI and related discoveries are recognised as future sources of economic growth, with the potential to create new kinds of jobs, and new solutions to challenges like poverty, poor health and water shortages. In the planning for the 2015/16 financial year, the Department began communicating ways in which its work and the NSI could contribute to the reduction of inequality, poverty and unemployment.

Research capacity is the fuel that drives the NSI. The DST has made substantial progress in enhancing knowledge production, growing and transforming the pool of knowledge workers, and exploiting knowledge for development. Increasing the number of researchers in South Africa and enhancing research innovation outputs are vital for the country's international competitiveness. In the reporting period, the DST has made substantial investments in instruments aimed at boosting human capital development (HCD) in priority areas – the Centres of Excellence Programme and the South African Research Chairs Initiative. The NDP sets a target of 5 000 PhDs per annum.

International partnerships were actively sought to achieve the DST's HCD objectives, specifically with regard to PhD training. This priority cut across all aspects of international cooperation work, and saw, for example, 169 South African students participating in international postgraduate training programmes as part of the creation of a dedicated Global Knowledge Partnerships platform to support South African students accessing opportunities abroad.

The DST also facilitated 63 technical exchanges with foreign partners aimed at building and reinforcing South Africa's capacity in key science and technology domains.

The NDP notes that developments in STI fundamentally alter the way people live, communicate and transact, with profound effects on economic growth and development. STI is vital for equitable economic growth, underpinning economic advances and improvements in health systems, education and infrastructure. The NDP argues that countries that are able to tackle poverty effectively by growing their economies are characterised by strong STI. The NDP acknowledges that economic development takes time and that innovation should grow in importance in years to come. For example, in the first phase (i.e. 2014-2019, in which the 2015/16 reporting cycle falls) the DST focus will include intensifying research and development (R&D) spending, emphasising opportunities linked to existing industries.

2.3 Organisational environment

There were no significant developments internally that may have impacted the Department's Strategic and Annual Performance Plan. For example, there were no industrial actions, restructuring nor significant system failures.

2.4 Key policy developments and legislative changes

There were no major changes to relevant policies in the Department or legislation that have affected the operations during the reporting period.

2.5 Significant developments and major projects undertaken

Below are some of the noteworthy DST projects undertaken during the reporting period.

Biomanufacturing Industry Development Centre

During the 2015/16 financial year, the DST opened the Biomanufacturing Industry Development Centre (BIDC), a hub for innovation in the biomanufacturing sector, at the Council for Scientific and Industrial Research (CSIR). The BIDC is the first of its kind in South Africa, and aims to support small and medium enterprises (SMEs) involved in biomanufacturing to meet their customers' needs comparatively quickly and to exploit market opportunities.

The BIDC's support for SMEs is through the development of bio-based manufacturing processes and products. Companies that are incubated at the BIDC have access to ready-to-use biomanufacturing facilities, support in R&D laboratories, and access to experts in the fields of agroprocessing and bioprocessing product development and scale-up. The BIDC is funded through the DST's Industrial Innovation Partnership Programme and National Treasury's Jobs Fund.

The key strategic focus is to provide an environment for the reindustrialisation of South Africa through the diversification of the economy. The BIDC therefore contributes to the development of new, innovative products and new industrial value chains, which revitalise the local industry, stimulate export markets, and increase local competitiveness. The BIDC has enabled the CSIR to develop unique insights into the potential of the bioeconomy and biomanufacturing sectors. It is envisaged that the initial phase will result in the creation of both temporary and permanent jobs, and the economic impact is projected at about R250 million within the next five years. Currently the BIDC is supporting 19 enterprises, 16 of which are owned by black entrepreneurs, including 10 black women.

To date, 33 products with applications in the cosmetics, nutrition and biotechnology industries have been developed and transferred to the enterprises. The programme has resulted in 105 permanent jobs being created, the majority of which are within the enterprises and their value chains, while an additional 165 temporary jobs have also been created. Over 50 interns have received training in the BIDC vocational learning programme in order to provide the biomanufacturing sector with a skilled workforce.

In South Africa there is a pressing need to explore ways of entering areas such as the beneficiation of the country's natural resources. This will include manufacturing high-end components and exporting them, which will also create jobs. The BIDC supports SMEs through prototyping and scale-up phases of product development, and assists them to do market acceptance testing and to launch products in the market. The companies remain the sole owners of their innovations and retain absolute control over their future in terms of value add and partnerships. The BIDC helps to lower the cost and barriers that inhibit innovative enterprises from translating their inventions into market-ready products.

Fluorochemicals Expansion Initiative

The Fluorochemicals Expansion Initiative (FEI) is a DST initiative to reduce the negative balance of payments in the chemical industry by supporting focused R&D aimed at new processes and products, some of which may help to create new industries. The country currently supplies around 10% of the global fluorochemical industry's fluoride requirements (worth about US$16 billion a year). However, South Africa captures less than 0,5% of this revenue owing to the low level of local beneficiation.

It is therefore necessary to enhance and broaden local beneficiation efforts to increase the country's share of the global fluorochemicals industry revenue. South Africa has competitive advantages in mineral resources. For example, it has the world's largest reserves of fluorspar, estimated at about 41 million tons. In addition, there are niche skills and processes for developing and working with fluorine at the Nuclear Energy Corporation of South Africa (Necsa) and at Pelchem SOC Ltd.

The FEI aims to increase the capacity base and depth of fluorochemical technology through focused R&D projects that could result in a pipeline of novel and viable commercial opportunities. In the period under review, the DST hosted the first fluorochemical symposium, titled "The pervasive nature of fluorine and fluorochemicals in the modern world", in partnership with Pelchem SOC Ltd. Topics included opportunities for fluorides in the nuclear fuel cycle, fluorine chemistry, fluorine-containing pharmaceuticals, and the applications of fluorochemicals.

Pelchem SOC Ltd, with chemistry and chemical engineering researchers at Necsa and the Universities of Pretoria and KwaZulu-Natal, had already commercialised some chemicals and processes developed at the Multipurpose Fluorination Pilot Plant. The company was established by government to enable the production of small quantities of chemical products for potential sale. Pelchem currently supplies 25 advanced products to 27 countries on six continents. There are opportunities to expand the company's portfolio and capabilities in partnership with government, research institutes and industry, for example in the production of lithium ion batteries, active pharmaceutical ingredients, advanced materials, speciality solvents and electronic gases.

The Hi Hanyile Essential Oils and Medicinal Plants Project

Creating decent work and a skilled labour force, and generating new knowledge, are at the heart of the DST's Hi Hanyile Essential Oils and Medicinal Plants Project. In December 2015, Hi Hanyile received much-needed agricultural equipment valued at R1 million, promised by the Minister during a public participation programme in Giyani, to help expand the bioscience research initiative and grow the business.

During the 2015/16 financial year, collaborative research between the CSIR and traditional healers led to the extraction of the active chemical component of an indigenous plant.

To support the project-to-business transition, the DST engaged the Department of Trade and Industry-affiliated SA Essential Oils Business Incubator to assist Hi Hanyile using its incubation services, essential oil production know-how, quality assurance skills and services, and market linkages.

Scientists and traditional healers are collaborating in studies on indigenous plants which have led to the development of mosquito-repellent candles. During the reporting period, ***Lippia javanica*** (an indigenous plant that

is traditionally used to repel mosquitoes) was introduced to the Rose Geranium project as an additional product.

The DST also commissioned agricultural economists to develop a business plan to enable the project to access other sources of funding. This involves the development of a business model, including an investment memorandum or prospectus that capitalises on existing and future initiatives, and identifies potential sources of revenue, products, customers and partners. The project has been creating jobs and skills, especially for the local youth. There are, for example, young people that have been working on the project as boilermakers for two years, never having had formal employment before.

Hydrogen-powered forklift and refuelling station

During the reporting period an exciting development with regard to the DST's hydrogen fuel cell initiative took place. South Africa's first prototype hydrogen fuel cell forklift and refuelling station was unveiled at Impala Refining Services. The prototype is a collaborative effort between the DST, through HySA Systems (Hydrogen South Africa's centre of competence for systems integration and technology validation) based at the University of the Western Cape, and Impala Platinum (Implats), through Impala Refining Services.

Over the past three years Implats has provided HySA Systems with up to R6 million to enable the prototype development. Implats plans to use hydrogen fuel cell technology as its main source of energy for material handling and underground mining equipment. Fuel cell technologies have the potential to provide access to affordable, safe, clean and reliable energy, which is necessary for broad-based economic development and growth in the country.

While the fuel cell market is still in its infancy in South Africa, recent developments indicate a growing appetite for the technology. South Africa has started to make a number of bold moves that could see it leapfrog to become a leading country in hydrogen fuel cell technology installations in the short to medium term. To promote further deployment of hydrogen fuel cell technologies, especially in the lucrative automotive sector, public-private partnerships are required so that the requisite infrastructure can be put in place. The alignment of fuel cell initiatives across government would be critical to stimulate the private-sector funding necessary to create a viable hydrogen and fuel cell technologies industry cluster.

Developing a viable fuel cell industry in South Africa has several advantages for the country, including economic development, sustainable job creation and social good. As the world's largest platinum-supplying region, there is a guaranteed supply of the metal, as well as the potential to increase global platinum demand. The development and implementation of this technology provides an important opportunity for South Africa to play a role in reducing its greenhouse emissions, thus diminishing urban pollutants and contributing to reduced health-care costs and an improved quality of life.

The benefits of the metal hydride technology include much longer operational times between refuelling, contributing to a significant increase in productivity. In contrast, diesel and electric-powered forklifts are refuelled daily, affecting productivity negatively. The on-board metal hydride storage also allows for the forklift to operate at a low pressure (180 bar), which increases safety, as opposed to most fuel cell vehicles, which operate at 350 bar, requiring a high-pressure hydrogen compressor. Typically, these compressors have challenges with high service costs, safety and reliability.

Fuel cell-powered forklifts are gaining significant traction worldwide, and are now entering mainstream commercialisation. However, the limited availability of refuelling infrastructure, coupled with the challenge of finding the most appropriate on-board hydrogen storage technology, remains a challenge. Through this demonstration project, HySA Systems has addressed both challenges through the use of a novel metal hydride material for both hydrogen compression and storage.

The South African Marine Research and Exploration Forum

During the period under review, the Minister of Science and Technology launched the South African Marine Research and Exploration Forum (SAMREF), an initiative to exploit research opportunities in offshore oil and gas exploration in South Africa. The DST and the Offshore Petroleum Association of South Africa signed a memorandum of understanding to establish SAMREF.

The aim of SAMREF is to enhance cooperation between the public and private sectors and improve the exchange of information and data on a voluntary basis among all stakeholders. The daily activities are managed through a secretariat in the National Research Foundation (NRF), one of the DST's entities. SAMREF includes representatives from government, state-owned enterprises, research institutions, oil and gas industry associations, and other private-sector stakeholders.

The first phase of Operation Phakisa focused on the blue economy and aimed to unlock the potential of our country's vast marine resources. With 3 000 km of coastline, South Africa is a major maritime nation. The unlocking of marine resources has the potential to increase its contribution to South Africa's gross domestic product by more than R20 billion over five years. The four critical focus areas of Operation Phakisa (Oceans Economy) are marine transport and manufacturing, offshore oil and gas exploration, aquaculture, and marine protection services and governance.

Science, technology, engineering, mathematics and innovation Olympiads

Olympiads and competitions were again used to attract learner participation in science, technology, engineering, mathematics and innovation (STEMI) in the country. The DST and the South African Agency for Science and Technology Advancement see such initiatives as providing learners with an opportunity to broaden their knowledge and unleash their potential in STEMI. The year under review also saw the launch of a community of practice and its inaugural annual conference, creating a platform for the sharing of knowledge and best practices to enhance STEMI Olympiads and competitions in South Africa.

This platform is expected to increase the number of schools participating in such activities. Current figures show that a fraction of schools countrywide participate. For example, in 2015, only 82 164 learners (1 039 schools) participated in the South African Mathematics Olympiad, and only 9 500 primary school learners (378 schools) participated in the South African Mathematics Challenge. This is a cause for concern considering that there are 6 000 high schools and 20 000 primary schools in the country.

2.6 High-level contributions to addressing poverty, unemployment and inequality

Bursaries and research grants

In South Africa, the unemployment level for high school leavers is approximately 35%, whereas for those with a first university degree, the figure is about 6%, and for those with a master's or a doctoral qualification the figure drops below 3%. Skills acquisition is the greatest equaliser, reducing inequality, poverty and unemployment. The Department has continued to invest in the development of skills needed for economic growth and development through the NRF, an agency mandated with developing high-level human capital in research.

Internship positions

In 2015/16 the Department supported a total of 1 353 interns, of which 1 044 were placed in science, engineering, technology and innovation (SETI) institutions, and 309 were placed in positions to gain experience in R&D related to design, manufacturing and product development. The workplace preparation programmes place students and postgraduates in work environments where they gain work experience, which makes a significant contribution to the absorption of postgraduate students in the job market, while concomitantly attracting them to follow research careers, reducing unemployment levels and improving equality.

Overview of departmental performance (continued)

Research infrastructure

Apart from the scientific and technological impact of research infrastructure, infrastructure has economic impact (through the medium and long-term effects on the economy of the technological advances and skills development it makes possible, as well as job creation) and social impact (the contributions to general well-being arising from progress made in science, which stems from the research process and its contribution to improving the quality of life of citizens). There is a reciprocal interaction between HCD and the availability of research infrastructure. To increase the number of skilled people, adequate and appropriate infrastructure for education and training is needed, while the increased availability of infrastructure requires highly trained people who can derive maximum benefit of this investment.

Indigenous knowledge

The Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill puts in place mechanisms to facilitate economic growth through the Bio-economy Strategy in the form of economic spin-offs from the protection of IP related to indigenous heritage. The application of such knowledge alleviates poverty in communities, ensuring the fair and equitable sharing of economic benefits arising from the use of indigenous knowledge. Various indigenous knowledge projects create business opportunities and uplift community, especially marginalised communities.

HIV/AIDS research and innovation

South Africa has the largest antiretroviral (ARV) programme in the world, with three million people currently on ARVs. This has significantly contributed to reducing new HIV infections and mortality from AIDS, and ensured child survival and prolonged life. Diligent planning is a major part of the success of this flagship programme by the DST, which ensures adequate availability of ARVs at every public health facility.

The DST has been investing in HIV research for many years, starting in 1999 when, together with the Department of Health, the South African AIDS Vaccine Initiative was established.

The DST's support for HIV research was expanded to include other interventions such as diagnostics, ARVs, microbicides, in addition to vaccines. The DST facilitated the creation of the South African HIV Research and Innovation Platform (SHARP) to fund pioneering HIV and AIDS research and facilitated the development of innovative solutions to the epidemic. The DST has been supporting a number of HIV-related projects at various stages of development through a programme called the Strategic Health Innovation Partnership (SHIP), which incorporates SHARP under the auspices of the South African Medical Research Council. The role of this programme is to facilitate the interaction of South African HIV and AIDS researchers, and to create a National Network of Collaborating Research Centres in HIV and AIDS.

A number of multi-institutional, multidisciplinary, product development projects covering diagnostics, vaccines and microbicides are being pursued to advance the objectives of SHARP. South Africa attaches particular importance to the fight against AIDS, with prevention at the heart of the country's National Strategic Plan for HIV, STIs and TB.

Technology Innovation Agency

During the 2015/16 financial year, mLab Southern Africa launched a new fund established in partnership with the Technology Innovation Agency (TIA) to assist local mobile, sensor or wearable app start-ups to develop their concepts to an early stage prototype or minimal viable product. The partnership between TIA and mLab Southern Africa brought some much needed support to the local open innovation ecosystem in South Africa by making early stage grants of up to R500 000 available to qualifying start-ups.

TIA continued its support for the development of innovative technologies with commercial potential, in nutrient recycling, solar power, and livestock breeding, among other areas.

2.7 Service Delivery Improvement Plan

The Department has completed a service delivery improvement plan. The table below highlights the achievements to date.

Table 1: Main services and standards

Main services	Beneficiaries	Current/actual standard of service	Desired standard of service	Actual achievement
Promotion of public engagement with STI	Targeted stakeholders in waste, water and environmental services	Environmental Services and Technologies programmes profiled through the media channels and public platforms	Dedicated annual marketing campaigns	• Waste summit • Waste media • Technology Fair hosted with Water Research Commission • Launch of miniSASS app for android phones as part of citizen science initiative • Imvelisi Enviropreneur programme launched by GreenMatter and the Young Water Professionals Network
Provide funding to institutions and agencies to support technology solutions in the areas of space science, energy and biosciences	Public research institutions, science councils, universities and entities	All funding transferred by the end of the financial year	All funding transferred by the end of October of each financial year	All funding transferred by the end of the financial year
Financially support offices of technology transfer (OTTs) located at higher education institutions and science councils	Recipients include 26 higher education institutions and 10 science councils	OTTs financially supported by the end of the financial year	OTTs financially supported by October of each financial year	OTTs financially supported by the end of the financial year

Overview of departmental performance (continued)

Main services	Beneficiaries	Current/actual standard of service	Desired standard of service	Actual achievement
Conduct space outreach and awareness campaign through public engagements, exhibitions and media interviews	Learners, science centre coordinators and the general public	Two space outreach and awareness campaigns conducted by the end of the financial year	Two space outreach and awareness campaigns conducted by the end of the financial year	Two space outreach and awareness campaigns (World Space Week and Science Centre Coordinators Training Workshop) conducted by the end of the financial year
Public awareness	General public	IKS Expo	Raised awareness of indigenous knowledge systems (IKS)	IKS Interface Conference held
Postgraduate bursary support	University students (honours, master's, doctoral) and postdoctoral fellows	Support provided to about 8% of total enrolled postgraduate students in universities	Doubling the percentage of postgraduate students supported	13 545 postgraduate students supported
Placement of graduate and postgraduate students in SETI institutions for workplace experience	Graduate and postgraduate students	Support provided to about 15% of qualifying graduates	Providing support to about 30% of qualifying graduates	Support provided to 1 044 graduates
Research grants to researchers	Researchers in universities, science councils and other national research facilities	Support provided to about three researchers out every 10 qualifying researchers	Double the support to about six out of 10 qualifying researchers	4 315 researchers supported

Table 2: Batho Pele arrangements with beneficiaries (consultation access)

Current/actual arrangement	Desired arrangement	Actual achievement
Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill (IKS Bill)	Feedback gathered to obtain the widest possible range of views and opinions from interested parties on the proposed IKS Bill and the Accreditation and Certification Framework	13 public engagement meetings conducted in the nine provinces following publication of the draft Bill in the ***Government Gazette***. Bill approved by Cabinet for submission to Parliament.
Open call for applications directed at postgraduate students and the nomination of students by researchers	The percentage of bursaries awarded through open calls increased, and percentage of bursaries awarded by researchers lowered.	Percentage of bursaries awarded through open calls was lower, but demand was higher.
Stakeholders and role players in STI awareness and engagement invited to submit project proposals	Proposals received awarded grant funding to organise activities throughout the country	71 organisations awarded grants to conduct National Science Week activities and science festivals
R&D project proposals and business plans submitted by institutions and agencies, evaluated and approved or rejected by the Department, with funding transferred once approval had been obtained	No changes	R&D project proposals and business plans submitted by institutions and agencies evaluated by the Department, if approved, received funding

Current/actual arrangement	Desired arrangement	Actual achievement
The administration process for the R&D tax incentive is being simplified and turnaround times for providing the decisions on applications are being improved	Actions should be reviewed and formulated on the basis of recommendations to improve incentive administration made by the government-industry task team	The government-industry task team presented a set of recommendations to improve the administration of the incentive, including a review of the preapproval system, increasing awareness among applicants, and expanding staff capacity for administering the incentive

Table 3: Service delivery information tool

Current/actual information tools	Desired information tools	Actual achievements
Advocacy communication strategy	Implementation plan for dissemination	Strategy approved by the DST Executive Committee (Exco)
Ministerial guidelines on awarding bursaries	A reporting framework on ministerial guidelines	Annual reporting on progress with implementation of ministerial guidelines
Ministerial guidelines on awarding research grants	A reporting framework on ministerial guidelines	Annual reporting on progress with implementation of ministerial guidelines
Communication Strategy, including exhibitions and media	Implementation plan for dissemination, including exhibitions and media	Strategy approved by Exco. Exhibitions were held at all public participation programmes, and media were successfully used

Table 4: Complaints mechanism

Current/actual complaints mechanism	Desired complaints mechanism	Actual achievements
The NRF has an appeal process for postgraduate students who are not awarded bursaries	Panel of experts	Appeal framework under review by NF
The NRF does not have an appeal process for applicants who are not selected for internships, as selection of interns conducted by host institutions	No change desired	As per the current/actual arrangement
The NRF has an appeal process for researchers who are not awarded grants	Panel of experts	Appeal framework under review by NRF
TIA does not have a complaints mechanism for unsuccessful applicants	Independent panel of experts for appeals	Panel is being established.

2.8 DST contributions to the Medium Term Strategic Framework outcomes

In the year under review, the DST played a significant role in either leading or supporting the following Medium Term Strategic Framework (MTSF) 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 6:** An efficient, competitive and responsive economic infrastructure network.
- **Outcome 7:** Vibrant, equitable, sustainable rural communities contributing towards food security for all.
- **Outcome 10:** Protect and enhance our environmental assets and natural resources.

The DST also contributed to government's Programme of Action, which is aimed at addressing the triple challenge of poverty, inequality and unemployment in the country. Below are significant highlights relating to the outcomes for the reporting period.

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

As part of the DST's health-related work, a web-based application for processing drug resistance data was developed. It has been shown that the app, Seq2Res™, vastly reduces the costs and time involved in analysing data on viral DNA compared to conventional methods. The application will enable researchers and clinicians to process their drug resistance testing data routinely and easily, without needing expert bioinformatics assistance. Further development is being undertaken in collaboration with partners at the National Health Laboratory Service (NHLS) genotyping units in Tygerberg, the NHLS/University of the Witwatersrand Medical School, and the National Institute for Communicable Diseases. When completed, the University of the Western Cape will present Seq2Res™ for clinical, research and surveillance use, enabling the establishment of routine HIV drug resistance testing in Southern Africa. Discussions have been initiated with the Bill & Melinda Gates Global Health Investment Fund, which has expressed interested in taking the project globally.

Outcome 4: Decent employment through inclusive economic growth

A new pipeline of interventions was reviewed for approval in order to support local suppliers to access opportunities related to public procurement. There are 147 companies in the register of companies that are receiving or have received technology assistance packages.

With regard to support for small-scale producers (agriculture, forestry and fisheries), a review of existing information and communication technology (ICT) agricultural platforms was initiated. There has been engagement with the KwaZulu-Natal Provincial Government to secure cooperation and co-funding in the implementation of an ICT-enabled agriculture model.

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

In conjunction with the NRF, the DST is the key government source of bursary support for postgraduate training in higher education institutions. During the reporting period the Department completed a document which models the financial implications for the DST HCD and Research Infrastructure programmes if the relevant NDP targets (5 000 PhD graduates per annum) are to be met, and to ensure that 75% of all academic staff have obtained a doctoral qualification.

The DST commissioned several high-level studies to provide insight into some of the challenges related to the demographic transformation of the postgraduate and researcher cohorts in (mainly) the higher education sector in a quest for sustainability and growth in the research system. This will assist the Department, the NRF,

the Department of Higher Education and Training (DHET) and the university sector to begin developing new policy approaches and programmes to address shortcomings.

A Basic Sciences Development and Support Framework was approved by Exco, to support HCD, knowledge generation, and the building of research capacity in the basic science disciplines. The framework proposes the establishment of a platform that will serve as an interface between key stakeholders in the basic sciences, such as relevant disciplinary associations, universities, and the Association of Science of South Africa (ASSAf). The platform will support the DST and NRF in conceptualising support programmes to support the basic sciences within the DST remit, while enabling stakeholders to develop collective, cross-sectoral and inter-institutional responses to other issues of generic relevance, e.g. curriculum and teacher development.

Outcome 6: An efficient, competitive and responsive economic infrastructure network

The ICT Research, Development and Innovation Roadmap

The aim of the ICT Research, Development and Innovation (RDI) Roadmap is to direct investments in national ICT RDI capability leading to significant socio-economic benefits for South Africa, enabling the country to become more than a distribution market, capturing the increasing value of the new digital value chain and starting to compete globally. This will also allow the South African government to become a smart buyer of technologies.

The ICT RDI Roadmap has allowed the DST investment in ICT RDI to grow significantly and to be aligned with national priorities, creating an ICT RDI ecosystem that is attractive to foreign direct investment.

One of the notable DST investments in the implementation of the ICT RDI Roadmap was the continuation of mLAB, a mobile application company, which has enabled the support and establishment of 20 companies (five of which are established companies and 15 of which are new) as a way of strengthening the mobile innovation ecosystem in South Africa. Exciting mobile applications have emerged from these companies, addressing socio-economic challenges in areas such as transport, health, education, tourism and gaming. Furthermore, the mLab initiative was extended to the Western Cape in a partnership with the Cape IT Initiative's Bandwidth Barn. Expansion to other provinces is planned for the 2016/17 financial year.

National integrated cyberinfrastructure system

Progress has been made in establishing a national integrated cyberinfrastructure system in which high-performance computing and database facilities are integrated with one another other and with the national research network to support data-intensive research projects, including the computational requirements of big data flagship projects like the MeerKAT/SKA.

To promote human capital and research capacity development, and build infrastructure capability at the universities, two national calls were launched in 2015/16, to solicit proposals from consortia to host and develop (i) a Regional Tier 2 Data Node, and (ii) a National e-Science Postgraduate Teaching and Training Platform, with a focus on the development of a multi-institutional and multidisciplinary master's degree in e-Science.

By December 2015 the system was fully installed and initial testing was under way. Centre for High Performance Computing engineers and scientists are taking a leading role in the installation, and parts of the cluster were built by the winning student team from the Student Cluster Competition of 2015. This group of students will represent the country at the International Supercomputing Student Cluster Competition in Germany in June 2016.

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

In respect of bioinnovation for agriculture, a wheat-breeding platform was established and funded. The platform is being developed in partnership with GrainSA and is co-funded by the Winter Cereal Trust. The initiative will support the local cultivation of wheat, the bulk of which is currently being imported.

Overview of departmental performance (continued)

The DST also provided seed funding for a Soybean Improvement Programme implemented by a consortium focusing on soybean pests and diseases, with the aim of improving the local cultivation of soya to meet demand. Currently, the bulk of soya is imported by South Africa. Outputs will include access to new technology, molecular and physiological studies, and monitoring and management through early warning systems. The project is co-funded by GrainSA and Sasol Trust. Other important partners are Stellenbosch University, the Agricultural Research Council, Sensako and Pannar, and co-funding for the outcomes is supported by the Winter Cereal Trust.

As part of contribution to food security; the following initiatives were also undertaken:

- The Minister launched the Maggi Morogo Noodles product developed in a partnership between the CSIR, the Agricultural Research Council, the Universities of Fort Hare and Venda, communities and Nestlé.
- The Moringa agroprocessing plant in Tooseng, Limpopo, has been completed. Technicians are being trained to operate and maintain the facility to streamline production. Up to five products (capsules, soup, yoghurt, teas and vitamin water) will be processed and commercialised from this facility.

Outcome 10: To protect and enhance our environmental assets and natural resources

In support of a transition to a green economy, Trade and Industrial Policy Strategies, a not-for-profit economic research organisation, has completed a study to establish a baseline for investment in green R&D for the DST. Green R&D accounted for 26% of gross expenditure on R&D in 2011, which was chosen as the baseline year because it was the year in which government, business and labour signed the Green Economy Accord.

The Agulhas System Climate Array (ASCA) was officially launched at the Nelson Mandela Metropolitan University in April 2015, with a research cruise during which instruments were placed up to 4 km deep in the world's fastest flowing current. The ASCA project and successful first mooring deployment was a highlight for the ***South African Environmental Observation Network*** and a major oceanographic research advance for South Africa. This major intervention was made possible with the collaboration of the Royal Netherlands Institute for Sea Research, the Rosenstiel School of Marine and Atmospheric Research (at the University of Miami) and the Department of Environmental Affairs.

In July-August 2015, the DST, the Department of Environmental Affairs and the NRF undertook a winter research voyage on the icebreaker research ship, the SA Agulhas II. This was the first dedicated research expedition in the Southern Ocean in winter, as most countries do not have the capacity to do this. Nine principal investigators (research project leaders) led seven research projects on a 26-day research voyage to advance research on the Southern Ocean.

The South African global change research community, through the Global Change Science Committee (its representative group), prepared and submitted a report on the climate change research landscape in South Africa to the DST as an output under Outcome 10 of the 2014-2019 MTSF. Under the same outcome, a conceptual framework document and roadmap or plan for compiling the first biennial report (by 31 March 2017) was also finalised. In the same reporting period, significant progress was made in terms of conceptualising and developing the Phase 2 (2017-2021) work programme for the Southern African Science Service Centre for Climate Change and Adaptive Land Management. The repositioning of the Applied Centre for Climate and Earth Systems Science and the development of an Earth Systems Science R&D Flagship Programme began in 2015/16 and will be finalised in 2016/17.

2.9 DST's performance with regard to strategic outcome-oriented goals

In order to achieve the DST's overall objectives, the Department has five strategic outcome-oriented goals, set out in the 2015-2020 DST Strategic Plan, that guide all its actions.

Goal 1: Responsive, coordinated and efficient national system of innovation (NSI)

Goal statement: Over the next five years, build on previous gains to create a responsive, coordinated and efficient NSI

Goal 2: Increased knowledge generation

Goal statement: Over the next five years, maintain and increase the relative contribution of South African researchers to global scientific output

Goal 3: Human capital development

Goal statement: Over the next five years, increase the number of high-level graduates and improve their representivity

Goal 4: Using knowledge for economic development

Goal statement: Over the next five years, derive a greater share of economic growth from R&D based opportunities

Goal 5: Knowledge utilisation for inclusive development

Goal statement: Over the next five years, accelerate inclusive development through scientific knowledge, evidence and appropriate technology

Responsive, coordinated and efficient NSI

During the 2015/16 financial year, the Minister appointed a panel to review the current STI institutional landscape. The DST approved a framework for science and technology (S&T) cooperation with other government departments. The purpose of the framework is to guide the prioritisation of the DST's S&T cooperation with other departments in line with its 2014-2019 Strategic Plan.

During the reporting period, the joint government-industry task team established in November 2015 completed its work on the R&D tax incentive. The task team was set up in order to formulate recommendations about measures to improve the design and administration of the R&D tax incentive. A report has been finalised. Among the issues addressed are the design of the tax incentive and how it compares with practices in other countries, the procedure for accessing the incentive by companies, specific refinements of qualification criteria, and administrative capacity. The Minister will consult with other government stakeholders to review the recommendations and agree on actions that can be implemented.

The NDP recognises that the NSI should help improve South Africa's global competitiveness by leading the creation and application of new knowledge. If South Africa's economy is to advance along the trajectory set out in the NDP and reduce poverty, it will require a strong, coherent and effective NSI, working in a coordinated manner to achieve national priorities.

The DST contributes towards this goal by facilitating close collaboration with DHET in research development and support. DHET uses the NRF, a DST entity, for the provision of bursaries to postgraduate students, amounting to R197 million in 2015. Better alignment has been sought between the DHET's Staffing South Africa's Universities Framework and the DST/NRF HCD offerings, and it has been decided that DHET will fund salaries while the DST will fund research-related costs. During the reporting period a DST-DHET memorandum of understanding was developed.

The DST also collaborates on various joint projects with the Department of Basic Education and provincial education departments. One of these is the planned building of a science centre in Cofimvaba. In the year under review, the Eastern Cape Department of Education secured a building site provided by the Intsika Yethu Municipality, and agreed to provide long-term support to sustain the science centre in teacher and curriculum development programmes, as well as incorporating science centre staff into the provincial education department staff establishment.

Overview of departmental performance (continued)

Increased knowledge generation

Without research grant support, knowledge generation is not possible. Grants are provided through a number of instruments designed to strengthen research capacity at universities, including the South African Research Chairs Initiative and the Centres of Excellence Programme, managed by the NRF.

In the year under review, in respect of established researchers, the Minister awarded 42 women-only research chairs under the South African Research Chairs Initiative, bringing the proportion of women chair-holders close to 40%. Two SA-UK bilateral research chairs were awarded for research in food security (to Nelson Mandela Metropolitan University and the University of the Western Cape), and a third one, on political theory, to the University of the Witwatersrand.

Two peer-reviewed research articles were published on Moringa R&D by the University of the Witwatersrand in 2016. Clinical studies on an anti-wrinkle oil extract from an indigenous plant were completed, with the candidate product proving safe and effective in reducing human skin wrinkles after just two weeks. A benefit-sharing agreement was signed in February 2016 between the CSIR and two indigenous knowledge holding communities, the South African San Council and the National Khoisan Council, to ensure social and economic benefits for knowledge holders.

The Centre of Excellence in the Palaeosciences announced the discovery of a new hominid species called ***Homo naledi*** at the Cradle of Humankind. The announcement of a new species created enormous awareness of the field, and encouraged dialogue about the field across the social spectrum. This research has contributed significantly to one of the goals of the South African Strategy for the Palaeosciences, namely, to "transform the minds of South Africans".

The eighth Indigenous Knowledge System Documentation Centre was officially launched in June 2015 at the Barolong Cultural Village in Thaba Nchu, where it is hosted in partnership with the University of the Free State's Centre for Africa Studies. The centre will serve as a dedicated platform for the recoding and documentation of indigenous knowledge in the Thaba Nchu villages. In partnership with the Office of the Free State Premier, the fifth IKS Expo was hosted in Mangaung, running concurrently with the annual Mangaung African Cultural Festival. The IKS Expo is a DST public awareness event held every two years.

With regard to the provision of research equipment and infrastructure to universities, science councils, national facilities and museums, 84 research infrastructure grants were awarded across the entire science system and in line with the requirements across the innovation value chain. These awards will make it possible for about 420 researchers and 4 200 students to access world-class research infrastructures and equipment. The investment includes support for high-end infrastructure in the form of pilot plants and technology demonstrators.

Good progress was made during the 2015/16 financial year in finalising the South African Research Infrastructure Roadmap (SARIR), which includes plans for the establishment of national infrastructure in the scientific domains of humans and society; health, biological and food security; Earth and environment; materials and manufacturing; and energy. Funds have been earmarked to begin implementing SARIR in 2016/17, and approval will be sought to begin with at least four of the selected infrastructures. The completion of SARIR to steer and direct the roll-out of national research infrastructure will be a major achievement for the country.

Human capital development

With only 10% of postgraduate funding, the DST, through the NRF, develops human capital for R&D. The draft NRF Amendment Bill was presented to the Forum of South African Directors-General Cluster for Economic Sectors Employment and Infrastructure Development in February 2016, and the cluster agreed that it should be submitted to Cabinet to request approval to table it in Parliament.

During the reporting period a presentation on transformation and equity was made to Exco and MMM. In addition, the first NRF report on progress in implementing the ministerial guidelines on improving equity in the

distribution of bursaries and fellowships was presented to the DST's Senior Management Service. The ministerial guidelines are meant to provide guidance to all DST-funded programmes which award bursaries to students and fellowships.

Through its science engagement initiatives, the DST also helps build the pipeline of learners for science and research careers. Regarding science promotion, the overall number of participants in DST-led science engagement activities exceeded 2 million in 2015/16. Included in this figure are participants in the annual National Science Week, the DST-supported science festivals, and the STEMI Olympiads and competitions.

The SKA SA HCD programme recently celebrated its 10th anniversary. Since its inception, it has funded more than 730 university academics, postdoctoral researchers, postgraduates and undergraduate students, as well as artisan trainees. Of these, 52 doctoral students have graduated in the standard period for the degree (85% graduation rate vs a national average of 12%), 116 master's students have graduated (94% graduation rate vs a national average of 20%), 80 honours students have graduated (91% graduation rate) and 101 first degree students have graduated (86% graduation rate vs a national average of 15%).

In addition, this programme has supported 133 students from other countries in Africa, of which 91 are from SKA partner countries. South Africa is playing a leadership role in the establishment of the international treaty organisation that will govern the construction and operational phases of the SKA project.

During the reporting period the Department completed a document which models the financial implications for the DST HCD and Research Infrastructure programmes of meeting the relevant NDP targets (5 000 PhD graduates per annum) and ensuring that 75% of all academic staff have obtained a doctoral qualification.

The DST also completed and commissioned several high-level investigations of issues related to the transformation of the postgraduate and researcher cohorts in (mainly) the higher education sector. The studies provide insight into some of the challenges faced in driving the demographic transformation of these cohorts in a quest for sustainability and growth in the research system. In part, these insights enable the Department, the NRF, the DHET and the university sector to begin developing new policy approaches and programmes that address the shortcomings identified. The studies also reveal further detail that is required before evidence-based policy can be finalised.

Using knowledge and innovation for economic development

The 2015/16 financial year saw the National Intellectual Property Management Office (NIPMO) continue to play an enabling role in the utilisation of knowledge for economic and social development through support provided to offices of technology transfer (OTTs) for human capacity as well as for costs incurred for the protection and maintenance of intellectual property (IP) rights. Since the enactment of the Intellectual Property Rights from Publicly Financed Research and Development Act (IPR Act), the total support for OTTs through the OTT Support Fund has reached R108 million, with 85 posts created to date.

To date, NIPMO has received 1 057 actionable disclosures from institutions for IP developed from publicly financed R&D, of which 190 have been granted an IP right. The high costs of obtaining IP protection in a range of countries is assisted though the IP Fund, which operates under a Guideline, and which has provided a rebate of R83 million to a maximum of 24 institutions to date. It is worth noting that 7% of the actionable disclosures have been commercialised (including through the granting of 35 licences to SMEs and broad-based black economic empowerment entities), with institutions receiving revenue in excess of R4,4 million. These statistics are encouraging and show the potential for publicly financed R&D to contribute towards economic development.

A baseline survey on intellectual property and technology transfer at publicly funded research institutions was completed. The survey was the first of its kind in South Africa, and involved collecting data from OTTs to produce indicators for intellectual property and technology

transfer, to understand capabilities, structure and activities, as well as outputs and outcomes achieved. This is an important addition to the current portfolio of instruments that the Department uses to measure and enhance the performance of the NSI. In the period under review, the advanced version of the draft survey report was compiled and steps for incorporating further validated data and international benchmarking was already under way.

The DST-Mintek Nanotechnology Innovation Centre (NIC) National Cleanroom Facility was launched by the Minister on 8 April 2015. The facility will enable the NIC and researchers from other entities to conduct RDI in an appropriate environment. Similarly, the polymer nanocomposites and nano-additives scaling-up facility was launched by the Minister in December 2015 at the CSIR. The facility provides the capabilities that allow industrial-scale production of nano-structures and nano-applications required for industrial testing, previously a significant gap in the NIC's ability to translate discoveries into viable industry applications. An existing industry partner is already engaged in scaling-up nano-additive materials for commercial application and companies in the plastic industry are also being supported.

During the reporting period the Minister launched two functional fuel cell prototypes at the Impala Platinum Refinery in Springs. The two prototypes are a result of the intellectual property created under the HySA programme and provide clean energy alternatives in the mining sector, but with a much broader application.

Impala Platinum is planning to replace approximately 35 diesel/electric forklifts with the new and improved hydrogen fuel cell forklift, following a successful test period that started in October 2015. This could pave way for an uptake of the technology by other mining houses.

Sector Innovation and Green Economy

The implementation of the Waste RDI Roadmap has gained momentum, with 10 out of 22 proposals being approved for research grants aligned with the roadmap, as well as one proposal for technology scale-up. The initiative includes support for three honours, 13 master's and nine doctoral students going into the 2016/17 financial year. This followed an open call conducted during the reporting period.

The Waste RDI roadmap activities enjoyed significant publicity in strategic media platforms such as ***Engineering News*** and ***Resource Magazine***, ensuring good positioning and marketing of the roadmap among policy and industry stakeholders. Strategic engagements with Pikitup Johannesburg SOC resulted in synergies being identified around the Pikitup R&D portfolio and the Waste RDI Roadmap. An in-principle agreement for RDI collaboration was reached. Funding arrangements and the formalisation of the partnership will be concluded and rolled out during 2016/17.

The Water RDI Roadmap is now wholly consolidated into the Department of Water and Sanitation's work plan for the implementation of the National Water Resources Strategy II, as the implementation plan for its Chapter 14 (RDI). This was formally confirmed through a letter from the Director-General of Water and Sanitation to the Director-General of Science and Technology, requesting ongoing reporting on progress on the implementation of the roadmap. In addition, the Water RDI Roadmap was profiled through the National Advisory Council on Innovation (NACI) rapid response on water and sanitation challenges, and at the DST-Hitachi seminar on drought and resilience in March 2016.

The Water Technologies Demonstration Programme (WADER) released an open accelerator call focusing on innovative water and sanitation technologies and solutions contributing to the objectives of the research, development and deployment programme of the Water RDI Roadmap. An unprecedented 56 applications were received over a three-week period. This widespread response is an excellent indication of the need for and growing profile of the WADER instrument.

The review of these proposals has also opened up a much wider basket of potential technology demonstrators for WADER to work with and catalyse partnerships.

As part of the DST role as national designated entity for the Climate Technologies Centre and Network, two country applications were facilitated. Both proposals

were successful, and implementation is planned to start in 2016/17. The Data Science for Impact and Decision Enablement programme's 2015/16 intake culminated in a demonstration and exhibition of DST-funded projects, hosted at the DST, by final year students from a number of universities across the country.

These students were selected through a competitive process and given opportunities during university vacations to work on projects aimed at finding solutions to real-life problems (such as crime, health service delivery, government planning and monitoring, and transport), while obtaining advanced skills and competencies in the fields of analytics, data visualisation, machine learning and pattern recognition, among others.

Technology Localisation, Beneficiation and Advanced Manufacturing

The Department helps to advance strategic medium and long-term sustainable economic growth and sector development priorities, as well as government service delivery, by funding technology maturation in projects that will develop new processes, markets and/or products/services, so-called "R&D-led industry development".

The DST's Mining and Exploration R&D (Rock Innovation) Programme and the Department of Mineral Resources' Technology Innovation Roadmap for the South African Minerals Industry has been integrated into a single document and accepted by the DST, the Department of Mineral Resources, the Chamber of Mines and the Department of Trade and Industry (DTI). This South African Mining Extraction RDI Strategy will form the basis for mining R&D that will be performed from 2016/17 onwards.

As part of the beneficiation strategy, Necsa is working on the beneficiation of South Africa's vast zircon resources through the development of a range of processes along the zirconium metal value chain, with nuclear-grade zirconium metal as the final product. This is part of the Advanced Metals Initiative's Nuclear Materials Development Network (NMDN). A novel process for the manufacturing of nuclear-grade zirconium metal powder has been developed, reducing the number of processing steps from 14-16 down to six. Nuclear-grade zirconium metal powder can now be continuously manufactured on laboratory scale (1 kg/h) by means of a new plasma route.

South Africa has significant resources of monazite, a by-product of the heavy mineral sand industry. Monazite contains 8-12% thorium, which may become a valuable nuclear fuel for Generation IV nuclear reactors in the future. Rare earth elements and thorium contained in monazite are separated during long, tedious and environmentally unfriendly processes. However, the NMDN has proven that the cracking of the mineral monazite is possible with plasma. This resulted in a significant improvement in the recovery of rare earth elements and thorium from the mineral.

The Technology Localisation Programme continues to have an excellent impact on the 147 firms who received technology assistance packages. The programme supported 14 new product development projects, the development of export capability for 20 companies, and 32 projects where import substitution has been achieved. Five hundred direct jobs were created through the programme, and 7 000 were retained owing to interventions implemented through the programme.

The Fluorochemical Expansion Initiative is one of the projects included under the beneficiation topic of the Nine-Point Plan. The DST approved a research grant of R46,4 million for the purpose of supporting phase III of a fluorochemicals R&D programme.

Some of the FEI R&D projects resulted in new and/or novel technologies that should result in commercially competitive advantages for local businesses. Pelchem SOC Ltd, which already sells products developed or supported through the FEI, is pursuing a number of commercial opportunities emanating from FEI R&D activities, including the following:

- Commercial trial runs on the production of a high-value monomer commenced in March 2015 with promising results. The project is being performed for an international company.

Overview of departmental performance (continued)

- The development of a process to produce phosphorous pentafluoride, the precursor to lithium hexafluorophosphate, the main electrolyte ingredient for lithium ion batteries, has received commercial interest from many sources. Pelchem and Necsa are jointly pursuing a strategy for licensing and local commercialisation.
- A new method of converting neodymium carbonate to neodymium trifluoride using the dry fluorination route/technology was developed. The neodymium carbonate was sourced from China and the research team intend buying rare earth elements as raw materials from South African/African source in the near future.

Using knowledge and innovation for inclusive development

Innovation towards a decent standard of living

In respect of health innovation, the DST-funded tuberculosis diagnostic from North West University was validated and is ready for commercialisation. With this rapid diagnostic tool kit a health worker is able to test a person for tuberculosis in any location and the results are available almost immediately. Ketlaphela, the state-owned pharmaceutical company, was also established and the first attempt to manufacture Tenofovir locally has commenced. Tenofovir is an essential antiretroviral in the first-line treatment of HIV/Aids. The establishment of Ketlaphela is an important step towards rebuilding local drug manufacturing capabilities that will see a suite of identified key active pharmaceutical ingredients manufactured locally.

A vaccine facilitated by the DST through a partnership between Pfizer and Biovac is credited in South Africa for the prevention of invasive pneumococcal disease, pneumonia and acute otitis media caused by ***Streptococcus pneumoniae*** in infants and young children from six weeks to five years of age.

The DST also supported the development of a mobile application on primary health care standard treatment guidelines and essential medicines list for use in primary health care settings. Health-care workers, national and provincial health officials, and representatives of the pharmaceutical industry and medical schools that attended the launch event in November 2015 gave very positive reviews of the application, which to date has seen over 15 000 downloads. It was developed in partnership with the Strategic Health Innovation Partnerships (SHIP).

The Mintek NIC has filed a provisional patent application for a diagnostic kit for the detection of HIV using peptides.

During 2015/16, 10 indigenous knowledge-based community development projects were assessed for commercialisation viability. There is ongoing commercialisation and entrepreneurship training for these communities and organisations at the South African Bureau of Standards, the Innovation Hub, the CSIR and the University of Pretoria. A commercialisation agreement for an HIV immune modulator was signed between the University of the Free State and a commercial manufacturer, Afriplex.

A feasibility study for the establishment of an extraction plant facility in Mamelodi was completed. A Moringa pilot plant in Limpopo was also completed. These projects contribute to employment creation in rural and poor communities, with most work opportunities going to young people and women.

Targeted decision support

Through other innovation for inclusive development initiatives, the DST continued in its endeavours to engage policymakers and relevant stakeholders in advancing the integration of innovation in the inclusive development agenda through policy seminars. This included the following:

- The higher education transformation agenda: Opening the debate on innovation and socio-economic inclusion on 9 February 2016 was a partnership between the DST and the Human Sciences Research Council (HSRC), focused on the role of universities in innovation for inclusive development.

- Specific engagements with science councils to revisit their role in supporting all kinds of innovation as per the 1996 White Paper on Science and Technology.
- The first national grassroots innovation seminar focused on the responsiveness of the STI ecosystem to support informal and grassroots innovators. This seminar was attended by grassroots innovators who highlighted key concerns and challenges in assessing STI instruments to advance their innovations. This seminar was hosted jointly by the DST and the DTI.

2.10 International cooperation and resources

Increasing opportunities for the NSI to access international resources and support, including through sharing the experience and expertise of the DST's global partners, was a significant factor in the achievement of all five of the Department's strategic outcome-oriented goals. For example, the Department improved the coordination of participation by different South African organisations, especially with regard to ensuring alignment with strategic national priorities. In this regard, the DST developed strategic frameworks to guide the participation of the NSI in partnership initiatives with other African partners, as well as in efforts to attract STI-orientated foreign investment to South Africa.

The African partnership portfolio has been especially active, with 61 research and innovation projects jointly supported by the DST and African partner governments during the financial year. The DST also supported 13 African Union and Southern African Development Community (SADC) STI initiatives, making it possible for these initiatives to progress. Through various international partnerships, the DST enabled an investment of R113 million by these partners in other African countries' STI capacity.

A diverse portfolio of bilateral and multilateral programmes coordinated by the DST during the financial year afforded South African researchers opportunities to collaborate in joint knowledge-generation activities, with 585 international partner organisations. This collaboration saw an investment of more than R2 billion by the DST's international partners in support of collaboration with South Africa. These relationships and investments were invaluable in expanding and enriching South Africa's knowledge-generation outputs.

Support for South African HCD through international partnerships was a cross-cutting strategic priority and saw, among other things, 169 South African students participating in international postgraduate training programmes, as part of the creation of a dedicated Global Knowledge Partnerships platform to support South African students accessing opportunities abroad. Sixty-three technical exchanges aimed at building and reinforcing South Africa's capacities in key science and technology domains were facilitated with international partners.

During the reporting period the DST ensured a greater focus on achieving socio-economic impact through its international partnerships, with special attention being paid to cooperation with industry partners and the development of collaborations with an innovation focus. Many initiatives to bolster the DST's ability to address South Africa's triple challenge of poverty, unemployment and inequality were fostered, especially with philanthropic donors.

Focused on the leveraging of global support for the use of knowledge in South Africa for economic development and inclusive development, the Department also facilitated an amount of R619 million in international investment in the NSI during the year under review. The DST also secured five tactical leadership positions for South Africa in global science decision and policy-making structures, and influenced six multilateral outcomes, which had the objective of positioning the DST and its key priorities strategically for international support.

Science diplomacy and the promotion of South Africa as a preferred international partner for STI partnership initiatives remained a major aspect of the DST's work, with the outstanding achievement in the reporting period being the first Science Forum South Africa, an international public science event. The Forum was attended by more than 1 500 participants, including influential decision-makers, from more than 50 countries.

Overview of departmental performance (continued)

Overseas Bilateral Cooperation

The major highlight of the year was the sustained and rapid progress of the Brazil, Russia, India, China and South Africa (BRICS) partnership portfolio. Initiated only in July 2015, and endorsed by BRICS Ministers at a meeting in October 2015, by March 2016 preparations for the launch of the first BRICS Framework Programme were already well advanced. The programme will fund multilateral research and innovation cooperation between the BRICS partners.

Bilateral relations with BRICS partners also continued to strenghten. The visit to South Africa by the President of the People's Republic of China in December 2015 saw the Minister of Science and Technology sign a memorandum of understanding under which the DST and its Chinese counterparts will collaborate on the development of a science park development. During the year under review, the Minister also visited India and the Russian Federation to provide renewed impetus to bilateral cooperation with these strategic partners. Comprehensive and ambitious cooperation initiatives are being pursued with all BRICS partners.

In Asia, Japan remained a strategic partner for the DST (the Department has a representative in Tokyo), with new cooperation opportunities being advanced in the area of hydrogen and fuel cell technologies. The DST also concluded its first memorandum of understanding on cooperation with Vietnam. Bilateral consultations saw the development of new cooperation programmes with the United States of America (covering areas such as biodiversity, health innovation and space science) and Canada (including a focus on trilateral cooperation with other African partners in HCD). New cooperation initiatives with Mexico on oceanography and astronomy were launched, as well as initiatives with Cuba and Jamaica.

In Europe, the Newton Fund cooperation between South Africa and the United Kingdom continued, with both governments investing significant amounts in support for bilateral cooperation that will see several South African students benefiting from postgraduate training in the United Kingdom. A major success is the South Africa-UK collaboration in support of the African Very Long Baseline Interferometry Network (AVN). Close collaboration continued with long-standing partners such as France, Germany, Italy, Norway, Sweden and Switzerland. A Swiss-South African bilateral research chair was launched. New partnership agreements were concluded with Austria, the Netherlands and Portugal. The promotion of partnerships with the Gulf States saw renewed momentum provided to the strengthening of cooperation with Iran.

Multilateral Cooperation and Africa

In October 2015 the Minister participated in the first meeting of the new African Union specialised technical committee (ministerial governance structure) for science, technology, innovation and education. Under the Minister's leadership, South Africa continued to champion the implementation of the African Union's Science, Technology and Innovation Strategy for Africa, leading the development of the AU space strategy and policy approved by AU leaders in January 2016. At a meeting of SADC senior officials responsible for science, technology and education held in February 2016, the DST continued to provide strategic leadership, which will ensure progress in efforts to harness innovation in support of key SADC initiatives such as the SADC's Industrialisation Strategy. The DST continued to provide support for Southern African regional integration through a secondment of one of its officials to the SADC Secretariat.

The DST continued to pursue an intensive programme to reinforce bilateral STI partnerships with other African governments. This includes partnerships with Uganda and Senegal, leveraging the Minister's visit to these countries in September 2015 and March 2016, respectively, for the Next Einstein Forum. The financial year also saw the conclusion of a new partnership agreement with Madagascar and the negotiation of a new programme of cooperation with Tanzania. Cooperation with long-standing partners such as Algeria, Ghana, Kenya, Mauritius, Namibia and Sudan continued to advance through various initiatives. A special focus in the development of cooperation is the formulation of flagship initiatives endorsed at ministerial level, which would visibly demonstrate the social benefit of STI partnership initiatives.

During the period under review the DST coordinated the DST's active engagement with the intense multilateral programme of 2015, including the adoption of the Sustainable Development Goals, the Paris Agreement on Climate Change, and the Financing for Development agenda. In all these engagements, the focus was to leverage agreements and commitments made at multilateral level to enhance the role STI could play as instrument for development in South Africa, in Africa and elsewhere in the developing world. The same focus also informed the Minister's participation in engagements at the UNESCO World Science Forum, with The World Academy of Sciences (TWAS) and the International Institute for Applied Systems Analysis, and with the Carnegie Group of G8 and other science advisors and ministers.

A further highlight of multilateral engagement was the organisation, with the International Network of Government Science Advice, of a capacity-building programme to train African scientists in rendering science advice for policy-making. Furthermore, a proposal coordinated by the Department for South Africa to host an African regional office for the Future Earth global research partnership on environmental change and sustainability was approved in January 2016. All these engagements, including the Department's hosting of the first "Science International" meeting, which brought together the International Council for Science, the International Social Science Council, the InterAcademy Panel and TWAS, cemented South Africa's strategic leadership role in global science.

International Resources

In the reporting period the DST continued to promote cooperation with the European Union (EU), leveraging significant benefits and in-bound investment of close to R200 million, through South African participation in the EU Horizon 2020 Framework Programme. South Africa also continued to collaborate successfully with the European and Developing Countries Clinical Trials Partnership, targeting infectious diseases, as well as the Eureka programme, focused on market-oriented research. A major milestone was the finalisation of South Africa's association with Eureka's Eurostars programme, supporting collaborative research projects led by small and medium enterprises. The European Commission in 2015 also approved additional funding for the European South African Science and Technology Advancement Programme, a dedicated platform, co-funded by the DST, for the promotion of South African-European partnerships.

Despite a reduction in the number of dedicated development assistance programmes for South Africa, the Department remained a partner of choice for the likes of the United States Agency for International Development and the Japanese International Cooperation Agency. Several projects focused on the role of STI in fighting poverty were implemented with development cooperation partners. Projects with an African regional focus are an important component of the Department's portfolio with these partners, as evidenced, for example, by the joint support with the government of Finland for biosciences initiatives in Southern Africa. The Department also continued to play a strategic leadership role in promoting Africa-EU STI cooperation, especially with regard to ambitious plans for a dedicated Africa-EU partnership on food and nutrition security and sustainable agriculture.

Collaboration with foundations and philanthropic organisations, including the Wellcome Trust and the Bill & Melinda Gates Foundation, remained fruitful. Partnerships with international financial institutions such as the African Development Bank are also being promoted, as is technical cooperation with the World Bank with regard to knowledge economy policy learning initiatives. In 2015 important foundations were laid for the Department's efforts to promote STI-orientated foreign investment in South Africa, with strategic relations being fostered with foreign chambers of commerce in South Africa. These engagements were undertaken with a view to strengthening collaboration with multinational companies. The goal is to increase the investment of these companies in the NSI significantly, building on existing partnerships with the likes of Hitachi, Intel, Cisco and IBM.

3. Performance information by Programme

PROGRAMME 1: ADMINISTRATION

Purpose

To provide strategic policy and planning alignment, ensure effective governance, risk management, monitoring and evaluation, and provide strategic science communication with stakeholders about the activities of the DST and the NSI.

Chief directorates

The Ministry and Office of the Director-General support the Minister, Deputy Minister and Director-General by providing professional and executive support. The chief directorate is responsible for the development of systems and mechanisms for handling parliamentary questions and replies, Cabinet matters, correspondence, submissions and memoranda. It also coordinates activities within the Department to assist in steering the NSI towards the development of a knowledge-intensive economy with higher productivity levels.

Enterprise Risk Management ensures that a risk management culture is embedded within the Department, by creating risk management awareness, and elevating risk management to a strategic level in the Department in order to improve the DST's risk maturity level. The component's secondary role is 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 in the DST).

Policy, Planning, Governance, Monitoring and Evaluation supports the DST leadership in steering the NSI.

Internal Audit Activity performs internal appraisal activities to improve the effectiveness of control and governance processes to help the Department achieve its strategic, operational, financial and compliance objectives.

Human Resources ensures that the Department is able to (i) provide a professional service through accurate, consistent and best employment practices in all its activities, which are aimed at supporting the achievement of the DST's strategic and operational objectives; (ii) attracting and retaining employees who share the same organisational vision; (iii) championing change and transition, with a view to being a catalyst in the transition of people and the organisation to embrace and implement change; (iv) setting performance standards and managing performance against them; and (v) promoting an environment that supports the personal and career development of all employees so that they can reach their full potential and contribute better to the achievement of the Department's strategic objectives, instilling a culture of service excellence.

Finance ensures effective, efficient and economic utilisation of financial resources in line with financial prescripts through the development and effective implementation of financial systems, policies, frameworks and procedures. This includes budget planning and expenditure monitoring; and the management of procurement, acquisition, logistics, asset, and financial transactions.

Information System and Knowledge Management is responsible for the delivery of services that support the Department's strategic plan and individual units' objectives through the effective use of information technology. Its purpose is to align the Information Technology (IT) Strategy with the business strategy to ensure that the Department achieves optimum use of its resources.

Science Communication is responsible for ensuring effective communication between the Department and its key stakeholders and creating awareness of the Department's key objectives and activities. The chief directorate raises the profile of the work done by the Programmes in line with the vision and mission of the Department. It also facilitates the preparation of information that the Minister and the Deputy Minister communicate externally.

Legal Services is responsible for providing effective and efficient legal services to the Department in order to ensure that the interests of the Department are protected against any legal risk. The chief directorate ensures that the Department complies with relevant legislation and takes a proactive approach to dealing with matters that have the potential to give rise to conflict or legal challenges.

Strategic objectives

- To coordinate the identification, formulation and implementation of strategic initiatives, and ensure that the priorities of the DST and its entities are aligned to national priorities.
- To develop and maintain good corporate governance systems for the Department and its entities.
- To provide strategic communication for the DST and is entities through marketing, media and branding initiatives, and the Science Engagement Strategy.
- To make the DST an employer of choice and acquire and retain appropriately skilled personnel.
- To provide an efficient and effective information technology service.
- To ensure effective and efficient financial and procurement services.

Table 5: Programme 1 – Administration

Not achieved	Partially achieved	Achieved

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To coordinate the identification, formulation and implementation of strategic initiatives and ensure that the priorities of the DST and its entities are aligned	Percentage alignment of DST planning documents (aligned to APP, and APP aligned to ENE) submitted to Parliament	Minimum of 100% alignment between the 2015/16 APP and 2015-2020 Strategic Plan was achieved (APP and Strategic Plan submitted to Parliament on 12 March 2015)	Minimum of 90% alignment of DST 2016/17 planning documents (strategic plan aligned to APP, and APP aligned to DST ENE) submitted to Parliament by 31 March 2016	Minimum of 90% alignment of DST 2016/17 planning documents (strategic plan aligned to APP, and APP aligned to ENE) submitted to Parliament	None	**Achieved**	None
		71,4% alignment between APP and ENE	90% alignment between the 2016 DST ENE and the 2016/17 APP by 31 March 2016	90% alignment between the 2016 DST ENE and the 2016/17 APP	None	**Achieved**	None
	DST public entities' strategic and annual performance plans approved by the Minister and shareholder compacts signed by the Minister and chairpersons of the boards	Strategic and annual performance plans for DST public entities (HSRC, SANSA, TIA, ASSAf, NRF, CSIR and NACI) approved by the Minister by 5 March 2015 and shareholder compacts then signed	DST public entities' 2016/17 strategic and annual performance plans approved by the Minister and shareholder compacts signed by the Minister and chairpersons of the boards by 31 March 2016	DST public entities' 2016/17 strategic and annual performance plans approved by the Minister, but not all shareholder compacts were signed by the Minister as planned	-6	**Not achieved**	In terms of the PFMA, the CSIR is the only entity that is required in terms of legislation to sign shareholder compact as it is a 3B entity. The signing of shareholder compacts for other entities falls outside the reporting period of the DST in terms of the financial year. These factors should be taken into consideration during the strategic planning process.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To develop and maintain good corporate governance system for the DST and its entities	Number of DST performance reports (quarterly reports and annual report) approved by Exco and signed by the Director-General (quarterly reports approved and signed within 60 days after the end of each quarter)	Four DST 2014/15 quarterly performance reports approved by Exco and signed by the Director-General within 60 days after each quarter	Four DST 2015/16 quarterly performance reports approved by Exco and signed by the Director-General within 60 days of the end of each quarter	Four DST 2015/16 quarterly performance reports approved by Exco and signed by the Director-General within 60 days of the end of each quarter	None	**Achieved**	None
		One DST 2013/14 annual report approved by Exco and signed by the Director-General by 31 May 2014	One DST 2014/15 annual report approved by Exco and signed by the Director-General by 31 May 2015	One DST 2014/15 annual report approved by Exco and signed by the Director-General by 31 May 2015	None	**Achieved**	None
	Number of DST public entities' annual reports submitted to Parliament	Nine DST public entities' 2013/14 annual reports submitted to Parliament by 30 September 2014	Eight DST public entities' 2014/15 annual reports (CSIR, SANSA, TIA, ASSAf, NRF, HSRC, SACNASP and NACI) submitted to Parliament by 30 September 2015	Eight DST public entities' 2014/15 annual reports (CSIR, SANSA, TIA, ASSAf, NRF, HSRC, SACNASP and NACI) submitted to Parliament by 30 September 2015	None	**Achieved**	None

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To provide strategic communication for the DST and its entities through marketing, media and branding initiatives, and the Science Engagement Strategy	DST Communication Strategy and Implementation Plan approved by Exco and MMM	A total of 24 communication, marketing and/or media plans developed for DST programmes to profile the Department approved by Exco	One DST Communication Strategy and Implementation Plan 2015-2018 approved by Exco and MMM by 30 April 2015	One DST Communication Strategy and Implementation Plan 2015-2018 approved by Exco and MMM by 30 April 2015	None	**Achieved**	None
	Number of DST communication and media plans approved by Exco and MMM	New indicator	Eight DST communication and media plans approved by Exco and MMM by 31 March 2016	13 DST communication and media plans approved by Exco and MMM	+5	**Achieved**	More media and communication plans were developed to profile the DST and its entities.
	Number of public participation programmes held	Six public participation programmes conducted by 31 March 2015	10 public participation programmes held by 31 March 2016	16 public participation programmes held by 31 March 2016	+6	**Achieved**	In addition to the planned 10 public participation programmes, engagements with stakeholders were held.
	Number of S&T media monitoring reports tabled at Exco and MMM	Ten S&T media monitoring reports approved by Exco by 31 March 2015	Four S&T media monitoring reports tabled at Exco and MMM by 31 March 2016	Six S&T media monitoring reports tabled at Exco and MMM by 31 March 2016	+2	**Achieved**	Two additional media monitoring reports were compiled in areas that were identified as needing more attention.
	Number of media articles written to raise the DST's public profile	New indicator	16 media articles written to raise the DST's public profile by 30 April 2015	21 media articles written to raise the DST's public profile by 30 April 2015	+5	**Achieved**	Several more articles were written in order to increase awareness of the work of the DST.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To make the DST an employer of choice and recruit and retain skilled personnel	Turnaround time to fill vacancies	73 days to fill vacancy after date of advertisement by 31 March 2015	90 days to fill vacancy after date of advertisement by 31 March 2016	The Department took 85 days to fill vacancies after the date of advertisement	Target achieved before 90 days	**Achieved**	Recruitment practices by the DST proved to be more effective.
	Vacancy rate reduced to a set rate	Vacancy rate reduced to 5.6% by 31 March 2015	Vacancy rate reduced to 6% by 31 March 2016	The vacancy rate was reduced by 5,47%	+0,53%	**Achieved**	Recruitment practices by the DST proved to be more effective than expected.
	Percentage of DST personnel submitting performance contracts and reviews on time	98% of DST personnel submitted half yearly and probation review reports by 31 March 2015	Minimum 92% DST personnel submitting performance contracts and reviews on time by 31 March 2015	Minimum of 97% of DST personnel submitting annual reviews for previous financial year and probation reports as planned	+7%	**Achieved**	There was a high level of compliance by DST officials.
To provide an efficient and effective information technology service	Number of enterprise architecture development life cycle steps developed and implemented	Two enterprise architecture development life cycle steps developed and implemented by 31 March 2015	Two enterprise architecture development life cycle steps developed and implemented by 31 March 2016	Two enterprise architecture development life cycle steps developed and implemented by 31 March 2016	None	**Achieved**	None

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
	Number of IT governance framework components implemented	Three IT governance framework components implemented	Three IT governance framework components implemented by 31 March 2016 Phase 2: Business-aligned ICT strategic planning by 31 March 2015	Three IT governance framework components implemented	None	**Achieved**	None
To ensure effective and efficient financial and procurement services	Budget planning reports (MTEF and ENE) submitted to National Treasury	2015 ENE Chapter and database submitted to National Treasury on 5 January 2015	2015 MTEF planning submission submitted to National Treasury by 31 August 2015 and 2016 ENE submitted to National Treasury by 31 January 2016	2015 MTEF planning submission submitted to National Treasury by 31 August 2015 and 2016 ENE submitted to National Treasury as planned	None	**Achieved**	None
	Suppliers paid within 30 days after date of invoice	Suppliers paid within 30 days after date of invoice Tender process completed within 90-day period	Suppliers paid within 30 days after date of invoice	Suppliers paid within 30 days after date of invoice	None	**Achieved**	None
	Unqualified audit report on financial matters issued by the Auditor-General	Unqualified audit report on financial matters issued by the Auditor-General by 30 September 2014	Unqualified audit report on financial matters issued by the Auditor-General by 30 September 2015	Clean audit report on financial matters issued by the Auditor-General by 30 September 2015	None	**Achieved**	None

Mabu Casing Soils exhibition stand at the Innovation Bridge


Hydrogen fuel cell forklift

PROGRAMME 2: TECHNOLOGY INNOVATION

Purpose

To enable R&D in space S&T, energy security and the bioeconomy, and in the emerging and converging areas of nanotechnology, robotics, photonics and IKS, and to promote the realisation of commercial products, processes and services from these R&D initiatives. In addition, through the implementation of enabling policies and interventions along the entire innovation value chain, to promote the protection and utilisation of IP, technology transfer and technology commercialisation.

Chief directorates

Bioeconomy (including the Indigenous Knowledge-based Technology Innovation unit) was previously known as Biotechnology and Health Innovation. The new name is a better reflection of its core mandate, and also factors in the recent incorporation of the Indigenous Knowledge-based Technology Innovation unit under this chief directorate. Bioeconomy leads the DST's implementation of the Bioeconomy Strategy, which focuses more on socio-economic outcomes, and the strengthening of research and innovation competencies that form the strategic foundation of the bio-based NSI, rather than merely on the development of technologies. It is a national strategy, incorporating the innovation needs of other departments and industry.

Hydrogen and Energy provides policy leadership in RDI initiatives in the energy sector that are cross-cutting and have long-term impact. It plays a key role in developing a sustainable and globally competitive South African energy knowledge base and industry, especially as it relates to the nascent global hydrogen economy, by informing and helping to shaping the national energy policy in coordination with the Department of Energy and other key stakeholders. In particular, the Department plays an advisory role in the broader energy landscape, specifically the Integrated Energy Plan and Integrated Resource Plan, with special emphasis on the technologies to be used in addressing the country's energy needs, their deployment and the incentives required to facilitate the successful deployment of these technologies.

Space Science and Technology is a cross-cutting and user-driven chief directorate that supports the creation of an environment conducive to the implementation of the National Space Strategy and the South African Earth Observation Strategy, under the overarching guidelines of the National Space Policy, an instrument of the DTI. The National Space Strategy was a response to the Ten-Year Innovation Plan, which identified a few key outcomes that had to be realised over the long term in order for South Africa to leverage the opportunities that the space value chain presented.

Performance information by Programme (continued)

Innovation Priorities and Instruments (including Emerging Research Areas) supports and strengthens the innovation policy package (and related interventions) aimed at creating and sustaining an enabling environment for innovation, technology development, and the commercialisation of publicly funded R&D initiatives. This includes the identification, development, creation and support of policy and institutional structures that facilitate technology development and its progression into national and international markets.

The Emerging Research Areas unit has been incorporated into the chief directorate. Emerging research areas are defined as S&T research fields that are multidisciplinary in nature, are not covered by conventional disciplines, and have the potential to affect social and economic development positively. The unit's focus includes the development of nanotechnology, photonics, synthetic biology and robotics, through the roll-out of approved strategies and implementation plans.

The National Intellectual Property Management Office is the national implementing agency for the Intellectual Property from Publicly Financed Research and Development Act (IPR Act). The long title of the IPR Act reads "To provide for more effective utilisation of intellectual property emanating from publicly financed R&D; to establish the National Intellectual Property Management Office and the Intellectual Property Fund; to provide for the establishment of offices of technology transfer at institutions; and to provide for matters connected therewith".

Strategic objectives

- To facilitate and resource investments in space S&T, energy, bioinnovation, nanotechnology, robotics, photonics, IKS, IP management, technology transfer and technology commercialisation.
- To oversee, monitor and regulate key policy initiatives, including institutions/agencies and support interventions in the key strategic areas of space S&T, energy, bioinnovation, nanotechnology, robotics and photonics.
- To coordinate and support high-end skills development in –
- the strategic and emerging S&T areas of synthetic biology, structural biology, systems biology and functional genomics (collectively the South African Biodesign Initiative), space S&T, energy, bioinnovation, nanotechnology, robotics, photonics and IKS.
    - IP management, technology transfer and technology commercialisation.
- To support, promote, and advocate the development and translation of scientific R&D outputs into commercial products, processes and services that will contribute towards economic growth and a better quality of life.

Table 6: Programme 2 – Technology Innovation

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviations
To facilitate resource investments in space science, energy, bioinnovation, nanotechnology, robotics, photonics, IKS, IP management, technology transfer and technology commercialisation	Number of innovation-enabling programmes[1] implemented	New indicator	Seven innovation-enabling programmes implemented by 31 March 2016	Six innovation-enabling programmes implemented by 31 March 2016	-1	**Partially achieved**	There was an administrative delay with the payment to one OTT institution.
	Number of policy directives[2] developed and adopted by government	New indicator	Four technology development and innovation policy directives developed and adopted by government by 31 March 2016	Three technology development and innovation policy directives developed and adopted by government by 31 March 2016	-1	**Partially achieved**	There were significant delays in the finalisation of terms of reference and in the procurement processes for the appointment of a service provider to conduct the landscaping exercise, which was to serve as input into the development of the Nanotechnology Innovation Roadmap.
	Number of knowledge products[3] generated	New indicator	118 knowledge products generated by 31 March 2016	156 knowledge products were produced	+38	**Achieved**	The target was set on the basis of last year's performance. An increase of this magnitude was not foreseen given that the resource allocation was not significantly different.

1 **Innovation-enabling programmes** include the hosting of the Innovation Bridge Technology Showcase and Matchmaking Event, the implementation of the Innovation Bridge Portal, the implementation of public-private sector initiatives such as the industry internship programme, the implementation of the Commercialisation Framework Programme (and any associated strategies that emerged as a consequence), the Emerging Industries Action Plan Programme, and initiatives in support of offices of technology transfer activities.

2 **Policy directives** include policy briefs, implementation plans, concept documents, position papers, strategies, policy recommendations, cabinet memoranda and chapter contributions towards key policy documents.

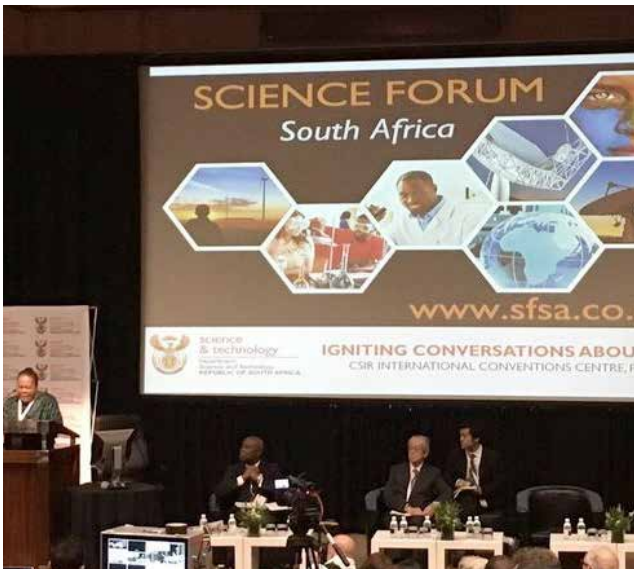
3 **Knowledge products** refer to patents and publications generated in space science, energy and the bioeconomy.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviations
To oversee, monitor and regulate key policy initiatives, including institutions and support interventions in the key strategic areas of space science, energy, bioinnovation, nanotechnology, robotics, and photonics	Number of new disclosures reported by publicly funded institutions	New indicator	275 new disclosures reported by publicly funded institutions by 31 March 2016	The total number of new disclosures received during the 2015/16 financial year is 279	+4	**Achieved**	The target was based on previous years' performance. The number of disclosures received vary on a yearly basis, therefore, it is difficult to predict a target with 100% accuracy.
	Number of evaluation and assessment reports[4] developed and approved by Exco	New indicator	Nine evaluation and assessment reports developed and approved by Exco by 31 March 2016	10 evaluation and assessment reports developed and approved by Exco by 31 March 2016	+1	**Achieved**	An extra evaluation and assessment report was done on the public entities.
	Number of trainees supported in the strategic and emerging research areas	352 trainees supported key strategic areas	180 trainees supported in the strategic and emerging research areas by 31 March 2016	257 trainees were supported in the strategic and emerging research areas by 31 March 2016	+77	**Achieved**	There was a greater interest in and participation by individuals in training initiatives supported by the Programme.
	Number of postgraduate students (master's and doctoral) supported through DST-funded R&D initiatives	A total of 406 postgraduate students (MSc and PhD) financially supported in key strategic areas by 31 March 2015	382 postgraduate students (master's and doctoral) supported through DST-funded R&D initiatives by 31 March 2016	402 postgraduate students (master's and doctoral) supported through DST-funded R&D initiatives by 31 March 2016	+20	**Achieved**	The student uptake was higher than anticipated.

4 **Evaluation and assessment reports** refer to reports on the performance of institutional arrangements and support interventions in line with strategies, annual performance plans and implementation plans, as well as regulatory actions in line with relevant legislative requirements.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviations
To support, promote, and advocate for the development and translation of scientific R&D outputs into commercial products, processes and services that will contribute towards economic growth and a better quality of life	Number of new technology products, processes and/or services developed	Six new technology innovation products developed/ supported in key strategic areas	Eight new technology products, processes and/or services developed by 31 March 2016	10 new technology products, processes and/or services developed	+2	**Achieved**	Not all the products being developed/ commercialised by the entrepreneurs received direct DST support, hence the SABS reports tended to have more deliverables than those actually supported by the DST.
	Number of new technology products, processes and/or services commercialised	No new technology products, commercialised as planned	Three new technology products, processes and/or services commercialised by 31 March 2016	Three new IKS-based technology products, processes and/or services commercialised	None	**Achieved**	None

Minister of Science and Technology, Naledi Pandor, and AU Chair, Nkosazana Dlamini-Zuma



The first Science Forum South Africa

PROGRAMME 3: INTERNATIONAL COOPERATION AND RESOURCES

Purpose

To strategically develop, promote and manage 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. International Cooperation and Resources also supports South African foreign policy through science diplomacy.

Chief directorates

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

Multilateral Cooperation and Africa advances and 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.

Overseas Bilateral Cooperation promotes and facilitates collaborative activities and leverages resources in support of the NSI from countries outside Africa, with a specific focus on developing a knowledge-driven economy.

Strategic objectives

- To secure international funds to complement South Africa's national investments in STI, including resources for DST initiatives requiring external investment.
- To access international knowledge, capacities and resources, to enhance South Africa's national STI capabilities, contributing to the attainment of the DST's targets for human capital development, especially for international PhD training.
- To strengthen cooperation in STI in Africa, to build capacities and support initiatives of the SADC and AU, for the advancement of both South Africa and Africa's growth and development agenda.
- To maximise South Africa's strategic interests in international cooperation in STI, in support of South Africa's foreign policy objectives, and international trade and investment partnerships, creating a better South Africa, and contributing to a better and safer Africa in a better world.

Table 7: Programme 3 – International Cooperation and Resources

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To secure international funds to complement South Africa's national investments in STI, including resources for DST initiatives requiring external investments	Amount (expressed in rand millions) of international funds directly invested in research, innovation and STI HCD programmes, as well as research infrastructure investments in South Africa accounted for as part of cooperation initiatives implemented by the DST	New indicator	R380m in international funds directly invested in research, innovation and STI HCD programmes, as well as research infrastructure investments in South Africa accounted for as part of cooperation initiatives implemented by the DST by 31 March 2016	R619 533m in international funds directly invested in research, innovation and STI HCD programmes, as well as research infrastructure investments in South Africa accounted for as part of cooperation initiatives implemented by the DST by 31 March 2016	+R239 533m	**Achieved**	The overachievement was due to an increase in funding from international partners because of the successes of NSI partners in competitive STI initiatives, specifically the EU Horizon 2020 Framework Programme, which saw greater South African participation than was anticipated.
	Amount (expressed in rand millions) of funds invested by international partners in their own organisations and initiatives, but targeted at cooperation in research, innovation and STI HCD with South African partners as part of cooperation initiatives implemented by the DST	New indicator	R220m invested by international partners in their own organisations and initiatives, but targeted at cooperation in research, innovation and STI HCD with South African partners as part of cooperation initiatives implemented by the DST by 31 March 2016	R2 198 725m invested by international partners in their own organisations and initiatives, but targeted at cooperation in research, innovation and STI HCD with South African partners as part of cooperation initiatives implemented by the DST by 31 March 2016	+R1 978 725m	**Achieved**	The overachievement was due to an increase in funding from international partners because of the successes of NSI partners in competitive STI initiatives, especially the EU Horizon 2020 Framework Programme, which saw greater South African participation than anticipated.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To access international knowledge, capacities and resources, to enhance South Africa's national STI capabilities, and to contribute to the attainment of the DST's targets for human capital development, especially for international PhD training	Number of South African students accepted into international training programmes offering a postgraduate qualification as part of cooperation initiatives facilitated by the DST	New indicator	50 South African students participating in international training programmes offering a postgraduate qualification as part of cooperation initiatives facilitated by the DST by 31 March 2016	169 South African students participating in international training programmes offering a postgraduate qualification as part of cooperation initiatives facilitated by the DST by 31 March 2016	+119	**Achieved**	The overachievement was due to a highly positive response from international partners to the Department's efforts to promote access for South African students to international opportunities through a dedicated Global Knowledge Partnerships platform.
	Number of international partner organisations (i.e. legal entities) collaborating with South African partners within the framework of formalised collaborative research, innovation or STI HCD projects as part of cooperation initiatives facilitated by the DST	New indicator	400 international partner organisations (i.e. legal entities) collaborating with South African partners within the framework of formalised collaborative research, innovation or STI HCD projects as part of cooperation initiatives facilitated by the DST by 31 March 2016	585 international partner organisations (i.e. legal entities) collaborating with South African partners within the framework of formalised collaborative research, innovation or STI HCD projects as part of cooperation initiatives facilitated by the DST by 31 March 2016	+185	**Achieved**	The overachievement was due to the higher than anticipated success rate of SA participants in the EU Horizon 2020 Framework programme, as well as an increase in cooperation with various bilateral partners.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To access international knowledge, capacities and resources, to enhance South Africa's national STI capabilities, and to contribute to the attainment of the DST's targets for human capital development, especially for international PhD training	Number of international technical exchanges (such as workshops, seminars or training programmes) to build or reinforce South Africa's capacities in key STI domains specifically referenced in the DST Strategic Plan, undertaken with the support of international partners facilitated by the DST	New indicator	10 international technical exchanges to build or reinforce South Africa's capacities in key STI domains specifically referenced in the DST Strategic Plan, undertaken with the support of international partners facilitated by the DST by 31 March 2016	63 international technical exchanges to build or reinforce South Africa's capacities in key STI domains specifically referenced in the DST Strategic Plan, undertaken with the support of international partners facilitated by the DST by 31 March 2016	+53	**Achieved**	The overachievement was as a result of increased activities with bilateral and multilateral partners, including a broad definition for technical exchanges, which in future will be refined, and resulted in a higher number than anticipated engagements being recorded.
To strengthen cooperation in STI in Africa, to build capacities and support initiatives of the SADC and AU, for the advancement of both South Africa and Africa's growth and development agenda	Number of research, innovation and STI HCD cooperation projects, co-funded or supported in kind by the DST and at least one other African government	New indicator	20 research, innovation and STI HCD cooperation projects initiatives co-funded or supported in kind by the DST and at least one other African government by 31 March 2016	61 research, innovation and STI HCD cooperation projects initiatives co-funded or supported in kind by the DST and at least one other African government by 31 March 2016	+41	**Achieved**	The overachievement was due to increased success in the Department's bilateral partnerships with other African countries and improved access to and management of information of projects being implemented.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To strengthen cooperation in STI in Africa, to build capacities and support initiatives of the SADC and AU, for the advancement of both South Africa and Africa's growth and development agenda	Amount (expressed in rand millions) of international funds directly invested in African regional and continental research, innovation, STI HCD or research infrastructure programmes as a result of DST facilitation	New indicator	R50m in international funds directly invested in African regional and continental research, innovation, STI HCD or research infrastructure programmes as a result of DST facilitation by 31 March 2016	R113 748m in international funds directly invested in African regional and continental research, innovation, STI HCD or research infrastructure programmes as a result of DST facilitation by 31 March 2016	+R63 748m	**Achieved**	The overachievement was as a result of the much higher than anticipated participation by other African countries in the EU Horizon 2020 Framework Programme enabled by the Department's efforts to promote the programme.
	Number of approved AU or SADC STI initiatives, including programmes, projects or governance frameworks, endorsed at AU or SADC ministerial level supported (financially or in kind) by DST	New indicator	Seven AU or SADC STI initiatives, including programmes, projects or governance frameworks, endorsed at AU or SADC ministerial level, supported (financially or in kind) by DST by 31 March 2016	13 AU or SADC STI initiatives, including programmes, projects or governance frameworks, endorsed at AU or SADC ministerial level, supported (financially or in kind) by DST by 31 March 2016	+6	**Achieved**	The overachievement is a result of a highly intensive AU and SADC engagement strategy enabled notably by a DST secondment to the SADC Secretariat.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To maximise South Africa's strategic interests in international cooperation in STI, in support of South Africa's foreign policy objectives, and international trade and investment partnerships, creating a better South Africa, and contributing to a better and safer Africa in a better world	Number of formally recorded decisions made in intergovernmental STI forums, such as multilateral organisations, with a direct bearing on resource allocation to support priorities of government's Programme of Action following specific DST intervention	New indicator	Four formally recorded decisions made in intergovernmental STI forums, such as multilateral organisations, with a direct bearing on resource allocation to support priorities of government's Programme of Action following specific DST intervention by 31 March 2016	Six formally recorded decisions made in intergovernmental STI forums, such as multilateral organisations, with a direct bearing on resource allocation to support priorities of government's Programme of Action following specific DST intervention by 31 March 2016	+2	**Achieved**	The overachievement was a result of the intensive multilateral engagements which marked the intergovernmental arena in 2015, in which the DST played a key part.
	Number of leadership positions occupied by South Africa in international STI governance structures relevant to influencing resource allocation to support priorities of government's Programme of Action following specific DST intervention	New indicator	Two leadership positions occupied by South Africa in international STI governance structures relevant to influencing resource allocation to support priorities of government's Programme of Action following specific DST intervention by 31 March 2016	Five leadership positions occupied by South Africa in international STI governance structures relevant to influencing resource allocation to support priorities of government's Programme of Action following specific DST intervention by 31 March 2016	+3	**Achieved**	South Africa's standing in the international community enabled access to more positions than anticipated.

Meeting of the SKA African partner countries

MeerKAT antenna

PROGRAMME 4: RESEARCH DEVELOPMENT AND SUPPORT

Purpose

To provide an enabling environment for research and knowledge production that promotes the strategic development of basic sciences and priority science areas, through science promotion, HCD, and the provision of research infrastructure and relevant research support, in pursuit of South Africa's transition to a knowledge economy.

Chief directorates

Human Capital and Science Promotion formulates and implements policies and strategies that address the availability of human capital for STI, and that provide fundamental support for research activities. The chief directorate provides strategic direction and support to institutions mandated with HCD and increased knowledge production, as well as interfacing with relevant stakeholders in this regard. The chief directorate is also responsible for science engagement, including science and youth activities.

Basic Sciences and Infrastructure facilitates the strategic implementation of research and innovation equipment and infrastructure to promote knowledge production in areas of national priority and to sustain R&D-led innovation. The chief directorate also promotes the development and strengthening of basic or foundational sciences, such as physics, chemistry, biological and life sciences, geographic and geological sciences, and human and social sciences.

Science Missions promotes the development of research, the production of scientific knowledge, and human capital in science areas in which South Africa enjoys a geographic advantage. These areas include the dynamics of climate change and its impact on Earth systems, Antarctic and marine research, the palaeosciences and IKS.

Astronomy supports the development of astronomical sciences around a new multiwavelength astronomy strategy, and provides guidance and support to relevant astronomy institutions in the implementation of strategic astronomy programmes. Of particular relevance are the Southern African Large Telescope, the MeerKAT, the High Energy Stereoscopic System, and the AVN and SKA projects.

Strategic objectives

- To contribute to the development of representative, high-level human capital able to pursue locally relevant, globally competitive research and innovation activities.
- To ensure the availability of and access to internationally comparable research and innovation infrastructure in order to generate new knowledge and train new researchers.
- To support and promote research that develops basic sciences through the production of new knowledge and relevant training opportunities.
- To strategically develop priority science areas in which South Africa enjoys a competitive advantage, by promoting internationally competitive research and training activities and outputs.
- To promote public engagement on STI.

Table 8: Programme 4 – Research Development and Support

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To contribute to the development of representative, high-level human capital able to pursue locally relevant, globally competitive research and innovation activities	Total number of postgraduate students (BTech, honours, master's and PhD students) and postdoctoral fellows awarded bursaries as reflected in the NRF and DST project reports	11 335 postgraduate students (3 448 honours, 4 263 master's and 2 845 PhD) and 779 postdoctoral fellows awarded bursaries as reflected in the NRF reports (DST)	14 880 postgraduate students (5 311 BTech and honours, 5 685 master's, and 3 136 PhD students) and 748 postdoctoral fellows awarded bursaries through NRF and DST-managed programmes as reflected in the NRF and DST project reports by 31 March 2016	13 307 postgraduate students (4 225 BTech and honours, 5 120 master's, and 3 404 PhD students) and 796 postdoctoral fellows awarded bursaries through NRF and DST-managed programmes as reflected in the NRF and DST project reports by 31 March 2016	1 573	**Partially achieved**	The following factors appear to have contributed to the deviation: • The instability at higher education institutions brought about by the "Fees Must Fall" campaign in the last quarter of 2015/16 resulted in the closure of many campuses. The administrative processes for the successful uptake of awards were therefore not completed as they had been in the earlier quarters. • In addition, the disruption of examinations in 2015 and early 2016 will have negatively affected the number of BTech, honours and master's students registering at the start of the 2016 academic year, thus also unexpectedly decreasing the number of bursaries taken up in the last quarter of 2015/16.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To contribute to the development of representative, high-level human capital able to pursue locally relevant, globally competitive research and innovation activities	Total number of graduates and students placed in DST-funded work preparation programmes in science, engineering, technology and innovation (SETI) institutions	1 021 graduates and students (71 through internships and 310 through the National Youth Service) placed in work preparation programmes in SETI institutions	900 graduates and students placed in DST-funded work preparation programmes in SETI institutions by 31 March 2016	1 044 graduates and students (728 interns and 316 volunteers) were placed in SETI institutions as of 31 March 2016	+144	**Achieved**	The target was exceeded by about 5% as most workplace preparation programme positions are allocated at the beginning of the financial year, and the pool of applicants (graduates with bachelor, honours and master's degrees) was stronger than anticipated.
To ensure availability of and access to internationally comparable research and innovation infrastructure in order to generate new knowledge and train new researchers	Number of research infrastructure grants awarded as per award letters	69 grants awarded in four categories of research infrastructure	60 research infrastructure grants awarded as per award letters by 31 March 2016	79 research infrastructure grants were awarded as per award letters by 31 March 2016	+19	**Achieved**	79 research infrastructure grants were verified. The number of awards made was higher than anticipated because, in part, more grants were awarded at lower levels. Secondly, funds were reprioritised within the allocation for infrastructure to service requests to the National Equipment Programme that could not previously be supported.
	Average amount of bandwidth per SANReN site per annum	2 820 average bandwidth capacity availability per South African National Research Network (SANReN) site	3 500 Mbps average bandwidth available per SANReN site by 31 March 2016	3 497 Mbps average bandwidth available per SANReN site by 31 March 2016	-3	**Achieved**	Given the difficulty in exactly controlling the capacity deployment/ demand (in the numerator of the calculation), the final result will always show a variation.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To support and promote research that develops basic sciences through the production of new knowledge and relevant training opportunities	Total number of researchers awarded research grants through NRF-managed programmes as reflected in the NRF project reports	4 064 researchers awarded research grants through NRF-managed programmes as reflected in the NRF reports.	4 539 researchers awarded research grants through NRF-managed programmes as reflected in the NRF project reports by 31 March 2016	4 315 researchers were awarded research grants through NRF-managed programmes by 31 March 2016	-224	**Partially achieved**	It is very difficult for the DST to predict or manage the target closer than a variance of about 5%, as the target depends on the pool of applicants and the quality of the proposals submitted for funding, which cannot be predicted.
	Number of ISI-accredited research articles published by NRF-funded researchers as reflected in the NRF project reports	6 470 ISI-accredited research articles published by NRF-funded researchers as reflected in the NRF project reports	7 000 ISI-accredited research articles published by NRF-funded researchers as reflected in the NRF project reports by 31 March 2016	7 158 ISI-accredited research articles published by NRF-funded researchers as reflected in the NRF project reports by 31 March 2016	+158	**Achieved**	It is difficult to predict exactly when a specific researcher will succeed in publishing a specific research paper, and this projection is therefore informed by average rates of productivity of NRF-supported researchers. This fluctuates slightly from year to year.
To strategically develop priority science areas in which South Africa enjoys a competitive advantage, by promoting internationally competitive research and training activities and outputs	MeerKAT antennas installed	Four MeerKAT antennas installed	28 MeerKAT antennas installed	20 antennas installed by 31 March 2016, with 21 pedestals having been erected	-8	**Partially achieved**	The effect of the strike in the steel industry at the end of 2014 impacted negatively on dish production in early 2015/16. The process of installation was also halted while dish production methods were adapted to ensure the dishes were produced in line with the adapted specifications.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To strategically develop priority science areas in which South Africa enjoys a competitive advantage, by promoting internationally competitive research and training activities and outputs	Number of regulations on astronomy advantage areas gazetted	n/a	• Regulations on frequency spectrum gazetted by 31 December 2015 • Regulations on Environmental Management Inspectorate gazetted by 31 December 2015 • Regulations on procedural matters gazetted by 31 December 2015	• Four sets of regulations (Frequency spectrum, Environmental Management Inspectorate, procedures, and financial compensation) published in ***Government Gazette*** No. 38442 on 23 November 2015 • Regulations workshop notice published in Government Gazette No. 39531 on 18 December 2015	None	**Achieved**	None
	Number of strategy documents approved by Exco	One Marine and Antarctic Research Strategy approved	One Implementation Plan for the Marine and Antarctic Research Strategy approved by Exco by 31 March 2016	One Implementation Plan for the Marine and Antarctic Research Strategy approved by Exco by 31 March 2016	None	**Achieved**	None

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To strategically develop priority science areas in which South Africa enjoys a competitive advantage, by promoting internationally competitive research and training activities and outputs		Draft Basic Sciences Development Framework approved	One Basic Sciences Development and Support Framework approved by Exco by 31 March 2016	One Basic Sciences Development and Support Framework approved by Exco by 31 March 2016	None	**Achieved**	None
		The Bill was tabled at Cabinet (and approved for publication in the ***Government Gazette***), as the necessary first step towards tabling it in Parliament	Regulations on the protection of IKS approved by the Minister for widespread public consultation by 31 March 2016	Integration of public comments into the Bill finalised. The Bill was approved by Cabinet by 31 March 2016	Not achieved. However, the Bill was approved by Cabinet and is now being considered by Parliament	**Not achieved**	Two factors contributed to this target not being achieved. First, submission of the Bill to Cabinet was delayed by the unexpected introduction of the new Social Economic Impact Assessment requirement, which needed to be finalised before submission to Cabinet. Secondly, once this step had been completed, consideration of the Bill by Cabinet was postponed on two occasions.
		Multiwavelength Astronomy Strategy approved	One implementation plan for the Multiwavelength Astronomy Strategy approved by Exco by 31 March 2016	One implementation plan for the Multiwavelength Astronomy Strategy approved by Exco by 31 March 2016	None	**Achieved**	None

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To strategically develop priority science areas in which South Africa enjoys a competitive advantage, by promoting internationally competitive research and training activities and outputs	A functional climate change research network in place	n/a	Research capacity of existing networks profiled and areas that need institutional support identified by 31 March 2016	A report in this regard was approved by the Deputy Director-General: Research Development and Support	None	**Achieved**	None
	Number of biennial reports on the state of climate change in South Africa approved by Cabinet	n/a	One plan for compiling the first biennial report on the state of climate change in South Africa for Cabinet approval by 31 March 2016	A plan for the development of the biennial report was approved by the Deputy Director-General: Research Development and Support	-1	**Not achieved**	This target was ambiguously formulated. The intention was to complete the plan (for compiling a report for Cabinet approval) by 31 March 2016, and this was achieved. However, the target could also be read as stating that the plan itself was subject to Cabinet approval by 31 March 2016, although this is counterintuitive

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To promote public engagement on STI	Approximate number of participants in science awareness and engagement programmes as reflected in the NRF project reports and those of other service providers	1 247 667 people participated in science awareness and engagement programmes supported by the DST	Approximately 979 000 participants (588 000 learners and 391 000 members of the public) in science awareness and engagement programmes as reflected in project reports of the NRF and other service providers by 31 March 2016	2 718 078 participants reached through National Science Week 2015, eight DST-supported science festivals, the Rand Easter Show, and six events by other stakeholders	+1 739 078	**Achieved**	Increased access to venues open to public, which provided additional infrastructure for hosting mass participation science promotion initiativesled to a significant increase in people drawn to science awareness and engagement initiatives.

Launch of the biomanufacturing facility at the CSIR Pretoria

Hi Hanyile essential oils project

PROGRAMME 5: SOCIO-ECONOMIC INNOVATION PARTNERSHIPS

Purpose

To enhance the growth and development priorities of government through targeted S&T-based innovation interventions and the development of strategic partnerships with other government departments, industry, research institutions and communities.

Chief directorates

Technology Localisation, Beneficiation and Advanced Manufacturing funds technology and innovation development programmes to advance 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 medium and 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 technologies and industries, improved government service delivery, improved productivity and competitiveness, and technology transfer and support to SMEs and manufacturing firms in the supply chains of large-scale public procurement programmes.

Sector Innovation and Green Economy provides policy, strategy and direction-setting support for the R&D-led growth of strategic sectors of the economy and to enhance S&T capacity to support a transition to a green economy. The chief directorate does this through the following:

- Facilitating the implementation of high-impact S&T interventions.
- Identifying and initiating S&T programmes that support the growth of the environmental technologies and services sector in South Africa.
- Facilitating policy and strategy development on R&D interventions that support the growth of the ICT sector (excluding the ICT retail sector).
- Providing innovation policy and planning support to economic actors in priority economic sectors and provincial and local governments.

Innovation for Inclusive Development supports the experimentation of S&T-based innovations for tackling unemployment, poverty and inequality through the

creation of sustainable job and wealth opportunities, building sustainable human settlements, and enhancing the delivery of basic services. The component focuses on supporting the widespread adoption and use of S&T-based innovation by supporting the demonstration of promising innovative technologies that do not yet have widespread application, but are seen as having the potential to achieve government's broad development objectives. In its interventions, the component prioritises the generation of practical knowledge and insights to support evidence-based policy and decision making, introducing decision-support tools to enhance service delivery, and building capacity in relevant state institutions and communities.

Science and Technology Investment leads and supports the development of indicators and instruments for measuring and monitoring investments in S&T and the performance of the NSI, and 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 the national S&T expenditure tables, and the implementation of section 11D of the Income Tax Act, 1962, to promote private-sector R&D investment.

Strategic objectives

- Through knowledge, evidence and learning, to inform and influence how S&T can be used to achieve inclusive development.
- To identify, grow and sustain niche high-potential STI capabilities for sustainable development and the greening of society and the economy.
- To identify, grow and sustain niche high-potential STI capabilities that –
  - » improve the competitiveness of existing industries with growth potential in aerospace, advanced manufacturing, chemicals, advanced metals, mining, ICTs and sector innovation funds;
  - » facilitate the development of R&D-led new targeted industries.
- To enhance understanding and analysis that support improvements in the functioning and performance of the NSI.
- To strengthen provincial and rural innovation and production systems through analysis and catalytic interventions.
- To introduce and manage interventions and incentive programmes that increases the level of private sector investment in scientific or technological R&D.

z: Programme 5 – Socio-economic Innovation Partnerships

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
Through knowledge, evidence and learning, to inform and influence how science and technology can be used to achieve inclusive development	Number of knowledge products on innovation for inclusive development published	Two knowledge products (two case studies) were completed and published on the DST website by 31 March 2015	Four knowledge products on innovation for inclusive development published by 31 March 2016	Five knowledge products on innovation for inclusive development published by 31 March 2016	+1	**Achieved**	The additional knowledge product was based on an existing DST project focused on innovative energy solutions in a rural context.
	Number of decision-support interventions introduced and maintained	Four decision support systems maintained and two introduced by 31 March 2015	Five decision-support interventions maintained and improved by 31 March 2016	Six decision-support interventions maintained and improved by 31 March 2016	+1	**Achieved**	An additional unplanned knowledge product was developed at the request of and in partnership with the Department of Rural Development and Land Reform.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To identify, grow and sustain niche high-potential STI capabilities for sustainable development and the greening of society and the economy	Number of master's and doctoral students fully funded or co-funded in designated niche areas	11 master's and doctoral students fully funded or co-funded in designated niche areas by 31 March 2015	50 master's and doctoral students fully funded or co-funded in designated niche areas that support the green economy and sustainable development by 31 March 2016	50 master's and doctoral students fully funded or co-funded in designated niche areas that support the green economy and sustainable development by 31 March 2016	None	**Achieved**	None
	Number of knowledge and innovation products (patents, prototypes, technology demonstrators or technology transfer packages) added to the innovation product portfolio through fully funded or co-funded research initiatives	One knowledge and innovation product added to the IP portfolio by 31 March 2015	Four knowledge and innovation products (patents, prototypes, technology demonstrators and technology transfer packages) added to the innovation product portfolio through fully funded or co-funded research by 31 March 2016	Four knowledge and innovation products (patents, prototypes, technology demonstrators and technology transfer packages) added to the innovation product portfolio through fully funded or co-funded research by 31 March 2016	None	**Achieved**	None

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To identify, grow and sustain niche high-potential STI capabilities that – • improve competitiveness of existing industries with growth potential in aerospace, advanced manufacturing, chemicals, advanced metals, mining, ICTs and sector innovation funds; • facilitate the development of R&D-led new targeted industries	Number of high-level research graduates (master's and doctoral students) fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals, ICTs and sector innovation funds)	255 master's and doctoral students fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals and ICT) by 31 March 2015	273 master's and doctoral students fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals and ICTs) by 31 March 2016	338 master's and doctoral students fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals and ICTs) by 31 March 2016	+65	**Achieved**	The two main reasons for exceeding the target are as follows: • The indicator is for "funding and co-funding", so funds are often used to top up or leverage additional internship funds. • In some areas, time elapses between awarding the funds and actually selecting and funding students.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
	Number of interns fully funded or co-funded in R&D related to design, manufacturing and product development	358 interns fully funded or co-funded by 31 March 2015	240 interns fully funded or co-funded in designated niche areas related to design, manufacturing and product development by 31 March 2016	309 interns fully funded or co-funded in designated niche areas related to design, manufacturing and product development	+69	**Achieved**	The three main reasons for exceeding the target are as follows: • The indicator is for "funding and co-funding", so funds are often used to top up or leverage additional internship funds. • Interns often do not use the full funding allocation, because they secure formal employment before completing the internship. • Some internship contracts with implementing entities are multi-year, and rolled-over funds were used to fund additional students. While all the above are desirable, it makes an accurate prediction of the number of students difficult.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
	Number of knowledge and innovation products (patents, prototypes, technology demonstrators or technology transfer packages) added to the innovation products portfolio through fully funded or co-funded research initiatives	29 knowledge and innovation products added to the innovation products portfolio by 31 March 2015	25 knowledge and innovation product (patents, prototypes, technology demonstrators or technology transfer packages) added to the IP portfolio through fully funded or co-funded research initiatives by 31 March 2016	38 knowledge and innovation products (patents, prototypes, technology demonstrators or technology transfer packages) added to the IP portfolio through fully funded or co-funded research initiatives by 31 March 2016	+13	**Achieved**	Forecasting IP products is very difficult due to the nature of technology development, as it is not always possible to predict whether a solution will result in an IP product as per the definition. It is excellent that the target has been exceeded.
	Number of instruments funded in support of increased localisation, competitiveness and R&D-led industry development in aerospace, advanced manufacturing, chemicals, mining, advanced metals and ICTs	Eight instruments funded by 31 March 2015	Nine instruments funded in support of increased localisation, competitiveness and R&D-led industry development in aerospace, advanced manufacturing, chemicals, mining, advanced metals and ICTs by 31 March 2016	Nine instruments funded in support of increased localisation, competitiveness and R&D-led industry development in aerospace, advanced manufacturing, chemicals, mining, advanced metals and ICTs by 31 March 2016	None	**Achieved**	The number of funding instruments is aimed at reflecting the scope of interventions, rather than having a stretch target. The categories for funding instruments is continually verified and optimised, resulting in changes.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To strengthen provincial and rural innovation and production systems through analysis and catalytic interventions	Number of innovation-support interventions funded or co-funded that strengthen provincial or rural innovation systems	New performance indicator	Two innovation-support interventions funded or co-funded that strengthen provincial or rural innovation systems by 31 March 2016	Four innovation-support interventions funded or co-funded that strengthen provincial or rural innovation systems by 31 March 2016	+2	**Achieved**	As this is a new performance indicator under a new strategic objective, the initial formulation of the indicator was based on the provincial and regional innovation system support mechanisms there were at the time. As the strategic objective includes rural innovation and production systems, further analysis led to the identification of additional interventions meeting the requirements and description for this indicator.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To enhance understanding and analysis that support improvements in the functioning and performance of the NSI	Number of reports and policy briefing on the innovation system and innovation policy approved by Exco/ published	Three reports/ policy briefings approved by Exco and published by 31 March 2014	Five reports and policy briefings on the innovation system and innovation policy approved by Exco/ published by 31 March 2015. The reports and policy briefing are as follow: • 2014/15 report on publicly funded research, science and innovation produced and disseminated • 2013/14 national survey on research and experimental development (R&D survey) produced by 31 March 2016 • 2014/15 report on Performance of R&D Tax Incentive produced by 31 March 2016 • Report on Survey of Intellectual Property and Technology Transfer of Publicly Funded Research produced by 31 March 2016 • Report on a new approach to innovation measurement produced by 31 March 2016	Two reports/policy briefings approved by Exco/published by 31 March 2015 2014/15 Report on Government-Funded Scientific and Technological Activities 2013/14 National Survey on Research and Experimental Development released/ published; cabinet memorandum tabled to brief Cabinet about the results	-3	**Not achieved**	The Report on the Survey of Intellectual Property and Technology Transfer of Publicly Funded Research was delayed in the early stages of production, as three institutions with big intellectual property and technology transfer portfolios required more time to organise their data to respond to this new survey. Project timelines also had to be extended for additional validation and iterations of draft reports, and for the sourcing of international benchmarking data. The report on a new approach to innovation measurement was delayed because time was needed to clarify the scope and focus of the project. This included consultations within the DST, and also with the Centre for Science, Technology and Innovation Indicators, NACI and an international expert on innovation measurement, as well as learning from the Eurostat- Organisation for Economic Cooperation and Development scoping workshop for the Oslo Manual revisions.

Strategic objective	Performance indicator	Actual achievement 2014/15	Planned target 2015/16	Actual achievement 2015/16	Deviation between planned target and actual achievement for 2015/16	Status	Comment on deviation
To introduce and manage interventions and incentive programmes that increase the level of private sector investment in scientific or technological R&D	Turnaround time in providing preapproval decisions on applications for the R&D tax incentive	New performance indicator	Preapproval decisions provided within 90 days of date of receipt of application for the R&D tax incentive by 31 March 2015	By 31 March 2016, 255 applications were still to be finalised. Of these, 16 were received before January 2014; 90 were received in 2014; 108 were received in 2015; and 41 were received in 2016	-1	**Not achieved**	Progress has been made but is still slow owing to lack of capacity, with particular bottlenecks at the finalisation of evaluation reports for adjudication and the processing of recommendations for final decision by the Minister.

Annexure: Targets adjusted during the 2015/16 financial year

No targets were adjusted as per National Treasury prescripts.

APPROVAL

This is to confirm that the Executive Committee (Exco) of the Department of Science and Technology discussed the Department's performance information report for the 2015/16 financial year at its meeting held on 18 May 2016 and that Exco made inputs on the contents of the report which reflects the DST's performance for the period covered in the report.

PHIL MJWARA
Director-General

4. Transfer payments

The Department transfers funds to various entities in pursuit of its mandate. These entities assisted the Department in achieving its objectives. The table below indicates the entities and the reasons transfers were made. The detailed information regarding the entities to which the transfers were made is disclosed fully in the Annexures to the Annual Financial Statements in Part E.

Programme 1: Administration

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Institutional and programme support	14 796	14 565	Assistance for research activities
Total	**14 796**	**14 565**	

Programme 2: Technology Innovation

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Biotechnology Strategy	32 954	32 954	Implementation of the Biotechnology Strategy
Energy Grand Challenge	33 733	33 733	Support R&D in the renewable energy sector
Health Innovation	43 618	43 618	R&D for new health products and services
HIV/Aids prevention and treatment technologies	24 535	24 535	Research into technologies to combat and prevent HIV/Aids
Hydrogen Strategy (Capital)	63 568	63 568	Support research infrastructure in the hydrogen and energy sector
Hydrogen Strategy (Current)	36 012	36 012	Support R&D in the hydrogen and energy sector
Indigenous Knowledge Systems	8 864	8 864	Implementation of IKS initiatives
Innovation projects	29 612	29 612	To promote IP management, regulation and commercialisation
International Centre for Genetic Engineering and Biotechnology	12 125	12 125	R&D of new health products
South African National Space Agency	124 355	124 355	To support the creation of an environment conducive to industrial development and space technology
Space science	71 978	71 978	R&D to support space science initiatives
Technology Innovation Agency	385 188	385 188	To stimulate and intensify technology innovation and commercialisation output
Technology Top 100	3 507	3 507	To promote technological advancement for private sector with a focus on SMEs
Biofuels	6 490	6 490	Biofuels research
Emerging Research Areas	42 002	42 002	R&D into emerging research areas
National Nanotechnology Centre	50 429	50 429	R&D into nanotechnology initiatives
Offices of technology transfer support	47 662	42 747	Intellectual Property Fund and capacitating offices of technology transfer
Total	**1 016 632**	**1 011 717**	

Transfer payments (continued)

Programme 3: International Cooperation and Resources

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Global science: Bilateral cooperation	13 530	13 530	Growing international partnerships with the aim of leveraging resources for R&D and human development
Global science: International resources	39 025	39 025	Growing international partnerships with the aim of leveraging resources for R&D and human development
Global science: Multilateral cooperation	6 756	6 756	Growing international partnerships with the aim of leveraging resources for R&D and human development
Total	**59 311**	**59 311**	

Programme 4: Research Development and Support

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Academy of Science of South Africa	23 229	23 229	To promote innovative and independent scientific thinking
Astronomy	13 999	13 990	Support to radio and optical astronomy
Human and Social Development Dynamics	10 408	10 408	Policy and institution building (10 year plan and centres of excellence)
Human resource development	878 609	878 609	Implementation of human capital development initiatives
National Research Foundation	878 399	878 399	To support and promote research through funding human resource development
Science awareness	69 195	69 194	Research and initiatives towards youth involvement in the science arena
Square Kilometre Array (Capital)	687 415	687 415	Infrastructure for the SKA project
Square Kilometre Array (Current)	13 165	13 165	R&D for the SKA project
South African Research Chairs Initiative	470 446	470 446	To fund research chairs in higher education institutions
Strategic science platforms	162 739	162 739	Support for human capital development and knowledge generation policy implementation and infrastructure development
Cyberinfrastructure	213 479	213 479	Operation and management of CHPC initiatives and connectivity of research institutions
Research and development infrastructure	760 204	753 665	Infrastructure development
Total	**4 181 287**	**4 174 738**	

Programme 5: Socio-economic Innovation Partnerships

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Advanced Manufacturing Technology Strategy	45 219	45 219	Implementation of the Advanced Manufacturing Technology Strategy
Council for Scientific and Industrial Research	820 204	820 204	This is a parliamentary grant as per the Estimates of National Expenditure, to be used to provide science and technology services and solutions, and identify opportunities for new technologies to be further developed and exploited in the private and public sectors for commercial and social benefit
Environmental innovation	16 463	16 463	Indentifying and initiating S&T programmes that support the growth of the environmental technologies and services sector in South Africa
Human Sciences Research Council	288 706	288 706	Parliamentary grant as per the Estimates of National Expenditure, to conduct large-scale policy-relevant social science research
Information and communication technology	26 144	26 144	Implementation of the South African ICT RDI Roadmap. Facilitating policy and strategy development on R&D interventions that support the growth of the ICT sector (excluding the ICT retail sector)
Local manufacturing capacity	187 508	187 508	Support for technology localisation. Assistance for local companies to develop their technology capabilities to enable them to leverage procurement opportunities under the infrastructure build programmes of the state-owned enterprises Funding for technology stations to render technology support to small and medium enterprises
Local systems of innovation	205 574	204 737	Support for local innovation interventions and science parks Support for industry innovation partnerships
Research Information Management System (RIMS)	12 240	12 240	Information access for decision making – continued development and maintenance of RIMS
Resource-based industries	49 507	49 507	S&T policy, strategy and direction-setting support to harness value from South Africa's natural resources
S&T indicators	5 446	5 446	Development of indicators and instruments for measuring and monitoring investments in S&T and the performance of the NSI
Innovation for Inclusive Development	40 732	38 731	Development of indicators and instruments for measuring and monitoring investments in S&T and the performance of the NSI. Supports the experimentation of S&T-based innovations for tackling unemployment, poverty and inequality through the creation of sustainable job and wealth opportunities and enhancing the delivery of basic services
Total	**6 969 769**	**6 955 235**	

5. Donor funds

5.1 Donor funds received

5.1.1 Donor funds received in cash

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

Name of donor	European Union
Full amount of the funding (R'000)	636
Period of the commitment	3 years
Purpose of the funding	SAccess
Expected outputs	Provision of access for European researchers to South African innovation programmes, and promotion of collaborations with SA researchers.
Actual outputs achieved	The funds were used to cover the costs incurred by the DST for the SA breakout sessions and participation in the Innovation Leaders Forum at the 2015 Science|Business Conference in Barcelona. The output was marketing SA expertise among the conference participants.
Amount received in current period (R'000)	625
Amount spent by the Department (R'000)	208
Reasons for the funds unspent	These funds were requested to settle the payment for the costs incurred by the DST during 2014 EuroScience Open Forum. It was, however, established that there were still funds at the NRF for support for international conferences, and the invoice was therefor paid using the NRF funds.
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	120 000
Period of the commitment	3 years
Purpose of the funding	ICT innovation programme to support development and government delivery
Expected outputs	High-end results in the area of ICT with a focus on the knowledge economy in order to create a better South Africa, a better Africa and a better world
Actual outputs achieved	The second tranches were disbursed to the service providers after satisfactory reports had been submitted and presentations on progress had been made
Amount received in current period (R'000)	44 892
Amount spent by the Department (R'000)	42 392
Reasons for the funds unspent	The monitoring and evaluation contract was not entered into, due to concerns about the capacity of the service provider. A new process will be started in the next financial year.
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	661
Period of the commitment	3 years
Purpose of the funding	IST Africa
Expected outputs	To improve the overall ICT policies and create systems for each African country to ensure a consolidated, effective regional impact through information society in Africa.
Actual outputs achieved	Final report on the previous phase of the project, which ended on 31 January 2016, submitted to the project coordinator. The new phase of the project is currently in the approval process.
Amount received in current period (R'000)	113
Amount spent by the Department (R'000)	10
Reasons for the funds unspent	It was expected that the preparations for the 2016 IST Africa conference (to be held in May 2016) would have been finalised and the conference paid for using these funds by the end of the 2015/16 financial year. However, the preparations were delayed and the payments will be made only in the 2016/17 financial year.
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	300 000
Period of the commitment	3 years
Purpose of the funding	Sector Budget Support (SBS)
Expected outputs	To contribute to South Africa's harmonious and sustained economic and social development through programmes and measures designed to reduce poverty and encourage economic growth that benefits the poor.
Actual outputs achieved	The final tranches were paid to project-implementing agencies as the programme was coming to a close and projects were winding down.
Amount received in current period (R'000)	24 941
Amount spent by the Department (R'000)	24 876
Reasons for the funds unspent	The difference is due to claims from the SBS unit being lower than expected.
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	143 500
Period of the commitment	3 years
Purpose of the funding	General Budget Support
Expected outputs	Establishment of a portal for information on science and technology opportunities for practical policy influence

Donor funds (continued)

Actual outputs achieved	Establishment of a portal for information on science and technology opportunities for practical policy influence
Amount received in current period (R'000)	64 453
Amount spent by the Department (R'000)	64 453
Reasons for the funds unspent	Not applicable
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	5 000
Period of the commitment	3 years
Purpose of the funding	ESASTAP 2
Expected outputs	Advancement of South African-European Union collaboration
Actual outputs achieved	Access and participation of SA researchers in EU activities, and awareness of EU opportunities for SA and other African researchers – seed funding was provided to support SA researchers who participated in EU activities, side events at the SA Science Forum, the Future Internet Research and Experimentation event, the launch of the new ESASTAP 2020 project, dinner and side event (a workshop on science for policy), and exhibition material used during all the above activities.
Amount received in current period (R'000)	1 612
Amount spent by the Department (R'000)	1 612
Reasons for the funds unspent	Not applicable
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	2 055
Period of the commitment	4 years
Purpose of the funding	CAAST-Net
Expected outputs	Promotion of mutual understanding of African-EU cooperation on critical science and technology areas of mutual interest
Actual outputs achieved	A landscape analysis of potential instruments for implementing the research and innovation partnership of the high level policy dialogue roadmap, completed at the end of March 2016
Amount received in current period (R'000)	252
Amount spent by the Department (R'000)	0

Reasons for the funds unspent	During the 2015/16 financial year R250 000 was requested for the implementation of the DST's deliverables as part of its partnership in the CAAST-Net Plus project. R220 000 (90% of the requested amount) was committed for the completion of a landscape analysis study by a consultant. The study was completed in March 2016 and a payment request was submitted to Supply Chain Management. However, the payment could not be processed as the service provider was not on Logis. There were further delays because the service provider could not be reached using the contact details given in the proposal submitted in response to the DST's call. The delay in processing the payment to the service provider led to the underspending of the donor funds. The service provider was loaded onto Logis on 5 May 2016 and Supply Chain has indicated that the payment will be processed by 16 May 2016.
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	2 345
Period of the commitment	3 years
Purpose of the funding	ERAfrica
Expected outputs	Implementing wide dialogue with the aim of reaching consensus among EU and Africa programme owners
Actual outputs achieved	The funds were used to cover expenses of the meeting held in SA in May at which all participants expressed interest in being part of the next phase of the project. The other funds covered the travel expenses of the DST and NRF officials who participated in the ERAfrica meeting hosted by Germany. At this meeting the partners agreed on the content of the ERA-Net Cofund and on which partners would be part of the project. The output is a Cofund proposal that has been submitted to H2020 (the evaluation results are still to be received).
Amount received in current period (R'000)	85
Amount spent by the Department (R'000)	63
Reasons for the funds unspent	Some of the money that was requested was to cover the travel costs for DST officials to participate in a project meeting hosted by Namibia. However, the meeting was not held. Some of the funds intended for co-funding SA ERAfrica projects could not be spent because the researchers did not meet all the DST requirements (spending at least 75% of the funds disbursed for the 2014/15) for the 2015/16 funds to be transferred.
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Donor funds (continued)

Name of donor	European Union
Full amount of the funding (R'000)	5 483
Period of the commitment	3 years
Purpose of the funding	Promoting African-EU Research Infrastructure
Expected outputs	Development of a database of African research infrastructure and influence policy dialogue in the region.
Actual outputs achieved	Development of a database of African research infrastructure and influence policy dialogue in the region.
Amount received in current period (R'000)	954
Amount spent by the Department (R'000)	622
Reasons for the funds unspent	The difference occurred as a result of less man-hours claimed by consortium partners
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	European Union
Full amount of the funding (R'000)	3 136
Period of the commitment	3 years
Purpose of the funding	Research and Innovation Network for Europe and Africa (RINEA)
Expected outputs	Provision of strategic support to the African-EU high-level policy dialogue and implementation of the outcomes of decisions made at senior officials meetings.
Actual outputs achieved	The Department hosted a number of meetings and workshops in September, October and December 2015 in support of the African Agenda.
Amount received in current period (R'000)	350
Amount spent by the Department (R'000)	148
Reasons for the funds unspent	During the 2015/16 financial year R350 000 was requested from National Treasury for the implementation of the DST's deliverables under the RINEA project. The reason for unspent funds was the late submission of invoices from the travel agent to the DST for the expenditure on the meetings and workshops in September, October and December 2015. The invoices were received in March 2015, and April and May 2016.
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Name of donor	Finland
Full amount of the funding (R'000)	80 000
Period of the commitment	4 years
Purpose of the funding	BioFISA II
Expected outputs	The institutional strengthening of the Southern Africa Bioscience Network (SANBio) Secretariat, the development of the operating environment, capacity development, network creation and dissemination of open calls for proposals and identification, development and implementation of projects by SANBio.
Actual outputs achieved	There are three key outcomes: **Outcome1:** Functional and sustainable SANBio network in place • 500% increase in social media activities and website visitors • The launch of BioFISA Programme II attended by at least one representative from SANBio members states • 10 SANBio member states were visited for awareness purposes • Face-to-face engagements with 71 stakeholders in the region as part of raising awareness • 116 public engagements • Monitoring, evaluation and learning manual was developed **Outcome 2:** Human capacity strengthening • 28 participants trained • Two modules developed (i.e. basic business planning and proposal writing) • 58% of the participants were women • Two student ambassadors were selected as part of youth involvement • One female ambassador was selected **Outcome 3:** Networking, management and sustainability • First seed grant call was launched and the process has reached full proposal phase • Flagship grant call was launched • 21 mobility grants were made
Amount received in current period (R'000)	17 145
Amount spent by the Department (R'000)	17 145
Reasons for the funds unspent	Not applicable
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

Donor funds (continued)

Name of donor	USAID
Full amount of the funding (R'000)	1 916
Period of the commitment	18 months
Purpose of the funding	Feasibility study for the establishment of a virtual research, development and innovation network for the information society
Expected outputs	Determining the possibility of the establishment of a virtual network to include rural areas in South Africa and Tanzania
Actual outputs achieved	• Project implementation team and project coordinating committee established • Completed stakeholder sensitisation and mobilisation • 2 capacity building seminars and 2 workshops held (in Tanzania and South Africa) • Virtual Research Development and Innovation Network website developed • Terms of reference for the feasibility study finalised and research team identified
Amount received in current period (R'000)	1 245
Amount spent by the Department (R'000)	1 245
Reasons for the funds unspent	Not applicable
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

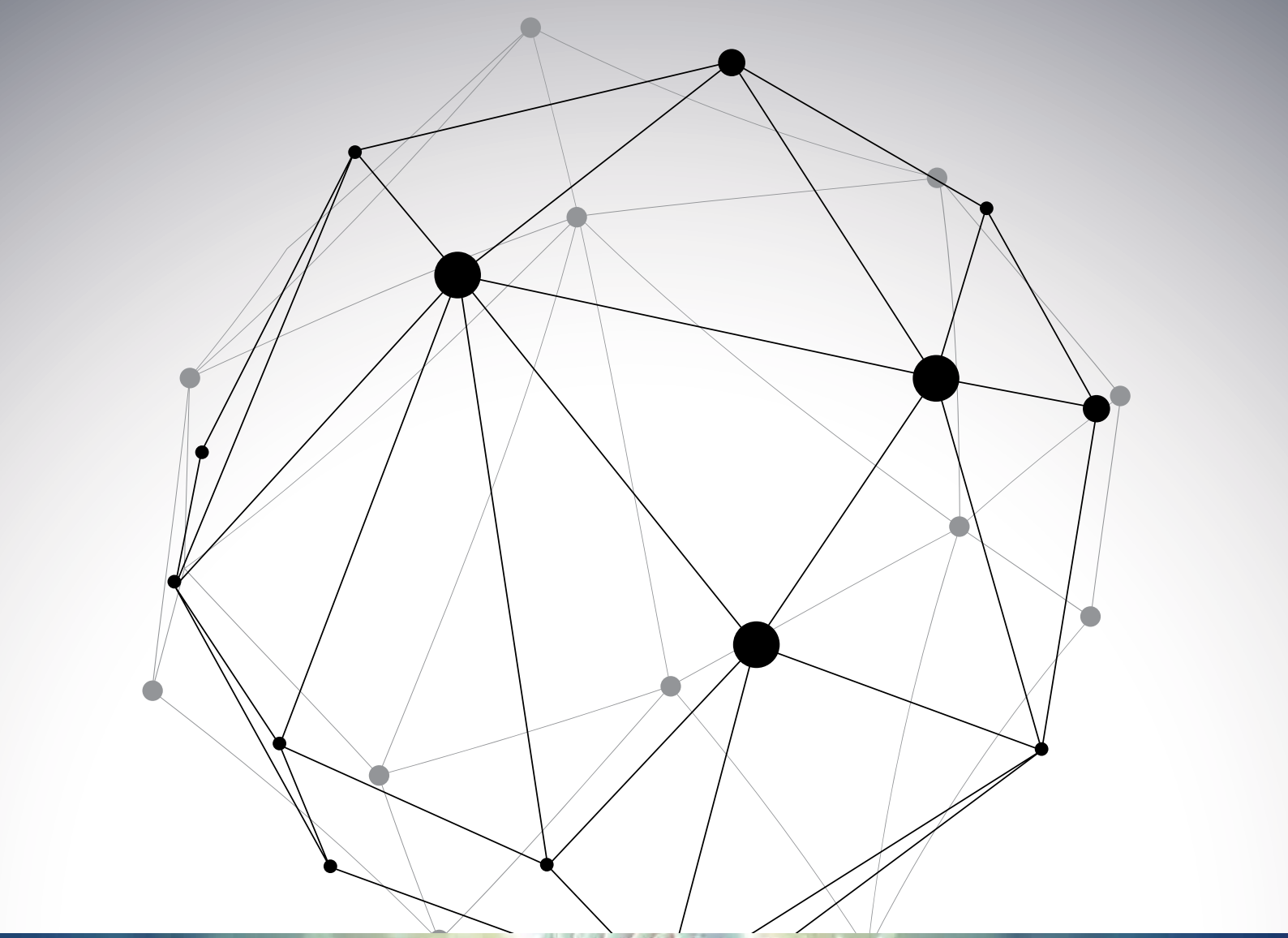
Name of donor	USAID
Full amount of the funding (R'000)	3 600
Period of the commitment	3 years
Purpose of the funding	Indigenous knowledge systems standards development and capacity building
Expected outputs	Indigenous knowledge systems standards development and capacity building in order to develop skills and knowledge related to IKS
Actual outputs achieved	• Approval received from Southern African Development Community Cooperation in Standardisation (SADCSTAN) Standards Management Committee (SMC) and South African Bureau of Standards (SABS) Standards Approval Committee for the establishment of a technical committee on African traditional medicines (ATM) • Presentation done for SADCSTAN SMC and at SADCSTAN Annual General Meeting in Luanda, Angola • Hosted a South African expert committee planning meeting for ATM standardisation • Hosted SADC capacity-building workshop and developed education and communication strategies for the SADC • Finalised business plan for the development of standards by the ATM industry in South Africa
Amount received in current period (R'000)	1 585
Amount spent by the Department (R'000)	1 585
Reasons for the funds unspent	Not applicable
Monitoring mechanism by the donor	These funds are audited by the Auditor-General or external auditors at the request of the donor.

6. Capital investment

6.1 Capital investments, maintenance and asset management plan

The Department has asset management policies and procedures in place that assisted in ensuring that the asset register was kept up to date. The Department conducted four asset verifications during the year under review to ensure that all redundant and damaged assets were disposed of and replaced on time.

In addition, the Department replaced old information technology (IT) equipment such as laptops and desktops to ensure that its operations continued without interruption. Most of the Department's information technology servers have also reached the end of their lifespan; these will be replaced in the subsequent financial year.



PART C: GOVERNANCE

1. Introduction

The Department is committed to maintaining the highest standards of corporate governance, which are fundamental to the management of public finances and resources. The frameworks below are main pillars of the Departments corporate governance arrangements.

2. Risk management

The Department views Enterprise Risk Management (ERM) as an imperative for the successful delivery of its mandate. The Department believes that identifying, understanding and managing risks in an enterprise-wide context will ensure accountability and sustainability, and that ERM will direct the Department to address negative events in a proactive and timely manner, while exploiting the possible opportunities presented by future uncertainties.

There are various processes to ensure the commitment of the entire Department to ERM (e.g. awareness sessions at induction and ongoing, regular risk assessments and subsequent follow-up), as well as the definition of clear risk management roles and responsibilities.

The Department has a Chief Risk Officer and has effective management systems in place for ERM (a policy, a framework, a strategy, guidebooks and an annual implementation plan).

To ensure the quality, integrity and reliability of the Department's ERM processes and responses, the Department has an ERM Committee (ERMC), comprising four independent members and four ex-officio members. The Audit Committee Chairperson is a standing invitee to the ERMC. The ERMC plays an integral part in ensuring that the Department maintains and enhances the maturity level of risk management. The following table indicates the members of the ERMC and the meetings they have attended during the period under review:

Name	Member status	Meetings attended	Notes
C Boltman	Independent member (Chairperson)	4 of 4	Appointed as member on 15 May 2014 and as Chairperson on 1 February 2015
L Kaplan	Independent member	4 of 4	
J Fick	Independent member	4 of 4	Appointment as member on 4 February 2014
M Karedi	Independent member	3 of 4	Appointment as member on 1 February 2015
T Makhode	Ex-officio member	3 of 4	DDG: Institutional Planning and Support
N Mokoena	Ex-officio member	3 of 4	DDG: Corporate Services
N January	Ex-officio member	2 of 4	Head: Legal Services
G Zulu	Ex-officio member	3 of 3	CFO
R Shaku	Ex-officio member	1 of 1	Acting CFO
S Machaba	Audit Committee Chairperson – Standing invitee	0 of 2	Term as Audit Committee Chairperson ended on 30 September 2015
R Marcus	Audit Committee Chairperson – Standing invitee	1 of 2	Appointed as AC Chairperson on 29 October 2015
H Maritz	Audit Committee member	3 of 3	Attended on behalf of Audit Committee Chairperson

Risk management (continued)

The Department's Internal Audit Activity and the Audit Committee provide independent assurance of the Department's ERM processes, and advise on the effectiveness of risk management controls and risk mitigation initiatives.

Strategic, operational and functional risk profiles were finalised for the period under review, and risk mitigation was monitored quarterly by the ERMC.

In the period under review, risk assessments were conducted for key projects. These include projects that are managed on behalf of the Department by its entities.

The Department has noted that, although improvement in the management of risks has translated into improvement in performance, there remains room for further improvement. The Department will therefore continue to drive the process of performing project risk assessments. The Department has also started developing a five-year plan to improve the maturity level of risk management across the Department.

3. Fraud and corruption

The Department has in place an effective management system for fraud risk management, including a framework and strategy for fraud risk management and whistle-blowing, as well policies on fraud risk management and whistle-blowing.

The fraud risk profile was finalised for the period under review. This was used as the basis for the formulation of the annual fraud prevention and detection plan. Implementation of the plan is driven by the ERM unit and progress is monitored quarterly by the ERMC and Audit Committee.

Using various mediums of communication, the Department actively promotes awareness of fraud and corruption, and the use of the National Anti-Corruption Hotline. The Department has designated mid-November to mid-December of each year as Anti-Corruption Month, and hosts its annual Anti-Corruption Day in this period. The Department aligned its 2015 activities with Corruption Watch's campaign #MyHandsAreClean to heighten awareness among staff of fraud, corruption and ethical conduct.

The veracity of allegations of fraud and corruption are thoroughly investigated using internal and/or external resources. The outcome of an investigation guides the Accounting Officer as to the steps to be taken to finalise the matter (disciplinary action, recovery of state resources or criminal investigation). If warranted, the Department reports matters to the appropriate law enforcement authority (e.g. the South African Police Service, the Special Investigation Unit, the Office of the Public Protector) for further investigation. However, in the period under review, this was not necessary. The progress of investigations is reported on in closed session at all ERMC meetings.

4. Minimising conflict of interest

Investigation is conducted to establish the nature of the conflict and to determine the cause of action.

5. Code of conduct

This document that seeks to promote and maintain a high standard of professional ethics throughout the Public Service. If an employee breaches the Code of Conduct he or she is subjected to a disciplinary process in terms of the Disciplinary Code and Procedures for the Public Service to correct his or her behaviour as stipulated.

6. Health, safety and environmental issues

The Department's Occupational Health and Safety (OHS) Strategy focuses on four objectives which are to (i) create a healthy and safe working environment through the identification, recognition and evaluation of hazards, and the proactive implementation of appropriate risk control measures, (ii) implement OHS risk management strategies in order to manage and reduce OHS risks effectively and efficiently, (iii) reduce the frequency and severity of risks affecting employees' health and safety, (iv) create OHS awareness by providing information and education in order to generate and maintain a vigilant OHS culture, thereby creating a healthy and safe environment. Lastly, to comply with OHS legislation and relevant standards.

Inspections, a ventilation assessment and a biological assessment were conducted and the findings are being addressed. The Department has a functional Health and Safety Committee. The Committee has been educated on OHS legal obligations to equip them to execute their responsibilities.

OHS incidents such as injuries and narrowly avoided injuries were analysed and addressed quarterly. Notices were placed at various points in the Department to heighten awareness of OHS risks and the need for compliance will guidelines, including the Department's OHS policy, procedures for working at heights, the incident management guide, the guide on the management of medical emergencies, and the evacuation procedure.

In-house training was provided to the Emergency Response Team and the Health and Safety Committee so that they could respond efficiently and effectively in case of emergency. Emergency evacuation drills were conducted as required.

7. Portfolio Committee

PORTFOLIO COMMITTEE AND SELECT COMMITTEE BRIEFINGS FROM 1 APRIL 2015 TO 31 MARCH 2016

Date	Subject	Matters raised by the Portfolio Committee (highlights)	How the matters have been addressed/resolved
20 May 2015	Briefing by the DST on the Marine and Antarctic Research Strategy (MARS)	Members asked if the DST was aware that MARS was developed in connection with the Department of Environmental Affairs (DEA) and asked how this would impact on the DST's plans going forward with this project, because it had serious cost and planning implications.	The DST would develop a detailed implementation plan that would need to deal with the issue at the level of resourcing and access to infrastructure.
3 June 2015	Briefing on Information and Communication Technology (ICT) Research, Development and Innovation (RDI) Roadmap, including cyberinfrastructure (possible joint Portfolio Committee on Communication)	Members raised the idea of using ICT to support politicians during election campaigns and other work.	The DST was keen to investigate and explore opportunities for using ICT in this regard. The ICT RDI Roadmap implementation resulted in new exciting initiatives such as the data science/big data targeted programme. Both these initiatives can potentially support the requirement raised by the Portfolio Committee.
		Members asked how the Department was addressing the high costs of communication.	The DST had worked closely with the Department of Communications (DoC), and now the Department of Telecommunications and Postal Services (DTPS) in the development of broadband and digital terrestrial television (DTTV) policies and implementation plans. This collaboration continues and will be strengthened further as the programmes are rolled-out.
		Members asked how the Department would turn around the 10% of GDP spent on imported ICT goods.	The DST worked collaboratively with a range of partners such as the private sector, other government departments and international partners to increase ICT RDI investments in South Africa.

Date	Subject	Matters raised by the Portfolio Committee (highlights)	How the matters have been addressed/resolved
12 August 2015	Visit/Briefing on the Centre for High Performance Computing (CHPC)	Members asked about the connectivity impact and challenges experienced by remote institutions such as the Universities of Limpopo and Venda. How did the CHPC assist these institutions in terms of data transmission/ dissemination?	Members were updated about the roll-out of the South African National Research Network (SANReN) and that all higher education institutions in South Africa had access to a minimum of 1 Gbps connectivity. Members were also informed about the West Africa Cable System (WACS) capacity obtained by the DST. Members were also informed about the Rural Campuses Connectivity Project (RCCP) under the DHET, which aims at providing "last mile" connectivity for rural campuses.
		Members asked what the benefits were for the CHPC in supporting industries.	It was important to expose South African industry to the benefits of high-performance computing (HPC), as this would also improve their revenue, which in turn improved the contribution to the economy. It was also important to promote HPC in universities so that students could see the direct applications in industry and hence help to make career choices.
		Members asked what the county's state of readiness was for big data in terms of human capital (training researchers and scientists) and infrastructure.	Big data required the skills of massive parallel processing, mathematical manipulation of algorithms and visualisation analytics. These were the skills that were taught in different departments of universities. This was why the CHPC promoted the learning of these skills to enhance South Africa's competitiveness in this field. The success of training young people through the Student Cluster Challenge and winning international accolades was an indication field. It was also highlighted that this skills challenge is a global challenge and is addressed through the SKA Work Packages on Infrastructure and Science Support Programme. Furthermore, HPC initiatives in the eight African partners were highlighted.
		Members asked about the naming of computers by the CHPC.	The CHPC machines are named after antelopes, as antelopes are fast, agile and strong. The supercomputers are built to be agile, robust and fast to handle any problem. The current biggest machines are iQudu and Tsessebe, antelopes found in Southern Africa.
		Members asked what kind of data the CHPC was hoping to get through the SKA.	The data from the SKA will be mainly unstructured data, which comes in high volumes and at high speed. This data will be processed in two stages. The first stage is handled through the Central Signal Processing unit at the telescope sites, and the second stage encompasses the data that is ready for manipulation by scientists in different parts of the world, handled through the Science Data Processing unit. The data is expected to be in the range of exabytes.

7. Portfolio Committee (continued)

Date	Subject	Matters raised by the Portfolio Committee (highlights)	How the matters have been addressed/resolved
19 August 2015	Briefing by the DST on indigenous knowledge systems (IKS) – legislative update.	Members asked what costs are anticipated in the implementation of the Bill.	The National Indigenous Knowledge Systems Office (NIKSO) was established as a result of 2004 policy, but there was no legislation in terms of legal structuring. The Government Technical Advisory Centre (GTAC) feasibility study had no juristic body and the cost was covered by the DST.
		Members asked why the DST opted to develop a new piece of legislation instead of amending the Intellectual Property Rights from Publicly Financed Research and Development Act (IPR Act).	The Intellectual Property Laws Amendment Act (IPLA) seeks to protect intellectual property (IK) from an economic point of view. The Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill (IKS Bill) affords IK holders rights over their IK, which is in line with the Nagoya Protocol on Access and Benefit-sharing, giving holders the right to grant or refuse access to their knowledge.
		Members asked what the difference was between the Bill and the conventional IPR.	The conventional IPR Act has criteria that do not satisfy the nature of IK, e.g. sole ownership, duration of protection, novelty and material form.
23 September 2015	Briefing to Select Committee: National Intellectual Property Management Office (NIPMO) – intellectual property (IP) as a tool for economic growth and the input by various provinces	Members asked what was being done to ensure that citizens did not have their indigenous knowledge misappropriated, especially if they were illiterate.	The DST/NIPMO noted that there was a draft IKS Bill that made provision for a National Recordal System (NRS), which was being rolled out in the provinces. The DST/NIPMO explained that the NRS was designed to record all IK from citizens. A number of recordings had already been made, although there were some challenges around translation and validation. This system would function as one of the sources for prior art searching when the Companies and Intellectual Property Commission (CIPC) introduced their substantive examination system for patents. The DST/NIPMO also explained about the National Environmental Management Biodiversity Act and the requirement for – at the least – a bio-prospecting permit and a benefit-sharing agreement. It was stated that the suggestion for an information desk would be a good intervention to assist communities to know and understand their rights. It was noted that this was an intervention that should be rolled out with the CIPC and, possibly, NIKSO, and that, in the meantime, the annual National Science Week event and other public-engagement initiatives could be used to raise awareness.
		Members asked how the SMEs and BBBEE entities were identified; was it done by NIPMO and, if so, what criteria were used?	The DST/NIPMO responded that it was not NIPMO's responsibility to identify SMEs and BBBEE entities, but that it was the responsibility of the recipients who were licensing IP emanating from publicly financed research and development. Once a licence had been concluded, recipients had to report to NIPMO through an IP7 form that indicated whether they gave preference to a SME or BBBEE entity. In addition, it was said that the DST/NIPMO was working on a portal to advertise publicly financed technologies, as a number of SMEs and BBBEE entities were contacting NIPMO to enquire about opportunities for licensing technologies from publicly financed R&D.

Date	Subject	Matters raised by the Portfolio Committee (highlights)	How the matters have been addressed/resolved
23 September 2015	Briefing to Select Committee: National Intellectual Property Management Office (NIPMO) – intellectual property (IP) as a tool for economic growth and the input by various provinces	Members asked how the institutional form of a Specialised Services Delivery Unit (SSDU) was determined and what criteria were applied?	The DST/NIPMO noted that the SSDU institutional form was established after detailed consultation and advice from the DPSA, NT and the GTAC. The advice was that NIPMO should be established as a government component (a national government component listed in Part A of Schedule 3 to the Public Service Act, 1994) , but due to the limitations as per the legislation, NIPMO was established as an SSDU with the acknowledgement that this was a transitional arrangement.
		Members asked when the amendments to the legislation would be effected and, as such, when the DST/NIPMO expected the institutional form to change, and, furthermore, what a government component would enable NIPMO to do?	It was noted that the DST/NIPMO were currently developing a framework with the NIPMO Advisory Board for presentation to the Minister by the end November 2015. This framework would include amendments to the institutional form of NIPMO to allow it to become a government component. The latter form will give NIPMO authority to perform its mandate and ensure that there is a good balance between accountability, authority and responsibility.
		Members asked, if NIPMO did not exercise its regulatory role, what would be the impact and who would assume this role?	The DST/NIPMO indicated that NIPMO did not compromise on its regulatory and compliance role. Furthermore, the DST/NIPMO indicated that NIPMO used its enabling functions to facilitate compliance. The impact of NIPMO not exercising its regulatory role would mean that IP leakages would continue actively through offshore assignments and passively through research outputs, ending up only in publications and not being protected.
		Members asked when the NIPMO budget of R25 million would be moved from the Directorate: Fund and Incentives Management.	The DST/NIPMO indicated that the NIPMO budget constituted goods and services, employee compensation and R15 million from Economic Competitiveness Support Packages (ECSPs) for transfer payments. The transfer payments budget was managed within the Directorate: Fund and Incentives Management and was used for the Office of Technology Transfer (OTT) Support Fund and the IP Fund. This funding is insufficient and hence the DST reprioritises funds for NIPMO every year through the Adjusted Estimates of National Expenditure (AENE) and virement processes.
		Members asked whether bursaries were included in the definition of state funding.	The DST/NIPMO indicated that bursaries were excluded from the definition of state funding.
		The Committee presented a scenario where, for example, a PhD student did research and developed IP. They enquired who the IP belonged to; could it be sold and what incentives were available for the PhD student?	When a PhD student signs up to do a degree, the application form typically includes a clause which states that all IP would belong to their institution. Thus, when the PhD student did research, any IP developed belonged to the institution.

7. Portfolio Committee (continued)

Date	Subject	Matters raised by the Portfolio Committee (highlights)	How the matters have been addressed/resolved
14 October 2015	Briefing by the DST on the 2014/15 financial year Annual Report	Members asked if there were ongoing and better financial control interventions in place as preventative measures to incurring more irregular expenditure.	The executive had put measures in place (enhanced internal controls) to deal with the culture of non-compliance in the organisation and hoped that the benefits of such measures would begin to bear fruit in the reporting cycle. The Department had added controls for a turn-around strategy for Supply Chain Management's service delivery problems. Problems that arose from contract management were now monitored on a regular basis.
		Members asked if the DST would consider increasing bursary funding to postgraduates in the near future, including offering them allowances that would still allow them to support their families while continuing with their studies.	The Department had commissioned a study to address issues of student funding deficiencies. The DST executive was of the view that some of the Committee's concerns with student funding inadequacy would be addressed in the study outcomes. The DST had committed to sharing the study findings and recommendations with the Committee at an appropriate time.
		Members raised the issue of disjuncture on the Annual Report targets and indicators (68 versus 65 targets) for 2014/2015.	The Department explained that the Programme 5 indicator on "Number of reports and policy briefs on the innovation system and policy" appeared as having additional targets; however, this was not the case, since they were counted and reported as a composite indicator in the Annual Report.
		Members wanted to know about the DST's collaboration plans with other departments to advance the development of the aqua-culture industry in the country.	The Department was working with relevant government departments, including the Department of Agriculture, Forestry and Fisheries, to promote the aquaculture industry by sharing with them with technology-based solutions for the challenges experienced by small-scale aquaculture farmers. Operation Phakisa was now making aquaculture a big driver of the ocean economy.
11 November 2015	Briefing by the DST on the Human and Social Dynamics in Development Grand Challenge	Members asked how the Innovation for Inclusive Development (IID) programme of work was (i) connecting with poor communities so as to avoid the notion that science, technology and innovation (STI) were only for the elites, and to overcome the legacy of apartheid; and (ii) how the IID component was working with other government departments.	The Department was represented on the Social Sector Cluster (CD: IID) and the Economic Sectors, Employment and Infrastructure Development (ESEID) Cluster. Moreover, the DST had a number of memoranda of agreement (MoAs) with relevant sector departments. During bilateral meetings with sector departments, greater efforts will be made to inform and influence the sector departments to consider potential STI solutions.
		Members asked about the DST's legislative mandate to compel sector departments to take up STI for poverty alleviation and inclusive development projects.	Department had developed a number of decision-support tools and policy-support measures (such as policy dialogues, seminars, policy briefs and case studies) to bridge the divide between STI and decision making and policy formulation.

Date	Subject	Matters raised by the Portfolio Committee (highlights)	How the matters have been addressed/resolved
24 February 2016	Briefing by the DST on the Overview of the Water Research, Development and Innovation (RDI) Roadmap	Members asked how the DST would finance the Roadmap and indicated that the DST did a lot of work pro bono for other government departments and that the budget for this work should be provided by those departments. The Science Vote was also raised.	The DST would be engaging the relevant departments to allocate a budget towards the Roadmap. However, the PC also indicated that the Science Vote had to be pursued in light of the fact that there were departments that received a budget for R&D, but they did not use the budget.
		Members asked about the use of alternative sources of water such as grey water and rainwater.	Department indicated that much research had been conducted in this area by the Water Research Commission (WRC) and that the Roadmap aimed to complement this work or build on it, and was being careful not to duplicate work already done.
		Members asked about the desalination of the oceans.	The Department outlined some of the existing initiatives in the Western Cape, and highlighted the latest development where the Japanese government would be doing a demonstration of Hitachi technology in eThekwini on a novel desalination technology called REMIX. Again, a lot of research had been conducted in this area and the Department of Water and Sanitation had desalination high on their list of priorities. There were externalities to desalination that warranted investigation and the WRC is already doing some of that work.
		Members asked about using the SANDF to assist with the roll-out of water technologies.	The Department would investigate the model used in the United States of the Army Corps of Engineers, and see what aspects needed to be adapted to the South African situation before approaching the SANDF with a proposal.
2 March 2016	Briefing by the DST on its 2015/16 2nd quarter financial and non-financial performance	The Committee indicated that, in the State of Nation Address (SONA), the President mentioned the finalisation of the Sovereign Innovation Fund (SoIF). A question was asked about its relation to the Chairperson's point regarding the integration of the public and private sectors, and how much progress there had been.	The SoIF was an idea that had been supported when the Department raised the issue of how South Africa had lost innovations and that the Sector Innovation Funds (SIFs) that were dedicated to sectors and working with industries were still in the pilot stage.

7. Portfolio Committee (continued)

Date	Subject	Matters raised by the Portfolio Committee (highlights)	How the matters have been addressed/resolved
9 March 2016	Briefing by the DST on the Global Change Grand Challenge	Members asked if collaboration with other sector departments (with the exception of the Department of Environmental Affairs (DEA)) was strong, as there was no indication of the DST collaborating with other sectors, e.g. the Department of Agriculture, Forestry and Fisheries (DAFF) and DWS.	There are various collaborations (formalised through MoAs) with other departments on specific interventions. Collaboration with the DEA seemed to be strong and prominent because global "environmental change" science and technology was more aligned to their legislated mandate than to those of the other departments.
		Members asked if the South African Risk and Vulnerability Atlas initiatives or its products or projections were used to forecast and/or deal with the current drought.	There is no evidence to suggest that the Atlas and its projections were used in dealing with or preparing for the current drought. There is no system to track the use of the Atlas for responses, planning and decision-making at various levels. The current drought is largely a result of the El Niño effect, possibly exacerbated by climate change.
		Members asked if there was interaction with the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) processes led by the Department of International Relations and Cooperation.	The DST is directly involved in the UNFCCC COP processes. There are three standing agenda items for the DST (climate change science; technology development and transfer; and intellectual property rights). The DST prepares the country's position on these items, participates in the actual COP negotiations and in various technical working groups, including the Intergovernmental Panel on Climate Change (IPCC).
		Members asked who the various role players in the global change research were and who promoted it.	Role players were South African Agency for Science and Technology Advancement (SAASTA), the DST's Science Engagement Strategy and the Science Communication unit.

8. SCOPA resolutions

There were no Standing Committee on Public Accounts (SCOPA) resolutions.

9. Prior modifications to audit reports

There were no prior modifications to the audit reports of the Department.

10. Internal control unit

There is no internal control unit in the Department, all the internal control functions are performed by the Internal Audit unit.

11. Internal audit and audit committees

Key activities and objectives of the Internal Audit Activity

Senior management and Audit Committee (AC) rely on Internal Audit for independent objective assurance and insight into the effectiveness and efficiency of the Department's governance, risk management and internal control processes.

Internal Audit Activity focused primarily on providing professional audit services to management and the Audit Committee; and conducting activities efficiently and effectively; and in accordance with internal auditors' professional standards.

In assisting the Audit Committee in their oversight role, the Internal Audit Committee developed a three-year risk based internal audit plan, guided by the Department's strategic documents and risk profile for the committee's approval.

Emerging risks and issues were considered when completing the audit plan. Internal Audit Activity conducted a follow-up of audit recommendations to ensure value is derived from the auditing performed. Internal Audit Activity also developed a combined assurance plan aimed at optimising the assurance coverage obtained from management, internal assurance providers and external assurance providers on the risk areas affecting the Department.

Specify summary of audit work done

Internal Audit Activity completed the risk-based audit plan during the year, comprising internal audits, project audits and consulting engagements. Internal Audit Activity selected and prioritised the audit engagements for the year based on risk exposure, external audit reports, Management Performance Assessment Tool (MPAT) results, complexity of the area, management priority (which reflects the level of interest in an area expressed during consultation with senior management), and lack of previous coverage as well as ad hoc audit requests.

Audit work focused on control weaknesses identified in the areas of performance information, procurement processes, IT audits, risk management and reviews of financial statements. Internal Audit Activity also provided consulting services in the verification of the MPAT evidence, Auditor-General Dashboard and certain performance information focus areas. The DST implements numerous projects and initiatives to ensure achievement of its planned outcomes, and project audits were a key component of the audit plan.

Key activities and objectives of the Audit Committee

The Audit Committee is constituted as a statutory committee of the DST to fulfil its statutory duties in terms of section 77 of the Public Finance Management Act (PFMA) Act 1 of 1999 as amended by Act 29 of 1999 and Treasury Regulations issued in terms of the PFMA. The Audit Committee is established as an oversight body, providing independent oversight over governance, risk management and control processes of the Department. Their mandate and responsibilities are clearly defined in the Audit Committee charter and four Audit Committee meetings were convened for the year in accordance to the charter.

11. Internal audit and audit committees (continued)

Attendance of Audit Committee meetings by Audit Committee members

The table below discloses relevant information on the Audit Committee members:

Name	Qualifications	Internal or external	If internal, position in the department	Date appointed	Date resigned	No. of meetings attended
Shirley Machaba	CA (SA)	External		1 Oct. 2012	N/a	3
Roy Marcus	MSc (Mechanical Engineering) & PhD	External		1 May 2013	N/a	4
Hendrikus Maritz	B Com	External		1 Oct. 2010	N/a	3

12. Audit Committee report for the year ended 31 March 2016

We are pleased to present our report for the financial year ended 31 March 2016.

1. Audit Committee responsibility

The Audit Committee reports that it has complied with its responsibilities arising from section 38(1)(a)(ii) of the Public Finance Management Act and Treasury Regulation 3.1.13. The Audit Committee also reports that it has adopted appropriate formal terms of reference as its Audit Committee Charter, has regulated its affairs in compliance with this charter and has discharged all its responsibilities as contained therein, except that we have not reviewed changes in accounting policies and practices.

2. The effectiveness of the Internal Audit Activity

The Internal Audit Activity reports functionally to the Audit Committee. The Audit Committee approves the internal audit charter and the annual audit plan of the Internal Audit Activity to maintain its independence. A Quality Assurance and Improvement programme is implemented annually and the results presented to the Audit Committee. A combined assurance plan was developed with Internal Audit as the driver for combined assurance in the Department. The Audit Committee is satisfied that the Internal Audit Activity is operating effectively and has addressed the pertinent risks to the DST through completion of the annual audit plan.

3. The effectiveness of internal control

Our review of the significant audit findings, which was informed by the risk assessments conducted in the Department, revealed certain weaknesses which were then raised with the Department.

Areas selected for audit included:

- performance information;
- procurement processes;
- financial statement reviews;
- IT audits;
- human resource management;
- risk management;
- follow up of previous Auditor General and Internal Audit audit findings;
- projects funded by the Department; and
- MPAT.

Areas of concern included:

- Contractual obligations and money owed by the department were not always met and paid within 30 days, as required by section 38(1)(f) of the PFMA.
- Deficiencies identified in the disclosure notes to the annual financial statements

4. In-Year management and monthly/ quarterly report

The Department is reporting monthly and quarterly to the Treasury as is required by the PFMA. 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.

5. Evaluation of Financial Statements

The Audit Committee:

- 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;
- reviewed the Department's compliance with legal and regulatory provisions;
- reviewed significant adjustments resulting from the audit;
- reviewed the AGSA's management letter and management's response to it;
- reviewed information on predetermined objectives to be included in the annual report;
- is satisfied with the submission and quality of both the interim and annual financial statements prepared by the Department.

6. Enterprise risk management

Enterprise risk management is a structured process which focuses on the identification, assessment, management and monitoring of risk. A fully functional Enterprise Risk Management Committee supports the Executive Authority and Accounting Officer by providing oversight, reviewing information presented by management and reporting on the adequacy and effectiveness of the Department's risk management system. The Committee monitored the significant risks and is satisfied that the risks were reduced to an acceptable level. Comprehensive strategies for enterprise risk management and fraud risk management were developed and implemented. The fraud risk management strategy includes a fraud prevention and detection plan. For the purposes of coordination and fostering relationships the chairpersons of the Audit and ERM Committees are standing invitees to the other committees; the same practice is applied by the Chief Audit Executive and the Chief Risk Officer.

7. 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.

8. Auditor-General's Report

We have reviewed the Department's implementation plan for audit issues raised in the previous year and we are satisfied that the matters have been adequately resolved. However, the following areas of concern require management intervention:

Areas of concern included:

- Contractual obligations and money owed by the department were not always met and paid within 30 days, as required by section 38(1)(f) of the PFMA.
- Deficiencies identified in the disclosure notes to the annual financial statements.

The Audit Committee concurs and accepts the conclusions of the Auditor-General on the annual financial statements and is of the opinion that the audited annual financial statements be accepted and read together with the report of the Auditor-General.

Prof. Roy Marcus
Chairperson of the Audit Committee
Department of Science and Technology
16 August 2016

PART D: HUMAN RESOURCE MANAGEMENT

1. Introduction

The information contained in this part of the Annual Report has been prescribed by the Minister of Public Service and Administration for all departments in the Public Service.

2. Overview of human resources

The objectives of the Strategic Human Resource (HR) Plan for the Department of Science and Technology (DST) are as follows:

(a) To ensure that the Department has adequate, appropriate, efficient and sustainable capacity for enhanced performance and service delivery.

(b) To ensure the effective and appropriate use of human resources in order to achieve the Department's strategic objectives.

(c) To ensure that the development initiatives (mentoring and coaching, capacity building and shadowing programmes) in the DST are informed by realistic, actual and envisaged capacity needs.

(d) To ensure that identified health, wellness and safety risks are addressed.

(e) To ensure the implementation of policies and strategies to drive gender and disability mainstreaming.

Identified human resource priorities are set out in the table below:

Priority area	Approach to mitigating risk and achieving targets
Recruitment/staffing	Address recruitment and staffing methods to widen the pool of potential candidates, particularly for scarce skills and mission-critical positions
Talent management	Develop comprehensive approach to managing and retaining current talent, particularly mission-critical positions and scarce skills
Employment equity	Address targets for women at SMS level and people with disabilities
Training and development	Develop comprehensive approach to developing current staff to fill mission-critical and scarce skills positions

Human resource challenges

The following are some of the HR challenges faced by the Department:

(a) The current systems for managing HR planning information are inadequate and Persal is generally seen as a system that is not ideal for the management of HR information. However, it is expected that the Department of Public Service and Administration (DPSA) will develop an integrated HR information management system that will ease this burden. In the short term, however, not all the data required to execute HR planning effectively is freely available and this may affect the ability of the Department to plan effective interventions.

(b) The environment in which the Department operates is constantly changing, which means that the Department has to be prepared to effect key strategic changes, including decisions related to human resources, in record time. The capacity to collect and analyse relevant data and its implications on HR requirements is therefore critical. The Department will thus, in addition to improving its information management capability, have to adopt a more robust system for identifying and managing risks, challenges and opportunities that may arise from these environmental changes.

2. Overview of human resources (continued)

(c) The Department has challenges in attracting and retaining critical skills (specifically technical skills and financial management skills) for a variety of reasons. Perhaps the most important of these is that the skills required to carry out the Department's mandate are scarce and therefore in high demand both locally and globally.

(d) Employment equity issues (specifically related to gender and disability) continue to be addressed by the Department through a number of initiatives, policies and strategies. Creating an enabling environment for women and people living with disabilities is key to managing diversity.

(e) Much of the Department's workforce is young, which places particular pressure on the Department to consider and adopt robust institutional knowledge management practices to mitigate the risks associated with a generally young, and therefore more mobile, workforce.

Employee health and wellness

As employee wellness issues significantly affect the productivity of the workforce and the retention of potentially critical skills, it is imperative that these are addressed in HR planning interventions. In the year under review, the Department provided a variety of interventions to assist employees manage their health risks, including the following:

(a) Quarterly health screenings.

(b) Sport initiatives (Zumba, aerobics, soccer, netball, volley ball, walking and running).

(c) Access to health and wellness information.

(d) Access to online health professionals.

(e) Access to legal and financial advisors.

(f) Executive wellness programmes.

(g) An employee assistance programme.

3. Human resources oversight statistics

3.1 Personnel-related expenditure

The Department is required to provide the key information below on its human resources. All the financial amounts must agree with the amounts disclosed in the annual financial statements, and reasons must be provided for any variances.

The following tables summarise the final audited personnel-related expenditure by Programme and salary band. In particular, they provide an indication of the following:

- The amount spent on personnel.
- The amount spent on salaries, overtime, homeowner's allowances and medical aid.

Table 3.1.1 Personnel expenditure per Programme for the period 1 April 2015 to 31 March 2016

Programme	Total expenditure (R'000)	Personnel expenditure (R'000)	Training expenditure (R'000)	Professional and special services expenditure (R'000)	Personnel expenditure as % of total expenditure	Average personnel cost per employee (R'000)
Administration	301 897	151 743	4 994	3 955	50,26%	622
Technology Innovation	1 063 397	39 844	0	0	3,75%	738
International Cooperation and Resources	244 459	41 514	0	58	16,98%	692
Research Development and Support	4 218 854	31 117	0	0	0,74%	676
Socio-economic Innovation Partnerships	1 763 222	37 548	0	0	2,13%	695
Total	**7 591 829**	**301 766**	**4 994**	**4013**	**3.97%**	**659**

Table 3.1.2 Personnel costs by salary band for the period 1 April 2015 to 31 March 2016

Salary band	Personnel expenditure (R'000)	% of total personnel cost	Number of employees	Average personnel cost per employee (R'000)
Lower skilled (levels 1-2)	0	0%	0	0
Skilled (levels 3-5)	7 976	2,64%	665	12
Highly skilled production (levels 6-8)	77 768	25,77%	665	117
Highly skilled supervision (levels 9-12)	141 577	46,92%	665	213
Senior and top management (levels 13-16)	74 444	24,67%	642	116
Total	**301 766**	**100%**	**659**	**458**

Table 3.1.3 Salaries, overtime, home owner's allowances and medical aid by Programme for the period 1 April 2015 to 31 March 2016

Programme	Salaries		Overtime		Home owner's allowances (HOA)		Medical aid	
	Amount (R'000	Salaries as % of personnel costs	Amount	Overtime as % of personnel costs	Amount	HOA as % of personnel costs	Amount	Medical aid as % of personnel costs
Administration	151 743	50,28%	710	0,47%	2535	1,67%	12 659	8,34%
Technology Innovation	39 844	13,20%	1	0,01%	643	1,61%	3 217	8,07%
International Cooperation and Resources	41 514	13,76%	5	0,01%	487	1,17%	916	2,21%
Research Development and Support	31 117	10,31%	28	0,09%	690	2,22%	493	1,58%
Socio-economic Innovation Partnerships	37 548	12,44%	0	0%	598	1,59%	533	1,42%
Total	**301 766**	**100%**	**744**	**0,25%**	**4953**	**1,64%**	**17 818**	**5,90%**

Table 3.1.4 Salaries, overtime, home owner's allowances and medical aid by salary band for the period 1 April 2015 to 31 March 2016

Salary band	Salaries		Overtime		Home owner's allowances		Medical Aid	
	Amount (R'000	Salaries as % of personnel costs	Amount (R'000)	Overtime as % of personnel costs	Amount (R'000)	HOA as % of personnel costs	Amount (R'000)	Medical aid as % of personnel costs
Skilled (levels 1-2)	0	0%	0	0%	0	0%	0	0%
Skilled (levels 3-5)	7 976	2,64%	59	0,02%	408	0,58%	1 757	0,58%
Highly skilled production (levels 6-8)	77 768	25,77%	325	0,11%	2 797	3,04%	9 160	3,04%
Highly skilled supervision (levels 9-12)	141 577	46,92%	360	0,12%	1 748	0,58%	6 901	2,29%
Senior management (levels 13-16)	74 444	24,67%	0	0	0	0%	0	0%
Total	**301 766**	**100%**	**744**	**0,25%**	**4 953**	**1,64%**	**17818**	**5,90%**

Human resources oversight statistics (continued)

3.2 Employment and vacancies

The tables in this section summarise the Department's position with regard to employment and vacancies, specifically in respect of the number of posts on the establishment, the number of employees, the vacancy rate, and whether there are any staff that are additional to the establishment.

This information is presented in terms of three key variables:

- Programme.
- Salary band.
- Critical occupations (see definition in notes below).

Departments have identified critical occupations that need to be monitored. In terms of current regulations, it is possible to create a post on the establishment that can be occupied by more than one employee. The vacancy rate therefore reflects the percentage of posts that are not filled.

Table 3.2.1 Employment and vacancies by Programme as at 31 March 2016

Programme	Number of posts on approved establishment	Number of posts filled	Vacancy rate	Number of employees additional to the establishment
Administration	265	244	0%	0
Technology Innovation	58	54	7,69%	0
International Cooperation and Resources	63	60	5,65%	0
Research Development and Support	49	46	7,39%	0
Socio-economic Innovation Partnerships	57	54	7,20%	0
Total	**492**	**458**	**6,91%**	**3**

Table 3.2.2 Employment and vacancies by salary band as at 31 March 2016

Salary band	Number of posts on approved establishment	Number of posts filled	Vacancy rate	Number of employees additional to the establishment
Lower skilled (levels 1-2)	0	0	0%	3
Skilled (levels 3-5)	13	12	7,69%	0
Highly skilled production (levels 6-8)	124	117	5,65%	0
Highly skilled supervision (levels 9-12)	230	213	7,39%	0
Senior management (levels 13-16)	125	116	7,20%	0
Total	**492**	**458**	**6,91%**	**3**

Table 3.2.3 Employment and vacancies by critical occupations as at 31 March 2016

The Department does not have any CORE employees.

Notes:

The Codes of Remuneration (CORE) classification, as prescribed by the DPSA, are to be used in the completion of this table.

Critical occupations are defined as occupations or subcategories within an occupation –

(a) in which there is a current or anticipated scarcity of qualified and experienced persons, either because such skilled persons are not available or they are available but do not meet the applicable employment criteria;

(b) for which persons require advanced knowledge in a specified subject area or science or learning field, and such knowledge is acquired by a prolonged course or study and/or specialised instruction;

(c) where the inherent nature of the occupation requires consistent exercise of discretion and is predominantly intellectual in nature; and

(d) in respect of which a Department experiences a high degree of difficulty in recruiting or retaining the services of employees.

3.3 Filling of Senior Management Service posts

The tables in this section provide information on employment and vacancies as this relates to members of the Senior Management Service (SMS) by salary level. It also provides information on the advertising and filling of SMS posts, reasons for not complying with prescribed time frames, and disciplinary steps taken.

Table 3.3.1 SMS post information as at 31 March 2016

SMS level	Total number of funded SMS posts	Total number of SMS posts filled	% of SMS posts filled	Total number of SMS posts vacant	% of SMS posts vacant
Director-General/Head of Department	1	1	100%	0	0%
Salary level 16	0	0	0%	0	0%
Salary level 15	9	8	88,89%	1	11,11%
Salary level 14	27	24	88,89%	3	11,11%
Salary level 13	88	83	94,32%	5	5,68%
Total	**125**	**116**	**92,80%**	**9**	**7,20%**

Table 3.3.2 SMS post information as at 30 September 2015

SMS level	Total number of funded SMS posts	Total number of SMS posts filled	% of SMS posts filled	Total number of SMS posts vacant	% of SMS posts vacant
Director-General/Head of Department	1	1	100%	0	0%
Salary level 16	0	0	0%	0	0%
Salary level 15	9	7	77,78%	2	22,22%
Salary level 14	27	25	92,59%	2	7,41%
Salary level 13	88	80	90,91%	8	9,09%
Total	**125**	**113**	**90,40%**	**12**	**9,60%**

Human resources oversight statistics (continued)

Table 3.3.3 Advertising and filling of SMS posts for the period 1 April 2015 to 31 March 2016

SMS level	Total number of funded SMS posts	Total number of SMS posts filled	% of SMS posts filled	Total number of SMS posts vacant	% of SMS posts vacant
Director-General/Head of Department	1	1	100%	0	0%
Salary level 16	0	0	0%	0	0%
Salary level 15	9	8	88,89%	1	11,11%
Salary level 14	27	24	88,89%	3	11,11%
Salary level 13	88	83	94,32%	5	5,68%
Total	**125**	**116**	**92,80%**	**9**	**7,20%**

Table 3.3.4 Reasons for not having complied with the time frames for filling of funded vacant SMS posts – Advertised within 6 months and filled within 12 months after becoming vacant for the period 1 April 2015 to 31 March 2016

Reasons for vacancies not being advertised within six months
Two positions of Senior Science and Technology Representative to Brazil and Russia were not advertised. The Department abolished the positions to fund a Chief Science and Technology Representative position.

Reasons for vacancies not being filled within six months
The Head: National Advisory Council on Innovation post was advertised and no suitable candidate was recommended for appointment. The position has been filled with an acting appointment.
The positions of Deputy Director-General: Institutional Planning and Support and Director: Sustainable Livelihoods were advertised and no suitable candidates were recommended for appointment. The positions were re-advertised and have been filled.
The position of Director: Knowledge Information and Records Management was advertised and interviews were conducted three times. However, recommended candidates declined job offers. The position was re-advertised.
The job description of the Director: Global Projects was reviewed. The position was advertised after the amended job description had been approved.
The position of Director: Administration was advertised and interviews were conducted. The filling of the position was put on hold owing to a grievance that was lodged.

Notes

In terms of the Public Service Regulations Chapter 1, Part VII C.1A.3, departments must indicate good cause or reason for not having complied with the prescribed time frames for filling SMS posts.

Table 3.3.5 Disciplinary steps taken for not complying with the prescribed time frames for filling SMS posts within 12 months for the period 1 April 2015 to 31 March 2016

Reasons for vacancies not being advertised within six months
No disciplinary action was taken against SMS members. The members work closely with Human Resources and a quarterly report is submitted to Exco for discussion

Reasons for vacancies not being filled within six months
No disciplinary action was taken against SMS members. The members work closely with Human Resources and a quarterly report is submitted to Exco for discussion

Notes

In terms of the Public Service Regulations Chapter 1, Part VII C.1A.2, departments must indicate good cause or reason for not having complied with the filling of SMS posts within the prescribed time frames. In the event of non-compliance with this regulation, the relevant executive authority or head of department must take appropriate disciplinary steps in terms of section 16A(1) or (2) of the Public Service Act.

3.4 Job evaluation

Within a nationally determined framework, an executing authority may evaluate or re-evaluate any job in his or her organisation. In terms of the Public Service Regulations, all vacancies on salary levels 9 and higher must be evaluated before they are filled. The following table summarises the number of jobs that were evaluated during the year under review. The table also provides statistics on the number of posts that were upgraded or downgraded.

Table 3.4.1 Job evaluation by salary band for the period 1 April 2015 to 31 March 2016

Salary band	Number of posts on approved establishment	Number of jobs evaluated	% of posts evaluated by salary band	Posts upgraded		Posts downgraded	
				Number	% of posts evaluated	Number	% of posts evaluated
Lower skilled (levels1-2)	0	0	0	0	0	0	0%
Skilled (levels 3-5)	13	0	0	0	0	0	0%
Highly skilled production (levels 6-8)	126	21	16,60%	0	0	0	0%
Highly skilled supervision (levels 9-12)	228	37	16,23%	0	0	0	0%
SMS Band A	88	4	4,54%	0	0	0	0%
SMS Band B	27	1	3,70%	0	0	0	0%
SMS Band C	9	0	0	0	0	0	0%
SMS Band D	1	0	0	0	0	0	0%
Total	**492**	**63**	**12,8%**	**0**	**0**	**0**	**0%**

Table 3.4.2 Profile of employees whose positions were upgraded due to their posts being upgraded for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

The following table summarises the number of cases where remuneration bands exceeded the grade determined by job evaluation. Reasons for the deviation are provided in each case.

Human resources oversight statistics (continued)

Table 3.4.3 Employees with salary levels higher than those determined by job evaluation by occupation for the period 1 April 2015 to 31 March 2016

Occupation	Number of employees	Job evaluation level	Remuneration level	Reason for deviation
Chief Director	1	14	15	Personal notch
Deputy Director-General	1	15	-	Personal notch
Deputy Director	1	11	12	Personal notch
Total number of employees whose salaries exceeded the level determined by job evaluation				3
Percentage of total employed				**0,66%**

Table 3.4.4 Profile of employees who have salary levels were higher than those determined by job evaluation for the period 1 April 2015 to 31 March 2016

Total number of employees whose salaries exceeded the grades determine by job evaluation	None

3.5 Employment changes

This section provides information on changes in employment over the financial year. Turnover rates provide an indication of trends in the employment profile of the Department. The following tables provide a summary of turnover rates by salary band and critical occupations (see definition in notes below).

Table 3.5.1 Annual turnover rates by salary band for the period 1 April 2015 to 31 March 2016

Salary band	Number of employees at beginning of period (1 April 2015)	Appointments and transfers into the Department	Terminations and transfers out of the Department	Turnover rate
Lower skilled (levels 1-2)	0	0	0	0%
Skilled (levels 3-5)	14	1	0	0%
Highly skilled production (levels 6-8)	118	26	6	5,08%
Highly skilled supervision (levels 9-12)	209	26	10	4,78%
SMS Band A	76	7	4	5,26%
SMS Band B	25	1	2	8,00%
SMS Band C	7	1	0	0%
SMS Band D	1	0	0	0%
Contracts			5	
Total	**450**	**62**	**41**	**9,11%**

Table 3.5.2 Annual turnover rates by critical occupation for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

See notes on CORE and critical occupations under Table 3.2.3.

Table 3.5.3 Reasons why staff left the Department in the period 1 April 2015 to 31 March 2016

Termination type	Number	% of total resignations
Death	2	4,88%
Resignation	14	34,15%
Expiry of contract	10	24,39%
Dismissal – operational changes	0	0%
Dismissal – misconduct	4	9,76%
Dismissal – inefficiency	0	0%
Discharged due to ill-health	0	0%
Retirement	0	0%
Transfer to other Public Service departments	1	2,44%
Other	10	24,39%
Total	**41**	**100%**
Total number of employees who left as % of total employment		**9,11%**

Table 3.5.4 Promotions by critical occupation for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

See notes on CORE and critical occupations under Table 3.2.3.

Table 3.5.5 Promotions by salary band for the period 1 April 2015 to 31 March 2016

Salary band	Employees 1 April 2015	Promotions to another salary level	Salary band promotions as % of employees by salary level	Progressions to another notch within a salary level	Notch progression as % of employees by salary band
Lower skilled (levels 1-2)	0	0	0%	0	0%
Skilled (levels 3-5)	14	0	0%	10	71,43%
Highly skilled production (levels 6-8)	118	10	8,47%	77	65,25%
Highly skilled supervision (levels 9-12)	209	6	2,87%	156	74,64%
Senior Management (levels 13-16)	109	3	2,75%	86	78,90%
Total	**450**	**19**	**4,22%**	**329**	**73,11%**

Human resources oversight statistics (continued)

3.6 Employment equity

Table 3.6.1 Total number of employees (including employees with disabilities) in each of the following occupational categories as at 31 March 2016

Occupational category	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Legislators, senior officials and managers	40	4	5	6	31	3	6	10	105
Professionals	82	2	3	5	110	3	2	8	215
Technicians and associate professionals	28	3		1	71	5	1	3	112
Clerks	6				6			0	12
Service and sales workers	0	0	0	0	0	0	0	0	0
Skilled agriculture and fishery workers	0	0	0	0	0	0	0	0	0
Craft and related trades workers	0	0	0	0	0	0	0	0	0
Plant and machine operators and assemblers	0	0	0	0	0	0	0	0	0
Elementary occupations	0	0	0	0	0	0	0	0	0
Total	**156**	**9**	**8**	**12**	**218**	**11**	**9**	**21**	**444**
Employees with disabilities	**3**			**1**	**6**	**1**		**3**	**14**

Table 3.6.2 Total number of employees (including employees with disabilities) in each of the following occupational bands as at 31 March 2016

Occupational band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management	4	0	1	2	2	0	0	0	9
Senior management	39	4	4	5	35	3	6	11	107
Professionally qualified and experienced specialists and middle management	82	2	3	5	106	4	2	9	213
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents	28	3		1	75	5	1	4	117
Semi-skilled and discretionary decision making	6				6	0		0	12
Unskilled and defined decision making	0					0			0
Total	**159**	**9**	**8**	**13**	**224**	**12**	**9**	**24**	**458**
Employees with disabilities	**3**			**1**	**6**	**1**		**3**	**14**

Table 3.6.3 Recruitment for the period 1 April 2015 to 31 March 2016

Occupational band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management	1	0	0	0	0	0	0	0	1
Senior management	3	0	0	0	5	0	0	0	8
Professionally qualified and experienced specialists and middle management	9	0	1	1	14	1	0	0	26
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents	9	1	0	0	15	1	0	0	26
Semi-skilled and discretionary decision making	1	0	0	0	0	0	0	0	1
Unskilled and defined decision making	0	0	0	0	0	0	0	0	0
Total	**23**	**1**	**1**	**1**	**34**	**2**	**0**	**0**	**62**
Employees with disabilities	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 3.6.4 Promotions for the period 1 April 2015 to 31 March 2016

Occupational band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management	1	0	0	0	0	0	0	0	1
Senior management	1	0	0	0	1	0	0	0	2
Professionally qualified and experienced specialists and middle management	1	0	0	0	4	2	0	0	7
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents	5	0	0	0	5	0	0	0	10
Semi-skilled and discretionary decision making	0	0	0	0	0	0	0	0	0
Unskilled and defined decision making									
Total	**8**	**0**	**0**	**0**	**10**	**2**	**0**	**0**	**20**
Employees with disabilities	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Human resources oversight statistics (continued)

Table 3.6.5 Terminations of employment for the period 1 April 2015 to 31 March 2016

Occupational band	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Top management	0	0	0	0	0	0	0	0	0
Senior management	1	0	1	0	4	0	1	0	7
Professionally qualified and experienced specialists and middle management	3	0	0	1	10	0	1	0	15
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents	5	0	0	0	10	0	0	0	15
Semi-skilled and discretionary decision making	4	0	0	0	0	0	0	0	4
Unskilled and defined decision making									0
Total	**13**	**0**	**1**	**1**	**24**	**0**	**2**	**0**	**41**
Employees with disabilities	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 3.6.6 Disciplinary action for the period 1 April 2015 to 31 March 2016

Disciplinary action	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
	1	0	0	1	3	0	0	0	5

Table 3.6.7 Skills development for the period 1 April 2015 to 31 March 2016

Occupational category	Male				Female				Total
	African	Coloured	Indian	White	African	Coloured	Indian	White	
Legislators, senior officials and managers	15	3	4	1	6	1	1	5	36
Professionals	40	2	1	3	68	3	0	4	121
Technicians and associate professionals	0	0	0	0	2	0	0	0	2
Clerks	4	0	0	0	40	1	0	0	45
Service and sales workers	1	0	0	0	3	0	0	0	4
Skilled agriculture and fishery workers	0	0	0	0	0	0	0	0	0
Craft and related trades workers	0	0	0	0	0	0	0	0	0
Plant and machine operators and assemblers	2	0	0	0	0	0	0	0	2
Elementary occupations	0	0	0	0	0	0	0	0	0
Total	**62**	**5**	**5**	**4**	**119**	**5**	**1**	**9**	**210**
Employees with disabilities	**2**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**5**

3.7 Signing of performance agreements by SMS members

All members of the SMS must conclude and sign performance agreements within specific time frames. This table presents information regarding the signing of performance agreements by SMS members, the reasons for not complying within the prescribed time frames and disciplinary steps taken.

Table 3.7.1 Signing of performance agreements by SMS members as at 31 May 2015

SMS level	Total number of funded SMS posts	Total number of SMS members	Total number of signed performance agreements	Signed performance agreements as % of total number of SMS members
Director-General/ Head of Department	1	1	1	100
Salary level 16	1	1	1	100
Salary level 15	9	9	9	100
Salary level 14	27	23	23	100
Salary level 13	88	71	70	98,6
Total	**125**	**101**	**100**	**99**

Table 3.7.2 Reasons for not having concluded performance agreements for all SMS members as at 31 May 2015

Reasons
The one SMS member (salary level 13) who did not submit a performance agreement in time was appointed on 27 June 2014 and then took sick leave.

Table 3.7.3 Disciplinary steps taken against SMS members for not having concluded performance agreements as at 31 May 2015

Reasons
The one SMS member (Salary level 13) who did not submit a performance agreement in time was appointed on 27 June 2014 and then took sick leave.

3.8 Performance rewards

The Department granted the following performance rewards during the year under review. The information is presented in terms of race, gender, disability, salary bands and critical occupations (see definition in notes below).

Human resources oversight statistics (continued)

Table 3.8.1 Performance rewards by race and gender for the period 1 April 2014 to 31 March 2015

Race and gender	Beneficiary profile			Cost	
	Number of beneficiaries	Number of employees	% of total within group	Cost (R'000)	Average cost per employee
African					
Male	105	147	70,7	1 634	15,56
Female	161	213	75,6	1 818	11,3
Asian					
Male	4	8	50	103	25,75
Female	8	12	66,67	167	21
Coloured					
Male	4	6	66,67	81	20,25
Female	8	11	72,7	97	12,13
White					
Male	8	13	61,5	171	21,38
Female	21	25	84	443	21,10
Total	**319**	**435**	**73,1**	**4 514**	**14,2**

Table 3.8.2 Performance rewards by salary band for personnel below SMS level for the period 1 April 2014 to 31 March 2015

Salary band	Beneficiary profile			Cost		Total cost as % of total personnel expenditure
	Number of beneficiaries	Number of employees	% of total within salary bands	Total cost (R'000)	Average cost per employee	
Lower Skilled (levels 1-2)	0	0	0	0	0	0
Skilled (levels 3-5)	11	15	73,3	44	4	0,02
Highly skilled production (levels 6-8)	92	116	79,3	520	5,65	0,18
Highly skilled supervision (levels 9-12)	168	203	82,7	2 360	14,05	0,81
Total	**271**	**334**	**81,13**	**2 924**	**10,79**	**1**

Table 3.8.3 Performance rewards by critical occupation for the period 1 April 2014 to 31 March 2015

This table does not apply to the Department.

See notes on CORE and critical occupations under Table 3.2.3.

Table 3.8.4 Performance-related rewards (cash bonus) by salary band for SMS members for the period 1 April 2014 to 31 March 2015

Salary band	Beneficiary profile			Cost		Total cost as % of total personnel expenditure
	Number of beneficiaries	Number of employees	% of total within salary bands	Total cost (R'000)	Average cost per employee	
Band A	1	1	100	151	151	0,05
Band B	2	6	33,33	78	39	0,03
Band C	10	23	43,48	327	33	0,11
Band D	35	71	49,3	1034	30	0,36
Total	**48**	**101**	**47,53**	**1590**	**33**	**0,55**

3.9 Foreign workers

Table 3.9.1 Foreign workers by salary band for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

Table 3.9.2 Foreign workers by major occupation for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

3.10 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 and disability leave. In both cases, the estimated cost of the leave is also provided.

Table 3.10.1 Sick leave for the period 1 January 2015 to 31 December 2015

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 skills (levels 1-2)	0	0%	0	0%	0	0
Skilled (levels 3-5)	64	3,16%	14	100%	5	2 126
Highly skilled production (levels 6-8)	614	30,31%	118	100%	5	6 931
Highly skilled supervision (levels 9-12)	1 048	51,73%	209	100%	5	1 485
Top and senior management (levels 13-16)	300	14,81%	80	73%	4	7 694
Total	**2 026**	**25%**	**421**	**94%**	**5**	**18 236**

Table 3.10.2 Disability leave (temporary and permanent) for the period 1 January 2015 to 31 December 2015

Salary band	Total days	% 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	0
Skilled (levels 3-5)	0	0	0	0	0	0
Highly skilled production (levels 6-8)	504	100%	22	100%	23	207
Highly skilled supervision (levels 9-12)	177	100%	18	100%	10	180
Senior management (levels 13-16)	21	100%	3	100%	7	20
Total	**682**	**100%**	**43**	**100%**	**16**	**407**

Human resources oversight statistics (continued)

The table below summarises the utilisation of annual leave. The wage agreement concluded with trade unions in the Public Service Coordinating Bargaining Council in 2000 requires management of annual leave to prevent high levels of accrued leave being paid at the time of termination of service.

Table 3.10.3 Annual leave for the period 1 January 2015 to 31 December 2015

Salary band	Total days taken	Number of employees using annual leave	Average per employee
Lower skilled (levels 1-2)	0	0	0
Skilled Levels (levels 3-5)	280	12	23
Highly skilled production (levels 6-8)	2 385	117	20
Highly skilled supervision (levels 9-12)	3 754	213	18
Senior management (levels 13-16)	2 150	116	19
Total	**8 569**	**458**	**19**

Table 3.10.4 Capped leave for the period 1 January 2015 to 31 December 2015

Salary band	Total days of capped leave taken	Number of employees using capped leave	Average number of days taken per employee	Average capped leave per employee as at 31 March 2016
Lower skilled (levels 1-2)	0	0	0	0
Skilled (levels 3-5)	0	0	0	0
Highly skilled production (levels 6-8)	0	0	0	0
Highly skilled supervision (levels 9-12)	0	0	0	0
Senior management (levels 13-16)	0	0	0	0
Total	**0**	**0**	**0**	**0**

The following table summarises payments made to employees for leave that was not taken.

Total amount (R'000)	Number of employees	Average per employee (R'000)
0	0	0
0	0	0
339	18	19
339	**18**	**19**

Table 3.10.5 Leave payouts for the period 1 January 2015 to 31 December 2015

Reason
Leave payout for 2014/15 due to non-utilisation of leave for the previous cycle
Capped leave payouts on termination of service for 2015/156
Current leave payout on termination of service for 2014/15
Total

3.11 HIV/Aids and health promotion programmes

Table 3.11.1 Steps taken to reduce the risk of occupational exposure

This table does not apply to the Department.

Table 3.11.2 Details of health promotion and HIV/Aids programmes

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	X		The Chief Director: Human Resources, Ms Naledi Modibedi, and the Director: Gender and Special Programmes, Ms Siphiwe Mthombeni
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	X		The Directorate: Special Programmes has five employees and a budget of R1,887m, which also covers the HIV, Aids and TB programme.
3. Has the Department introduced an employee assistance or health promotion programme for its employees? If so, indicate the key elements/ services of this Programme	X		The Department's Employee Assistance Programme services include counselling, health risks assessments, HIV counselling and testing, TB screenings, the distribution of male and female condoms, and education, awareness and sporting activities
4. Has the Department established one or more committees 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.	X		1. Ms Loretta Pillay (Employee Health and Wellness) 2. Mr Sphiwe Shange (Occupational Health and Safety) 3. Ms Tumisang Sebitloane (Programme 2) 4. Mr Siyabonga Ndlovu (Programme 1) 5. Mr Vincent Napo (Programme 1) 6. Mr Wiseman Ndlela (Programme 5) 7. Ms Vivienne Gondwe (Programme 5) 8. Ms Truelove Mnguni (Facilities Management) 9. Ms Nombulelo Dlalisa (Facilities Management) 10. Mr Phumelele Yabo (Programme 1) 11. Ms Nontobeko Nkosi (Programme 1) 12. Ms Ncumisa Runeyi (Office of the DG) 13. Ms Martie Spies (Programme 1) 14. Ms Jeanette Masiuana (Programme 1) 15. Ms Caroline Mohlamonyane (Programme 1) 16. Ms Matlhodi Mathebula (Programme 4) 17. Ms Siphiwe Mthombeni (Director: Gender and Special Programmes)
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	X		The following policies are in place: 1. DST Policy on HIV/AIDS and TB in the Workplace 2. DST Policy on Occupational Health and Safety 3. DST Policy on Reasonable Accommodation 4. The Health and Wellness Programme Policy 5. The Health and Productivity Policy
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	X		1. The Department has put in place the HIV, Aids and TB policy to communicate the Department's commitment to implement a HIV/Aids workplace programme. A number of awareness and education initiatives have been implemented to address the issue of stigma and discrimination, such as the annual candlelight memorial and Worlds Aids Day commemoration. 2. Information is provided to employees and management on the intranet and diversity awareness workshops have been conducted with employees and management.
7. Does the Department encourage its employees to undergo voluntary counselling and testing? If so, list the results that you have you achieved	X		The Department conducts quarterly HIV voluntary counselling and testing drives. The average percentage of employees tested over the four quarters is 27,08%.
8. Has the Department developed measures/ indicators to monitor and evaluate the impact of its health promotion programme? If so, list these measures/indicators	X		The Department holds quarterly health screening sessions, and an exercise programme. Participants are screened quarterly to track progress and the reports are analysed to measure the impact of interventions. There is a Health Risk Management programme to help reduce the risks of employees identified as being at high risk.

Human resources oversight statistics (continued)

3.12 Labour relations

Table 3.12.1 Collective agreements for the period 1 April 2015 to 31 March 2016

Total number of collective agreements	**None**

The following table summarises the outcome of disciplinary hearings conducted in the Department for the year under review.

Table 3.12.2 Misconduct and disciplinary hearings finalised in the period 1 April 2015 to 31 March 2016

Outcomes of disciplinary hearings	Number	% of total
Correctional counselling	0	0%
Verbal warning	0	0%
Written warning	0	0%
Final written warning	0	100%

Total number of disciplinary hearings finalised	**0**

Table 3.12.3 Types of misconduct addressed at disciplinary hearings for the period 1 April 2015 to 31 March 2016

Type of misconduct	Number	% of total
Theft	1	25%
Fraud	3	75%
Total	**4**	**100%**

Table 3.12.4 Grievances lodged in the period 1 April 2015 to 31 March 2016

Grievances	Number	% of total
Number of grievances resolved	2	66,67%
Number of grievances not resolved	1	33,33%
Total number of grievances lodged	**3**	**100%**

Table 3.12.5 Disputes lodged with councils in the period 1 April 2015 to 31 March 2016

Disputes	Number	% of total
Number of disputes upheld	1	100%
Number of disputes dismissed	1	100%
Total number of disputes lodged	**2**	**100%**

Table 3.12.6 Strike actions in the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

Table 3.12.7 Precautionary suspensions for the period 1 April 2015 to 31 March 2016

Number of people suspended	3
Number of people whose suspension exceeded 30 days	3
Average number of days suspended	270 days

3.13 Skills development

This section highlights the efforts of the Department with regard to skills development.

Table 3.13.1 Training needs identified for the period 1 April 2015 to 31 March 2016

Occupational category	Gender	Number of employees as at 1 April 2015	Training provided within the reporting period			
			Learnerships	Skills Programmes and other short courses	Other forms of training	Total
Legislators, senior officials and managers	Female	52	14	5	19	52
	Male	57	14	7	18	57
Professionals	Female	123	19	12	31	123
	Male	87	19	13	32	87
Technicians and associate professionals	Female	1	3	0	3	1
	Male	3	3	0	3	3
Clerks	Female	84	11	9	20	84
	Male	17	11	5	16	17
Service and sales workers	Female	4	1	2	3	4
	Male	11	1	1	2	11
Skilled agriculture and fishery workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Craft and related trades workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Plant and machine operators and assemblers	Female	0	0	0	0	0
	Male	5	2	1	2	5
Elementary occupations	Female	5	3	0	3	5
	Male	3	3	0	3	3
Subtotal	Female	269	53	28	81	269
	Male	183	53	27	80	183
Total		**452**	**106**	**55**	**161**	**452**

Table 3.13.2 Training provided in the period 1 April 2015 to 31 March 2016

Occupational category	Gender	Number of employees as at 1 April 2015	Training provided within the reporting period			
			Learnerships	Skills Programmes and other short courses	Other forms of training	Total
Legislators, senior officials and managers	Female	52	0	17	3	20
	Male	57	0	31	8	39
Professionals	Female	123	0	42	10	52
	Male	87	0	47	12	59
Technicians and associate professionals	Female	1	0	1	0	1
	Male	3	0	5	0	5
Clerks	Female	84	0	14	7	21
	Male	17	0	5	4	9
Service and sales workers	Female	4	0	2	3	5
	Male	11	0	1	3	4
Skilled agriculture and fishery workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Craft and related trades workers	Female	0	0	0	0	0
	Male	0	0	0	0	0
Plant and machine operators and assemblers	Female	0	0	0	0	0
	Male	5	0	2	1	3
Elementary occupations	Female	5	0	0	1	1
	Male	3	0	0	0	0
Subtotal	Female	269	0	76	23	99
	Male	183	0	91	28	119
Total		**452**	**0**	**167**	**51**	**218**

Human resources oversight statistics (continued)

3.14 Injury on duty

The following table provides basic information on injury on duty.

Table 3.14.1 Injury on duty for the period 1 April 2015 to 31 March 2016

Nature of injury on duty	Number	% of total
Required basic medical attention only	1	0,2%
Temporary total disablement	0	0%
Permanent disablement	0	0%
Fatal	0	0%
Total	**1**	**0,2%**

3.15 Utilisation of consultants

The following tables give information on the use of consultants in the Department. In terms of the Public Service Regulations, "consultant" means a natural or juristic person or a partnership who or which provides, in terms of a specific contract, on an ad hoc basis, any of the following professional services to a department against remuneration received from any source:

(a) The rendering of expert advice.

(b) The drafting of proposals for the execution of specific tasks.

(c) The execution of a specific task which is of a technical or intellectual nature (excluding an employee of a government department).

Table 3.15.1 Report on consultant appointments using appropriated funds for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

Table 3.15.2 Analysis of consultant appointments using appropriated funds in terms of historically disadvantaged individuals for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

Table 3.15.3 Report on consultant appointments using donor funds for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

Table 3.15.4 Analysis of consultant appointments using donor funds in terms of historically disadvantaged individuals for the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

3.16 Severance packages

Table 3.16.1 Granting of employee initiated severance packages in the period 1 April 2015 to 31 March 2016

This table does not apply to the Department.

PART E: FINANCIAL INFORMATION

Table of contents

Report of the Auditor-General to Parliament on Vote 30: Department of Science and Technology

for the year ended 31 March 2016

Report of the Auditor-General to Parliament on Vote No. 30: 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 167 to 251 , which comprise the appropriation statement, the statement of financial position as at 31 March 2016, the statement of financial performance, statement of changes in net assets, and cash flow statement for the year then ended, as well as 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 and fair presentation of these financial statements in accordance with the Modified Cash Standards (MCS) prescribed by 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 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 and fair presentation 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 present fairly, in all material respects, the financial position of the Department of Science and Technology as at 31 March 2016 and its financial performance and cash flows for the year then ended, in accordance with performance and cash flows for the year then ended in accordance with the MCS 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 set out on pages 252 to 269, 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.

Report on other legal and regulatory requirements

9. In accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004)(PAA) and the general notice issued in terms thereof, I have a responsibility to report findings on the reported performance information against predetermined objectives of selected programmes presented in the annual performance report, compliance with legislation and internal control. The objective of my tests was to identify reportable findings as described under each subheading but not to gather evidence to express assurance on these matters. Accordingly, I do not express an opinion or conclusion on these matters.

Report of the Auditor-General to Parliament on Vote 30: Department of Science and Technology

for the year ended 31 March 2016

Predetermined objectives

I performed procedures to obtain evidence about the usefulness and reliability of the reported performance information of the following selected programmes presented in the annual performance report of the department for the year ended 31 March 2016:

- Programme 2: Technology innovation on pages 87 to 91
- Programme 4: Research development and support on pages 98 to 105

10. I evaluated the usefulness of the reported performance information to determine whether it was presented in accordance with the National Treasury's annual reporting principles and whether the reported performance was consistent with the planned programmes. I further performed tests to determine whether indicators and targets were well defined, verifiable, specific, measurable, time bound and relevant, as required by the National Treasury's Framework for managing programme performance information (FMPPI).

11. I assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.

12. I did not raise any material findings on the usefulness and reliability of the reported performance information for the following programmes:

- Technology innovation
- Research development and support

Additional matters

13. Although I raised no material findings on the usefulness and reliability of the reported performance information for the selected programmes, I draw attention to the following matters:

Achievement of planned targets

14. Refer to the annual performance report on pages 80 to 115 for information on the achievement of the planned targets for the year.

Adjustment of material misstatements

15. I identified material misstatements in the annual performance report submitted for auditing. These material misstatements were in the reported performance information of the technology innovation. As management subsequently corrected the misstatements, I did not raise any material findings on the usefulness and reliability of the reported performance information.

Compliance with legislation

16. I performed procedures to obtain evidence that the department had complied with applicable legislation regarding financial matters, financial management and other related matters. My material findings on compliance with specific matters in key legislation, as set out in the general notice issued in terms of the PAA, are as follows:

Expenditure management

17. Contractual obligations and money owed by the department were not always met and paid within 30 days, as required by section 38(1)(f) of PFMA and Treasury Regulation 8.2.3.

Internal control

18. I considered internal control relevant to my audit of the financial statements, annual performance report and compliance with legislation. The matters reported below are limited to the significant internal control deficiencies that resulted in the finding on compliance with legislation included in this report.

Financial and performance management

19. Management did not review and monitor compliance with legislation surrounding the payments for contractual obligations within the required time frames.

20. Non-compliance with section 38(1) (f) of the PFMA could have been prevented had management properly implemented the controls surrounding the payment of invoices.

Auditor-General

Pretoria
31 July 2016

AUDITOR-GENERAL
SOUTH AFRICA

Auditing to build public confidence

Appropriation per Programme									
	2015/16							2014/15	
APPROPRIATION STATEMENT	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	300,537	-	9,286	309,823	301,996	7,827	97,5%	283,790	278,412
2. Technology Innovation	1,008,514	-	62,131	1,070,645	1,063,297	7,348	99.3%	1,049,450	974,040
3. International Cooperation and Resources	121,359	-	(4,438)	116,921	114,968	1,953	98.3%	111,519	107,589
4. Research Development and Support	4,238,825	-	(11,903)	4,226,922	4,218,854	8,068	99.8%	3,492,889	3,489,837
5. Socio-Economic Innovation Partnerships	1,796,871	-	(55,076)	1,741,795	1,738,347	3,448	99.8%	1,542,242	1,539,166
TOTAL	**7,466,106**	**-**	**-**	**7,466,106**	**7,437,462**	**28,644**	**99.6%**	**6,479,890**	**6,389,044**
Reconciliation with Statement of Financial Performance									
ADD:									
Departmental receipts				514				1,602	
NRF receipts				-					
Aid assistance				158,253				156,814	
Actual amounts per Statement of Financial Performance (Total Revenue)				**7,624,873**					
ADD:									
Aid assistance					154,368				145,139
Prior year unauthorised expenditure approved without funding					-				-
Actual amounts per Statement of Financial Performance (Total Expenditure)					**7,591,830**				**6,534,183**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Appropriation per economic classification									
	2015/16							2014/15	
	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
Economic classification									
Current payments	**494,991**	**(181)**	**(20,608)**	**474,202**	**464,810**	**9,392**	**98.0%**	**459,029**	**445,850**
Compensation of employees	**295,288**	**-**	**7,812**	**303,100**	**301,087**	**2,013**	**99.3%**	**284,872**	**276,001**
Salaries and wages	261,020	3,007	7,507	271,534	269,938	1,596	99.4%	255,284	247,815
Social contributions	34,268	(3,007)	305	31,566	31,149	417	98.7%	29,588	28,186
Goods and services	**199,703**	**(181)**	**(28,420)**	**171,102**	**163,723**	**7,379**	**95.7%**	**174,157**	**169,849**
Administrative fees	6,064	664	(4,749)	1,979	1,877	102	94.8%	4,261	3,826
Advertising	17,167	5,356	964	23,487	22,792	695	97.0%	23,509	23,223
Minor assets	576	(34)	-	542	537	5	99.1%	646	630
Audit costs: External	6,351	(1,140)	(139)	5,072	5,061	11	99.8%	4,791	4,761
Bursaries: Employees	2,483	-	(1,390)	1,093	1,067	26	97.6%	1,331	1,256
Catering: Departmental activities	2,933	219	2,320	5,472	5,138	334	93.9%	3,524	3,221
Communication (G&S)	9,670	(643)	(930)	8,097	7,458	639	92.1%	5,609	5,064
Computer services	8,120	4,438	(1,790)	10,768	10,500	268	97.5%	12,846	12,728
Consultants: Business and advisory services	15,028	(3,937)	(6,359)	4,732	3,762	970	79.5%	6,083	5,603
Legal Services	940	(313)	-	627	580	47	92.5%	2,938	2,801
Contractors	10,975	43	(3,460)	7,558	7,547	11	99.9%	6,782	6,771
Agency and support/ outsourced Services	14,561	819	(6,623)	8,757	8,135	622	92.9%	8,341	8,053
Entertainment	5,863	152	(4,340)	1,675	1,021	654	61.0%	982	735
Fleet services (incl. government motor transport)	-	767	-	767	764	3	99.6%	985	978
Inventory: Clothing, material & accessories	-	50	-	50	48	2	96.0%	1,030	1,028
Inventory: Fuel, oil and gas	128	(26)	-	102	72	30	70.6%	39	10
Inventory: Material and Supplies	-	108	-	108	103	5	95.4%	322	319
Inventory: Medical supplies	-	3	-	3	1	2	33.3%	-	-
Inventory: Other supplies	1,164	(925)	(1)	238	1	237	0.4%	121	-
Consumable supplies	5	1,044	(7)	1,042	993	49	95.3%	1,951	1,940
Consumable: Stationery, printing and office supplies	4,990	(1,848)	(440)	2,702	2,660	42	98.4%	3,404	3,244
Operating leases	3,731	(189)	-	3,542	2,906	642	76.2%	5,549	5,488
Property payments	7,169	(447)	-	6,722	6,657	65	99.0%	7,314	8,368
Travel and subsistence	41,733	6,658	(985)	47,406	46,670	736	98.4%	41,793	41,566
Training and development	7,799	(2,795)	-	5,004	4,995	9	99.8%	3,442	3,411
Operating payments	7,290	1,835	(16)	9,109	8,782	327	96.4%	11,538	11,438
Venues and facilities	24,963	(11,568)	(475)	12,920	12,094	826	93.6%	12,571	12,141
Rental and hiring	-	1,528	-	1,528	1,502	26	98.3%	1,251	1,246
Transfers and subsidies	**6,968,806**	**54**	**1,482**	**6,970,342**	**6,956,058**	**14,284**	**99.8%**	**6,014,494**	**5,936,872**

Appropriation per economic classification									
	2015/16							2014/15	
	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
Departmental agencies and accounts	5,433,895	-	(28,727)	5,405,168	4,762,435	642,733	88.1%	4,509,994	4,011,036
Higher education institutions	114,580	-	32,662	147,242	230,304	(83,062)	156.4%	148,739	228,033
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**1,249,847**	**-**	**(2,863)**	**1,246,984**	**1,833,674**	**(586,690)**	**147.0%**	**1,250,479**	**1,573,066**
Public corporations	**1,249,847**	**-**	**(2,863)**	**1,246,984**	**1,809,904**	**(562,920)**	**145.1%**	**1,250,479**	**1,550,991**
Subsidies on products	820,204	-	-	820,204	-	820,204	-	825,740	825,740
Other transfers to public corporations	429,643	-	(2,863)	426,780	1,809,904	(1,383,124)	424.1%	424,739	725,251
Private enterprises	**-**	**-**	**-**	**-**	**23,770**	**(23,770)**		**-**	**22,075**
Other transfers to private enterprises	-	-	-	-	23,770	(23,770)	-	-	22,075
Non-profit institutions	170,484	-	(109)	170,375	128,822	41,553	75.6%	101,227	120,289
Households	**-**	**54**	**519**	**573**	**823**	**(250)**	**143.6%**	**4,055**	**4,448**
Social benefits	-	54	519	573	573	-	100.0%	491	559
Other transfers to households	-	-	-	-	250	(250)	-	3,564	3,889
Payments for capital assets	**2,309**	**-**	**19,126**	**21,435**	**16,467**	**4,968**	**76.8%**	**6,275**	**6,230**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**2,309**	**-**	**19,126**	**21,435**	**16,467**	**4,968**	**76.8%**	**6,275**	**6,230**
Transport equipment	-	987	585	1,572	1,496	76	95.2%	250	250
Other machinery and equipment	2,309	(987)	18,541	19,863	14,971	4,892	75.4%	6,025	5,980
Biological assets	-	-	-	-	-	-		-	-
Land and subsoil assets	-	-	-	-	-	-		-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payments for financial assets	**27**	**-**	**-**	**127**	**127**	**-**	**100%**	**92**	**92**
Total	**7,466,106**	**-**	**-**	**7,466,106**	**7,437,462**	**28,644**	**99.6%**	**6,479,890**	**6,389,044**

Detail per Programme 1 – Administration for the year ended 31 March 2016									
	2015/16							2014/15	
Detail per sub-programme	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	4,252	85	-	4,337	4,332	5	99.9%	4,065	3,972
1.2 Management	101,608	(6,672)	(3,000)	91,936	90,072	1,864	98.0%	85,654	81,736
1.3 Corporate Services	181,009	5,470	19,002	205,481	200,057	5,424	97.4%	184,446	183,897
1.4 Governance	8,952	1,117	(2,000)	8,069	7,535	534	93.4%	7,946	7,550
1.5 Office Accommodation	4,716	-	(4,716)	-	-	-	-	1,679	1,257
Total	**300,537**	**-**	**9,286**	**309,823**	**301,996**	**7,827**	**97.5%**	**283,790**	**278,412**
Economic classification									
Current payments	**285,432**	**(120)**	**(12,141)**	**273,171**	**270,543**	**2,628**	**99.0%**	**265,178**	**262,193**
Compensation of employees	**143,922**	**-**	**8,845**	**152,767**	**151,744**	**1,023**	**99.0%**	**141,541**	**140,072**
Salaries and wages	126,062	1,080	8,845	135,987	135,155	830	99.4%	126,427	125,267
Social contributions	17,860	(1,080)	-	16,780	16,587	193	98.8%	15,114	14,805
Goods and services	**141,510**	**(120)**	**(20,986)**	**120,404**	**118,799**	**1,605**	**98.7%**	**123,637**	**122,121**
Administrative fees	5,180	427	(4,716)	891	868	23	97.4%	2,133	1,750
Advertising	16,319	5,850	964	23,133	22,785	348	98.5%	23,141	23,075
Minor assets	576	(34)	-	542	537	5	99.1%	638	627
Audit costs: External	6,351	(1,140)	(139)	5,072	5,061	11	99.8%	4,791	4,761
Bursaries: Employees	2,459	-	(1,390)	1,069	1,067	2	99.8%	1,331	1,256
Catering: Departmental activities	1,459	600	2,320	4,379	4,326	53	98.8%	2,529	2,453
Communication (G&S)	6,130	500	(930)	5,700	5,598	102	98.2%	3,616	3,511
Computer services	7,744	3,900	(1,790)	9,854	9,841	13	99.9%	12,333	12,300
Consultants: Business & advisory services	7,177	(8)	(4,070)	3,099	3,082	17	99.5%	3,386	3,312
Legal Services	774	(330)	-	444	438	6	98.6%	2,457	2,452
Contractors	10,975	(20)	(3,460)	7,495	7,489	6	99.9%	6,773	6,762
Agency and support/ outsourced Services	7,913	1,155	(6,123)	2,945	2,935	10	99.7%	3,284	3,207
Entertainment	525	395	(220)	700	678	22	96.9%	547	478
Fleet services(incl. government motor transport)	-	767	-	767	764	3	99.6%	983	978
Inventory: Clothing, material accessories	-	50	-	50	48	2	96.0%	1,030	1,028
Inventory: Fuel, oil and gas	128	(26)	-	102	72	30	70.6%	37	9
Inventory: Material and supplies	-	105	-	105	102	3	97.1%	322	319
Inventory: Other supplies	874	(730)	-	144	-	144	-	85	-
Consumable supplies	-	850	(7)	843	833	10	98.8%	1,946	1,937
Consumable: Stationery, printing and office supplies	4,990	(1,880)	(440)	2,670	2,641	29	98.9%	3,317	3,243
Operating leases	3,731	(885)	-	2,846	2,210	636	77.7%	5,016	4,965
Property payments	6,165	15	-	6,180	6,161	19	99.7%	8,286	8,169

Detail per Programme 1 – Administration for the year ended 31 March 2016									
	2015/16							2014/15	
Detail per sub-programme	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
Travel and subsistence	21,966	(720)	(985)	20,261	20,244	17	99.9%	19,416	19,393
Training and development	7,511	(2,510)	-	5,001	4,995	6	99.9%	3,377	3,350
Operating payments	5,463	725	-	6,188	6,172	16	99.7%	7,571	7,564
Venues and facilities	17,100	(8,600)	-	8,500	8,438	62	99.3%	4,407	4,341
Rental and hiring	-	1,424	-	1,424	1,414	10	99.3%	885	881
Transfers and subsidies	**12,796**	**8**	**2,301**	**15,105**	**14,874**	**231**	**98.5%**	**12,570**	**10,222**
Departmental agencies and accounts	-	-	-	-	4,000	(4,000)	-	-	3,500
Higher education institutions	-	-	-	-	4,640	(4,640)	-	-	410
Foreign governments and international organisations	-	-	-	-			-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**600**	**(600)**	**-**	**-**	**1,425**
Public corporations	**-**	**-**	**-**	**-**	**600**	**(600)**	**-**	**-**	**1,300**
Subsidies on products									
Other transfers to public corporations	-	-	-	-	600	(600)	-	-	1,300
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises-	-	-	-	-	-	-	-	-	125
Non-profit institutions	12,796	-	2,000	14,796	5,325	9,471	36.0%	12,087	4,356
Households	**-**	**8**	**301**	**309**	**309**	**-**	**100.0%**	**483**	**531**
Social benefits	-	8	301	309	309	-	100.0%	198	246
Other transfers to households	-	-	-	-	-	-	-	285	285
Payment for capital assets	**2,309**	**-**	**19,126**	**21,435**	**16,467**	**4,968**	**76.8%**	**6,009**	**5,964**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**2,309**	**-**	**19,126**	**21,435**	**16,467**	**4,968**	**76.8%**	**6,009**	**5,964**
Transport equipment	-	987	585	1,572	1,496	76	95.2%	250	250
Other machinery and equipment	2,309	(987)	18,541	19,863	14,971	4,892	75.4%	5,759	5,714
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**112**	**-**	**112**	**112**	**-**	**100.0%**	**33**	**33**
Total	**300,537**	**-**	**9,286**	**309,823**	**301,996**	**7,827**	**97.5%**	**283,790**	**278,412**

Detail per Programme 1 – Administration for the year ended 31 March 2016									
	2015/2016							2014/2015	
Sub-programme 1.1: Ministry	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	**4,252**	**85**	**-**	**4,337**	**4,332**	**5**	**99.9%**	**4,065**	**3,972**
Compensation of employees	**4,252**	**85**	**-**	**4,337**	**4,332**	**5**	**99.9%**	**4,065**	**3,972**
Salaries and wages	3,657	85	-	3,742	3,737	5	99.9%	3,503	3,414
Social contributions	595	-	-	595	595	-	100.0%	562	558
Goods and services	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Administrative fees	-	-							
Advertising	-	-	-	-	-	-	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	-	-	-	-	-	-	-	-	-
Communication (G&S)	-	-	-	-	-	-	-	-	-
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business & advisory services	-	-	-	-	-	-	-	-	-
Legal Services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	-	-	-	-	-	-	-	-	-
Entertainment	-	-	-	-	-	-	-	-	-
Fleet services(incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & Accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	-	-	-	-	-	-	-	-	-
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	-	-	-	-	-	-	-	-
Venues and facilities	-	-	-	-	-	-	-	-	-
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2016									
	2015/2016							2014/2015	
Sub-programme 1.1: Ministry	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
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to Households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**4,252**	**85**	**-**	**4,337**	**4,332**	**5**	**99.9%**	**4,065**	**3,972**

Sub-programme: 1.2 : Management	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	**87,825**	**(5,775)**	**(5,162)**	**76,888**	**75,255**	**1,633**	**97.9%**	**73,279**	**71,709**
Compensation of employees	**58,397**	**(5,185)**	**(155)**	**53,057**	**52,336**	**721**	**98.6%**	**49,192**	**48,219**
Salaries and wages	52,462	(4,285)	(155)	48,022	47,386	636	98.7%	44,519	43,849
Social contributions	5,935	(900)	-	5,035	4,950	85	98.3%	4,673	4,370
Goods and services	**29,428**	**(590)**	**(5,007)**	**23,831**	**22,919**	**912**	**96.2%**	**24,087**	**23,490**
Administrative fees	160	285	-	445	441	4	99.1%	783	783
Advertising	172	-	-	172	1	171	0.6%	270	270
Minor assets	172	(165)	-	7	2	5	28.6%	13	5
Audit costs: External	-	310	-	310	305	5	98.4%	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	399	-	(180)	219	216	3	98.6%	96	49
Communication (G&S)	2,180	-	(930)	1,250	1,233	17	98.6%	1,084	987
Computer services	1,797	-	(1,790)	7	-	7	-	718	688
Consultants: Business & advisory services	2,471	(8)	(680)	1,783	1,780	3	99.8%	1,035	1,005
Legal services								77	79
Contractors	543	(20)	(480)	43	42	1	97.7%	19	8
Agency and support/ outsourced Services	1,359	(15)	(280)	1,064	1,062	2	99.8%	838	774
Entertainment	293	-	(220)	73	66	7	90.4%	126	74
Fleet services(incl. government motor transport)	-	520	-	520	517	3	99.4%	693	693
Inventory: Clothing, material & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	29	(26)	-	3	-	3	-	28	-
Inventory: Material and Supplies	-	5	-	5	3	2	60.0%	2	2
Inventory: Other supplies	64	(60)	-	4	-	4	-	61	-
Consumable supplies	-	40	(7)	33	31	2	93.9%	41	41
Consumable: Stationery, printing and office supplies	591	(145)	(440)	6	4	2	66.7%	65	21
Operating leases	1,279	(486)	-	793	157	636	19.8%	623	578
Property payments	3,196	(3,135)	-	61	46	15	75.4%	202	146
Travel and subsistence	12,081	1,400	-	13,481	13,475	6	100.0%	14,265	14,265
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	1,651	(890)	-	761	760	1	99.9%	2,262	2,262
Venues and facilities	991	1,800	-	2,791	2,778	13	99.5%	786	760
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**12,796**	**8**	**2,162**	**14,966**	**14,735**	**231**	**98.5%**	**12,372**	**10,024**
Departmental agencies and accounts	-	-	-	-	4,000	(4000)	-	-	3,500
Higher education institutions	-	-	-	-	4,640	(4,640)	-	-	410

Sub-programme: 1.2 : Management	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
Foreign governments and international organisations	-	-	-	-			-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**600**	**(600)**	**-**	**-**	**1,425**
Public corporations	**-**	**-**	**-**	**-**	**600**	**(600)**	**-**	**-**	**1,300**
Subsidies									
Other transfers to public corporations	-	-	-	-	600	(600)	-	-	1,300
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-			-	-	125
Non-profit institutions	12,796	-	2,000	14,796	5,325	9,471	36.0%	12,087	4,356
Households	**-**	**8**	**162**	**170**	**170**	**-**	**100.0%**	**285**	**333**
Social benefits	-	8	162	170	170	-	100.0%	-	48
Other transfers to households	-	-	-	-	-	-	-	285	285
Payment for capital assets	**987**	**(987)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures		-		-	-	-	-	-	-
Machinery and equipment	**987**	**(987)**		**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment		-		-	-	-	-	-	-
Other machinery and equipment		-		-	-	-	-	-	-
Biological assets	-	-		-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**82**	**-**	**82**	**82**	**-**	**100.0%**	**3**	**3**
Total	**101,608**	**(6,672)**	**(3,000)**	**91,936**	**90,072**	**1,864**	**98.0%**	**85,654**	**81,736**

Sub-programme: 1.3: Corporate services	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	**179,870**	**4,270**	**(263)**	**183,877**	**183,421**	**456**	**99.8%**	**178,209**	**177,705**
Compensation of employees	**75,286**	**3,800**	**9,000**	**88,086**	**87,953**	**133**	**99.8%**	**81,073**	**80,880**
Salaries and wages	65,354	3,480	9,000	77,834	77,713	121	99.8%	71,951	71,758
Social contributions	9,932	320	-	10,252	10,240	12	99.9%	9,122	9,122
Goods and services	**104,584**	**470**	**(9,263)**	**95,791**	**95,468**	**323**	**99.7%**	**97,136**	**96,825**
Administrative fees	294	142	-	436	423	13	97.0%	861	859
Advertising	15,620	6,090	1,044	22,754	22,749	5	100.0%	22,779	22,774
Minor assets	404	131	-	535	535	-	100.0%	625	622
Audit costs: External	6,351	(1,450)	(139)	4,762	4,756	6	99.9%	4,791	4,761
Bursaries: Employees	2,459	-	(1,390)	1,069	1,067	2	99.8%	1,331	1,256
Catering: Departmental activities	1,002	600	2,500	4,102	4,092	10	99.8%	2,378	2,372
Communication (G&S)	3,810	500	-	4,310	4,295	15	99.7%	2,398	2,398
Computer services	5,947	3,900	-	9,847	9,841	6	99.9%	11,615	11,612
Consultants: Business & advisory services	2,779	-	(1,470)	1,309	1,302	7	99.5%	2,320	2,279
Legal services	774	(330)	-	444	438	6	98.6%	2,380	2,373
Contractors	10,432	-	(2,980)	7,452	7,447	5	99.9%	6,754	6,754
Agency and support/ outsourced services	6,554	1,170	(5,843)	1,881	1,873	8	99.6%	2,421	2,413
Entertainment	220	395	-	615	610	5	99.2%	410	404
Fleet services(incl. government motor transport)	-	247	-	247	247	-	100.0%	290	285
Inventory: Clothing, material & accessories	-	50	-	50	48	2	96.0%	1,030	1,028
Inventory: Fuel, oil and gas	99	-	-	99	72	27	72.7%	9	9
Inventory: Material and supplies-	-	100	-	100	99	1	99.0%	320	317
Inventory: Other supplies	810	(670)	-	140	-	140	-	24	-
Consumable supplies	-	810	-	810	802	8	99.0%	1,900	1,895
Consumable: Stationery, printing and office supplies	4,374	(1,735)	-	2,639	2,634	5	99.8%	3,228	3,222
Operating leases	2,452	(399)	-	2,053	2,053	-	100.0%	4,393	4,387
Property payments	2,969	3,150	-	6,119	6,115	4	99.9%	6,884	6,866
Travel and subsistence	9,859	(2,325)	(985)	6,549	6,544	5	99.9%	5,018	4,998
Training and development	7,511	(2,510)	-	5,001	4,995	6	99.9%	3,377	3,350
Operating payments	3,810	1,580	-	5,390	5,383	7	99.9%	5,147	5,143
Venues and facilities	16,054	(10,400)	-	5,654	5,634	20	99.6%	3,568	3,567
Rental and hiring	-	1,424	-	1,424	1,414	10	99.3%	885	881
Transfers and subsidies	**-**	**-**	**139**	**139**	**139**	**-**	**100.0%**	**198**	**198**
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-

Sub-programme: 1.3: Corporate services	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
Higher education Institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Subsidies on products									
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprise	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	**-**	**-**	**139**	**139**	**139**	**-**	**100.0%**	**198**	**198**
Social benefits	-	-	139	139	139	-	100.0%	198	198
Other transfers to households	-	-						-	-
Payment for capital assets	**1,139**	**1,170**	**19,126**	**21,435**	**16,467**	**4,968**	**76.8%**	**6,009**	**5,964**
Buildings and other fixed structures		-						-	-
Machinery and equipment	**1,139**	**1,170**	**19,126**	**21,435**	**16,467**	**4,968**	**76.8%**	**6,009**	**5,964**
Transport equipment	-	987	585	1,572	1,496	76	95.2%	250	250
Other machinery and equipment	1,139	183	18,541	19,863	14,971	4,892	75.4%	5,759	5,714
Biological assets	-	-						-	-
Software and other intangible assets	-	-						-	-
Land and subsoil assets	-	-						-	-
Payment for financial assets	**-**	**30**		**30**	**30**	**-**	**100.0%**	**30**	**30**
Total	**181,009**	**5,470**	**19,002**	**205,481**	**200,057**	**5,424**	**97.4%**	**184,446**	**183,897**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub programme: 1.4 Governance	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	**8,769**	**1,300**	**(2,000)**	**8,069**	**7,535**	**534**	**93.4%**	**7,946**	**7,550**
Compensation of employees	**5,987**	**1,300**	**-**	**7,287**	**7,123**	**164**	**97.7%**	**7,211**	**7,001**
Salaries and wages	4,589	1,800	-	6,389	6,321	68	98.9%	6,454	6,246
Social contributions	1,398	(500)	-	898	802	96	89.3%	757	755
Goods and services	**2,782**	**-**	**(2,000)**	**782**	**412**	**370**	**52.7%**	**735**	**549**
Administration fees	10	-	-	10	4	6	40.0%	10	8
Advertising	527	(240)	(80)	207	35	172	16.9%	92	31
Minor assets								-	-
Audit costs: External								-	-
Bursaries: Employees								-	-
Catering: Departmental activities	58	-	-	58	18	40	31.0%	55	32
Communication (G&S)	140	-	-	140	70	70	50.0%	134	126
Computer services								-	-
Consultants: Business & advisory services	1,927	-	(1,920)	7	-	7	-	31	28
Legal services	-	-	-	-	-	-	-	-	-
Contractors								-	-
Agency and support/ outsourced services.-	-	-	-	-	-	-	-	25	20
Entertainment	12	-	-	12	2	10	16.7%	11	-
Fleet services(incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-							5	1
Consumable: Stationery, printing and office supplies	25	-	-	25	3	22	12.0%	24	-
Operating leases								-	-
Property payments								-	-
Travel and subsistence	26	205	-	231	225	6	97.4%	133	130
Training and development								-	-
Operating payments	2	35	-	37	29	8	78.4%	162	159
Venues and facilities	55	-	-	55	26	29	47.3%	53	14
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-
Higher education institutions	-	-	-	-	-	-	-	-	-

Sub programme: 1.4 Governance	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-
Public corporations	-	-	-	-	-	-	-	-	-
Subsidies on products									
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-
Social benefits	-	-	-	-	-	-	-	-	-
Other transfers to households									
Payment for capital assets	**183**	**(183)**		-	-	-	-	-	-
Buildings and other fixed structures				-	-	-		-	-
Machinery and equipment	**183**	**(183)**		-	-	-	-	-	-
Transport equipment				-	-	-	-	-	-
Other machinery and equipment	183	(183)		-	-	-	-	-	-
Biological assets				-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	**8,952**	**1,117**	**(2,000)**	**8,069**	**7,535**	**534**	**93.4%**	**7,946**	**7,550**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 1.5: Office Accommodation	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	**4,716**	**-**	**(4,716)**	**-**	**-**	**-**	**-**	**1,679**	**1,257**
Compensation of employees	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Salaries and wages	-	-	-	-	-	-	-	-	-
Social contributions	-	-	-	-	-	-	-	-	-
Goods and services	**4,716**	**-**	**(4,716)**	**-**	**-**	**-**	**-**	**1,679**	**1,257**
Administrative fees	4,716	-	(4,716)	-	-	-	-	479	100
Advertising	-	-	-	-	-	-	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	-	-	-	-	-	-	-	-	-
Communication (G&S)	-	-	-	-	-	-	-	-	-
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business & advisory services	-	-	-	-	-	-	-	-	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced Services	-	-	-	-	-	-	-	-	-
Entertainment	-	-	-	-	-	-	-	-	-
Fleet services(incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-							1,200	1,157
Travel and subsistence	-	-	-	-	-	-	-	-	-
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	-	-	-	-	-	-	-	-
Venues and facilities	-	-	-	-	-	-	-	-	-
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-
Higher education institutions	-	-	-	-	-	-	-	-	-

Sub-programme: 1.5: Office Accommodation	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-
Public corporations	-	-	-	-	-	-	-	-	-
Subsidies on products									
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	-	-	-	-	-
Other transfers to Households									
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	**4,716**	**-**	**(4,716)**	**-**	**-**	**-**	**-**	**1,679**	**1,257**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2016									
	2014/15							2014/15	
Detail per sub-programme	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	167,125	1,450	40,592	209,167	209,103	64	100.0%	169,109	168,464
2.2 Hydrogen and Energy	152,245	(1,450)	(2,107)	148,688	147,687	1,001	99.3%	145,110	143,848
2.3 Bio-economy	137,677	-	(971)	136,706	136,051	655	99.5%	151,252	150,109
2.4 Innovation Priorities and Instruments	526,143	450	(8,045)	518,548	518,056	492	99.9%	519,266	447,412
2.5 National Intellectual Property Management Office	25,324	(450)	32,662	57,536	52,400	5,136	91.1%	64,713	64,207
Total	**1,008,514**	**-**	**62,131**	**1,070,645**	**1,063,297**	**7,348**	**99.3%**	**1,049,450**	**974,040**
Current payments	**61,433**	**(15)**	**(7,420)**	**53,998**	**51,565**	**2,433**	**95.5%**	**54,513**	**51,754**
Compensation of employees	**41,995**	**-**	**(1,800)**	**40,195**	**39,844**	**351**	**99.1%**	**37,907**	**35,571**
Salaries and wages	36,427	1,790	(1,800)	36,417	36,186	231	99.4%	34,036	32,307
Social contributions	5,568	(1,790)	-	3,778	3,658	120	96.8%	3,871	3,264
Goods and services	**19,438**	**(15)**	**(5,620)**	**13,803**	**11,721**	**2,082**	**84.9%**	**16,606**	**16,183**
Administrative fees	131	352	-	483	463	20	95.9%	687	673
Advertising	226	(79)	-	147	1	146	0.7%	64	4
Minor assets								-	-
Audit costs: External								-	-
Bursaries: Employees	24	-	-	24	-	24	-	-	-
Catering: Departmental activities	166	(71)	-	95	77	18	81.1%	156	141
Communication (G&S)	680	107	-	787	681	106	86.5%	480	427
Computer services								-	-
Consultants: Business & advisory services	2,474	(1,055)	(610)	809	219	590	27.1%	1,260	1,257
Legal services	-	175	-	175	142	33	81.1%	234	234
Contractors	-	-	-	-	-	-	-	9	9
Agency and support/ outsourced Services	4,975	(3,067)	(500)	1,408	975	433	69.2%	1,931	1,885
Entertainment	4,347	(13)	(4,120)	214	23	191	10.7%	115	15
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	1	-
Inventory: Clothing , material & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	69	(30)	-	39	-	39	-	19	-
Consumable supplies	-	5	-	5	1	4	20.0%	-	-
Consumable: Stationery, printing and office supplies	-	3	-	3	1	2	33.3%	9	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2016									
	2014/15							2014/15	
Detail per sub-programme	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
Operating leases	-	696	-	696	696	-	100.0%	523	523
Property payments	530	8	-	538	496	42	92.2%	219	199
Travel and subsistence	4,004	2,700	-	6,704	6,440	264	96.1%	6,329	6,329
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	309	195	-	504	447	57	88.7%	1,882	1,869
Venues and facilities	1,503	5	(390)	1,118	1,013	105	90.6%	2,688	2,618
Rental and hiring	-	54	-	54	46	8	85.2%	-	-
Transfers and subsidies	**947,081**	**-**	**69,551**	**1,016,632**	**1,011,717**	**4,915**	**99.5%**	**994,856**	**922,205**
Departmental agencies and accounts	650,550	-	39,840	690,390	732,534	(42,144)	106.1%	668,786	623,688
Higher education institutions	114,580	-	32,662	147,242	147,068	174	99.9%	148,739	147,095
Public corporations and private enterprises	**95,011**	**-**	**(2,580)**	**92,431**	**99,443**	**(7,012)**	**107.6%**	**92,351**	**100,267**
Public corporations	**95,011**	**-**	**(2,580)**	**92,431**	**96,543**	**(4,112)**	**104.4%**	**92,351**	**94,441**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporation	95,011	-	(2,580)	92,431	96,543	(4,112)	104.4%	92,351	94,441
Private enterprises					**2,900**	**(2,900)**			**5,826**
Other transfers to private enterprises	-	-	-	-	2,900	(2,900)	-	-	5,826
Non-profit institutions	86,940	-	(371)	86,569	32,672	53,897	37.7%	84,820	50,995
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**160**	**160**
Social benefits	-	-	-	-	-	-	-	121	121
Other transfers to Households	-	-	-	-	-	-	-	39	39
Payment for capital assets	**-**	**-**				**-**		**81**	**81**
Buildings and other fixed structures	-	-				-		-	-
Machinery and equipment	-	-				-		81	81
Transport equipment	-	-				-	-	-	-
Other machinery and equipment	-	-				-	-	81	81
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**15**	**-**	**15**	**15**	**-**	**100%**	**-**	**-**
Total	**1,008,514**	**-**	**62,131**	**1,070,645**	**1,063,297**	**7,348**	**99.3%**	**1,049,450**	**974,040**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2016									
	2015/2016							2014/2015	
Sub-programme: 2.1: Space Science	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	**11,384**	**1,450**	**-**	**12,834**	**12,770**	**64**	**99.5%**	**10,691**	**10,046**
Compensation of employees	**9,557**	**250**	**-**	**9,807**	**9,757**	**50**	**99.5%**	**8,644**	**8,035**
Salaries and wages	8,713	470	-	9,183	9,165	18	99.8%	7,768	7,552
Social contributions	844	(220)	-	624	592	32	94.9%	876	483
Goods and services	**1,827**	**1,200**	**-**	**3,027**	**3,013**	**14**	**99.5%**	**2,047**	**2,011**
Administrative fees	38	(13)	-	25	25	-	100.0%	45	41
Advertising	79	(79)	-	-	-	-	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	121	(111)	-	10	10	-	100.0%	47	38
Communication (G&S)	156	82	-	238	238	-	100.0%	84	73
Computer services								-	-
Consultants: Business & advisory services	105	(105)	-	-	-	-	-	274	271
Legal Services								-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	425	(255)	-	170	167	3	98.2%	546	543
Entertainment	16	(13)	-	3	3	-	100.0%	9	3
Fleet services (incl. government motor transport)	-	-	--	-	-	-	-	-	-
Inventory: Clothing, material & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	33	(30)	-	3	-	3	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating Leases	-	-	-	-	-	-	-	-	-
Property payments	-	464	-	464	464	-	100.0%	-	-
Travel and subsistence	509	1,210	-	1,719	1,715	4	99.8%	889	889
Training and development								-	-
Operating payments	178	(105)	-	73	73	-	100.0%	104	104
Venues and facilities	167	155	-	322	318	4	98.8%	49	49
Rental and hiring								-	-
Transfers and subsidies	**155,741**	**-**	**40,592**	**196,333**	**196,333**	**-**	**100.0%**	**158,337**	**158,337**
Departmental agencies and accounts	155,741	-	40,592	196,333	196,333	-	100.0%	158,298	158,298
Higher education institutions	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2016									
	2015/2016							2014/2015	
Sub-programme: 2.1: Space Science	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**39**	**39**
Social benefit	-	-	-	-	-	-	-	-	-
Other transfers to households	-	-	-	-	-	-	-	39	39
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**81**	**81**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**81**	**81**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	81	81
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**167,125**	**1,450**	**40,592**	**209,167**	**209,103**	**64**	**100.0%**	**169,109**	**168,464**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme 2.2: Hydrogen & Energy	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	**10,935**	**(1,450)**	**(600)**	**8,885**	**7,884**	**1,001**	**88.7%**	**9,909**	**8,852**
Compensation of employees	**6,889**	**(250)**	**(600)**	**6,039**	**5,895**	**144**	**97.6%**	**6,748**	**5,762**
Salaries and Wages	6,254	(250)	(600)	5,404	5,291	113	97.9%	6,141	5,183
Social contributions	635	-	-	635	604	31	95.1%	607	579
Goods and services	**4,046**	**(1,200)**	**-**	**2,846**	**1,989**	**857**	**69.9%**	**3,161**	**3,090**
Administrative fees	22	10	-	32	29	3	90.6%	61	61
Advertising	67	-	-	67	-	67	-	-	-
Minor assets								-	-
Audit costs: External								-	-
Bursaries: Employees								-	-
Catering: Departmental activities	17	-	-	17	8	9	47.1%	16	14
Communication (G&S)	172	-	-	172	86	86	50.0%	59	59
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business & advisory services	453	-	-	453	93	360	20.5%	407	407
Legal Services	-	150	-	150	120	30	80.0%	-	-
Contractors								-	-
Agency and support/ outsourced services	2,492	(2,215)	-	277	86	191	31.0%	754	711
Entertainment	7	-	-	7	5	2	71.4%	7	1
Fleet services (incl. government motor transport)	-	-	--	-	-	-	-	-	-
Inventory: Clothing, material & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	18	-	-	18	-	18	-	19	-
Consumable supplies	-	5	-	5	1	4	20.0%	-	-
Consumable: Stationery, printing and office supplies								-	-
Operating leases								-	-
Property payments								-	-
Travel and subsistence	426	850	-	1,276	1,263	13	99.0%	1,417	1,417
Training and development								-	-
Operating payments	81	215	-	296	289	7	97.6%	77	76
Venues and facilities	291	(215)	-	75	9	67	11.8%	344	344
Rental and hiring								-	-

Sub-programme 2.2: Hydrogen & Energy	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
Transfers and subsidies	**141,310**	**-**	**(1,507)**	**139,803**	**139,803**	**-**	**100.0%**	**135,201**	**134,996**
Departmental agencies and accounts	35,240	-	(1,507)	33,733	49,357	(15,624)	146.3%	33,796	47,401
Higher education institutions	99,580	-	-	99.580	87,866	11,714	88.2%	95,200	82,245
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**2,580**	**(2,580)**	**-**	**-**	**3,000**
Public corporations	-	-	-	-	2,580	(2,580)	-	-	-
Subsidies on products									
Other transfers to public corporation	-	-	-	-	2,580	(2,580)	-	-	3,000
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	6,490	-	-	6,490	-	6,490	-	6,205	2,350
Households								**-**	**-**
Social benefit								-	-
Other transfers to households								-	-
Payment for capital assets								**-**	**-**
Buildings and other fixed structures								-	-
Machinery and equipment								**-**	**-**
Transport equipment								-	-
Other machinery and equipment								-	-
Biological assets								-	-
Software and other intangible assets								-	-
Land and subsoil assets								-	-
Payment for financial assets								**-**	**-**
Total	**152,245**	**(1,450)**	**(2,107)**	**148,688**	**147,687**	**1,001**	**99.3%**	**145,110**	**143,848**

Sub-programme: 2.3: Bio-economy	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	**16,310**	**(14)**	**(1,700)**	**14,596**	**13,941**	**655**	**95.5%**	**13,321**	**12,812**
Compensation of employees	**11,693**	**-**	**(1,200)**	**10,493**	**10,442**	**51**	**99.5%**	**10,046**	**9,684**
Salaries and wages	10,592	-	(1,200)	9,392	9,348	44	99.5%	9,035	8,673
Social contributions	1,101	-	-	1,101	1,094	7	99.4%	1,011	1,011
Goods and services	**4,617**	**(14)**	**(500)**	**4,103**	**3,499**	**604**	**85.3%**	**3,275**	**3,128**
Administrative fees	59	300	-	359	348	11	96.9%	345	345
Advertising	30	-	-	30	-	30	-	64	4
Minor assets								-	-
Audit costs: External								-	-
Bursaries: Employees	24	-	-	24	-	24	-	-	-
Catering: Departmental Activities	23	5	-	28	26	2	92.9%	80	76
Communication (G&S)	255	(135)	-	120	114	6	95.0%	127	114
Computer services								-	-
Consultants: Business & advisory services	182	(170)	-	12	-	12	-	-	-
Legal services	-	25	-	25	22	3	88.0%	234	234
Contractors								-	-
Agency and support/ outsourced services	882	(157)	(500)	225	-	225	-	48	48
Entertainment	27	-	-	27	7	20	25.9%	3	3
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and Supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	18	-	-	18	-	18	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationery, printing and office supplies	-	3	-	3	1	2	33.3%	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments								-	-
Travel and subsistence	2,602	-	-	2,602	2,399	203	92.2%	2,229	2,229
Operating payments	44	-	-	44	6	38	13.6%	21	21
Venues and facilities	471	65	-	536	530	6	98.9%	124	54
Rental and hiring	-	50	-	50	46	4	92.0%	-	-
Transfers and subsidies	**121,367**	**-**	**729**	**122,096**	**122,096**	**-**	**100.0%**	**137,931**	**137,297**
Departmental agencies and accounts	44,424	-	1,100	45,524	73,443	(27,919)	161.3%	62,666	73,782
Higher education institutions	-	-	-	-	13,958	(13,958)	-	-	9,600

Sub-programme: 2.3: Bio-economy	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
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**14,485**	**(14,485)**	**-**	**-**	**13,822**
Public corporations					**11,585**	**(11,585)**		**-**	**13,760**
Subsidies on products								-	-
Other transfers to public corporations	-	-	-	-	11,585	(11,585)	-	-	13,760
Private enterprises	**-**	**-**	**-**	**-**	**2,900**	**(2,900)**	**-**	**-**	**62**
Other transfers to private enterprises					2,900	(2,900)	-	-	62
Non-profit institutions	76,943	-	(371)	76,572	20,210	56,362	26.4%	75,262	40,090
Households	**-**	**-**						**3**	**3**
Social benefit	-	-						3	3
Other transfers to households									
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**14**	**-**	**14**	**14**	**-**	**100.0%**	**-**	**-**
Total	**137,677**	**-**	**(971)**	**136,706**	**136,051**	**655**	**99.5%**	**151,252**	**150,109**

Sub-programme: 2.4 Innovation Priorities and Instrument	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	**12,480**	**450**	**(5,120)**	**7,810**	**7,318**	**492**	**93.7%**	**9,517**	**9,342**
Compensation of employees	**5,812**	**450**	**-**	**6,262**	**6,251**	**11**	**99.8%**	**5,889**	**5,845**
Salaries and wages	4,461	1,170	-	5,631	5,625	6	99.9%	5,268	5,224
Social contributions	1,351	(720)	-	631	626	5	99.2%	621	621
Goods and services	**6,668**	**-**	**(5,120)**	**1,548)**	**1,067**	**481**	**68.9%**	**3,628**	**3,497**
Administrative fees	-	20	-	20	16	4	80.0%	120	120
Advertising	45	-	-	45	-	45	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	4	-	-	4	4	-	100.0%	8	8
Communication (G&S)	13	40	-	53	46	7	86.8%	87	58
Computer services								-	-
Consultants: Business & advisory services	1,000	(180)	(610)	210	1	209	0.5%	375	375
Legal services								-	-
Contractors								-	-
Agency and support/ outsourced services	612	120	-	732	722	10	98.6%	396	396
Entertainment	4,285	-	(4,120)	165	1	164	0.6%	92	4
Fleet services (incl. government motor transport)								1	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	9	-
Operating leases								-	-
Property payments								-	-
Travel and subsistence	294	-	-	294	263	31	89.5%	920	920
Training and development								-	-
Operating payments	6	-	-	6	-	6	-	5	1
Venues and facilities	409	-	(390)	19	14	5	73.7%	1,615	1,615
Rental and hiring								-	-
Transfers and subsidies	**513.663**	**-**	**(2,925)**	**510,738**	**510,738**	**-**	**100.0%**	**509,749**	**438,070**
Departmental agencies and accounts	415,145	-	(345)	414,800	408,990	5,810	98.6%	414,026	342,008
Higher education institutions	-	-	-	-	13,500	(13,500)	-	-	18,690

Sub-programme: 2.4 Innovation Priorities and Instrument	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	**95,011**	**-**	**(2,580)**	**92,431**	**75,786**	**16,645**	**82.0%**	**92,351**	**68,798**
Public corporations	**95,011**	**-**	**(2,580)**	**92,431**	**75,786**	**16,645**	**82.0%**	**92,351**	**65,345**
Subsidies									
Other transfers to public corporations	95,011	-	(2,580)	92,431	75,786	16,645	82.0%	92,351	65,345
Private enterprises								**-**	**3,453**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	3,453
Non-profit institutions	3,507	-	-	3,507	12,462	(8,955)	355.3%	3,353	8,555
Households	**-**	**-**						**19**	**19**
Social benefits	-	-						19	19
Other transfers to households	-	-						-	-
Payment for capital assets	**-**	**-**						**-**	**-**
Buildings and other fixed structures	-	-						-	-
Machinery and equipment	**-**	**-**						**-**	**-**
Transport equipment	-	-						-	-
Other machinery and equipment	-	-						-	-
Biological assets	-	-						-	-
Software and other intangible assets	-	-						-	-
Land and subsoil assets	-	-						-	-
Payment for financial assets	**-**	**-**						**-**	**-**
Total	**526,143**	**450**	**(8,045)**	**518,548**	**518,056**	**492**	**99.9%**	**519,266**	**447,412**

Sub-programme: 2.5: National Intellectual Property Management Office	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	**10,324**	**(451)**	**-**	**9,873**	**9,652**	**221**	**97.8%**	**11,075**	**10,702**
Compensation of employees	**8,044**	**(450)**	**-**	**7,594**	**7,499**	**95**	**98.7%**	**6,580**	**6,245**
Salaries and wages	6,407	400	-	6,807	6,757	50	99.3%	5,824	5,675
Social contributions	1,637	(850)	-	787	742	45	94.3%	756	570
Goods and services	**2,280**	**(1)**	**-**	**2,279**	**2,153**	**126**	**94.5%**	**4,495**	**4,457**
Administrative fees	12	35	-	47	45	2	95.7%	116	106
Advertising	5	-	-	5	1	4	20.0%	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	1	35	-	36	29	7	80.6%	5	5
Communication (G&S)	84	120	-	204	197	7	96.6%	123	123
Computer services								-	-
Consultants: Business & advisory services	734	(600)	-	134	125	9	93.3%	204	204
Legal services								-	-
Contractors	-	-	-	-	-	-	-	9	9
Agency and support/ outsourced services	564	(560)	-	4	-	4	-	187	187
Entertainment	12	-	-	12	7	5	58.3%	4	4
Fleet services (incl. government motor transport)								-	-
Inventory: Clothing & accessories								-	-
Inventory: Fuel, oil and gas								-	-
Inventory: Material and Supplies								-	-
Inventory: Other supplies								-	-
Consumable supplies								-	-
Consumable: Stationery, printing and office supplies								-	-
Operating leases	-	696	-	696	696	-	100%	523	523
Property payments	530	(456)	-	74	32	42	43.2%	219	199
Travel and subsistence	173	640		813	800	13	98.4%	874	874
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	85	-	85	79	6	92.9%	1,675	1,667
Venues and facilities	165	-	-	165	142	23	86.1%	556	556
Rental and hiring	-	4	-	4	-	4	-	-	-
Transfers and subsidies	**15,000**	**-**	**32,662**	**47,662**	**42,747**	**4,915**	**89.7%**	**53,638**	**53,505**
Departmental agencies and accounts	-	-	-	-	4,411	(4,411)	-	-	2,199
Higher education institutions	15,000	-	32,662	47,662	31,744	15,918	66.6%	53,539	36,560

Sub-programme: 2.5: National Intellectual Property Management Office	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
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**6,592**	**(6,592)**	**-**	**-**	**14,647**
Public corporations	**-**	**-**	**-**	**-**	**6,592**	**(6,592)**	**-**	**-**	**12,336**
Subsidies									
Other transfers to public corporations	-	-	-	-	6,592	(6,592)	-	-	12,336
Private enterprises	**-**	**-**	**-**	**-**			**-**	**-**	**2,311**
Other transfers to private Enterprises	-	-	-	-			-	-	2,311
Non-profit institutions	-	-	-	-			-	-	-
Households	**-**	**-**						**99**	**99**
Social benefits	-	-						99	99
Other transfers to Households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**1**	**-**	**1**	**1**	**-**	**100.0%**	**-**	**-**
Total	**25,324**	**(450)**	**32,662**	**57,536**	**52,400**	**5,136**	**91.1%**	**64,713**	**64,207**

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2016									
	2015/16							2014/15	
Detail per sub-programme	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	27,433	650	(1,738)	26,345	25,668	677	97.4%	22,541	22,167
3.2 International Resources	56,525	2,200	(1,700)	57,025	56,635	390	99.3%	56,804	54,021
3.3 Overseas Bilateral Cooperation	37,401	(2,850)	(1,000)	33,551	32,665	886	97.4%	32,174	31,401
Total	**121,359**	**-**	**(4,438)**	**116,921**	**114,968**	**1,953**	**98.3%**	**111,519**	**107,589**
Current payments	**60,310**	**-**	**(2,717)**	**57,593**	**55,641**	**1,952**	**96.6%**	**57,278**	**53,349**
Compensation of employees	**44,327**	**-**	**(2,700)**	**41,627**	**41,275**	**352**	**99.2%**	**40,418**	**36,762**
Salaries and wages	40,573	(238)	(2,700)	37,635	37,333	302	99.2%	36,637	33,136
Social contributions	3,754	238	-	3,992	3,942	50	98.7%	3,781	3,626
Goods and services	**15,983**	**-**	**(17)**	**15,966**	**14,366**	**1,600**	**90.0%**	**16,860**	**16,587**
Administrative fees	144	90	-	234	207	27	88.5%	845	839
Advertising	395	(320)	-	75	-	75	-	70	60
Minor assets	-	-	-	-	-	-	-	4	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	351	120	-	471	438	33	93.0%	450	444
Communication (G&S)	1,291	(525)	-	766	690	76	90.1%	496	494
Computer services	163	(70)	-	93	5	88	5.4%	-	-
Consultants: Business & advisory services	256	45	-	301	40	261	13.3%	226	163
Legal services	-	-	-	-	-	-	-	53	53
Contractors	-	63	-	63	58	5	92.1%	-	-
Agency and support/ outsourced services	621	130	-	751	726	25	96.7%	329	327
Entertainment	740	(50)	-	690	285	405	41.3%	228	218
Fleet services (incl. Government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	3	-	3	1	2	33.3%	-	-
Inventory: Medical supplies	-	3	-	3	1	2	33.3%	-	-
Inventory: Other supplies	204	(165)	(1)	38	1	37	2.6%	1	-
Consumable supplies	-	30	-	30	25	5	83.3%	4	2
Consumable: Stationery, printing and office supplies	-	24	-	24	17	7	70.8%	32	-
Operating leases	-	-	-	-	-	-	-	10	-
Property payments	474	(470)	-	4	-	4	-	13	-

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2016									
	2015/16							2014/15	
Detail per sub-programme	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
Travel and subsistence	6,582	3,455	-	10,037	10,014	23	99.8%	8,169	8,152
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	1,050	(360)	(16)	674	572	102	84.9%	1,610	1,579
Venues and facilities	3,712	(2,053)	-	1,659	1,244	415	75.0%	3,954	3,891
Rental and hiring	-	50	-	50	42	8	84.0%	366	365
Transfers and subsidies	**61,049**	**-**	**(1,721)**	**59,328**	**59,327**	**1**	**100.0%**	**54,128**	**54,127**
Departmental agencies and accounts	13,530	-	-	13,530	36,841	(23,311)	272.3%	12,935	14,591
Higher education institutions					13,124	(13,124)		-	19,986
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**8,475**	**(8,475)**	**-**	**33,549**	**16,198**
Public corporations	**-**	**-**	**-**	**-**	**7,802**	**(7,802)**	**-**	**33,549**	**10,446**
Subsidies on	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	7,802	(7,802)	-	33,549	10,446
Private enterprises	**-**	**-**	**-**	**-**	**673**	**(673)**	**-**	**-**	**5,752**
Other transfers to private enterprises					673	(673)		-	5,752
Non-profit institutions	47,519	-	(1,738)	45,781	870	44,911	1.9%	4,320	28
Households	**-**	**-**	**17**	**17**	**17**	**-**	**100.0%**	**3,324**	**3,324**
Social benefits			17	17	17	-	100.0%	84	84
Other transfers to households	-	-	-	-	-	-	-	3,240	3,240
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**113**	**113**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**113**	**113**
Transport equipment								-	-
Other machinery and equipment	-	-	-	-	-	-	-	113	113
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible -assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**121,359**	**-**	**(4,438)**	**116,921**	**114,968**	**1,953**	**98.3%**	**111,519**	**107,589**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 3.1: Multilateral Co-operation and Africa	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	**18,939**	**650**	**(16)**	**19,573**	**18,896**	**677**	**96.5%**	**18,199**	**17,825**
Compensation of employees	**13,588**	**850**	**-**	**14,438**	**14,354**	**84**	**99.4%**	**13,310**	**13,132**
Salaries and wages	12,335	612	-	12,947	12,883	64	99.5%	11,920	11,742
Social contributions	1,253	238	-	1,491	1,471	20	98.7%	1,390	1,390
Goods and services	**5,351**	**(200)**	**(16)**	**5,135**	**4,542**	**593**	**88.5%**	**4,889**	**4,693**
Administrative fees	35	45	-	80	77	3	96.3%	419	413
Advertising	143	(140)	-	3	-	3	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	100	20	-	120	117	3	97.5%	109	103
Communication (G&S)	241	-	-	241	176	65	73.0%	136	134
Computer services	31	-	-	31	-	31	-	-	-
Consultants: Business & advisory services	-	45	-	45	39	6	86.7%	15	-
Legal services								-	-
Contractors								-	-
Agency and support/ outsourced services	-	580	-	580	566	14	97.6%	-	-
Entertainment	105	-	-	105	21	84	20.0%	10	4
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	3	-	3	1	2	33.3%	-	-
Inventory: Other supplies	22	-	-	22	-	22	-	-	-
Consumable supplies	-	-	-	-	-	-	-	2	1
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	32	-
Operating leases	-	-	-	-	-	-	-	10	-
Property payments	-	-	-	-	-	-	-	10	-
Travel and subsistence	3,015	(95)	-	2,920	2,913	7	99.8%	2,472	2,457
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	158	-	(16)	142	137	5	96.5%	68	37
Venues and facilities	1,501	(658)	-	843	495	348	58.7%	1,281	1,220
Rental and hiring	-	-	-	-	-	-	-	325	324
Transfers and subsidies	**8,494**	**-**	**(1,722)**	**6,772**	**6,772**	**-**	**100.0%**	**4,342**	**4,342**
Departmental agencies and accounts	-	-	-	-	957	(957)	-	-	-
Higher education institutions	-	-	-	-	1,938	(1,938)	-	-	4,320

Sub-programme: 3.1: Multilateral Co-operation and Africa	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	**-**	**-**	**-**	**-**	**3,138**	**(3,138)**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**3,138**	**(3,138)**	**-**	**-**	**-**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporation	-	-	-	-	3,138	(3,138)	-	-	-
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	8,494	-	(1,738)	6,756	723	6,033	10.7%	4,320	-
Households			**16**	**16**	**16**	**-**	**100.0%**	**22**	**22**
Social benefit			16	16	16	-	100.0%	22	22
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-		-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**27,433**	**650**	**(1,738)**	**26,345**	**25,668**	**677**	**97.4%**	**22,541**	**22,167**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 3.2 International Resources	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	**17,500**	**2,200**	**(1,701)**	**17,999**	**17,610**	**389**	**97.8%**	**19,947**	**17,165**
Compensation of employees	**14,461**	**-**	**(1,700)**	**12,761**	**12,624**	**137**	**98.9%**	**14,164**	**11,449**
Salaries and wages	13,127	-	(1,700)	11,427	11,291	136	98.8%	12,889	10,188
Social contributions	1,334	-	-	1,334	1,333	1	99.9%	1,275	1,261
Goods and services	**3,039**	**2,200**	**(1)**	**5,238**	**4,986**	**252**	**95.2%**	**5,783**	**5,716**
Administrative fees	94	-	-	94	73	21	77.7%	147	147
Advertising	189	(180)	-	9	-	9	-	10	-
Minor assets								4	-
Audit costs: External								-	-
Bursaries: Employees								-	-
Catering: Departmental activities	174	100	-	274	266	8	97.1%	166	166
Communication (G&S)	262	75	-	337	330	7	97.9%	205	205
Computer services	132	(75)		57	3	54	5.3%	-	-
Consultants: Business & advisory services	66	-	-	66	-	66	-	48	-
Legal services	-	-	-	-	-	-	-	41	41
Contractors								-	-
Agency and support/ outsourced services	21	150	-	171	160	11	93.6%	47	47
Entertainment	178	(50)	-	128	121	7	94.5%	201	200
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	14	-	(1)	13	1	12	7.7%	-	-
Consumable supplies								2	1
Consumable: Stationery, printing and office supplies	-	15	-	15	11	4	73.3%	-	-
Operating leases								-	-
Property payments								-	-
Travel and subsistence	1,019	2,300	-	3,319	3,313	6	99.8%	3,199	3,198
Training and development								-	-
Operating payments	81	240	-	321	310	11	96.6%	1,381	1,381
Venues and facilities	809	(395)	-	414	381	33	92.0%	312	310
Rental and hiring		20	-	20	17	3	85.0%	20	20
Transfers and subsidies	**39,025**	**-**	**1**	**39,026**	**39,025**	**1**	**100.0%**	**36,842**	**36,841**
Departmental agencies and accounts	-	-	-	-	22,354	(22,354)		-	1,656
Higher education institutions					11,186	(11,186)		-	15,666

Sub-programme: 3.2 International Resources	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
Foreign governments and international organisations								-	-
Public corporations and private enterprises					**5,337**	**(5,337)**		**33,549**	**16,198**
Public corporations					**4,664**	**(4,664)**		**33,549**	**10,446**
Subsidies									
Other transfers to public corporations					4,664	(4,664)		33,549	10,446
Private enterprises	**-**	**-**	**-**	**-**	**673**	**(673)**	**-**	**-**	**5,752**
Other transfers to private Enterprises	-	-	-	-	673	(673)		-	5,752
Non-profit institutions	39,025	-	-	39,025	147	38,878	0.4%	-	28
Households	**-**	**-**	**1**	**1**	**1**	**-**	**100.0%**	**3,293**	**3,293**
Social benefits	-	-	1	1	1	-	100.0%	53	53
Other transfers to households	-	-	-	-	-	-	-	3,240	3,240
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**15**	**15**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**--**	**-**	**-**	**-**	**-**	**-**	**15**	**15**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	15	15
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**56,525**	**2,200**	**(1,700)**	**57,025**	**56,635**	**390**	**99.3%**	**56,804**	**54,021**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 3.3 Overseas Bilateral Cooperation	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	**23,871**	**(2,850)**	**(1,000)**	**20,021**	**19,135**	**886**	**95.6%**	**19,132**	**18,359**
Compensation of employees	**16,278**	**(850)**	**(1,000)**	**14,428**	**14,297**	**131**	**99.1%**	**12,944**	**12,181**
Salaries and wages	15,111	(850)	(1,000)	13,261	13,159	102	99.2%	11,828	11,206
Social contributions	1,167	-	-	1,167	1,138	29	97.5%	1,116	975
Goods and services	**7,593**	**(2,000)**	**-**	**5,593**	**4,838**	**755**	**86.5%**	**6,188**	**6,178**
Administrative fees	15	45	-	60	57	3	95.0%	279	279
Advertising	63	-	-	63	-	63	-	60	60
Minor assets								-	-
Audit costs: External								-	-
Bursaries: Employees								-	-
Catering: Departmental activities	77	-	-	77	55	22	71.4%	175	175
Communication (G&S)	788	(600)	-	188	184	4	97.9%	155	155
Computer services		5	-	5	2	3	40.0%	-	-
Consultants: Business & advisory services	190	-	-	190	1	189	0.5%	163	163
Legal services								12	12
Contractors	-	63	-	63	58	5	92.1%	-	-
Agency and support/ outsourced services	600	(600)						282	280
Entertainment	457	-	-	457	143	314	31.3%	17	14
Fleet services(incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & Accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Medical supplies	-	3	-	3	1	2	33.3%	-	-
Inventory: Other supplies	168	(165)	-	3	-	3	-	1	-
Consumable supplies	-	30	-	30	25	5	83.3%	-	-
Consumable: Stationery, printing and office supplies	-	9	-	9	6	3	66.7%	-	-
Operating leases								-	-
Property payments	474	(470)	-	4	-	4	-	3	-
Travel and subsistence	2,548	1,250	-	3,798	3,788	10	99.7%	2,498	2,497
Training and development								-	-
Operating payments	811	(600)	-	211	125	86	59.2%	161	161
Venues and facilities	1,402	(1,000)	-	402	368	34	91.5%	2,361	2,361
Rental and hiring	-	30	-	30	25	5	83.3%	21	21
Transfers and subsidies	**13,530**	**-**	**-**	**13,530**	**13,530**	**-**	**100.0%**	**12,944**	**12,944**
Departmental agencies and accounts	13,530	-	-	13,530	13,530	-	100.0%	12,935	12,935
Higher education institutions	-	-	-	-	-	-	-	-	-

Sub-programme: 3.3 Overseas Bilateral Cooperation	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-
Public corporations	-	-	-	-	-	-	-	-	-
Subsidies									
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	-	-						**9**	**9**
Social benefits	-	-						9	9
Other transfers to households	-	-						-	-
Payment for capital assets	-	-						**98**	**98**
Buildings and other fixed structures	-	-						-	-
Machinery and equipment	-	-						**98**	**98**
Transport equipment	-	-						-	-
Other machinery and equipment	-	-						98	98
Biological assets	-	-						-	-
Software and other intangible assets	-	-						-	-
Land and subsoil assets	-	-						-	-
Payment for financial assets	-	-						-	-
Total	**37,401**	**(2,850)**	**(1,000)**	**33,551**	**32,665**	**886**	**97.4%**	**32,174**	**31,401**

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2016									
	2014/15							2014/15	
Detail per sub-programme	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 Promotion	2,337,984	(910)	(4,508)	2,332,566	2,331,826	740	100.0%	1,873,352	1,872,787
4.2 Science Missions	165,786	930	10,800	177,516	177,004	512	99.7%	160,139	159,549
4.3 Basic Science and Infrastructure	1,009,611	1,350	(17,548)	993,413	986,984	6,429	99.4%	784,138	783,727
4.4 Astronomy	725,444	(1,370)	(647)	723,427	723,040	387	99.9%	675,260	673,774
Total	**4,238,825**	**-**	**(11,903)**	**4,226,922**	**4,218,854**	**8,068**	**99.8%**	**3,492,889**	**3,489,837**
Current payments	**44,834**	**-**	**684**	**45,518**	**43,751**	**1,767**	**96.1%**	**40,050**	**37,696**
Compensation of employees	**30,465**	**-**	**767**	**31,232**	**31,117**	**115**	**99.6%**	**29,925**	**29,438**
Salaries and wages	26,904	390	767	28,061	27,974	87	99.7%	26,676	26,457
Social contributions	3,561	(390)	-	3,171	3,143	28	99.1%	3,249	2,981
Goods and services	**14,369**	**-**	**(83)**	**14,286**	**12,634**	**1,652**	**88.4%**	**10,125**	**8,258**
Administrative fees	493	(215)	(33)	245	232	13	94.7%	234	202
Advertising	39	-	-	39	-	39	-	194	44
Minor assets	-	-	-	-	-	-	-	2	1
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	696	(325)	-	371	163	208	43.9%	302	96
Communication (G&S)	574	(15)	-	559	246	313	44.0%	724	339
Computer services	144	575	-	719	572	147	79.6%	513	428
Consultants: Business & advisory services	1,403	(870)	(50)	483	405	78	83.9%	649	385
Legal Services	166	(158)	-	8	-	8	-	132	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	829	675	-	1,504	1,467	37	97.5%	1,040	919
Entertainment	220	(175)	-	45	20	25	44.4%	74	6
Fleet services(incl. government motor transport)	-	-	-	-	-	-	-	1	-
Inventory: Clothing & accessories								-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	2	1
Inventory: Material and supplies								-	-
Inventory: Other supplies	17	-	-	17	-	17	-	16	-
Consumable supplies	-	155	-	155	133	22	85.8%	-	-
Consumable: Stationery, printing and office supplies	-	5	-	5	1	4	20.0%	45	-
Operating leases								-	-
Property payments								-	-
Travel and subsistence	7,463	(82)	-	7,381	6,982	399	94.6%	4,961	4,864

Detail per sub-programme	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
Training and development	-	-	-	-	-	-	-	65	61
Operating payments	429	790	-	1,219	1,093	126	89.7%	290	241
Venues and facilities	1,896	(360)	-	1,536	1,320	216	85.9%	881	671
Rental and hiring								-	-
Transfers and subsidies	**4,193,991**	**-**	**(12,587)**	**4,181,404**	**4,175,103**	**6,301**	**99.8%**	**3,452,708**	**3,452,010**
Departmental agencies and accounts	3,957,283	-	(12,703)	3,944,580	3,564,106	380,474	90.4%	3,248,616	2,977,765
Higher education institutions	-	-	-	-	50,825	(50,825)	-	-	53,477
Foreign governments and international organisations								-	-
Public corporation and private enterprises	**213,479**	**-**	**-**	**213,479**	**526,189**	**(312,710)**	**246,5%**	**204,045**	**390,539**
Public corporations	**213,479**	**-**	**-**	**213,479**	**526,189**	**(312,710)**	**246,5%**	**204,045**	**390,539**
Subsidies	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	213,479	-	-	213,479	526,189	(312,710)	246.5%	204,045	390,539
Private enterprises								**-**	**-**
Other transfers to private Enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	23,229	-	-	23,229	33,617	(10,388)	144.7%	-	29,857
Households	**-**	**-**	**116**	**116**	**366**	**(250)**	**315.5%**	**47**	**372**
Social benefit	-	-	116	116	116	-	100.0%	47	47
Other transfers to households	-	-	-	-	250	(250)	-	-	325
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**72**	**72**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**		**72**	**72**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	72	72
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets								**59**	**59**
Total	**4,238,825**	**-**	**(11,903)**	**4,226,922**	**4,218,854**	**8,068**	**99.8%**	**3,492,889**	**3,489,837**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 4.1: Human Capital and Science Promotion	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	**13,598**	**(910)**	**(33)**	**12,655**	**11,916**	**739**	**94.2%**	**11,908**	**11,343**
Compensation of employees	**9,873**	**(910)**	**(33)**	**8,930**	**8,884**	**46**	**99.5%**	**9,713**	**9,355**
Salaries and wages	8,466	(380)	(33)	8,053	8,011	42	99.5%	8,517	8,416
Social contributions	1,407	(530)	-	877	873	4	99.5%	1,196	939
Goods and services	**3,725**	**-**	**-**	**3,725**	**3,032**	**693**	**81.4%**	**2,195**	**1,988**
Administrative fees	48	10	-	58	56	2	96.6%	58	58
Advertising	39	-	-	39	-	39	-	44	44
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	208	-	-	208	64	144	30.8%	76	12
Communication (G&S)	285	-	-	285	85	200	29.8%	173	112
Computer services	70	-	-	70	-	70	-	17	-
Consultants: Business & advisory services	-	35	-	35	31	4	88.6%	-	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	172	135	-	307	300	7	97.7%	354	350
Entertainment	14	-	-	14	3	11	21.4%	12	1
Fleet services(incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	17	-	-	17	-	17	-	16	-
Consumable supplies	-	50	-	50	40	10	80.0%	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,928	(280)	-	1,648	1,551	97	94.1%	1,162	1,162
Training and development								-	-
Operating payments	189	550	-	739	728	11	98.5%	44	44
Venues and facilities	755	(500)	-	255	174	81	68.2%	239	205
Rental and hiring								-	-
Transfers and subsidies	**2,324,386**	**-**	**(4,475)**	**2,319,911**	**2,319,910**	**1**	**100.0%**	**1,861,322**	**1,861,322**
Departmental agencies and accounts	2,324,386	-	(4,508)	2,319,878	2,242,276	77,602	96.7%	1,861,275	1,821,826
Higher education institutions					11,854	(11854)		-	14,592

Sub-programme: 4.1: Human Capital and Science Promotion	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**33,505**	**(33,505)**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**33,505**	**(33,505)**	**-**	**-**	**-**
Subsidies									
Other transfers to public corporations	-	-	-	-	33,505	(33,505)	-	-	-
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	32,117	(32,117)		-	24,857
Households	-	-	33	33	158	(125)	478.8%	47	47
Social benefits	-	-	33	33	33	-	100.0%	47	47
Other transfers to households	-	-	-	-	125	(125)	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**63**	**63**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**63**	**63**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	63	63
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**59**	**59**
Total	**2,337,984**	**(910)**	**(4,508)**	**2,332,566**	**2,331,826**	**740**	**100.0%**	**1,873,352**	**1,872,787**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 4.2: Science Missions	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	**13,047**	**930**	**800**	**14,777**	**14,265**	**512**	**96.5%**	**12,561**	**12,138**
Compensation of employees	**9,478**	**930**	**800**	**11,208**	**11,188**	**20**	**99.8%**	**10,273**	**10,259**
Salaries and wages	8,546	705	800	10,051	10,036	15	99.9%	9,206	9,192
Social contributions	932	225	-	1,157	1,152	5	99.6%	1,067	1,067
Goods and services	**3,569**	**-**	**-**	**3,569**	**3,077**	**492**	**86.2%**	**2,288**	**1,879**
Administrative fees	51	20	-	71	68	3	95.8%	64	61
Advertising								-	-
Minor assets								2	1
Audit costs: External								-	-
Bursaries: Employees								-	-
Catering: Departmental activities	207	(130)	-	77	28	49	36.4%	100	24
Communication (G&S)	181	-	-	181	79	102	43.6%	219	136
Computer services	38	-	-	38	-	38	-	36	-
Consultants: Business & advisory services	537	(400)	-	137	93	44	67.9%	120	114
Legal services								-	-
Contractors								-	-
Agency and support/ outsourced services	251	450	-	701	692	9	98.7%	73	-
Entertainment	20	-	-	20	11	9	55.0%	15	4
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and Supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	--	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,605	60	-	1,665	1,656	9	99.5%	1,303	1,271
Training and development								-	-
Operating payments	162	-	-	162	56	106	34.6%	56	7
Venues and facilities	517	-	-	517	394	123	76.2%	300	261
Rental and hiring								-	-
Transfers and subsidies	**152,739**	**-**	**10,000**	**162,739**	**162,739**	**-**	**100.0%**	**147,578**	**147,411**
Departmental agencies and accounts	152,739	-	10,000	162,739	149,943	12,796	92.1%	147,578	138,044
Higher education institutions	-	-	-	-	6,796	(6,796)	-	-	5,467

Sub-programme: 4.2: Science Missions	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**4,500**	**(4,500)**	**-**	**-**	**700**
Public corporations	**-**	**-**	**-**	**-**	**4,500**	**(4,500)**	**-**	**-**	**700**
Subsidies	-	-	-	-			-	-	-
Other transfers to public corporations	-	-	-	-	4,500	(4,500)	-	-	700
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-			-	-	-
Non-profit institutions	-	-	-	-	1,500	(1,500)	-	-	3,000
Households	**-**	**-**	**-**	**-**			**-**	**-**	**200**
Other transfers to households	-	-	-	-			-	-	200
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**165,786**	**930**	**10,800**	**177,516**	**177,004**	**512**	**99.7%**	**160,139**	**159,549**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 4.3: Basic Science and Infrastructure	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	**7,971**	**1,350**	**(50)**	**9,271**	**9,133**	**138**	**98.5%**	**8,489**	**8,091**
Compensation of employees	**6,158**	**550**	**-**	**6,708**	**6,689**	**19**	**99.7%**	**6,429**	**6,412**
Salaries and wages	5,436	565	-	6,001	5,991	10	99.8%	5,772	5,755
Social contributions	722	(15)	-	707	698	9	98.7%	657	657
Goods and services	**1,813**	**800**	**(50)**	**2,563**	**2,444**	**119**	**95.4%**	**2,060**	**1,679**
Administrative fees	11	55	-	66	62	4	93.9%	38	36
Advertising								-	-
Minor assets								-	-
Audit costs: External								-	-
Bursaries: Employees								-	-
Catering: Departmental activities	64	-	-	64	55	9	85.9%	54	39
Communication (G&S)	108	(50)	-	58	51	7	87.9%	132	48
Computer services	36	(15)	-	21	-	21		32	-
Consultants: Business & advisory services	624	(550)	(50)	24	-	24	-	132	11
Legal services								-	-
Contractors								-	-
Agency and support/ outsourced services	190	300	-	490	475	15	96.9%	171	131
Entertainment	20	(15)	-	5	2	3	40.0%	15	1
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & Accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	2	1
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	5	-	5	1	4	20%	-	-
Consumable: Stationery, printing and office supplies	-	5	-	5	1	4	20%	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	552	1,050	-	1,602	1,581	21	98.7%	1,082	1,078
Training and development	-	-	-	-	-	-	-	65	61
Operating payments	78	(70)	-	8	5	3	62.5%	156	156
Venues and facilities	130	85	-	215	211	4	98.1%	181	117
Rental and hiring								-	-
Transfers and subsidies	**1,001,640**	**-**	**(17,498)**	**984,142**	**977,851**	**6,291**	**99.4%**	**775,649**	**775,636**
Departmental agencies and accounts	788,161	-	(17,548)	770,613	459,317	311,296	59.6%	571,604	353,589
Higher education Institutions	-	-	-	-	32,175	(32,175)	-	-	32,806

Sub-programme: 4.3: Basic Science and Infrastructure	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
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**213,479**	**-**	**-**	**213,479**	**486,184**	**(272,705)**	**227.7%**	**204,045**	**389,116**
Public corporations	**213,479**	**-**	**-**	**213,479**	**486,184**	**(272,705)**	**227.7%**	**204,045**	**389,116**
Subsidies								-	-
Other transfers to public corporations	213,479	-	-	213,479	486,184	(272,705)	227.7%	204,045	389,116
Private enterprises	**-**	**--**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private Enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	-	-	50	50	175	(125)	350.0%	-	125
Social benefits	-	-	50	50	50	-	100.0%		
Other transfers to households	-	-	-	-	125	(125)	-	-	125
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**1,009,611**	**1,350**	**(17,548)**	**993,413**	**986,984**	**6,429**	**99.4%**	**784,138**	**783,727**

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Sub-programme: 4.4 Astronomy	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	**10,218**	**(1,370)**	**(33)**	**8,815**	**8,437**	**378**	**95.7%**	**7,092**	**6,124**
Compensation of employees	**4,956**	**(570)**	**-**	**4,386**	**4,356**	**30**	**99.3%**	**3,510**	**3,412**
Salaries and wages	4,456	(500)	-	3,956	3,936	20	99.5%	3,181	3,094
Social contributions	500	(70)	-	430	420	10	97.7%	329	318
Goods and services	**5,262**	**(800)**	**(33)**	**4,429**	**4,081**	**348**	**92.1%**	**3,582**	**2,712**
Administrative fees	383	(300)	(33)	50	46	4	92.0%	74	47
Advertising	-	-	-	-	-	-	-	150	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-		-	-
Catering: Departmental activities	217	(195)	-	22	16	6	72.7%	72	21
Communication (G&S)	-	35	-	35	31	4	88.6%	200	43
Computer services	-	590	-	590	572	18	96.9%	428	428
Consultants: Business & advisory services	242	45	-	287	281	6	97.9%	397	260
Legal services	166	(158)	-	8	-	8	-	132	-
Contractors								-	-
Agency and support/ outsourced services	216	(210)	-	6	-	6	-	442	438
Entertainment	166	(160)	-	6	4	2	66.7%	32	-
Fleet services (incl. government motor transport)	--	-	-	-	-	-	-	1	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	100	-	100	92	8	92.0%	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	45	-
Operating leases	-	-	-	-	-	-		-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	3,378	(912)	-	2,466	2,194	272	89.0%	1,414	1,353
Training and development								-	-
Operating payments	-	310	-	310	304	6	98.1%	34	34
Venues and facilities	494	55	-	549	541	8	98.5%	161	88
Rental and hiring								-	-
Transfers and subsidies	**715,226**	**-**	**(614)**	**714,612**	**714,603**	**9**	**100.0%**	**668,159**	**667,641**
Departmental agencies and accounts	715,226	-	(647)	714,579	712,570	2,009	99.7%	668,159	664,306

Sub-programme: 4.4 Astronomy	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
Higher education institutions								-	612
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**2,000**	**(2,000)**	**-**	**-**	**723**
Public corporations	**-**	**-**	**-**	**-**	**2,000**	**(2,000)**	**-**	**-**	**723**
Subsidies on products								-	-
Other transfers to public corporations	-	-	-	-	2,000	(2,000)	-	-	723
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-				-	2,000
Households	**-**	**-**	**33**	**33**	**33**	**-**	**100.0%**	**-**	**-**
Social benefits	-	-	33	33	33	-	100.0%		
Other transfers to households									
Payment for capital assets	**-**	**-**						**9**	**9**
Buildings and other fixed structures	-	-						-	-
Machinery and equipment	**-**	**-**						**9**	**9**
Transport equipment	-	-						-	-
Other machinery and equipment	-	-						9	9
Biological assets	-	-	-	-				-	-
Software and other intangible assets	-	-	-	-				-	-
Land and subsoil assets	-	-	-	-				-	-
Payment for financial assets	**-**	**-**	**-**	**-**				**-**	**-**
Total	**725,444**	**(1,370)**	**(647)**	**723,427**	**723,040**	**387**	**99.9%**	**675,260**	**673,774**

Detail per Programme 5 – Socio –Economic Innovation Partnerships for the year ended 31 March 2016									
	2015/16							2014/15	
Detail per sub-programme	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 Sector Innovation and Green Economy	873,803	(550)	771	874,024	873,866	158	100.0%	876,806	875,737
5.2 Innovation for Inclusive Development	365,022	(600)	(27,826)	336,596	334,443	2,153	99.4%	340,669	340,095
5.3 Science and Technology Investment	29,023	3,130	300	32,453	32,309	144	99.6%	30,161	29,864
5.4 Technology Localisation, Beneficiation and Advanced Manufacturing	529,023	(1,980)	(28,321)	498,722	497,729	993	99.8%	294,606	293,470
Total	**1,796,871**	**-**	**(55,076)**	**1,741,795**	**1,738,347**	**3,448**	**99.8%**	**1,542,242**	**1,539,166**

Detail per sub-programme	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	**42,982**	**(46)**	**986**	**43,922**	**43,310**	**612**	**98.6%**	**42,010**	**40,858**
Compensation of employees	**34,579**	**-**	**2,700**	**37,279**	**37,107**	**172**	**99.5%**	**35,081**	**34,158**
Salaries and wages	31,054	(15)	2,395	33,434	33,288	146	99.6%	31,508	30,648
Social contributions	3,525	15	305	3,845	3,819	26	99.3%	3,573	3,510
Goods and services	**8,403**	**(46)**	**(1,714)**	**6,643**	**6,203**	**440**	**93.4%**	**6,929**	**6,700**
Administrative fees	116	10	-	126	107	19	84.9%	362	362
Advertising	188	(95)	-	93	6	87	6.5%	40	40
Minor assets	-	-	-	-	-	-	-	2	2
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	261	(105)	-	156	134	22	85.9%	87	87
Communication (G&S)	995	(710)	-	285	243	42	85.3%	293	293
Computer services	69	33	-	102	82	20	80.4%	-	-
Consultants: Business & advisory services	3,718	(2,049)	(1,629)	40	16	24	40.0%	562	486
Legal services	-	-	-	-	-	-	-	62	62
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	223	1,926	-	2,149	2,032	117	94.6%	1,757	1,715
Entertainment	31	(5)	-	26	15	11	57.7%	18	18
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	5	4	-	9	1	8	11.1%	1	1
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	1	1
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,718	1,305	-	3,023	2,990	33	98.9%	2,918	2,828
Training and development	288	(285)	-	3	-	3	-	-	-
Operating payments	39	485	-	524	498	26	95.0%	185	185
Venues and facilities	752	(560)	(85)	107	79	28	73.8%	641	620
Rental and hiring								-	-
Transfers and subsidies	1,753,889	46	(56,062)	1,697,873	1,695,037	2,836	99.8%	1,500,232	1,498,308
Departmental agencies and accounts	812,532	-	(55,864)	756,668	424,954	331,714	56.2%	579,657	391,492
Higher education institutions	-	-	-	-	14,647	(14,647)	-	-	7,065

Vote 30 Appropriation Statement
for the year ended 31 March 2016 (continued)

Detail per sub-programme	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**941,357**	**-**	**(283)**	**941,074**	**1,198,967**	**(257,893)**	**127.4%**	**920,534**	**1,064,637**
Public corporations	**941,357**	**-**	**(283)**	**941,074**	**1,178,770**	**(237,696)**	**125.3%**	**920,534**	**1,054,265**
Subsidies	820,204	-	-	820,204	-	820,204	-	825,740	825,740
Other transfers to public corporations	121,153	-	(283)	120,870	1,178,770	(1,057,900)	975.2%	94,794	228,525
Private enterprises	**-**	**-**	**-**	**-**	**20,197**	**(20,197)**	**-**	**-**	**10,372**
Other transfers to private enterprises	-	-	-	-	20,197	(20,197)	-	--	10,372
Non-profit institutions	-	-	-	-	56,338	(56,338)	-	-	35,053
Households	**-**	**46**	**85**	**131**	**131**	**-**	**100.0%**	**41**	**61**
Social benefits	-	46	85	131	131	-	100.0%	41	61
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**1,796,871**	**-**	**(55,076)**	**1,741,795**	**1,738,347**	**3,448**	**99.8%**	**1,542,242**	**1,539,166**

Sub-programme: 5.1: Sector Innovation and Green Economy	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	**10,992**	**(550)**	**771**	**11,213**	**11,055**	**158**	**98.5%**	**10,493**	**10,231**
Compensation of employees	**7,527**	**-**	**2,400**	**9,927**	**9,889**	**38**	**99.6%**	**9,252**	**9,065**
Salaries and wages	6,641	-	2,175	8,816	8,780	36	99.6%	8,247	8,060
Social contributions	886	-	225	1,111	1,109	2	99.8%	1,005	1,005
Goods and services	**3,465**	**(550)**	**(1,629)**	**1,286**	**1,166**	**120**	**90.7%**	**1,241**	**1,166**
Administrative fees	59	-	-	59	51	8	86.4%	29	29
Advertising	72	(70)	-	2	-	2	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	73	(60)	-	13	8	5	61.5%	13	13
Communication (G&S)	331	(240)	-	91	84	7	92.3%	66	66
Computer services	69	(60)	-	9	-	9	-	-	-
Consultants: Business & advisory services	1,763	(120)	(1,629)	14	-	14	-	75	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	41	-	-	41	-	41	-	-	-
Entertainment	4	-	-	4	3	1	75.0%	4	4
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and Supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies								-	-
Consumable supplies	5	-	-	5	-	5	-	1	1
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments								-	-
Travel and subsistence	832	145	-	977	971	6	99.4%	963	963
Training and development								-	-
Operating payments	17	5	-	22	18	4	81.8%	84	84
Venues and facilities	199	(150)	-	49	31	18	63.3%	6	6
Rental and hiring								-	-
Transfers and subsidies	**862,811**	**-**	**-**	**862,811**	**862,811**	**-**	**100.0%**	**866,313**	**865,506**
Departmental agencies and accounts	16,463	-	-	16,463	1,473	14,990	8.9%	16,315	4,585
Higher education institutions								-	-

Sub-programme: 5.1: Sector Innovation and Green Economy	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
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**846,348**	**-**	**-**	**846,348**	**851,262**	**(4,914)**	**100.6%**	**849,998**	**860,211**
Public corporations	**846,348**	**-**	**-**	**846,348**	**851,262**	**(4,914)**	**100.6%**	**849,998**	**860,061**
Subsidies	820,204	-	-	820,204	-	820,204	-	825,740	825,740
Other transfers to public corporations	26,144	-	-	26,144	851,262	(825,118)	3256.1%	24,258	34,321
Private enterprises								**-**	**150**
Other transfers to private enterprises	-	-	-	-			-	-	150
Non-profit institutions	-	-	-	-	10,076	(10,076)	-	-	690
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**20**
Social benefits	-	-	-	-	-	-	-	-	20
Other transfers to Households									
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-		-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**873,803**	**(550)**	**771**	**874,024**	**873,866**	**158**	**100.0%**	**876,806**	**875,737**

Sub-programme: 5.2: Innovation for Inclusive Development	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	**7,758**	**(609)**	**(85)**	**7,064**	**6,910**	**154**	**97.8%**	**6,501**	**6,293**
Compensation of employees	**6,992**	**(750)**	**-**	**6,242**	**6,193**	**49**	**99.2%**	**5,656**	**5,469**
Salaries and wages	6,417	(825)	-	5,592	5,552	40	99.3%	5,106	4,925
Social contributions	575	75	-	650	641	9	98.6%	550	544
Goods and services	**766**	**141**	**(85)**	**822**	**717**	**105**	**87.2%**	**845**	**824**
Administrative fees	39	(20)	-	19	15	4	78.9%	21	21
Advertising	8	(5)	-	3	-	3	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	62	(30)	-	32	26	6	81.3%	10	10
Communication (G&S)	220	(170)	-	50	45	5	90.0%	53	53
Computer services								-	-
Consultants: Business & advisory services	15	-	-	15	10	5	66.7%	-	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	146	(79)	-	67	-	67	-	-	-
Entertainment	-	10	-	10	7	3	70.0%	4	4
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and Supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	87	530	-	617	612	5	99.2%	676	676
Training and development								-	-
Operating payments	22	(15)	-	7	2	5	28.6%	55	55
Venues and facilities	167	(80)	(85)	2	-	2	-	26	5
Rental and hiring								-	-
Transfers and subsidies	**357,264**	**9**	**(27,741)**	**329,532**	**327,533**	**1,999**	**99.4%**	**334,168**	**333,802**
Departmental agencies and accounts	357,264	-	(27,826)	329,438	302,492	26946	91.8%	334,156	292,688
Higher education institutions	-	-	-	-	4,498	(4,498)	-	-	631

Sub-programme: 5.2: Innovation for Inclusive Development	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
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**12,343**	**(12,343)**	**-**	**-**	**20,827**
Public corporations					**12,343**	**(12,343)**		**-**	**20,827**
Subsidies on products								-	-
Other transfers to public corporations	-	-	-	-	12,343	(12,343)	-	-	20,827
Private enterprises	**-**	**-**	**-**	**-**	**-**	**--**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	8,106	(8,106)		-	19,644
Households	-	9	85	94	94	-	100.0%	12	12
Social benefit	-	9	85	94	94	-	100.0%	12	12
Other transfers to Households	-	-						-	-
Payment for capital assets	**--**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-		-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**365,022**	**(600)**	**(27,826)**	**336,596**	**334,443**	**2,153**	**99.4%**	**340,669**	**340,095**

Sub-programme: 5.3: Science and Technology Investment	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	**11,338**	**3,130**	**300**	**14,768**	**14,624**	**144**	**99.0%**	**13,645**	**13,348**
Compensation of employees	**9,808**	**1,750**	**300**	**11,858**	**11,854**	**4**	**100.0%**	**11,307**	**11,052**
Salaries and wages	8,702	1,750	220	10,672	10,670	2	100.0%	10,198	9,943
Social contributions	1,106	-	80	1,186	1,184	2	99.8%	1,109	1,109
Goods and services	**1,530**	**1,380**	**-**	**2,910**	**2,770**	**140**	**95.2%**	**2,338**	**2,296**
Administrative fees	18	5	-	23	21	2	91.3%	23	23
Advertising	108	(20)	-	88	6	82	6.8%	40	40
Minor assets								-	-
Audit costs: External								-	-
Bursaries: Employees								-	-
Catering: Departmental activities	70	10	-	80	76	4	95.0%	56	56
Communication (G&S)	272	(155)	-	117	114	3	97.4%	103	103
Computer services								-	-
Consultants: Business & advisory services	546	(535)	-	11	6	5	54.5%	-	-
Legal services	-	-	-	-	-	-	-	62	62
Contractors								-	-
Agency and support/ outsourced services	36	2,005	-	2,041	2,032	9	99.6%	1,509	1,467
Entertainment	-	5	-	5	1	4	20.0%	2	2
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & Accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumable: Stationary, printing and office supplies	-	-	-	-	-	-	-	1	1
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	-	425	-	425	409	16	96.2%	444	444
Training and development	288	(285)	-	3	-	3	-	-	-
Operating payments	-	65	-	65	57	8	87.7%	34	34
Venues and facilities	192	(140)	-	52	48	4	92.3%	64	64
Rental and hiring								-	-
Transfers and subsidies	**17,685**	**-**	**-**	**17,685**	**17,685**	**-**	**100.0%**	**16,516**	**16,516**
Departmental agencies and accounts	17,685	-	-	17,685	17,685	-	100.0%	16,507	16,507
Higher education institutions	-	-	-	-	-	-	-	-	-

Sub-programme: 5.3: Science and Technology Investment	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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**9**	**9**
Social benefit	-	-	-	-	-	-	-	9	9
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**29,023**	**3,130**	**300**	**32,453**	**32,309**	**144**	**99.6%**	**30,161**	**29,864**

Sub-programme: 5.4: Technology Localisation, Beneficiation and Advanced Manufacturing	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	**12,894**	**(2,017)**	**-**	**10,877**	**10,721**	**156**	**98.6%**	**11,371**	**10,986**
Compensation of employees	**10,252**	**(1,000)**	**-**	**9,252**	**9,171**	**81**	**99.1%**	**8,866**	**8,572**
Salaries and wages	9,294	(940)	-	8,354	8,286	68	99.2%	7,957	7,720
Social contributions	958	(60)	-	898	885	13	98.6%	909	852
Goods and services	**2,642**	**(1,017)**	**-**	**1,625**	**1,550**	**75**	**95.4%**	**2,505**	**2,414**
Administrative fees	-	25	-	25	20	5	80.0%	289	289
Advertising	-	-	-	-	-	-	-	-	-
Minor assets	-	-	-	-	-	-	-	2	2
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	56	(25)	-	31	24	7	77.4%	8	8
Communication (G&S)	172	(145)	-	27	-	27	-	71	71
Computer services	-	93	-	93	82	11	88.2%	-	-
Consultants: Business & advisory services	1,394	(1,394)	-	-	-	-	-	487	486
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/ outsourced services	-	-	-	-	-	-	-	248	248
Entertainment	27	(20)	-	7	4	3	57.1%	8	8
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing & Accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and Supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	4	-	4	1	3	25.0%	-	-
Consumable: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	799	205	-	1,004	998	6	99.4%	835	745
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	430	-	430	421	9	97.9%	12	12
Venues and facilities	194	(190)	-	4	-	4	-	545	545
Rental and hiring								-	-
Transfers and subsidies	**516,129**	**37**	**(28,321)**	**487,845**	**487,008**	**837**	**99.8%**	**283,235**	**282,484**
Departmental agencies and accounts	421,120	-	(28,038)	393,082	103,304	289,778	26.3%	212,679	77,712
Higher education institutions					10,149	(10,149)	-	-	6,434

Sub-programme: 5.4: Technology Localisation, Beneficiation and Advanced Manufacturing	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
Foreign governments and international organisations								-	-
Public corporations and private enterprises	**95,009**	**-**	**(283)**	**94,726**	**335,362**	**(240,636)**	**354.0%**	**70,536**	**183,599**
Public corporations	**95,009**	**-**	**(283)**	**94,726**	**315,165**	**(220,439)**	**332.7%**	**70,536**	**173,377**
Subsidies on products	--	-	-	-	-	-	-	-	-
Other transfers to public corporations	95,009	-	(283)	94,726	315,165	(220,439)	332.7%	70,536	173,377
Private enterprises					**20,197**	**(20,197)**		**-**	**10,222**
Other transfers to private enterprises	-	-	-	-	20,197	(20,197)	-	-	10,222
Non-profit institutions	-	-	-	-	38,156	(38,156)		-	14,719
Households	**-**	**37**	**-**	**37**	**37**	**-**	**100.0%**	**20**	**20**
Social benefits	-	37	-	37	37	-	100.0%	20	20
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Biological assets	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Land and subsoil assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**529,023**	**(1,980)**	**(28,321)**	**498,722**	**497,729**	**993**	**99.8%**	**294,606**	**293,470**

Notes to the Appropriation Statement

for the year ended 31 March 2016

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

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

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

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

3. Details on payments for financial assets.

There were no transactions on payments for financial assets.

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	%
Administration				
Payments for capital assets	21,435	16,467	4,968	23%

The variance is due to the fact that the budget under the item was insufficient for the Department's IT infrastructure requirements. A virement was effected on the budget, but there was in sufficient time to procure IT infrastructure from SITA before the end of 2015/2016 financial year.

4.2 Per economic classification	Final appropriation	Actual expenditure	Variance	Variance as a % of final appropriation
	R'000	R'000	R'000	%
Current payments				
Compensation of employees	303,100	301,085	2,015	1%
Goods and services	271,534	269,936	1,598	1%
Interest and rent on land	-	-	-	-
Transfers and subsidies				
Departmental agencies and accounts	5,428,397	4,762,435	665,962	12%
Higher education Institutions	147,242	230,304	(83,062)	-56%
Public corporations and private enterprises	1,246,984	1,833,674	(586,690)	-47%
Non-profit institutions	147,146	128,821	18,325	-12%
Households	573	823	(250)	-44%
Payments for capital assets				
Machinery and equipment	21,435	16,467	4,968	23%
Intangible assets	-	-	-	-
Payments for financial assets	**127**	**127**	**-**	**-**

The variance under transfers and subsidies are due to reclassification of expenditure

Statement of Financial Performance

for the year ended 31 March 2016

PERFORMANCE	Note	2015/16	2014/15
		R'000	R'000
REVENUE			
Annual appropriation	1	7,466,106	6,479,890
Departmental revenue	2	514	1,602
Aid assistance	3	158,253	156,814
TOTAL REVENUE		**7,624,873**	**6,638,306**
EXPENDITURE			
Current expenditure			
Compensation of employees	4	301,087	276,001
Goods and services	5	163,723	169,848
Interest and rent on land	6	-	-
Aid assistance	3	2,497	3,615
Total current expenditure		**467,307**	**449,464**
Transfers and subsidies			
Transfers and subsidies	8	6,956,058	5,936,872
Aid assistance	3	151,871	141,524
Total transfers and subsidies		**7,107,929**	**6,078,396**
Expenditure for capital assets			
Tangible capital assets	9	16,466	6,231
Intangible assets	9	-	-
Total expenditure for capital assets		**16,466**	**6,231**
Unauthorised expenditure approved without funding		-	-
Payment for financial assets	7	128	92
TOTAL EXPENDITURE		**7,591,830**	**6,534,183**
SURPLUS FOR THE YEAR		**33,043**	**104,123**
Reconciliation of net surplus for the year			
Voted funds		28,644	90,846
Departmental revenue	15	514	1,602
Aid assistance	3	3,885	11,675
SURPLUS FOR THE YEAR		**33,043**	**104,123**

Statement of Financial Position

for the year ended 31 March 2016

POSITION	Note	2015/16 R'000	2014/15 R'000
ASSETS			
Current assets		**32,127**	**102,189**
Cash and cash equivalents	10	31,111	100,939
Prepayments and advances	11	439	571
Receivables	12	577	679
Non-current assets		**514**	**583**
Receivables	12	514	583
TOTAL ASSETS		**32,641**	**102,772**
LIABILITIES			
Current liabilities		**32,564**	**102,654**
Voted funds to be surrendered to the Revenue Fund	14	28,644	90,846
Departmental revenue to be surrendered to the Revenue Fund	15	8	94
Payables	16	27	39
Aid assistance repayable	3	3,885	11,675
TOTAL LIABILITIES		**32,564**	**102,654**
NET ASSETS		**77**	**118**
Represented by:			
Recoverable revenue		77	118
TOTAL		**77**	**118**

Statement of Changes in net Assets

for the year ended 31 March 2016

NET ASSETS	Note	2015/16		2014/15
		R'000		R'000
Recoverable revenue				
Opening balance		118		65
Transfers:		**(41)**		**53**
Debts revised		3		3
Debts recovered (included in departmental receipts)		(130)		(31)
Debts raised		86		81
Closing balance		**77**		**118**
TOTAL		**77**		**118**

Cashflow Statement

for the year ended 31 March 2016

CASH FLOW	Note	2015/16	2014/15
		R'000	R'000
CASH FLOWS FROM OPERATING ACTIVITIES			
Receipts		**7,624,873**	**6,638,306**
Annual appropriated funds received	1.1	7,466,106	6,479,890
Departmental revenue received	2	508	1,599
Interest received	2.2	6	3
Aid assistance received	3	158,253	156,814
Net (increase) in working capital		291	(319)
Surrendered to Revenue Fund		(91,446)	(30,894)
Surrendered to RDP Fund/Donor		(11,675)	(2,051)
Current payments		(467,307)	(449,464)
Interest paid		-	-
Payments for financial assets		(128)	(92)
Transfers and subsidies paid		(7,107,929)	(6,078,396)
Net cash flow available from operating activities	17	**(53,321)**	**77,090**
CASH FLOWS FROM INVESTING ACTIVITIES			
Payments for capital assets	9	(16,466)	(6,231)
Proceeds from sale of capital assets	2.3	-	-
Net cash flows from investing activities		**(16,466)**	**(6,231)**
CASH FLOWS FROM FINANCING ACTIVITIES			
Increase/(decrease) in net assets		(41)	53
Net cash flows from financing activities		**(41)**	**53**
Net increase/(decrease) in cash and cash equivalents		(69,828)	70,912
Cash and cash equivalents at the beginning of the period		100,939	30,027
Cash and cash equivalents at end of period	18	**31,111**	**100,939**

Accounting Policies

for the year ended 31 March 2016

The Financial Statements have been prepared in accordance with the following policies, which have been applied consistently in all material aspects, unless otherwise indicated. Management has concluded that the financial statements present fairly the department's primary and secondary information.

The historical cost convention has been used, except where otherwise indicated. Management has used assessments and estimates in preparing the annual financial statements. These are based on the best information available at the time of preparation.

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, Act 1 of 1999 (as amended by Act 29 of 1999), and the Treasury Regulations issued in terms of the Act and the Division of Revenue Act.

1. Basis of preparation

The Financial Statements have been prepared in accordance with the Modified Cash Standard.

2. Going concern

The financial statements have been prepared on a going concern basis.

3. Presentation currency

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

4. Rounding

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

5. Foreign currency translation

Cash flows arising from foreign currency transactions are translated into South African Rands using the spot exchange rates prevailing at the date of payment/receipt.

6. Comparative information

6.1 Prior period comparative information

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.

6.2 Current year comparison with budget

A comparison between the approved, final budget and actual amounts for each programme and economic classification is included in the appropriation statement

7. Revenue

7.1 Appropriated funds

Appropriated funds comprises of departmental allocations as well as direct charges against revenue fund (i.e. statutory appropriation). Appropriated funds are recognised in the statement of financial performance on the date the appropriation becomes effective. Adjustments to the appropriated funds made in terms of the adjustments budget process are recognised in the statement of financial performance on the date the adjustments become effective.

The net amount of any appropriated funds due to or from the National Revenue Fund at the reporting date is recognised as payable or receivable in the Statement of Financial Position.

7.2 Departmental revenue

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

Any amount owing to the National Revenue Fund at the reporting date is recognised as payable in the Statement of Financial Position.

7.3 Accrued departmental revenue

Accruals in respect of departmental revenue (excluding tax revenue) are recorded in the notes to the financial statements when:

- It is probable that the economic benefits or service potential associated with the transaction will flow to the Department, and
- The amount of revenue can be measured reliably.

The accrued revenue (and related interest and penalties) is measured at amounts receivable from collecting agents.

8. Expenditure

8.1 Compensation of employees

8.1.1 Salaries and wages

Salaries and wages are recognised in the Statement of Financial Performance on the date of payment.

8.1.2 Social contributions

Social contributions made by the Department in respect of current employees are recognised in the Statement of Financial Performance on the date of payment. Social contributions made by the Department in respect of ex-employees are classified as transfers to households in the Statement of Financial Performance on the date of payment.

8.2 Other expenditure

Other expenditure such as goods and services, transfers and subsidies and payments for capital assets are recognised in the Statement of Financial Performance on the date of payment. The expense is classified as a capital expense if the total consideration paid is more than the capitalisation threshold.

8.3 Accrued expenditure payable

Accrued expenditure payable is recorded in the notes to the financial statements when the goods are received or, in the case of services, when they are rendered to the Department. Accrued expenditure payable is measured at cost.

8.4 Leases

8.4.1 Operating lease

Operating lease payments made during the reporting period are recognised as current expenditure in the Statement of Financial Performance on the date of payment. The operating lease commitments are recorded in the notes to the financial statements.

8.4.2 Finance leases

Finance lease payments made during the reporting period are recognised as capital expenditure in the Statement of Financial Performance on the date of payment. The finance lease commitments are recorded in the notes to the financial statements and are not apportioned between the capital and interest portions.

Finance lease acquired at the end of the lease term are recorded and measured at the lower of:

- Cost, being the fair value of the asset, or
- The sum of the minimum lease payments made, including any payments made to acquire ownership at the end of the lease term, excluding interest.

9. Aid assistance

9.1 Aid assistance received

Aid assistance received in cash is recognised in the statement of financial performance when received. In-kind aid assistance is recorded in the notes to the financial statements on the date of receipt and is measured at fair value.

Aid assistance not spent for the intended purpose and any unutilised funds from aid assistance that are required to be refunded to the donor are recognised as a payable in the statement of financial position.

9.2 Aid assistance paid

Aid assistance paid is recognised in the Statement of Financial Performance on the date of payment. Aid assistance payments made prior to the receipt of funds are recognised as a receivable in the Statement of Financial Position.

10. Cash and cash equivalents

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

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.

11. Prepayments and advances

Prepayments and advances are recognised in the statement of financial position when the department receives or disburses the cash.

Prepayments and advances are initially and subsequently measured at cost.

12. Loans and receivables

Loans and receivables are recognised in the statement of financial position at cost plus accrued interest, where interest is charged, less amounts already settled or written-off. Write-offs are made according to the department's write-off policy

13. Investments

Investments are recognised in the Statement of Financial position at cost.

14. Financial assets

14.1 Financial assets (not covered elsewhere)

A financial asset is recognised initially at its cost plus transaction costs that are directly attributable to the acquisition or issue of the financial.

At the reporting date, a department shall measure its financial assets at cost, less amounts already settled or written-off, except for recognised loans and receivables, which are measured at cost plus accrued interest, where interest is charged, less amounts already settled or written-off.

14.2 Impairment of financial assets

Where there is an indication of impairment of a financial asset, an estimation of the reduction is the recorded carrying value, to reflect the best estimate of the amount of the future economic benefits expected to be recovered from that asset is recorded in the notes to the financial statements

15. Payables

Loans and payables are recognised in the Statement of Financial Position at cost.

16. Capital assets

16.1 Immovable capital assets

Immovable capital assets are initially recorded in the notes to the financial statements at cost. Immovable capital assets acquired through a non-exchange transaction is measured at fair value as at the date of acquisition.

Where the cost of immovable capital assets cannot be determined reliably, the immovable capital assets are measured at R1 unless the fair value of the asset has been reliably estimated, in which case the fair value is used.

16.1 Immovable capital assets (continued)

All assets acquired prior to 1 April 2002 (or a later date as approved by the OAG) may be recorded at R1.

Immovable capital assets are subsequently carried at cost and are not subject to depreciation or impairment.

Subsequent expenditure that is of a capital nature is added to the cost of the asset at the end of the capital project unless the immovable asset is recorded by another department in which case the completed project costs are transferred to that department

16.2 Movable capital assets

Movable capital assets are initially recorded in the notes to the financial statements at cost. Movable capital assets acquired through a non exchange transaction is measured at fair value at fair value as at the date of acquisition.

Where the cost of movable capital assets cannot be determined accurately, the movable capital assets are measured at fair value and where fair value cannot be determined; the movable assets are measured at R1.

All assets acquired prior to 1 April 2002 (or late as approved by the Office of the Accountant-General) are measured at R1.

Movable capital assets are subsequently carried at cost and are not subject to depreciation or impairment.

Subsequent expenditure that is of capital nature is added to the cost of the asset at the end of the capital project unless the movable asset is recorded by another department in which case the completed project costs are transferred to the department.

16.3 Intangible assets

Intangible assets are initially recorded in the notes to the financial statements at cost. Intangible assets acquired through a non-exchange transaction are measured at fair value as at the date of acquisition.

Internally generated intangible assets are recorded in the notes to the financial statements when the department commences the development phase of the project.

Where the cost of intangible assets cannot be determined accurately, the intangible capital assets are measured at fair value and where fair value cannot be determined; the intangible assets are measured at R1.

All assets acquired prior to 1 April 2002 (or a later date as approved by the OAG) are recorded at R1.

Intangible assets are subsequently carried at cost and are not subject to depreciation or impairment.

Subsequent expenditure that is of a capital nature is added to the cost of the asset at the end of the capital project unless the intangible asset is recorded by another department/entity in which case the completed project costs are transferred to that department.

17. Provisions and contingents

17.1 Provisions

Provisions are recorded in the notes to the financial statements when there is a present legal 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 or service potential will be required to settle the obligation and a reliable estimate of the obligation can be made. The provision is measured as the best estimate of the funds required to settle the present obligation at the reporting date.

17.2 Contingent liabilities

Contingent liabilities are recorded in the notes to the financial statements when there is a possible obligation that arises from past events, and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not within the control of the department or when there is a present obligation that is not recognised because it is not probable that an outflow of resources will be required to settle the obligation or the amount of the obligation cannot be measured reliably

17.3 Contingent assets

Contingent assets are recorded in the notes to the financial statements when a possible asset arises from past events, and whose existence will be confirmed by the occurrence or non-occurrence of one or more uncertain future events not within the control of the department.

17.4 Commitments

Commitments are recorded at cost in the notes to the financial statements when there is a contractual arrangement or an approval by management in a manner that raises a valid expectation that the department will discharge its responsibilities thereby incurring future expenditure that will result in the outflow of cash.

18. Unauthorised expenditure

Unauthorised expenditure is recognised in the statement of financial position until such time as the expenditure is either:

- approved by Parliament or the Provincial Legislature with funding and the related funds are received; or
- approved by Parliament or the Provincial Legislature without funding and is written off against the appropriation in the statement of financial performance; or
- transferred to receivables for recovery.
- Unauthorised expenditure is measured at the amount of the confirmed unauthorised expenditure.

19. Fruitless and wasteful expenditure

Fruitless and wasteful expenditure is recorded in the notes to the financial statements when confirmed. The amount recorded is equal to the total value of the fruitless and or wasteful expenditure incurred.

Fruitless and wasteful expenditure is removed from the notes to the financial statements when it is resolved or transferred to receivables for recovery.

Fruitless and wasteful expenditure receivables are measured at the amount that is expected to be recoverable and are de-recognised when settled or subsequently written-off as irrecoverable.

20. Irregular expenditure

Irregular expenditure is recorded in the notes to the financial statements when confirmed. The amount recorded is equal to the value of the irregular expenditure incurred unless it is impracticable to determine, in which case reasons therefor are provided in the note.

Irregular expenditure is removed from the note when it is either condoned by the relevant authority, transferred to receivables for recovery or not condoned and is not recoverable.

Irregular expenditure receivables are measured at the amount that is expected to be recoverable and are de-recognised when settled or subsequently written-off as irrecoverable.

21. Changes in accounting estimates

Changes in accounting policies that are effected by management have been applied retrospectively in accordance with MCS requirements, except to the extent that it is impracticable to determine the period-specific effects or the cumulative effect of the change in policy. In such instances the department shall restate the opening balances of assets, liabilities and net assets for the earliest period for which retrospective restatement is practicable.

Changes in accounting estimates are applied prospectively in accordance with MCS requirements.

Correction of errors is applied retrospectively in the period in which the error has occurred in accordance with MCS requirements, except to the extent that it is impracticable to determine the period-specific effects or the cumulative effect of the error. In such cases the department shall restate the opening balances of assets, liabilities and net assets for the earliest period for which retrospective restatement is practicable.

22. Events after the reporting date

Events after the reporting date that are classified as adjusting events have been accounted for in the financial statements. The events after the reporting date that are classified as non-adjusting events after the reporting date have been disclosed in the notes to the financial statements.

23. Agent-Principal arrangements

The department is party to a principal-agent arrangement for [include details here]. In terms of the arrangement the department is the [principal / agent] All related revenues, expenditures, assets and liabilities have been recognised or recorded in terms of the relevant policies listed herein. Additional disclosures have been provided in the notes to the financial statements where appropriate.

24. Departures from the MCS requirements

Management has concluded that the financial statements present fairly the department's primary and secondary information; that the department complied with the Standard except that it has departed from a particular requirement to achieve fair presentation; and the requirement from which the department has departed, the nature of the departure and the reason for departure.]

25. Capitalisation reserve

The capitalisation reserve comprises of 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 reserves when identified in the current period and are transferred to the National/Provincial Revenue Fund when the underlying asset is disposed and the related funds are received

26. 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/Provincial Revenue Fund when recovered or are transferred to the statement of financial performance when written-off.

27. Related party transactions

A related party transaction is a transfer of resources, services or obligations between the reporting entity and a related party. Related party transactions within the Minister's portfolio are recorded in the notes to the financial statements when the transaction is not at arm's length.

Key management personnel are those persons having the authority and responsibility for planning, directing and controlling the activities of the department. The number of individuals and their full compensation is recorded in the notes to the financial statements

28. Inventories

At the date of acquisition, inventories are recorded at cost price in the notes to the financial statements

Where inventories are acquired as part of a non-exchange transaction, the cost of inventory is its fair value at the date of acquisition.

Inventories are subsequently measured at the lower of cost and net realisable value or the lower of cost and current replacement value

Notes to the Annual Financial Statements

for the year ended 31 March 2016

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):

	2015/2016			2014/15	
	Final appropriation	Actual funds Received	Funds not requested/ not received	Final appropriation	Appropriation received
	R'000	R'000	R'000	R'000	R'000
Administration	309,823	309,823	-	283,790	283,790
Technology Innovation	1,070,645	1,070,645	-	1,049,450	1,049,450
International Cooperation and Resources	116,921	116,921	-	111,519	111,519
Research Development and Support	4,226,922	4,226,922	-	3,492,889	3,492,889
Socio-Economic Innovation Partnerships	1,741,795	1,741,795	-	1,542,242	1,542,242
Total	**7,466,106**	**7,466,106**	**-**	**6,479,890**	**6,479,890**

2. Departmental revenue

	Note	2015/16	2014/15
		R'000	R'000
Sales of goods and services other than capital assets	2.1	51	50
Interest, dividends and rent on land	2.2	6	3
Sale of capital assets	2.3		
Transactions in financial assets and liabilities	2.4	457	1,549
Departmental revenue collected		**514**	**1,602**

2.1 Sales of goods and services other than capital assets

	Note	2015/16	2014/15
	2	R'000	R'000
Other sales		51	50
Total		**51**	**50**

2.2 Interest, dividends and rent on land

	Note	2015/16	2014/15
	2	R'000	R'000
Interest		6	3
Total		**6**	**3**

2.3 Sale of capital assets

	Note	2015/16	2014/15
	2	R'000	R'000
Machinery and equipment		-	-
Total		**-**	**-**

2.4 Transactions in financial assets and liabilities

	Note	2015/16	2014/15
	2	R'000	R'000
Stale cheque written back		-	-
Other receipts, including recoverable revenue		457	1,549
Total		**457**	**1,549**

3. Aid assistance

3.1 Aid assistance received in cash from RDP

	Note	2015/16	2014/15
	3	R'000	R'000
Foreign			
Opening balance		11,675	2,051
Prior period error		-	-
As restated		11,675	2,051
Transferred from Statement of Financial Performance		3,885	11,675
Transferred to/from retained funds		-	-
Paid during the year		(11,675)	(2,051)
Closing balance		**3,885**	**11,675**

The note for Aid assistance, note 3, has been changed in terms of Modified Cash Standards and Accounting Manual for Departments as instructed by National Treasury.

3.2 Analysis of balance by source

	Note	2015/16	2014/15
	3	R'000	R'000
Aid assistance from RDP		3,885	11,675
RDP Fund		3,885	11,675
Closing balance		**3,885**	**11,675**

3.3 Analysis of balance

	Note	2015/16	2014/15
	3	R'000	R'000
		3,885	11,675
Aid assistance repayable		3,885	11,675
Closing balance		**3,885**	**11,675**

4. Compensation of employees

4.1 Salaries and wages

	Note	2015/16	2014/15
	4	R'000	R'000
Basic salary		198,245	184,744
Performance award		4,584	4,171
Service-based		115	(10)
Compensative/circumstantial		2,649	2,598
Periodic payments		13	87
Other non-pensionable allowances		64,333	56,223
Total		**269,939**	**247,813**

4.2 Social contributions

	Note	2015/16	2014/15
	4	R'000	R'000
Employer contributions			
Pension		24,828	22,857
Medical		6,288	5,301
Bargaining council		32	30
Total		**31,148**	**28,188**
Total compensation of employees		**301,087**	**276,001**

The increase of 8.3% on compensation actual expenditure was due to annual salary adjustments and pay progressions for the employees during the financial year.

Average number of employees		**454**	**453**

5. Goods and services

	Note	2015/16	2014/15
		R'000	R'000
Administrative fees		1,880	3,825
Advertising		23,085	23,225
Minor assets	5.1	537	631
Bursaries (employees)		1,067	1,256
Catering		5,138	3,218
Communication		7,540	5,062
Computer services	5.2	10,417	12,729
Consultants: Business and advisory services		3,470	5,603
Legal Services		580	2,801
Contractors		7,547	6,770
Agency and support/outsourced services		8,132	8,054
Entertainment		1,021	737
Audit cost – external	5.3	5,061	4,761
Fleet services		765	977
Inventory	5.4	223	1,357
Consumables	5.5	3,655	5,188
Operating leases		2,905	5,488
Property payments	5.6	6,658	8,367
Rental and hiring		1,503	1,245
Travel and subsistence	5.7	46,670	41,565
Venues and facilities		12,094	12,143
Training and staff development		4,995	3,411
Other operating expenditure	5.8	8,780	11,435
Total		**163,723**	**169,848**

5.1 Minor assets

	Note	2015/16	2014/15
	5	R'000	R'000
Tangible assets		**537**	**631**
Machinery and equipment		537	631
Intangible assets		**-**	**-**
Total		**537**	**631**

5.2 Computer services

	Note	2015/16	2014/15
	5	R'000	R'000
SITA computer services		6,095	4,927
External computer service providers		4,322	7,802
Total		**10,417**	**12,729**

5.3 Audit cost – External

	Note	2015/16	2014/15
	5	R'000	R'000
Regularity audits		5,061	4,761
Total		**5,061**	**4,761**

5.4 Inventory

	Note	2015/16	2014/15
	5	R'000	R'000
Clothing material and accessories		47	1,028
Materials and supplies		72	319
Fuel, oil and gas		104	10
Total		**223**	**1,357**

5.5 Consumables

	Note	2015/16	2014/15
	5	R'000	R'000
Consumables supplies		1,206	1,959
Uniform and clothing		6	22
Household supplies		153	211
Building material and supplies		-	25
IT consumables		228	79
Other consumables		819	1,622
Stationery, printing and office supplies		2,449	3,229
Total		**3,655**	**5,188**

5.6 Property payments

	Note	2015/16	2014/15
	5	R'000	R'000
Municipal services		4,080	5,543
Property maintenance and repairs		-	-
Other		2,578	2,824
Total		**6,658**	**8,367**

5.7 Travel and subsistence

	Note	2015/16	2014/15
	5	R'000	R'000
Local		27,899	23,008
Foreign		18,771	18,557
Total		**46,670**	**41,565**

5.8 Other operating expenditure

	Note	2015/16	2014/15
	5	R'000	R'000
Professional bodies, membership and subscription fees		3,435	4,539
Resettlement costs		754	1,171
Other		4,591	5,725
Total		**8,780**	**11,435**

6. Interest and rent on land

	2015/16	2014/15
	R'000	R'000
Interest paid	-	-
	-	**-**

7. Payments for financial assets

	Note	2015/16	2014/15
		R'000	R'000
Other material losses written off	7.1	124	83
Debts written off	7.2	4	9
Total		**128**	**92**

7.1 Other material losses written off

	Note	2015/16	2014/15
	7	R'000	R'000
Nature of losses			
Losses in respect of damaged vehicle written off		124	83
		-	-
Total		**124**	**83**

7.2 Debts written off

	Note	2015/16	2014/15
	7	R'000	R'000
Nature of losses			
Irrecoverable debts written off		4	9
		-	**-**
Total		**4**	**9**

8. Transfers and subsidies

		2015/16	2014/15
		R'000	R'000
	Note		
Departmental agencies and accounts	Annex 1B	4,762,437	4,011,036
Higher education institutions	Annex 1C	230,303	228,033
Foreign governments and international organisations	Annex 1E	-	-
Public corporations and private enterprises	Annex 1D	1,833,801	1,573,066
Non-profit institutions	Annex 1F	128,694	120,289
Households	Annex 1G	823	4,448
Total		**6,956,058**	**5,936,872**

9. Expenditure for capital assets

	Note	2015/16	2014/15
		R'000	R'000
Tangible assets		**16,466**	**6,231**
Machinery and equipment	9.1	16,466	6,231
Intangible assets		**-**	**-**
Software	9.1	-	-
Patents, licences, copyright, brand names, trademarks		-	-
Total		**16,466**	**6,231**

9.1 Analysis of funds utilised to acquire capital assets – 2015/16

	Voted funds	Aid assistance	Total
	R'000	R'000	R'000
Tangible assets	**16,466**	**-**	**16,466**
Machinery and equipment	16,466	-	16,466
Intangible assets		**-**	**-**
Software	-	-	-
Patents, licences, copyright, brand names, trademarks	-	-	-
Total	**16,466**	**-**	**16,466**

9.2 Analysis of funds utilised to acquire capital assets – 2014/15

	Voted funds	Aid assistance	Total
	R'000	R'000	R'000
Machinery and equipment	6,231	-	6,231
Total assets acquired	**6,231**	**-**	**6,231**
Intangible assets	**-**	**-**	**-**
Software	-	-	-
Patents, licences, copyright, brand names, trademarks	-	-	-
Total	**6,231**	**-**	**6,231**

9.3 Finance lease expenditure included in expenditure for capital assets

	Note	2015/16	2014/15
		R'000	R'000
Tangible assets			
Machinery and equipment		978	-
Total		**978**	**-**

10. Cash and cash equivalents

	Note	2015/16	2014/15
		R'000	R'000
Consolidated Paymaster-General Account		31,078	100,906
Cash on hand		33	33
Disbursements		-	-
Total		**31,111**	**100,939**

11. Prepayments and advances

	Note	2015/16	2014/15
		R'000	R'000
Travel and subsistence		205	55
Advances paid		234	516
Total		**439**	**571**

11.1 Advances paid

	Note	2015/16	2014/15
		R'000	R'000
National departments	Annex 8A	234	516
Total		**234**	**516**

12. Receivables

		2015/16			2014/15		
		Current	Non-Current	Total	Current	Non-Current	Total
	Note	R'000	R'000	R'000	R'000	R'000	R'000
Claims recoverable	12.1	415	88	503	415	108	523
Recoverable expenditure	12.2	31	373	404	102	425	527
Staff debt	12.3	131	53	184	162	50	212
Total		**577**	**514**	**1,091**	**679**	**583**	**1,262**

12.1 Claims recoverable

	Note	2015/16	2014/15
	12	R'000	R'000
National departments		374	82
Households and non-profit institutions		129	441
Total		**503**	**523**

12.2 Recoverable expenditure (disallowance accounts)

	Note	2015/16	2014/15
	12	R'000	R'000
Income tax debt		2	7
Persal salaries and stoppages		-	-
Damages to vehicles		401	518
Sal: Reversal Control CA		1	2
Total		**404**	**527**

12.3 Staff debt

	Note	2015/16	2014/15
	12	R'000	R'000
Bursary debt		64	70
Salary overpayment		70	94
Previous employees - Resettlement debt		50	48
Other		-	-
Total		**184**	**212**

13. Investments

The Department acquired shares for 35% shareholding of the Biological and Vaccines Institute of South Africa valued at R54 447 million from the Department of Heath at no cost. The value of the shares could not be disclosed in the Statement of Financial Position because they were transferred at no cost.

14. Voted funds to be surrendered to the Revenue Fund

	Note	2015/16	2014/15
		R'000	R'000
Opening balance		90,846	28,666
Prior period error		-	-
As restated		90,846	28,666
Transfer from statement of financial performance		28,644	90,846
Paid during the year		(90,846)	(28,666)
Closing balance		**28,644**	**90,846**

15. Departmental revenue and NRF Receipts to be surrendered to the Revenue Fund

	Note	2015/16	2014/15
		R'000	R'000
Opening balance		94	720
Prior period error		-	-
As restated		94	720
Transfer from Statement of Financial Performance		514	1,602
Paid during the year		(600)	(2,228)
Closing balance		**8**	**94**

16. Payables – current

	Note	2015/16	2014/15
		R'000	R'000
Clearing accounts	15.1	27	39
Total		**27**	**39**

16.1 Clearing accounts

	Note	2015/16	2014/15
	15	R'000	R'000
Sal: Income tax: CL		27	34
Pension Fund		-	5
Total		**27**	**39**

17. Net cash flow available from operating activities

	Note	2015/16	2014/15
		R'000	R'000
Net surplus as per Statement of Financial Performance		33,043	104,123
Add back non-cash/cash movements not deemed operating activities		(86,364)	(27,033)
(Increase)/Decrease in receivables – current		171	(52)
(Increase)/Decrease in prepayments and advances		132	(288)
Increase/(Decrease) in payables – current		(12)	21
Proceeds from sale of capital assets			
Expenditure on capital assets		16,466	6,231
Surrenders to Revenue Fund	13 &14	(91,446)	(30,894)
Surrenders to Donor Fund		(11,675)	(2,051)
Voted funds not requested/not received			
Net cash flow generated by operating activities		**(53,321)**	**77,090**

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

	Note	2015/16	2014/15
		R'000	R'000
Consolidated Paymaster-General Account		31,078	100,906
Cash on hand		33	33
Disbursements		-	-
Total		**31,111**	**100,939**

19. Contingent liabilities

	Note	2015/16	2014/15
		R'000	R'000
Liable to			
Claims against the department	Annex 3B	401	401
Total		**401**	**401**

20. Commitments

	Note	2015/16	2014/15
		R'000	R'000
Current expenditure			
Approved and contracted		7,279	23,517
Approved but not yet contacted		10,432	699
		17,711	**24,216**
Capital expenditure			
Approved and contracted		11,740	2,420
Approved but not yet contracted		**-**	**-**
		11,740	**2,420**
Total commitments		**29,451**	**26,636**

The commitments for the service provider to provide newspapers and to upgrade audio visuals are for the period of more than three years.

21. Accruals and payables not recognised

21.1 Accruals

			2015/16		2014/15
			R'000		R'000
Listed by economic classification					
	30 days	**30+ days**	**Total**		**Total**
Goods and services	1,788	11,523	**13,311**		8,432
Capital assets	38	623	**661**		302
Total	**1,826**	**12,146**	**13,972**		**8,734**

	Note	2015/16		2014/15
		R'000		R'000
Listed by Programme				
Programme 1: Administration		11,177		7,334
Programme 2: Technology Innovation		693		450
Programme 3: International Cooperation and Resources		1,192		26
Programme 4: Research Development and Support		183		833
Programme 5: Socio-Economic Innovation Partnerships		727		91
Total		**13,972**		**8,734**

21.2 Payables not recognised

Listed by economic classification	**30 days**	**30 +days**	**Total**		**Total**
Goods and services	5,759	5,664	11,423		1,571
Capital assets		-			
Total	**5,759**	**5,664**	**11,423**		**1,571**

	Note	2015/16		2014/15
		R'000		R'000
Listed by Programme				
Programme 1: Administration		9,344		-
Programme 2: Technology Innovation		254		-
Programme 3: International Cooperation and Resources		1,061		1,571
Programme 4: Research Development and Support		331		-
Programme 5: Socio-Economic Innovation Partnerships		433		-
Total		**11,423**		**1,571**
Confirmed balances with other departments	Annex 5	999		1,571
Total		**999**		**1,571**

22. Employee benefits

	Note	2015/16	2014/15
		R'000	R'000
Leave entitlement*		9,358	8,633
Service bonus (Thirteenth cheque)		7,012	6,539
Performance awards		4,547	4,273
Capped leave commitments		2,987	2,832
Other (Long Service Awards)		9	70
Total		**23,913**	**22,347**

*A negative amount of R40, 251.00 was offset against leave entitlement. The amount was as a result of a pro-rata calculation of leave taken by employees as at the 31 March 2016. In terms of the pro-rata calculation, employees are entitled to 5.49 days leave from 1 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.

23. Lease commitments

23.1 Operating leases expenditure

2015/16	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	704	704
Later than 1 year and not later than 5 years	-	-	-	-
Total lease commitments	**-**	**-**	**704**	**704**

2014/15	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	823	1,347	2,170
Later than 1 year and not later than 5 years	-	-	561	561
Total lease commitments	**-**	**823**	**1,908**	**2,731**

23.2 Finance leases expenditure

2015/16	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	1,902	1,902
Later than 1 year and not later than 5 years	-	-	485	485
Total lease commitments	**-**	**-**	**2,387**	**2,387**

2014/15	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	-	-
Later than 1 year and not later than 5 years	-	-	-	-
Total lease commitments	**-**	**-**	**-**	**-**

24. Accrued departmental revenue

	Note	2015/16	2014/15
		R'000	R'000
Transactions in financial assets and liabilities		6,847	-
Total		**6,847**	**-**

24.1 Analysis for accrued departmental revenue

	Note	2015/16	2014/15
		R'000	R'000
Opening balance		-	240
Less: Amounts received		-	240
Add: Amounts recognised		6,847	-
Total		**6,847**	**-**

25. Irregular expenditure

25.1 Reconciliation of irregular expenditure

	Note	2015/16	2014/15
		R'000	R'000
Opening balance		33,854	32,783
Add: Irregular expenditure - relating to prior year		-	-
Add: Irregular expenditure - relating to current year		1,088	1,922
Less: Prior year amount condoned		-	(851)
Less: Current year amounts condoned		-	-
Less: Amounts recoverable (not condoned)		-	-
Irregular expenditure awaiting condonation		**34,942**	**33,854**
Analysis of awaiting condonation per age classification			
Current year		1,088	1,922
Prior years		33,854	31,932
Total		**34,942**	**33,854**

25.2 Details of irregular expenditure – current year

Incident	Disciplinary steps taken/criminal proceedings	2015/16 R'000
Non-compliance with SCM processes	Investigating	698
Non-compliance with SCM processes	Investigating	390
Total		**1,088**

25.3 Details of irregular expenditure – condoned

Incident	Condoning Authority	2015/16 R'000
		-
Total		**-**

26. Fruitless and wasteful expenditure

Reconciliation of fruitless and wasteful expenditure

	Note	2015/16		2014/15
		R'000		R'000
Opening balance		-		-
Fruitless and wasteful expenditure – relating to prior		-		-
Fruitless and wasteful expenditure – relating to current year		62		-
Less: Amounts resolved		-		-
Fruitless and wasteful expenditure awaiting condonement		**62**		**-**

Analysis of current year's Fruitless and wasteful expenditure

Incident	Disciplinary steps taken	2015/16
		R'000
Travel agent charges	Under investigation	**53**
Penalty Fees charged for cancellation Of travel bookings	Under investigation	**9**
Total		**62**

27. Related party transactions

27.1 Related party transactions

Payments made		2015/16		2014/15
		R'000		R'000
Goods and services		-		-
Total		**-**		**-**

27.2 Public entities under ownership control of the Department

There were no transactions that the department incurred with its related parties. The following is the status as at 31 March 2016.

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

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

27.2 Public entities under ownership control of the Department (continues)

Schedule 3B – National government business enterprises

- Council for Scientific and Industrial Research

The Department transactions with these entities are limited to transfer and subsidy payments. Annexure 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.

27.3 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 2016.

28. Key management personnel

	No. of individuals	2015/16		2014/15
		R'000		R'000
Political office bearers (provide detail below)	2	4,034		4,277
Officials:				
Level 15 to 16	11	14,692		11,599
Level 14 (incl. CFO if at a lower level)	28	27,166		26,495
Total		**45,892**		**42,371**

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).

29. Movable tangible capital assets

MOVEMENT IN MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2016					
	Opening balance	Curr. year adjustments to prior year balances	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**66,038**	**-**	**15,892**	**1,949**	**79,981**
Transport assets	4,988	-	1,496	905	5,579
Computer equipment	33,704	-	9,237	291	42,650
Furniture and office equipment	14,315	-	5,159	753	18,721
Other machinery and equipment	13,031	-	-	-	13,031
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	**66,038**	**-**	**15,892**	**1,949**	**79,981**

29.1 Additions

ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2016	Cash	Non-cash	(Capital work in progress current costs and finance lease payments)	Received current, not paid (Paid current year, received prior year)	Total
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**16,466**	**56**	**(978)**	**348**	**15,892**
Transport assets	1,496	-	-	-	1,496
Computer equipment	8,880	16	-	341	9,237
Furniture and office equipment	5,112	40	-	7	5,159
Other machinery and equipment	978	-	(978)	-	-
TOTAL ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS	**16,466**	**56**	**(978)**	**348**	**15,892**

29.2 Disposals

DISPOSALS OF MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2016	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	**-**	**1,949**	**1,949**		**-**
Transport assets	-	905	905		-
Computer equipment	-	291	291		-
Furniture and office equipment	-	753	753		-
Other machinery and equipment	-	-	-		-
TOTAL DISPOSAL OF MOVABLE TANGIBLE CAPITAL ASSETS	**-**	**1,949**	**1,949**		**-**

29.3 Movement for 2014/15

MOVEMENT IN MOVABLE TANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2014	Opening balance	Curr. year adjustments to prior year balances	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**62,157**	**-**	**7,983**	**4,102**	**66,038**
Transport assets	4,940	-	1,549	1,501	4,988
Computer equipment	31,474	-	4,664	2,434	33,704
Furniture and office equipment	13,590	-	763	38	14,315
Other machinery and equipment	12,153	-	1,007	129	13,031
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	**62,157**	**-**	**7,983**	**4,102**	**66,038**

29.4 Minor assets

MINOR ASSETS OF THE DEPARTMENT FOR THE YEAR ENDED 31 MARCH 2016	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Opening balance	-	-	5,308	-	5,308
Additions	-	-	560	-	560
Disposals	-	-	7	-	7
TOTAL MINOR ASSETS	**-**	**-**	**5,861**	**-**	**5,861**

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
Number of R1 minor assets	-	-	1	-	1
Number of minor assets at cost	-	-	199	-	199
Total	**-**	**-**	**200**	**-**	**200**

Minor assets to the value of R 23,000 were acquired from NEOSS at no cost.

Minor assets

MINOR ASSETS OF THE DEPARTMENT FOR THE YEAR ENDED 31 MARCH 2015	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Opening balance	-	-	3,470	-	3,470
Prior period error	-	-	-	-	-
Additions	-	-	1,986	-	1,986
Disposals	-	-	148	-	148
Total	**-**	**-**	**5,308**	**-**	**5,308**

	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	-	-	1	-	1
Number of minor assets at cost	-	-	196	-	196
	-	**-**	**197**	**-**	**197**

Prior periods

Nature of prior error	2015/16 R'000
	-
Total	**-**

30. Intangible capital assets

MOVEMENT IN INTANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2016				
	Opening balance	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000
Software	5,880	-	-	5,880
Patents, licences, copyright, brand names, trademarks	-	-	-	-
TOTAL INTANGIBLE CAPITAL ASSETS	**5,880**	**-**	**-**	**5,880**

30.1 Additions

ADDITIONS TO INTANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2016					
	Cash	Non-cash	(Development work in progress current costs)	Received current, not paid (Paid current year, received prior year)	Total
	R'000	R'000	R'000	R'000	R'000
Software	-	-	-	-	-
TOTAL ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS	**-**	**-**	**-**	**-**	**-**

30.2 Disposals

DISPOSALS OF INTANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2016					
	Sold for cash	Transfer out or destroyed or scrapped	Total disposals		Cash received actual
	R'000	R'000	R'000		R'000
Software	-	-	-		-
TOTAL DISPOSAL OF INTANGIBLE CAPITAL ASSETS	**-**	**-**	**-**		**-**

30.3 Intangible capital assets

MOVEMENT IN INTANGIBLE CAPITAL ASSETS PER ASSET REGISTER FOR THE YEAR ENDED 31 MARCH 2015					
	Opening balance	Prior year error balances	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
Software	5,880	-	-	-	5,880
Patents, licences, copyright, brand names, trademarks	-	-	-	-	-
TOTAL INTANGIBLE CAPITAL ASSETS	**5,880**	**-**	**-**	**-**	**5,880**

31. Prior period errors

Assets	2014/15 R'000
Total	
Liabilities	
Long Service Awards	70
Total	**70**

ANNEXURE 1B

STATEMENT OF TRANSFERS TO DEPARTMENTAL AGENCIES AND ACCOUNTS

DEPARTMENT/AGENCY/ACCOUNT	TRANSFER ALLOCATION				TRANSFER		2014/15
	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
Agricultural Research Council	59,000	-	-	59,000	57,403	97%	66,600
Council for Geoscience	3,200	-	-	3,200	2,929	92%	2,300
Human Science Research Council	345,000	-	-	345,000	331,045	96%	303,526
National Research Foundation	4,215,170	-	-	4,215,170	3,566,511	85%	3,380,725
South African Medical Research Council	63,000	-	-	63,000	62,467	99%	60,546
South African National Biodiversity Institute	525	-	-	525	525	100%	42
South African National Energy Development Institution	8,000	-	-	8,000	8,000	100%	5,100
South African National Space Agency	280,000	-	-	280,000	278,369	99%	188,298
Technology Innovation Agency	460,000	-	-	460,000	455,188	99%	437,588
Water Research Commission	-	-	-	-	-	-	4,911
ASSAf	-	-	-	-	-	-	-
International Centre for Genetic Engineering	-	-	-	-	-	-	-
Total	**5,433,895**	**-**	**-**	**5,433,895**	**4,762,437**		**4,449,636**

ANNEXURE 1C

STATEMENT OF TRANSFERS TO UNIVERSITIES AND UNIVERSITIES OF TECHNOLOGY

UNIVERSITY/UNIVERSITY OF TECHNOLOGY	TRANSFER ALLOCATION				TRANSFER			2014/15
	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	1,319	-	-	1,319	1,319	-	0%	694
Nelson Mandela Metropolitan University	5,525	-	-	5,525	5,525	-	0%	4,392
North West University	26,660	-	15,517	42,177	42,177	-	0%	50,732
Durban University of Technology	3,000	-	-	3,000	3,000	-	0%	206
Central University of Technology, Free State	43	-	-	43	43	-	0%	1,916
Mangosuthu University of Technology	4	-	-	4	4	-	0%	5
Vaal University of Technology	1,350	-	-	1,350	1,350	-	0%	2,700
Tshwane University of Technology	1,144	-	-	1,144	1,144	-	0%	3,330
University of Cape Town	-	-	17,145	17,145	46,127	(28,982)	0%	41,619
University of Fort Hare	4,600	-	-	4,600	4,600	-	0%	1,887
University of the Free State	5,472	-	-	5,472	5,472	-	0%	1,760
University of Johannesburg	2,979	-	-	2,979	2,979	-	0%	1,641
University of KwaZulu-Natal	2,001	-	-	2,001	2,001	-	0%	3,145
University of Limpopo	7,893	-	-	7,893	7,893	-	0%	5,839
University of Pretoria	8,673	-	-	8,673	8,673	-	0%	12,905
Rhodes University	2,650	-	-	2,650	2,650	-	0%	576
University of South Africa	127	-	-	127	127	-	0%	3,310
Stellenbosch University	17,776	-	-	17,776	17,776	-	0%	11,879
University of Venda	4,884	-	-	4,884	4,884	-	0%	3,239
University of the Free State	-	-	-	-	54,079	(54,079)	0%	-
University of the Western Cape	15,894	-	-	15,894	15,894	-	0%	55,840
University of the Witwatersrand	600	-	-	600	600	-	0%	19,683
University of Zululand	1,986	-	-	1,986	1,986	-	0%	711
Walter Sisulu University	-	-	-	-	-	-	-	24
Total	**114,580**	**-**	**32,662**	**147,242**	**230,303**	**(83,061)**		**228,033**

ANNEXURE 1D

STATEMENT OF TRANSFERS/SUBSIDIES TO PUBLIC CORPORATIONS AND PRIVATE ENTERPRISES

NAME OF PUBLIC CORPORATION/PRIVATE ENTERPRISE	TRANSFER ALLOCATION				EXPENDITURE				2014/15
	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 Mineral Technology	55,000	-	-	55,000	46,005	83.6%	-	-	37,831
Council for Scientific and Industrial Research	348,643	-	-	348,643	928,862	266.4%	-	-	670,416
South African Bureau of Standards	1,000	-	-	1,000	200	20.0%	-	-	800
South African Nuclear Energy Corporation Ltd	25,000	-	-	25,000	14,034	56.1%	-	-	1,200
Council for Mineral Technology	-	-	-	-	-	-	-	-	15,005
Subtotal	**429,643**	**-**	**-**	**429,643**	**989,101**	**230.2%**	**-**	**-**	**725,252**
Subsidies									
Council for Scientific and Industrial Research	820,204	-	-	820,204	820,204	100%	-	825,740	825,740
Subtotal	**820,204**	**-**	**-**	**820,204**	**820,204**	**100%**	**-**	**825,740**	**825,740**
Total	**1,249,847**	**-**	**-**	**1,249,847**	**1,809,305**	**144.8%**	**-**	**825,740**	**1,550,992**

NAME OF PUBLIC CORPORATION/PRIVATE ENTERPRISE	TRANSFER ALLOCATION				EXPENDITURE				2014/15
	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									
Advanced Manufacturing (Pty) Ltd	-	-	-	-	150	-	-	150	-
African Creative Connections CC	-	-	-	-	41	-	-	41	-
Citrus Research International (Pty) Ltd	-	-	-	-	5,301	-	-	5,301	-
Jacana Media (Pty) Ltd	-	-	-	-	300	-	-	300	-
Pelchem	-	-	-	-	18,296	-	-	18,296	-
Siyanda Schrome Smelting Technology	-	-	-	-	231	-	-	231	-
Stone Three Venture Technology	-	-	-	-	51	-	-	51	-
Wits Health Consortium (Pty) Ltd	-	-	-	-	126	-	-	126	-
Subtotal	**-**	**-**	**-**	**-**	**24,496**	**-**	**-**	**24,496**	**-**
Total	**1,249,847**	**-**	**-**	**1,249,847**	**1,833,801**	**146.7%**	**-**	**850,236**	**1,550,992**

ANNEXURE 1F

STATEMENT OF TRANSFERS TO NON-PROFIT INSTITUTIONS

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2014/15
	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							
Aeronautical Society of South Africa	100	-	-	100	100	100%	100
Agricultural Biotechnology Industry	-	-	-	-	-	-	10
Africabio	638	-	-	638	638	100%	-
Aluminium Federation of South Africa	99	-	-	99	99	100%	-
Aurum Institution for Health Research	-	-	-	-	-	-	-
Bakgatla Sports, Arts and Culture	500	-	-	500	500	100%	500
Black Science Technology and Engineering Professions	-	-	-	-	-	-	-
Centre for Phonetic and Genomic	-	-	-	-	-	-	28
Da Vinci TT100 Awards Programme	3,507	-	-	3,507	3,507	100%	-
Environmental Affairs	930	-	-	930	930	100.%	2,000
Forestry South Africa	10,000	-	-	10,000	10,000	100%	-
Fresh Produce Exporters Forum	13,000	-	-	13,000	13,000	100%	4,000
Grahamstown Foundation	2,000	-	-	2,000	2,000	100%	2,000
Grain South Africa	6,500	-	-	6,500	6,500	100%	2,000
Indigenous Knowledge of SA Trust	-	-	-	-	-	-	250
Interactive Science Forum	-	-	-	-	-	-	-
Mapumgubje Institute of Science Relations	3,300	-	-	3,300	3,000	91%	-
Marine Industry Association of South Africa	578	-	-	578	578	100%	3,500
MeloWcabs (Pty) Ltd	21	-	-	21	21	100%	-
Mpilonhle	2,000	-	-	2,000	2,000	100%	2,000
Mpumalanga Tourism and Parks	500	-	-	500	500	100%	-
National Health Laboratory Services	6,000	-	-	6,000	6,000	100%	5,800
National Science and Technology Forum	5,638	-	-	5,638	5,638	100%	17,837
Paper Manufacturers Association of South Africa	2,640	-	-	2,640	2,640	100%	1,100
Resonance Bazaar	500	-	-	500	500	100%	500
SEDA Essential Oils Business Incubation (SEOBI)	2,672	-	-	2,672	2,672	100%	3,712

NON-PROFIT INSTITUTIONS	TRANSFER ALLOCATION				EXPENDITURE		2014/15
	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
South African Association of Science and Technology Centre	250	-	-	250	250	100%	200
South African Chemical Institute	120	-	-	120	120	100%	100
South African Institute of Physics	-	-	-	-	-	-	1,250
SA Maritime Safety Authority	-	-	-	-	-	-	300
South African Council for Scientia	4,000	-	-	4,000	4,000	100%	-
South African Mathematics Foundation	1,060	-	-	1,060	1,060	100%	1,000
SARIMA	2,455	-	-	2,455	2,455	100%	2,835
South African San Institute	500	-	-	500	500	100%	100
South African Editors Forum	-	-	-	-	-	-	100
The SA Institute of Mining and Metallurgy	-	-	-	-	-	-	1,222
South African Weather Service	-	-	-	-	-	-	1,600
Simodisa Association	500	-	-	500	500	100%	-
Sugar Milling Research Institute	4,742	-	-	4,742	4,742	100%	1,547
The Composites Group (Pty) Ltd	750	-	-	750	750	100%	-
Thermsa	40	-	-	40	40	100%	
The South African Institute of Mining and Metallurgy	1,566	-	-	1,566	1,566	100%	
Trade and Industrial Policy Strategy	70	-	-	70	70	100%	500
Western Cape Economic Development Partnership	391	-	-	391	391	100%	1,250
Winetech	5,000			5,000	5,000	100%	2,000
Young Water Professionals (WISA)	-	-	-	-	-	-	190
Water Research Commission	9,076	-		9,076	9,076		
ASSAf	26,845	-	-	26,845	25,730	-	22,278
International Centre for Genetic Engineering	11,621			11,621	11,621	-	38,080
Unallocated funds	40,375	-	-	40,375	-	-	-
Total	**170,484**	**-**	**-**	**170,484**	**128,694**		**120,289**
Subsidies							
	-	-	-	-	-	-	-
	-	**-**	**-**	**-**	**-**		**-**
Total	**170,484**	**-**	**-**	**170,484**	**128,694**		**120,289**

ANNEXURE 1G

STATEMENT OF TRANSFERS TO HOUSEHOLDS

HOUSEHOLDS	TRANSFER ALLOCATION				EXPENDITURE		2014/15
	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							
Claim against the state: Brentlana Solutions	-	-	-	-	-	-	2,700
Claim against the state: I Mabuela	-	-	-	-	-	-	257
Claim against the state: M Maleka	-	-	-	-	-	-	540
Claim against the state: SL Morgan	-	-	-	-	-	-	26
Group on Earth Observation	-	-	-	-	-	-	39
Leave gratuity: Arendse, NH	-	-	-	-	-	-	28
Leave gratuity: Baloyi, MW	-	-	-	-	-	-	6
Leave gratuity: Canca, AJ	-	-	-	-	-	-	5
Leave gratuity: Chandiyamba, MJ	-	-	-	-	-	-	23
Leave gratuity: Covane TC	-	-	7	7	7	100%	-
Leave gratuity: Covane TC	-	-	18	18	18	100%	-
Leave gratuity: Covane TC	-	-	(7)	(7)	(7)	100%	-
Leave gratuity: Dawood R	-	-	17	17	17	100%	-
Leave gratuity: Gantsho PC	-	-	6	6	6	100%	-
Leave gratuity: Gantsho, PC	-	-	-	-	-	-	3
Leave gratuity: Grobler EJ	-	-	115	115	115	100%	-
Leave gratuity: Gule T	-	-	33	33	33	100%	
Leave gratuity: Hobololo, VL	-	-	-	-	-	-	5
Leave gratuity: Ikgopoleng RT	-	-	2	2	2	100%	-
Leave gratuity: Lagadien, FE	-	-	-	-	-	-	24
Leave gratuity: Lehong TM	-	-	27	27	27	100%	-
Leave gratuity: Letlhoo KA	-	-	17	17	17	100%	-
Leave gratuity: Letlhoo KA	-	-	(5)	(5)	(5)	100%	-
Leave gratuity: Letlhoo KA	-	-	(5)	(5)	(5)	100%	-
Leave gratuity: Letlhoo KA	-	-	5	5	5	100%	-
Leave gratuity: Letlhoo KA	-	-	5	5	5	100%	-
Leave gratuity: Mabele, LP	-	-	-	-	-	-	19
Leave gratuity: Mabula O	-	-	9	9	9	100%	-

HOUSEHOLDS	TRANSFER ALLOCATION				EXPENDITURE		2014/15
	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
Leave gratuity: Machivha, LP	-	-	-	-	-	-	26
Leave gratuity: Maja, DM	-	-	-	-	-	-	4
Leave gratuity: Makobane, PR	-	-	-	-	-	-	8
Leave gratuity: Makua, AM	-	-	-	-	-	-	6
Leave gratuity: Malange F	-	-	25	25	25	100%	-
Leave gratuity: Maluleke	-	-	-	-	-	-	15
Leave gratuity: Maphakisa, ME	-	-	-	-	-	-	8
Leave gratuity: Masindi M	-	-	2	2	2	100%	-
Leave gratuity: Masuku, PL	-	-	-	-	-	-	7
Leave gratuity: Mathe, TD	-	-	-	-	-	-	28
Leave gratuity: Mathibela TS	-	-	3	3	3	100%	-
Leave gratuity: Matlhakwana SJ	-	-	8	8	8	100%	-
Leave gratuity: Mazibuko, CS	-	-	-	-	-	-	18
Leave gratuity: Mchunu ZN	-	-	47	47	47	100%	-
Leave gratuity: Mkhithika NL	-	-	9	9	9	100%	-
Leave gratuity: Mohlala ME	-	-	2	2	2	100%	-
Leave gratuity: Mokobane, PR	-	-	-	-	-	-	8
Leave gratuity: Mokwatedi, MPV	-	-	-	-	-	-	2
Leave gratuity: Moleli, KL	-	-	-	-	-	-	13
Leave gratuity: Moropa, SD	-	-	-	-	-	-	6
Leave gratuity: Mosehle, LL	-	-	-	-	-	-	10
Leave gratuity: Motau MP	-	-	7	7	7	100%	-
Leave gratuity: Motaung, MP	-	-	-	-	-	-	9
Leave gratuity: Mote, NJ	-	-	-	-	-	-	12
Leave gratuity: Mukondeleli N	-	-	4	4	4	100%	-
Leave gratuity: Ndlovu, BS	-	-	-	-	-	-	5
Leave gratuity: Ngcobo, MF	-	-	-	-	-	-	27
Leave gratuity: Ngoma, GYM	-	-	-	-	-	-	23
Leave gratuity: Nguna IT	-	-	5	5	5	100%	-
Leave gratuity: Nkosi, PCZZ	-	-	-	-	-	-	22
Leave gratuity: Nqabeni XE	-	-	2	2	2	100%	-
Leave gratuity: Nzama BS	-	-	37	37	37	100%	-

HOUSEHOLDS	TRANSFER ALLOCATION				EXPENDITURE		2014/15
	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
Leave gratuity: Phahle NW	-	-	1	1	1	100%	-
Leave gratuity: Phali, MA	-	-	-	-	-	-	6
Leave gratuity: Phuravhathu AL	-	-	16	16	16	100%	-
Leave gratuity: Ramabu	-	-	2	2	2	100%	-
Leave gratuity: Ramaloko, LA	-	-	-	-	-	-	2
Leave gratuity: Rambau N	-	-	7	7	7	100%	-
Leave gratuity: Rambau N	-	-	(2)	(2)	(2)	100%	-
Leave gratuity: Rasemphe, AG	-	-	-	-	-	-	35
Leave gratuity: Setlaba, MB	-	-	-	-	-	-	9
Leave gratuity: Simelane, SA	-	-	-	-	-	-	1
Leave gratuity: Sindane DJ	-	-	14	14	14	100%	-
Leave gratuity: Sindane DJ	-	-	35	35	35	100%	-
Leave gratuity: Sindane DJ	-	-	(14)	(14)	(14)	100%	-
Leave gratuity: Sithole, KL	-	-	-	-	-	-	20
Leave gratuity: Thaoge ML	-	-	33	33	33	100%	-
Leave gratuity: Tjemolane, T	-	-	-	-	-	-	11
Leave gratuity: Tsatsi	-	-	7	7	7	100%	-
Leave gratuity: Tsatsi DM	-	-	8	8	8	100%	-
Leave gratuity: Tsatsi DM	-	-	(8)	(8)	(8)	100%	-
Leave gratuity: Tsatsi, DM	-	-	-	-	-	-	9
Leave gratuity: Tshabalala	-	-	-	-	-	-	3
Leave gratuity: Weyers, J	-	-	-	-	-	-	41
Leave gratuity: Xolo DSN	-	-	29	29	29	100%	-
Leave gratuity: Zantsi, LK	-	-	-	-	-	-	4
Leave gratuity: Zondi, MSV	-	-	-	-	-	-	20
Leave gratuity: Zwane, MN, Phaswana, R and Mokhari, MT	-	-	-	-	-	-	27
Refund for lost items	-	-	-	-	-	-	3
Women in Science Awards	-	-	300	300	300	100%	325
TOTAL	**-**	**-**	**823**	**823**	**823**		**4,448**

ANNEXURE 1I

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						
European Union	BioCircle2: To develop a skilled and capable workforce	-	-	-	-	-
European Union	Innovation for Poverty Alleviation Programme	4,359	4,359	44,892	43,392	2,500
European Union	To develop vibrant and sustainable rural communities that contributes to adequate food security.	5,206	5,206	24,941	24,876	65
European Union	Strengthening the European – South African Science and Advancement Programme (ESASTAP2)	107	107	1,612	1,612	(8)
European Union	ERA Africa: To develop a skilled and capable workforce	-	-	85	63	22
European Union	To improve overall ICT policies and create systems for each African country to ensure a consolidated effective region impact through information society in Africa	188	188	113	10	103
European Union	European researchers to access SA innovation programmes and collaborate with SA Researchers	626	626	626	216	410
European Union	Cooperation with EU associated member states and 3rd countries on STI	153	153	-	-	-
European Union	Promote mutual understanding of Africa/EU cooperation in critical S&T areas of mutual interest	143	143	252	-	252
European Union	Information and communication Technology Innovation	603	603	64,453	64,453	-
European Union	To develop database of Africa Research Infrastructure and influence policy dialogue in the region	-	-	954	622	332
European Union	RINEA Programme	-	-	350	149	201
United States Agency for International Development	Malawi Potato pathogen project	-	-	-	-	-
Ireland	Potato tissue culture project-Lesotho	73	73	-	-	-
Portugal	Bridging actions for GMES and Africa	217	217	-	-	-

NAME OF DONOR	PURPOSE	OPENING BALANCE	SURRENDERED FUNDS	REVENUE	EXPENDITURE	CLOSING BALANCE
		R'000	R'000	R'000	R'000	R'000
United States of Agency for International Development	The SADC early warning mechanism	-	-	-	-	-
Finland	Biofisa II	-	-	17,145	17,145	-
United States of America	To determine the possibility of the establishment of a virtual network to include rural areas in SA and Tanzania	-	-	1,245	1,245	-
United States of America	To determine the extent to which waterand air pollution may impact on the health of two communities in the lower Olifants water catchment area	-	-	-	-	-
United States of America	IKS Standard Development and Capacity Building	-	-	1,585	1,585	-
Subtotal		**11,675**	**11,675**	**158,253**	**154,368**	**3,885**
Received in kind		**-**	**-**	**-**	**-**	**-**
Subtotal		**-**	**-**	**-**	**-**	**-**
TOTAL		**11,675**	**11,675**	**158,253**	**154,368**	**3,885**

ANNEXURE 1J

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

NATURE OF GIFT, DONATION OR SPONSORSHIP	2014/2015	2014/15
	R'000	R'000
Paid in cash		
Women in Science Awards	300	325
Refund for lost items	-	3
Group on Earth Observation	-	39
SUB TOTAL	**300**	**367**
TOTAL	**300**	**367**

ANNEXURE 2B

STATEMENT OF INVESTMENTS IN AND AMOUNTS OWING BY/TO ENTITIES AS AT 31 MARCH 2016

NAME OF ENTITY	Nature of business	Cost of investment R'000		Net Asset value of Investment R'000		Amount owing to Entities R'000		Amount owing by Entities R'000	
		2015/2016	2014/2015	2015/2016	2014/2015	2015/2016	2014/2015	2015/2016	2014/2015
Controlled entities									
		-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-
Non-controlled entities									
BIOVAC	Pharmaceutical Industry (35% share holding)	-	-	54,447	52,772	-	-	-	-
Total		**-**	**-**	**-**	**54,447**	**52,772**	**-**	**-**	**-**	**-**

The Department of Science and Technology acquired BIOVAC shares from the Department of Health. The shares were transfer to the DST without any financial implications to the department. The amount of R54 447 million is the value of shares calculated at 35% of the retained earnings of BIOVAC as at 31 December 2015.

ANNEXURE 3B

STATEMENT OF CONTINGENT LIABILITIES AS AT 31 MARCH 2016

Nature of liability	Opening balance 1 April 2015	Liabilities incurred during the year	Liabilities paid/ cancelled/ reduced during the year	Liabilities recoverable)	Closing balance 31 March 2016
	R'000	R'000	R'000	R'000	R'000
The civil claim against the department in respect of injuries allegedly sustained when the claimant fell in an open hole in the Pretoria Zoo Gardens.	401	-	-	-	401
Total	**401**	**-**	**-**	**-**	**401**

ANNEXURE 4

CLAIMS RECOVERABLE

Government Entity	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/2016	31/03/2015	31/03/2016	31/03/2015	31/03/2016	31/03/2015
	R'000	R'000	R'000	R'000	R'000	R'000
Department						
Province of KwaZulu-Natal	36	36	-	-	36	36
Department of Health	-	3	-	-	-	3
Department of Human Settlements	-	4	-	-	-	4
Department of Environmental Affairs	-	38	-	-	-	38
Department of Transport	1	-	-	-	1	-
Civilian Secretariat	-	-	-	-	38	-
Department of Social Development	-	-	-	-	-	-
Department of Co-operative Governance and	-	-	-	-	-	-
Traditional Affairs	7	-	-	-	7	-
Department of Education: Gauteng Province	105	-	-	-	105	-
Gauteng Infrastructure Development	127	-	-	-	127	-
Presidency	88	-	-	-	88	-
Department of Correctional Services	1	-	-	-	1	-
Department of Justice and Constitutional Development	9	-	-	-	9	-
Subtotal	**374**	**81**	**-**	**-**	**374**	**81**
Other government entities						
	-	**-**	**-**	**-**	**-**	**-**
Subtotal	**-**	**-**	**-**	**-**	**-**	**-**
Total	**374**	**81**	**-**	**-**	**374**	**81**

ANNEXURE 5

INTER-GOVERNMENT PAYABLES

GOVERNMENT ENTITY	Confirmed balance		Unconfirmed balance		TOTAL	
	31/03/2016	31/03/2015	31/03/2016	31/03/2015	31/03/2016	31/03/2015
	R'000	R'000	R'000	R'000	R'000	R'000
DEPARTMENTS						
Current						
Department of International Relations and Cooperation	999	1,571	-	-	999	1,571
Total	**999**	**1,571**	**-**	**-**	**999**	**1,571**

ANNEXURE 6

INVENTORY

Inventory	Note	Quantity	2015/16	Quantity	2014/15
			R'000		R'000
Opening balance		-	-	15,189	388
Add/(Less): Adjustments to prior year balance		-	-	-	-
Add: Additions/Purchases - Cash		-	-	-	-
Add: Additions - Non-cash		-	-	-	-
(Less): Disposals		-	-	-	-
(Less): Issues		-	-	-	-
Add/(Less): Adjustments		-	-	(15,189)	(388)
Closing balance		**-**	**-**	**-**	**-**

The inventory was transferred to consumables in terms of the requirements of the modified cash standards and the accounting manual for departments.

ANNEXURE 8A

INTER-ENTITY ADVANCES PAID (note 17)

GOVERNMENT ENTITY	Confirmed balance		Unconfirmed balance		TOTAL	
	31/03/2016	31/03/2015	31/03/2016	31/03/2015	31/03/2016	31/03/2015
	R'000	R'000	R'000	R'000	R'000	R'000
DEPARTMENTS						
Current						
Department of International Relations and Cooperation	234	516	-	-	234	516
Total	**234**	**516**	**-**	**-**	**234**	**516**

APPROVAL

The Annual Financial Statements set out in pages 167 and 269 for the financial year ended 31 March 2016 have been approved.

PM MJWARA
Director General

Notes

Notes

Notes

DEPARTMENT OF SCIENCE & TECHNOLOGY

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