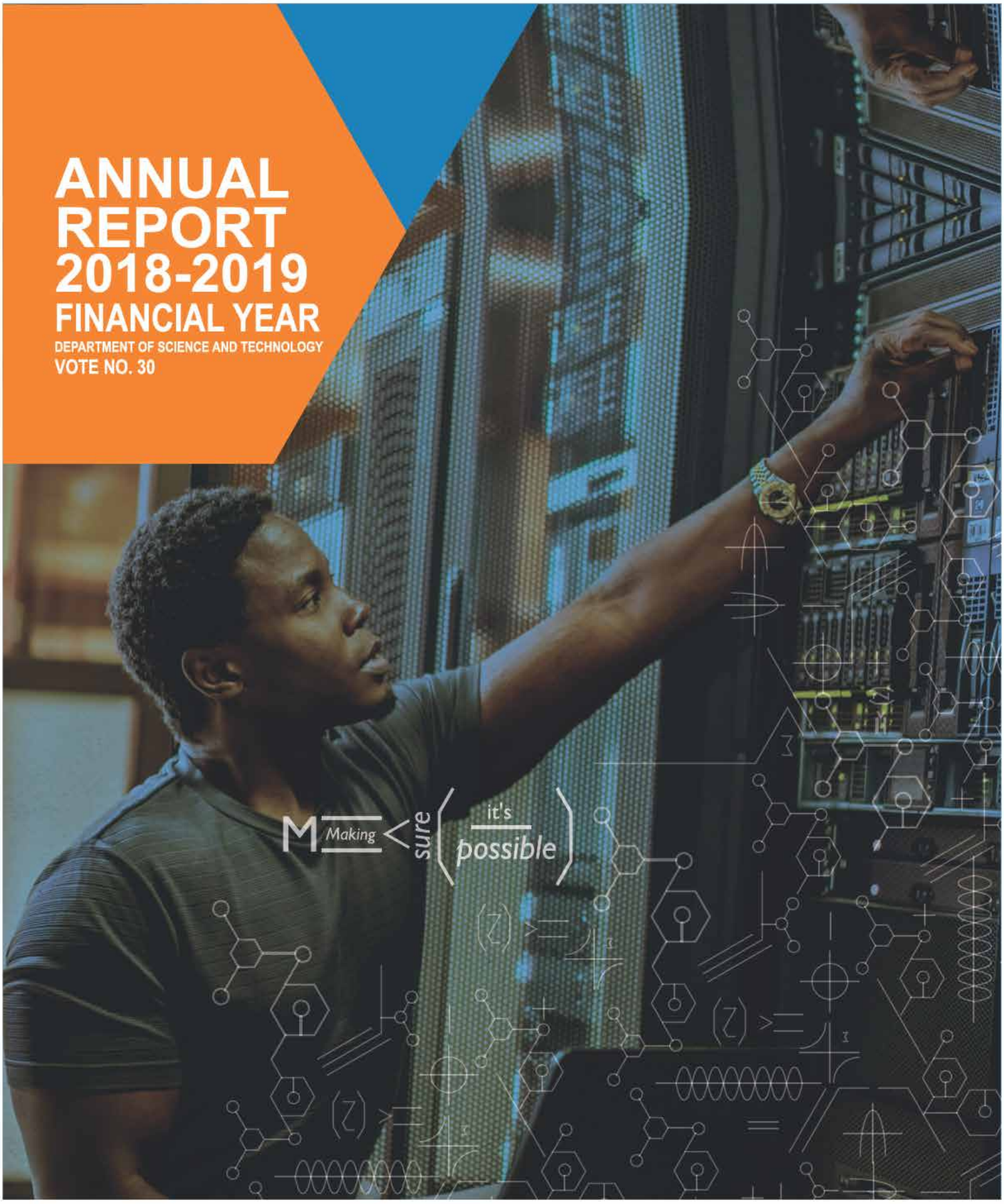
ANNUAL REPORT 2018-2019 FINANCIAL YEAR

DEPARTMENT OF SCIENCE AND TECHNOLOGY
VOTE NO. 30



science & technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

2030 NDP

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PART A
GENERAL INFORMATION

PART A: GENERAL INFORMATION

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2. LIST OF ABBREVIATIONS

ABIPP	Agricultural Bio-economy Innovation Partnership Programme
AGSA	Auditor-General of South Africa
ABIS	Automatic Biometric Identification System
AM	Additive Manufacturing
ARC	Agricultural Research Council
ASSAf	Academy of Science of South Africa
AU	African Union
BIDF	Biorefinery Industry Development Facility
BMGF	Bill and Melinda Gates Foundation
BRICS	Brazil, Russia, India, China and South Africa
CRPM	Centre for Rapid Prototyping and Manufacturing
CSIR	Council for Scientific and Industrial Research
DAFF	Department of Agriculture, Forestry and Fisheries
DPSA	Department of Public Service and Administration
DHA	Department of Home Affairs
DPSA	Department of Public Service and Administration
DST	Department of Science and Technology
ERM	Enterprise Risk Management
EU	European Union
Exco	The DST Executive Committee
GEO	Group on Earth Observation
GEOSS	Global Earth Observation System of Systems
GMO Executive Council	Executive Council established under the Genetically Modified Organisms Act, 1997
HCD	human capital development
HCT	HIV counselling and testing
HOA	home owner's allowance
HSRC	Human Sciences Research Council
HySA	Hydrogen South Africa
ICT	information and communication technology
IDC	Industrial Development Corporation
IKS	indigenous knowledge systems
IKS Bill	The Protection, Promotion, Development and Management of Indigenous Knowledge Systems Bill
IP	intellectual property
IPHE	International Partnership for Hydrogen and Fuel Cells in the Economy
IPR Act	inforIntellectual Property Rights from Publicly Financed Research and Development Act
MDR TB	multidrug-resistant tuberculosis
MEA	membrane electrode assemblies
MMV	Medicines for Malaria Venture
NACI	National Advisory Council on Innovation
NDP	National Development Plan
NEPAD	New Partnership for Africa's Development
NICIS	National Integrated Cyberinfrastructure System

2. LIST OF ABBREVIATIONS (CONTINUED)

NIPMO	National Intellectual Property Management Office
NRF	National Research Foundation
NSI	national system of innovation
OCIMS	National Oceans and Coastal Information Management System
OHS	occupational health and safety
OTR	Overberg Test Range
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	Southern African Development Community
SAEON	South African Environmental Observation Network
SALGA	South African Local Government Association
SAMRC	South African Medical Research Council
SANReN	South African National Research Network
SAPRIN	South African Population Research Infrastructure Network
SARIR	South African Research Infrastructure Roadmap
SAWiSA	South African Women in Science Awards
SCM	Supply Chain Management
SETI	science, engineering, technology and innovation
SKA	Square Kilometre Array
SMME	small, medium and/or micro-enterprise
STI	science, technology and innovation
UHF	ultra-high frequency
UKESA	Urban Knowledge Exchange Southern Africa
WISET	Women in Science, Engineering and Technology
TENET	Tertiary Education and Research Network of South Africa

FOREWORD BY THE MINISTER



Dr BE Nzimande, MP
Minister of Higher Education, Science and Technology

The 2018/19 financial year marked yet another successful year for the Department of Science and Technology (DST), with the highlight being the approval by Cabinet of the White Paper on Science, Technology and Innovation.

The new White Paper identifies the fourth industrial revolution (4IR) as a key focus. The new technologies associated with the 4IR – including artificial intelligence, robotics, the Internet of Things, and genetic engineering – are poised to have a hugely disruptive impact on the place of humans in economic production.

By placing STI at the centre of South Africa's development agenda, the White Paper gives us an opportunity to prepare for what lies ahead and ensure that the country becomes a global centre of science, technology and innovation.

With a budget of R7,958 billion for the reporting period, the Department continued to enhance service delivery, using its 2018/19 Annual Performance Plan as an implementation instrument for contributing to the government's Programme of Action, as informed by the Medium-Term Strategic Framework and the National Development Plan.

The main focus of the Department in the reporting period was to create an environment in which the national system of innovation (NSI) contributed to the reduction of poverty, inequality and unemployment in South Africa, and provided marginalised communities with more and better opportunities to participate fully in the economy.

The DST continues to engage other departments through bilateral agreements and joint projects to ensure uptake and sustainability of its interventions. In partnership with the national Department of Human Settlements (DHS), the DST is advancing the deployment of innovative technology solutions in the human settlements sector. The DHS has developed a framework that will guide the deployment of innovative technologies. The framework is key in terms of delivering on the Cabinet resolution on the deployment of locally developed technologies. Furthermore, through the Technology Innovation Agency, the DST is piloting an innovative financing instrument, the Technology Adoption and Deployment Fund, a tool intended to contribute towards enhancing market access primarily for locally developed innovative technology solutions that respond to development challenges and priorities.

Education remains key to people's prospects for improving their opportunities in the labour market and realising their socio-economic goals. As part of our human capital development initiatives, the Department supported a total of 13 154 students, comprising 4 572 pipeline (honours and final-year BTech), 5 202 master's and 3 380 doctoral students.

The STI-related services provided by the Department include knowledge-generation stimulus packages in the form of research grants. To ensure equal access for

3. FOREWORD BY THE MINISTER (CONTINUED)

all, grants are provided through various instruments designed to strengthen research capacity at universities, including the South African Research Chairs Initiative and the Centres of Excellence Programme.

The DST, through the National Research Foundation (NRF), awarded research grants to 4 633 researchers, 40% of whom were black and 39% women. In terms of the production of new knowledge, over 9 159 research articles were published by funded researchers and cited in the Thomson Reuters Web of Science Citation Database.

The NRF also awarded 35 research infrastructure grants to the total value of R703,015 million. One of the funded research facilities, the iThemba Laboratory for Accelerator-Based Science, celebrated the 10th anniversary of South Africa's collaboration with CERN, the European Organization for Nuclear Research. This partnership has created invaluable opportunities for the South African research community to achieve excellence in the field of particle physics.

The National Intellectual Property Management Office (NIPMO) continued to provide financial and non-financial support to researchers, investing R47,8 million in the establishment and maintenance of offices of technology transfer, rebates for intellectual property protection and maintenance costs, and incentives for intellectual property creators.

The number of actionable disclosures received by NIPMO has increased to a total of 1 800 since the enactment of the Intellectual Property Rights from Publicly Financed Research and Development Act, 2008, with 311 new disclosures received in 2018/19.

During the reporting period, the Department launched another of the 13 large research infrastructures that fall under the South African Research Infrastructure Roadmap. Based at Nelson Mandela University, the Shallow Marine and Coastal Research Infrastructure will provide vital data for growing the blue economy, especially in the key sectors of fishing, aquaculture, oil and gas, shipping, mining and coastal development.

The blue economy has been identified as the next major contributor to South Africa's GDP, with the potential to create up to a million direct jobs and contribute up to R177 billion to the country's economy by 2030.

South Africa is continuously making its mark as a global destination for astronomy development. During the reporting period, the 64-antenna MeerKAT radio telescope, a precursor to the Square Kilometre Array, was completed and commissioned for science operations. The MeerKAT has since revealed an extraordinary detail in the region surrounding a supermassive black hole at the centre of the Milky Way, confirming its status as one of the most advanced scientific instruments in the world.

The Department also launched the MeerLICHT optical telescope, a collaboration between research institutions in the Netherlands, South Africa and the United Kingdom. The MeerLICHT will conduct observations in parallel with the MeerKAT, enabling astronomers to study stars and galaxies in two parts of the spectrum, optical and radio, at the same time.

To increase astronomy capacity at historically disadvantaged institutions, the DST provided funds to North-West University to build a dome for their newly established Mahikeng Astronomical Observatory, which houses a 16-inch Meade LX200GPS optical telescope that is used both for research by students and for outreach to local schools and the community.

The year under review saw the launch of a mining precinct aimed at supporting local innovations to provide solutions to the challenges faced by the mining industry in South Africa, including mineworkers' health and safety. This institution, named after former President Nelson Mandela, will help to position mining as a core driver of world-class technological and manufacturing capabilities and solutions for the development of the economy, embedding 4IR initiatives in its operations to reverse the decline in the sector.

The National Treasury allocated R63 million for the South African Mining Extraction Research, Development and

3. FOREWORD BY THE MINISTER (CONTINUED)

Innovation (RDI) Strategy in the 2018/19 financial year. An additional 50% in matching funds from the Minerals Council South Africa enabled substantial RDI programmes to be undertaken.

On the global front, the DST will continue to build on its successes in international relations, managing, monitoring and recommitting to meaningful international partnerships in STI to advance the mandate of the Department. A total of R517 009 000,00 in foreign funds were secured from international partners in support of South Africa's NSI. The European Union remains one of the largest contributors, with substantial contributions also received from philanthropic foundations.

The DST managed to secure R91 275,00 from international partners to support collaborative projects in Africa. The Department itself has invested in 93 jointly funded projects with African partners, and received endorsement from either the Southern African Development Community or the African Union for 17 initiatives.

The hosting of the 6th BRICS (Brazil, Russia, India, China and South Africa) STI Ministerial Meeting was a major highlight on the Department's calendar. The meeting focused on harnessing science, technology and innovation to provide BRICS countries with a competitive advantage in the fourth industrial revolution.

On the legislative front, the National Research Foundation Amendment Bill and the Protection, Promotion, Development and Management of Indigenous Knowledge Bill were approved for signature by the President.

I would like to express my gratitude to the Portfolio Committee on Science and Technology, the Director-General and the staff of the Department of Science and Technology, and the science councils and industry and civil society stakeholders in the NSI, for their commitment towards our goal of placing South Africa on a growth trajectory in pursuit of an inclusive society



Dr BE Nzimande, MP

Minister of Higher Education,
Science and Technology

3. ISENDLALELO SIKANGQONGQOSHE

Unyaka wezimali wezi-2018/19 uphinde waba ngomunye unyaka onempumelelo eMnyangweni Wezesayensi Nobuchwepheshe (i-DST), kube umsebenzi omkhulu kakhulu kube wukuthi iKhabhinethi ligunyaze uMthetho Odingidwayo wezeSayensi, Ubuchwepheshe Namasu Amasha.

Lo Mthetho omusha Odingidwayo uveza ukuthi kumele kugxilwe kakhulu kuguquko lwezimboni lwesine (i-4IR). Ubuchwepheshe obusha obuhambisana ne-4IR - obubandakanya ubuchwepheshe bemishini, amarobhothi, Ukuxhumana Kwezinsiza Zobuchwepheshe (i-Internet of Things), kanye nobuchwepheshe bokukhiqiza okusha ngokususela kulibofuzo - buvezwa njengokuzoba nomthelela ophazamisa kakhulu isikhundla sabantu emisebenzini yokwakha umnotho.

Ngokubeka i-STI kumongo wohlelo lwentuthuko lweNingizimu Afrika, lo Mthetho Odingidwayo unika abantu ithuba lokulungiselela okuzayo nokuqinisekisa ukuthi izwe liba yisikhungo sezesayensi, ubuchwepheshe namasu amasha somhlaba jikelele.

Ngesabelomali sezigidigidi eziyi-R7, 958 sesikhathi okubikwa ngaso, uMnyango uqhubekile nokuthuthukisa ukuhlinzeka ngomsebenzi, ngoHlelo Lokusebenza Lonyaka wezi-2018/19 njengesakhi sokuqalisa izinhlelo ukuze ukwazi ukuba negalelo Ohlelweni Lokusebenza lukahulumeni, ngokususela kuHlaka Lwesu Lokusebenza Lwesikhathi Esimaphakathi Nonyaka kanye noHlelo Lwentuthuko Kazwelonke.

Kulesi sikhathi okubikwa ngaso uMnyango ugxile kakhulu ekwakheni indawo lapho uhlelo lukazwelonke lwamasu amasha (i-NSI) lube negalelo ekunciphiseni ububha, ukungalingani nokungabibikho kwamathuba omsebenzi eNingizimu Afrika, futhi luhlinzeke imiphakathi ekhishwe inyumbazane ngamanye amathuba angcono ukuze izibandakanye ngokugcwele emnothweni wezwe.

Imfundo yiyo esayisikhali esisemqoka ukuze abantu bathuthukise amathuba abo okuthola imisebenzi nokufinyelela emigomweni yabo yezenhlalomnotho. Njengengxenye yezinhlelo zethu zokuthuthukiswa kwezisebenzi, uMnyango useke abafundi basemanyuvesi abayizi-13 154, phakathi kwabo abayizi-4 572 ngasebephambili ngemfundo (abafundela iziqu ze-honours nabakunyaka wokugcina we-BTech), abayizi-5 202 abafundela iziqu ze-masters kanye nabayizi-3 380 abafundela iziqu zobudokotela.

Imisebenzi ehambisana ne-STI ehlinzekwe uMnyango ibandakanya izinhlelo zokwenza ucwaningo lokuthola ulwazi ngokusebenzisa izibonelelo zocwaningo. Ukuqinisekisa ukuthi bonke abantu bahlinzekelwa ngokulinganayo, izibonelelo zihlinzekwa ngezindlela ezinhlobonhlobo ezenzelwe ukuqinisa amandla okuqhutshwa kocwaningo emanyuvesi, okubandakanya Uhlelo Lozihlalo Bocwaningo eNingizimu Afrika kanye Nezikhungo Zohlelo Lobunyoninco.

I-DST, ngaphansi kwe-National Research Foundation (i-NRF), ikhiphe izibonelelo zocwaningo zanikwa abacwaningi abayizi-4 638, ama-40% abo okube abantu abamnyama futhi ama-39% abo ngabantu besifazane. Ngokokukhiqizwa kolwazi olusha, abacwaningi abaxhasiwe bashicilele ama-athikhili ocwaningo ayizi-9 161 futhi acashunwa ku-Thomson Reuters Web of Science Citation Database.

I-NRF iphinde yakhipha izibonelelo zengqalasizinda yocwaningo ezingama-35 ezibize izigidi ezingama-R703,015. Esinye sezikhungo zocwaningo ezixhasiwe, iThemba Laboratory for Accelerator-Based Science, sibungaze ishumiminyaka lokusebenzisana kweNingizimu Afrika ne-CERN, okuyiNhlangano yase-Europe Yocwaningo Lwezenuzi. Lobu budlelwano budalele abacwaningi baseNingizimu Afrika amathuba amangalisayo ukuze kufinyeleleke kubunyoninco emkhakheni weze-particle physics.

IHhovisi Lokuphathwa Kwemikhiqizo Yobuhlakani Obusha Kuzwelonke (i-NIPMO) liqhubekile nokweseka abacwaningi ngemali nangokungasiyo imali, latshala izigidi ezingama-R47,8 ukuze kusungulwe futhi kunakekelwe amahhovisi okudlulisa ubuchwepheshe,

3. ISENDLALELO SIKANGQONGQOSHE

izimbuyiselo zokuvikelwa kwemikhiqizo yobuhlakani obusha nezindleko zokunakekela, kanye nemihlomulo yabasunguli bemikhiqizo yobuhlakani obusha.

Isibalo sokudaluliwe okungathathelwa izinyathelo zomthetho esamukelwe yi-NIPMO sikhuphukile safinyelela ku-1 809 kusukela kwamiswa Amalungelo Emikhiqizo Yobuhlakani Obusha esuselwa kuMthetho Wocwaningo Oluxhaswe Wuhulumeni Nokuthuthukisa, 2008, lapho okwaba nokusha okudaluliwe okungama-311 okwamukelwa ngowezi-2018/19.

Ngesikhathi okubikwa ngaso, uMnyango wathula ezinye izingqalasizinda zocwaningo ezinkulu eziyi-13 ezingena ngaphansi Kohlelo Lwengqalasizinda Yocwaningo eNingizimu Afrika. Ingqalasizinda Yocwaningo Lolwandle Olungashoni Kakhulu kanye Nogu, oluqhubeka eNyuvesi iNelson Mandela, luzohlinzeka ngemininingo esemqoka yokukhulisa umnotho wasolwandle, ikakhulukazi imikhakha ebalulekile yezokudoba, impilo yasolwandle, amafutha namagesi, ukuthutha ngomkhumbi, imayini nokuthuthukiswa kogu. Umnotho wasolwandle uhlonzwe njengokunye okunegalelo elikhulu ku-GDP yaseNingizimu Afrika, unamathuba okwakha imisebenzi engatholwa abantu ngqo engafinyelela kuzigidigidi futhi yaba negalelo elifinyelele kuzigidigidi eziyi-R177 emnothweni wezwe ngowezi-2030.

INingizimu Afrika iyaqhubeka nokuziveza njengendawo yomhlaba jikelele yokuthuthukisa isayensi yezomkhathi. Ngesikhathi okubikwa ngaso, besekuqedwe futhi kwagunyazwa i-64-antenna MeerKAT radio telescope, eyakhiwe kuqala kune-Square Kilometre Array, ukuze kuqhutshwe imisebenzi yesayensi. Kusukela ngaleso sikhathi i-MeerKAT seyiveze imininingwane emangalisayo esifundeni esizungeze i-black hole enkulu ngokumangalisayo emnyombweni we-Milky Way, okuqinisekisa isimo sayo njengesinye sezakhi sezesayensi esithuthukiswe kakhulu emhlabeni.

UMnyango uphinde wathula i-MeerLICHT optical telescope, evele ngokusebenzisana kwezikhungo zocwaningo zase-Netherlands, eNingizimu Afrika nase-United Kingdom. I-MeerLICHT izokwenza umsebenzi wokuqapha ngesikhathi esisodwa ne-MeerKAT, okuzokwenza osomkhathi bacwaninge izinkanyezi nama-galaxy ngezingxenye ezimbili zendawo, ngokubona kanye nemisindo yokuxhumana, ngesikhathi esisodwa.

Ukwandisa abantu abafunda izifundo zomkhathi ezikhungweni ebeziphucwe amathuba phambilini, i-DST ihlinzeke ngoxhaso eNyuvesi yase-North West ukwakha isakhiwo se-Mahikeng Astronomical Observatory esanda kwakhiwa, esiqukethe i-16-inch Meade LX200GPS optical telescope esetshenziselwa ucwaningo lwabafundi nokwelulela isandla ezikoleni zasendaweni nasemphakathini.

Kulo nyaka obuyekezwayo kwethulwe isikhungo sezokuvukuza okuhloswe ngaso ukuthi kwesekwe amasu amasha asemiphakathini ukuhlinzeka ngezisombululo zezinselele imboni yezimayini ebhekene nazo eNingizimu Afrika, okubandakanya isimo sezempilo nezokuphepha eziqondene nezisebenzi zasezimayini. Lesi sikhungo, esiqanjwe ngowayenguMongameli uNelson Mandela, sizosiza ukumisa imboni yezokuvukuza njengomholi omkhulu womsebenzi nezisombululo zezobuchwepheshe nokukhiqiza okusezingeni lomhlaba ukuze kuthuthukiswe umnotho, kugxiliswe izinhlelo ze-4IR emisebenzini yayo ukushintsha ukuwa kwalo mkhakha.

Umgcinimafa Wezwelonke ukhiphe izigidi ezingama-R63 zabelwa Isu Lokusebenza Locwaningo, Intuthuko Namasu Amasha (i-RDI) Kwezokuvukuzwa Kwezimayini eNingizimu Afrika ngonyaka wezimali wezi-2018/19. Kuphinde kwangezwa ama-50% oxhasomali olufanayo oluvele kuMkhandlu Wamaminerali waseNingizimu Afrika okwenze ukuthi kwenziwe izinhlelo ezinzulu ze-RDI.

Emazweni omhlaba, i-DST izoqhubeka nokwakhela phezu kwempumelelo yayo kwezobudlelwano bamazwe ngamazwe, ukuphatha, ukuqapha nokuzibophezela kabusha ebudlelwaneni bamazwe ngamazwe obuzwakalayo kwi-STI ukuthuthukisa umsebenzi woMnyango. Selulonke luyizi-R517

3. ISENDLALELO SIKANGQONGQOSHE

009 000,00 uxhasomali lwakwamanye amazwe olutholakele kozakwethu bakumazwe ngamazwe ukweseka i-NSI yeNingizimu Afrika. I-European Union kusayiyo engumxhasi omkhulu, njengoba inikele ngemali eningi nayo etholakale ezinhlanganweni zabantu abasiza abantu.

I-DST ikwaze ukuthola izi-R91 275,00, kozakwethu bakumazwe ngamazwe ukweseka imisebenzi ehlanganyelwe e-Afrika. UMnyango ngokwawo ufake utshalomali kumisebenzi ehlanganyelwe engama-93 nozakwethu base-Afrika, futhi wathola ukwesekwa yiNhlangano yokuThuthukisa Amazwe aseNingizimu ne-Afrika noma iNhlangano yase-Afrika ngezinhlelo eziyi-17.

Ukusingathwa koMhlangano we-STI Wongqongqoshe abaku-BRICS (i-Brazil, Russia, India, China neNingizimu Afrika) yikho okwahamba phambili ekhalendeni loMnyango. Umhlangano wagxila ekusebenziseni isayensi, ubuchwepheshe namasu amasha ukuhlinzeka amazwe e-BRICS ngethuba lokuzuza kwezokuncintisana kuguquko lwezimboni lwesine.

Kwezomthetho, kwagunyazwa imithethosivivinywa emibili, uMthethosivivinywa Oyisichibiyelo Wesikhungo Sezocwaningo Kuzwelonke noMthethosivivinywa Wezokuvikela, Ukukhuthaza, Ukuthuthukisa Nokuphatha Ulwazi Lwezendabuko, ukuze isayinwe wuMongameli.

Ngithanda ukubonga iKomidi Lemisebenzi Yezesayensi Nobuchwepheshe, Umqondisi-Jikelele nezisebenzi zoMnyango Wezesayensi Nobuchwepheshe, kanye nemikhandlu yezesayensi nababambiqhaza basembonini nabezinhlangano zomphakathi ku-NSI, ngokuzinikela kwabo emgomweni wethu wokubeka iNingizimu Afrika ethubeni lokukhula kuphokophelwe emphakathini obandakanyayo.



Dkt. BE Nzimande, i-MP

UNgqongqoshe Wezemfundo Ephakeme, Ezesayensi Nobuchwepheshe

3. KETAPELE KA TONA

Ngwaga wa dišhelete wa 2018/19 e bile wo mongwe gape wa mengwaga ya katlego Kgorong ya Saentshe le Theknolotši (DST), moo phihlelelo ye kgolo e bilego ge Kabinete e amogela Kuranta ya Mmušo ya Saentshe, Thekenolotši, le Boithomelo.

Kuranta ya Mmušo ye mphsa e šupa reboloušene ya bone ya indaseteri (4IR) go ba tebanyo ye bohlokwa. Ditheknolotši tše diswa tšeo di sepelelanago le 4IR go akaretšwa bohlale bja metšhene le diroboto, Inthanete ya dilo, le bointšeneere bja tlholego go bonala di ka ba le khuetšo ye kgolo ya go šašarakanya legatong la batho tšweletšong ya ekonomi.

Ka go bea STI gare ga lenaneo la hlabollo la Afrika Borwa, Kuranta ya mmušo e re nea sebaka sa go lokišetša bokamoso go kgonthišiša gore naga e ba lefelo la saentshe, thekenolotši le boithomelo lefaseng.

Ka ditekanyetšo tša diranta tše dibilione tše 7.958 ka nako ya pego, Kgoro e tšwetše pele ka go diragatša kabo ya ditirelo, e šomiša Leano la Mešomo la Ngwaga le ngwaga la 2018/19 bjalo ka sedirišwa sa phethagatšo ya go tsenya letsogo Lenaneong la mmušo la Mešomo, go latela Tlhako ya nako ya magareng ya Morero le Leano la Tlhabollo la Bosetšhaba.

Nepo ye kgolo ya Kgoro ka nako yeo ya pego, e be ele go hlola tikulogo yeo e lego gore go yona lenaneo la bosetšhaba la boithomelo (NSI) le bile le kabelo phokotšong ya bohloki, tlhokego ya tekatekano le tlhokego ya mešomo Afrika Borwa, le go direla batho bao ba dikilego ba beetšwe thoko dibaka tše dintši tše dikaone tša go kgatha tema ekonoming ka botlalo.

Thuto e dula ele bohlokwa dihloloselong tša batho tša go kaonafatša dibaka tša bona lekaleng la bašomi le go fihlelela dinepo tša ekonomi le leago. Bjalo ka karolo ya boithomelo bja tlhabollo ya bokgoni bja batho, Kgoro e thušitše palomoka ya baithuti ba 13 154, moo e lego gore ba 4,542 ke ba phaephelaene (Honase le ngwaga wa mafelelo wa BTech), 5 202 ba masetase, le ba 3 380 ba go ithutela bongaka.

Ditirelo tšeo di amanago le STI tšeo di tlišwago ke Kgoro, di akaretša diphaketše tša go hlohleletša tsebo ka tsela ya dikerante tša diphatišišo. Go kgonthišiša phihlelelo yeo e swanago ya batho ka moka, dikerante di fiwa ka ditsela tšeo di fapafapanego tšeo di diretšwego go matlafatša bokgoni bja dinyakišišo diyunibesithing, go akaretšwa Baduladitulo ba Boithomelo ka mono Afrika Borwa le mafelo a Lenaneo la Bokgoniphetelela.

DST ka Motheo wa Bosetšhaba wa Dinyakišišo (NRF) e abetše banyakišiši ba 4 638 dikerante tša dinyakišišo, moo dipersente tše 40 e lego bathobaso mola ba dipersente tše 39 ele basadi. Go latela tšweletšo ya tshedimošo ye mphsa, dingwalwa tša dinyakišišo tša go feta 9 161 di gatišitšwe le go lefela banyakišiši ditšhelete le go hlaloswa ka gare ga Thomson Reuters Web of Science Citation Database.

NRF le gape e abile dikerante tše 35 tša nyakišišo ya infrastraktšhara ya boleng bja go fihla go diranta tše dimilione tše 703 015. Ye nngwe ya ditlabakelo tša dinyakišišo, iThemba Laboratory for Accelerator-Based Science, e ketekile ngwaga wa bolesome wa tirišano ya Afrika Borwa le CERN, Mokgatlo wa Yuropa wa Dinyakišišo tša Nuklea. Tirišano ye e hloletše banyankišiši ba Afrika Borwa dibaka tše dibotse go fihlelela bokgoniphetelela ka Makaleng a particle physics.

Kantoro ya National Intellectual Management (NIMPO) e tšwetše pele ka go thuša banyakišiši ka ditšhelete le ka tsela ye nngwe, ka go beeletša diranta tše dimiliione tše 47,8 tlhammong le go hlokomeleng dikantoro tša phetišetšo ya theknolotši, pušetšo ya tšhelete ya tšhireletšo ya dikgopolo tša mahlale a boithomelo le tlhokomelo, le meputso ya batlhami ba mahlale a boithomelo.

Palo ya dikutullo tša go phethagatšega yeo e amogetšwego ke NIPMO e oketšegile go fihla go 1 809 go tloga mola go dirišwago Ditokelo tša mahlale a boithomelo go tšwa Molaong wa 2008 wa Tlhabollo ya Dinyakišišo yeo e Thekgwago ka Mašeleng a Mmušo,

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le dikutullo tše diswa tše 311 tšeo di humanwego ka 2018/19.

Ka nako ya pego, Kgoro e thomile tše dingwe tša diinfrastraktšhara tša dinyakišišo tše 13 tše dikgolo tšeo di welago ka fase ga South African Research Infrastructure Roadmap. E theilwe Yunibesithing ya Nelson Mandela, Infrastraktšhara ya Shallow Marine, le Infrastraktšhara ya Dinyakišišo tša Lebopo, di tla tšweletša tshedimošo ya ekonomi ya ditšwamawatleng, kudu ka makaleng a boswarahlapi, ditšwametsing, oli, le gase, dikepe, meepo le tlhabollo ya mabopo. Ekonomi ya ditšwamawatleng e šupilwe ele motsenyi yo mogolo wa go latela letsenong la Afrika Borwa la GDP, ka kgonagalo ya go tšweletša mešomo ye milione le go tsenya diranta tše dibilione tše 177 ekonoming ya naga ka ngwaga wa 2030.

Afrika Borwa e tšwela pele ka go bonagala ele lefelo la tlhabollo ya thutadinaledi lefaseng. Ka nako ya ge go be go ngwalwa pego ye, theleskoupo ya 64-antenna MeerKAT, ketapele ya Square Kilometre Array, e phethilwe le go beelwa ditiragalo tša saentshe. MeerKAT o šetše o utullotše dintlha tša moswananoši ka tikulogong yeo e dikulogilego molete wo mogologolo wo moso woo o lego bogareng bja Milk Way, go tiišetša maemo a wona a go ba ye nngwe ya didirišwa tše bohlokwa tša saentshe yeo e tšwetšego pele lefaseng.

Kgoro e thomile ka thelesekoupo ya MeerLICHT optical, tirišano gare ga dihlongwa tša dinyakišišo ka Netherlands, Afrika Borwa le United Kingdom. MeerLICHT e tla lekodišiša go bapa le MeerKAT, go kgontšha banepadinaledi go bala dinaledi le melalatladi ka dikarolo tše pedi tša sepektramo, optikhale le radio ka nako e tee.

Go oketša bokgoni bja thutadinaledi dihlongweng tšeo di dikilego di beetšwe thoko go ya ka histori, DST e file Yunibesithi ya North West tšhelete ya go aga doumo lefelong la bona leo le sa tšwago go hlangwa la Botsinkelo bja Thutadinaledi ka Mahikeng, moo go nago le thelesekoupo ya seetša ya 16-inch Meade LX200GPS yeo baithuti ba e šomišetšago dinyakišišo le go sedimoša dikolo tša kgauswi le setšhaba.

Ngwaga woo o sekasekwago, o bile le go hlongwa ga tikulogo ya meepo ka maikemišetšo a go thekga boithomelo bja tikulogo go tšweletša ditharollo tša dihlohlo tšeo intaseteri ya meepo e lebanego natšo ka Afrika borwa, go akaretšwa maphelo le tšhireletšego ya bašomi ba meepong. Sehlongwa se, seo se theeletšego presidente ya peleng Nelson Mandela, se tla thuša go bea meepo maemong a go ba mmapalagare wa bokgoni bja thekenolotši le tšweletšo le ditharollo tša tlhabollo ya ekonomi moo go mometšego matsapa ka moka a 4IR mešomong ya yona ya go gomiša theogo ka lekaleng.

Sekhwama sa Matlotlo a Bosetšhaba se beetše thoko diranta tše dimilione tše 63 tša Dinyakišišo tša go ntšhwa ga dirafša meepong ya Afrika Borwa , Leanong la Tlhabollo le Boithomelo (RDI) ngwageng wa ditšhelete wa 2018/19. Dipersente tše 50 tša tlaleletšo ditšheletenng tšeo di swanantšhwago le ditšhelete tša sekhwama sa go tšwa Lekgotleng la Dimenerale la Afrika Borwa di kgontšhitše phethagatšo ya bogolo bja mananeo a RDI.

Maemong a lefase, DST e tla tšwela pele go aga godimo ga katlego ya yona dikamanong tša boditšhabatšhaba, taolong, tlhokomelong le go itlama leswa dikamanong tša maleba tša boditšhabatšhaba ka go STI go tšwetša pele morero wa Kgoro. Palomoka ya diranta tše 517 009 000,00 ya ditšhelete tša dinaga tša ntle, e beetšwe thoko go tšwa go badirišani ba boditšhabatšhaba bao ba thekgago NSI ya Afrika Borwa. European Union e tla dula ele yo mongwe wa bathuši ka thušo ya go bonala yeo e amogetšwego go tšwa metheong yeo e laetšago botho ka go thuša bao ba hlokago.

DST e kgonne go humana diranta tše dikete tše 91 275,00 go tšwa badirišaneng ba boditšhabatšhaba go thekga diprotšeke tša mohlakanelwa Afrika. Kgoro ka boyona e beeleditše ka diprotšekeng tše 93 tšeo di thušwago ka ditšhelete ka mokgwa wa go hlakanelwa

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le bašomišani ba Afrika, gape e hweditše tumelelo ya go tšwa go African Development Community goba African Union mabapi le go thomiša ka tše 17.

Go ba lefelo la go swarela Kopano ya Ditona ya botshelela ya BRICS (Brazil, Rašia, India, Chaena le Afrika Borwa) e bile phihlelelo ye kgolo khalendareng ya Kgoro. Kopano e be e beile šedi tabeng ya go kgonagatša saentshe, thekenolotši le boithomelo go thuša dinaga tša BRICS ka kholego reboloušeneng ya bone ya diintaseteri.

Ka thokong la melao,, Molaokakanywa wa Motheo wa Dinyakiišo tša Bosetšhaba le Molaokakanywa wa Tšhireletšo Tšwetšopele le Taolo ya Tsebo ya Setšo di amogetšwe gomme di letetše tshaeno ya Mopresidente.

Ke rata go leboga Komiti ya Potefolio ya Saentshe le Thekenolotši, le Molaodipharephare le bašomedi ba Kgoro ya Saentshe le Thekenolotši le makgotla a saentshe le intaseteri le bengditseka ba setšhaba ka go NSI, ka boitlamo bja bona morerong wa rena wa go bea Afrika Borwa tseleng ya kgoolo morerong wa setšhaba go ba karolo ya setšhaba seo se golago.



Dr BE Nzimande, MP

Tona ya Thuto ya Godimo, Saentshe le Thekenolotši

4. STATEMENT BY THE DEPUTY MINISTER



Mr KB Manamela, MP
Deputy Minister of Higher Education, Science and Technology

Science, technology and innovation play a crucial role in enhancing productivity, growing a sustainable and inclusive economy, and improving socio-economic conditions in the country.

During the reporting period, the Department of Science and Technology (DST) made significant progress in the demonstration of innovative technology solutions in support of improved access and quality of service delivery. The South African Sanitation Technology Demonstration Programme continued to contribute to increased access to decent and appropriate sanitation services, especially for rural households. At the same time, the programme was refocused to strengthen its contribution to industrialisation and technology localisation within the context of the Industrial Policy Action Plan. The programme created a viable technology platform for supporting a pipeline of alternative sanitation technologies to deliver on priorities such as the sanitation backlog in schools and rural areas.

A diverse set of players, including research institutions, municipalities, the South African Bureau of Standards, eThekwini Municipality and the South African Local Government Association (SALGA), partnered in the development of an international standard (ISO 30500) for non-sewered sanitation systems. The adoption of this standard will enable South Africa to play a greater role in the innovative sanitation technologies space.

Under the DST-Hitachi Engineer Exchange Programme, six engineers under the age of 35 working at municipalities or water utilities across South Africa spent two months in Japan learning about how water is managed there at municipal level. In the process, they were exposed to new water technologies that could be adapted for use in their local working environments. The exchange programme has been highly successfully, leading to the creation of the Young Engineers "Changemakers" Programme, a partnership between SALGA and the Water Technologies Demonstration Programme of the DST and the Water Research Commission.

Through the Sector Innovation Fund, the DST has supported a portfolio of seven industries, namely horticulture, post-harvest innovation, viticulture, forestry, mineral processing, paper manufacturing, and agroprocessing.

Small-scale agroprocessing initiatives in South Africa are still facing major challenges. The structural constraints facing such initiatives are exacerbated by historical, natural and financial factors. The challenge is to co-design ways to manage these constraints effectively through innovation.

To address some of the challenges of the agricultural bioeconomy, the DST, in collaboration with the Technology Innovation Agency, supports the

4. STATEMENT BY THE DEPUTY MINISTER (CONTINUED)

Agricultural Bioeconomy Innovation Partnership Programme (ABIPP). In the 2018/19 financial year, ABIPP funded a number of existing and new initiatives. One of these is the Wheat Breeding Platform, which focuses on developing drought-tolerant and pest-resistant varieties. During the reporting period, 270 lines were made available to different breeding companies, of which 161 were selected by the Agricultural Research Commission (ARC), 27 by Sensako and 18 by Corteva (Pannar). Since 2015, 27 new cultivars have been released by the breeding companies, one by the ARC, eight by Sensako and 18 by Pannar.

Several initiatives were also undertaken to promote co-operatives and agroprocessing initiatives. Fifteen community-based initiatives were supported through the construction and equipping of pilot pre-processing facilities. The Innovation Hub (BioPark) incubated 14 SMMEs, supporting business development and entrepreneurship in RDI-based natural products.

During the reporting period, SolarTurtle, a spin-off company of the Renewable Energy Hub and Spoke Programme at the University of Stellenbosch, built on its previous experiences with alternative energy sources in rural areas. The company deployed 10 SolarTurtle energy kiosks in Lesotho to support rural women in their business initiatives. This solution is based on a DST-funded solar energy programme. The Mini SolarTurtles were produced for the Lesotho highlands as part of a European Commission programme to empower women entrepreneurs with renewable energy.

Considerable progress was also made with the DST's Grassroots Innovation Programme, which provides technical and financial support to enable social entrepreneurs and innovators working in townships and rural areas to develop solutions to social challenges facing their communities. These entrepreneurs and innovators typically lack access to formal training or research institutions. During the year under review, a call for grassroots innovations was issued and over 100 qualifying local innovators are being enrolled in the programme, which will help them to develop their concepts, commercialise their ideas, and create prototypes.

The Department strives to increase the number of high-level graduates in the country, as well as improve their representivity. The Centre for High Performance Computing Student Cluster Competition team, supported by the DST, secured third place for South Africa at the 2018 International Student Cluster Competition in Germany. In this competition, students are judged on their ability to design a supercomputer cluster that meets strict power constraints and high-performance benchmarks.

The DST also co-sponsored the 2018 Deep Learning Indaba, with the aim of increasing African participation and contribution to advances in artificial intelligence and machine learning, and addressing the issue of diversity in these fields. The DST funded the participation of four honours, 19 master's and seven doctoral students at the event.

I wish to express my sincere gratitude to the leadership within the national system of innovation, as well as to the dedicated staff in the Department and its entities, centres of excellence and science councils, for making sure we achieve the goals we have set for improving our society and growing our economy through science, technology and innovation.



Mr KB Manamela, MP
Deputy Minister of Higher Education, Science and Technology

5. REPORT OF THE ACCOUNTING OFFICER



Dr MP Mjwara
Accounting Officer

5.1 Introduction

It is an honour for me to present the Department of Science and Technology 2018/19 Annual Report. The report indicates the implementation of our mandate which is to coordinate the development of the National System of Innovation (NSI) as articulated in the 1996 White Paper on Science and Technology.

This report highlights the achievements of the 2018/19 financial year and provides an account of our financial and non-financial performance, based on our performance measures and targets.

A brief overview of the Department's operations and significant achievements is given below.

5.2 Overview of departmental operations

The year under review has seen the Department successfully achieve the goals of its Operational and Annual Performance Plans. The governance structures of the Department continued discharging their responsibilities. The Executive Committee, Operations Committee, Enterprise Risk Management Committee, Information Technology Steering Committee and bid committees met as required.

To minimise risks, during the period under review the Department ensured that measures to mitigate against identified risk were implemented. These were monitored on a quarterly basis through Enterprise Risk Management processes. The Audit Committee met regularly, and Internal Audit assisted with the monitoring of compliance and the enhancement of governance issues in the Department. The work of the Audit Committee and Internal Audit played a significant role in the Department obtaining an unqualified audit opinion (clean audit) for the 2017/18 financial year.

The Department ensured that all Supply Chain Management processes were followed to minimise incidents of non-compliance with the Public Finance Management Act and other relevant prescripts. This was confirmed by the high rating of the Department under the Management Performance Assessment Tool (MPAT). In the period under review the Department continued to pay all valid invoices within 30 days of receipt. The timely payment of invoices, especially to small, medium and micro-enterprises (SMMEs) is an important part of ensuring that the National Development Plan goal of creating a significant number of jobs by 2030 is achieved.

Designated employees are required to disclose their financial interests in terms of the Public Service Regulations. In the period under review, 100% of designated employees submitted their disclosures in time.

5.3 Significant developments and major projects undertaken

Below are some of the significant events that took place in the 2018/19 financial year. More details are given in the performance overview sections for the specific Programmes.

Space Science and Technology policy instruments

The National Space Programme Economic Case and the Space Industry Framework (with the Department of Trade and Industry) have been completed, and will be used to mobilise the funding needed for a long-term national space programme and the development of sustainable local space industry that will contribute to the country's economy and service delivery.

Operation Phakisa – Oceans Economy

The National Oceans and Coast Information Management System (OCIMS) has been developed with critical decision-support tools, including integrated vessel tracking, oil spill detection, flood hazards, harmful algal blooms, sea state, water quality and marine spatial planning, which will significantly improve the sustainable exploitation of oceans and preserve protected marine areas.

Oceans Economy and Satellite Development

A precursor for the Maritime Domain Awareness (MDA) Satellite Constellation, called ZACube-2, was successfully launched on 27 December 2018. Funding has been made available for the development of the full constellation. This constellation will also provide infrastructure for MDA and the National OCIMS, which will enhance and generate further information to support decision-making in marine governance, protection and spatial planning, as well as stimulating innovation and the growth of domestic SMMEs. The main users and stakeholders of the National OCIMS are the Departments of Environmental Affairs, Defence (Navy), Agriculture, Forestry and Fisheries, the South African Police Service, and government entities such as the South African Maritime Safety Authority, National Search and Rescue Institute, Maritime Institute of Technology, and the National Ports Authority (Transnet).

Space Weather Regional Centre

South Africa has been appointed by the International Civil Aviation Organisation as a Regional Centre for Space Weather Information for the international aviation industry. The centre will provide critical space weather information for the African region.

Energy Security Grand Challenge – Energy storage

The Energy Security Grand Challenge is implemented mainly through three flagship programmes, namely, Hydrogen South Africa (HySA), the Energy Storage Research, Development and Innovation (RDI) Programme, and the Renewable Energy Hub-and-Spokes Programme. The period under review saw significant support for postgraduate students, academic publications, granted intellectual property rights, knowledge application products, commercial outputs, decision-support tools and policy directives under the Grand Challenge.

In support of technology commercialisation and getting HySA technology into the global value chain, HyPlat, a company spun out of HySA Catalysis, had its membrane electrode assemblies evaluated by a global original equipment manufacturer. The membrane electrode assemblies performed on par with those available on the market. Furthermore, 10 SolarTurtle energy kiosks were deployed in Lesotho to support rural women in business initiatives.

With regard to energy storage, a multilateral agreement between Germany and South African partners has been put in place to develop a low-cost nickel-iron battery. The partnership includes the University of the Western Cape, Eskom, the Fraunhofer Institute, one German company and two South African SMMEs. The DST investment of R4 million was used to leverage R1,5

million from Eskom and R10 million from the German partners. Non-disclosure agreements were signed with Manu Mishra (India), Avespa Holdings LLC (the United States of America) and Mzesi Energy (Pty) Ltd (South Africa) companies to explore the commercialisation of Coalgae.

A new decision-support tool for agricultural energy efficiency was introduced to provide evidence-based support for the development of targets under the National Energy Efficiency Strategy. Data from the Bioenergy Atlas was used as input into the land reform workshop and bio-jet fuel feasibility studies by the WWF, Fetola and Skynerg. A draft Shale Gas Action Plan was presented to the DST Exco and workshopped with international experts.

Research and Innovation Infrastructure

The launch of the Shallow Marine and Coastal Research Infrastructure

The Shallow Marine and Coastal Research Infrastructure, launched on 19 October 2018 at Nelson Mandela University in Port Elizabeth, is one of 13 research infrastructures under the South African Research Infrastructure Roadmap (SARIR).

The launch of the Dimamo Population Health Research Centre

The South African Population Research Infrastructure Network (SAPRIN) was established under SARIR in 2016. Hosted by the South African Medical Research Council, it is a national network of research centres that monitor the health and socio-economic wellbeing of whole populations, with the aim of improving them. A node of the SAPRIN national network, the Dimamo Population Health Research Centre at the University of Limpopo, was launched on 10 December 2018. The centre was established to carry out routine measurements of the burden of non-communicable diseases such as high blood pressure and diabetes. This state-of-the-art research centre will not only boost interdisciplinary research and intervention capability at the university, but will also have national significance.

Launch of the South African Open Science Framework Report

The DST, with funding from the SA-EU Dialogue Facility, embarked on a SA-EU Open Science dialogue initiative between October 2018 and November 2018. The Framework consists of a set of guidelines, principles and best practices for promoting open science in South Africa. The Open Science Framework was launched at Science Forum South Africa in December 2018, in Pretoria.

Amendments to legislation

On 4 December 2018, the National Research Foundation Amendment Bill was approved by the National Council of Provinces (NCOP) and sent to the President for assent. The approval was preceded by a presentation of the Bill made by the DST on 31 October 2018, and a briefing was held in November 2018.

On 13 February 2019, the Portfolio Committee on Science and Technology considered and approved the NCOP amendments to the Protection, Promotion, Development and Management of Indigenous Knowledge Bill. The changes were not substantive, but largely technical in nature. The Bill was approved and referred to the House for consideration. On 13 March 2019, the National Assembly adopted the Bill and submitted it for the President's assent.

Lindau Noble Laureate Meeting

On 10 May 2018, the Department hosted a meeting to prepare postgraduate students selected to attend a week-long meeting with Noble Laureate winners in physiology and medicine before their departure for Lindau. All six students were women. The actual meeting took place from 24 to 29 June 2018.

The South African Sanitation Technology Demonstration Programme

The Department secured donor funding to support efforts to leverage and harness STI in support of improving service delivery and the capacity of the state to deliver services. One of the key initiatives in this regard is the South African Sanitation Technology Demonstration Programme (SASTEP). SASTEP supported key policy outcomes and policy initiatives such as the provision of access to decent sanitation services to rural communities through alternative technologies. This strategic initiative has supported the Industrialisation Policy Action Plan objective of building a strong manufacturing capability and services value chain across key sectors to diversify the economy. SASTEP created a viable technology platform for supporting a pipeline of alternative sanitation technologies to deliver on priorities such as the sanitation backlog in schools and rural areas. A strong set of players, including research institutions, municipalities, standard bodies such as the South African Bureau of Standards, eThekwini municipality and the South African Local Government Association, worked together in the development of an international standard (ISO 30500) for non-sewered sanitation systems. The adoption of this standard will enable South Africa to play a greater role in the innovative sanitation technologies space

The Waste and Water RDI Roadmaps

The continued implementation of the Waste and Water RDI Roadmaps by the Waste Research Implementation Unit and the Water Coordination and Implementation Unit at the Council for Scientific and Industrial Research (CSIR) has supported 59 honours, masters and doctoral students. Of the students funded, 51% are female and 83% are black. For the first time, the biennial WasteCon conference hosted a special session dedicated to the students funded by the Waste Research Implementation Unit, at which seven students presented their work. The first waste sector chairs under the South African Research Chairs Initiative were announced in August 2018.

The incumbent of the Waste and Climate Change Chair at the University of KwaZulu-Natal, Prof. Cristina Trois, has seven funded postgraduate students. The Waste and Society Chair at the University of the Western Cape, Prof. Catherina Schenck, has leveraged funding to support 20 postgraduate students and three journal publications. Furthermore, the DST has embarked on the development of a Circular Economy Framework, and established a Circular Economy Forum to assist in developing the framework and monitoring its implementation going forward.

Data Science for Impact Decision Enhancement programme

In line with the broader DST response to the Fourth Industrial Revolution discourse, the DST-funded programme on Data Science for Impact and Decision Enhancement (DSIDE) has been running for the past five years, and its aim is to support capacity building in the ever-growing field of data science by holding 12-week programmes of mentor-guided and learn-by-doing problem-solving of real world needs as presented by different stakeholders. In 2018/19 the programme recruited and trained 64 students, who are mostly third and fourth-year undergraduates in fields such as engineering, information technology, computer science and mathematics. The students tackled 16 projects, which included verifying and validating water usage in the Breede-Gouritz water catchment area in the Western Cape; categorising cases reported to the Presidential Hotline for the attention of appropriate departments; assisting the City of Tshwane Metropolitan Municipality emergency services (ambulance and fire brigade) to optimise response times by analysing call log data; exploring the typical electricity usage patterns to discover the different categories of electricity users in the township of Thembisa; and social media data analysis to detect themes, topics and overall sentiment, and predict the behaviour of customers/users on topics or products. Most of the graduates have since been employed in the private sector, in the ICT, financial and insurance, and energy sectors, (among others).

mLab

Non-profit organisation mLab is a mobile technology accelerator that aims to support innovative new start-ups and to unlock the mobile applications economy. The open innovation laboratory started in 2012 and has evolved into a highly successful initiative. Its offerings include coding skills development (with code academies situated in townships), enterprise development (incubation) and co-creation opportunities with industry for university students. In 2018/19, two more mLab sites (in addition to those in Pretoria and Cape Town) have begun operating. In Polokwane (Limpopo) and Kimberley (Northern Cape).

The Industry Innovation Partnership Programme

The DST continued to implement its Industry Innovation Partnership (IIP) Programme. This includes the Sector Innovation Fund (SIF) portfolio, as well as support for industry development centres hosted by the CSIR.

The SIF portfolio is designed to offer the private sector an incentive to invest more in RDI through co-investment in priorities identified by the private sector. There are seven industry associations supported through the SIF portfolio, in horticulture, post-harvest innovation, viticulture, forestry, agroprocessing, mineral processing and paper manufacturing. Since the pilot phase started in 2014/15, 200 postgraduate students have been supported, of which 9% (18 students) have already found employment in their respective fields, contributing to the development of a high-end skills pool (and thus the improved competitiveness) of these sectors. In addition, 94 interns and postdoctoral positions were supported, of which just under 25% found employment during the pilot phase. The Department has entered the second phase of the SIF, with the same seven industry associations.

The other leg of the IIP portfolio is the support of a number of industry development centres at the CSIR, in sectors that represent potential new growth areas of the economy. These are the Biomanufacturing Industry Development Centre (BIDC), the Biorefinery Industry Development Facility, the Nanomaterials Industry Development Centre and the Photonics Prototyping Facility. The pilot phase of support for these centres ran from 2014/15 to 2018/19, and supported 29 SMMEs, most of them through the BIDC. In addition, 142 interns were supported across the centres, 66 of which are now employed, and 192 knowledge products (primarily commercial formulations or near commercial prototypes) were transferred to the entities supported.

The Programme Management Unit

The Programme Management Unit established at the CSIR to assist in advancing initiatives in the local systems of innovation portfolio has now run two calls for proposals. This followed a new structured approach to soliciting proposals for regional innovation support platforms, such as innovation networking platforms or innovation-enabling infrastructure. Platforms in Limpopo, Welkom, East London and Kimberley are being supported. The outcomes of the second call are currently being finalised.

Finally, the DST is actively participating in a number of intergovernmental processes led by social partners, and international partnership processes aimed at supporting South Africa's response to the Fourth Industrial Revolution. As these processes mature, and with the establishment of a Presidential Advisory Commission on the Fourth Industrial Revolution, the Department will be called upon to further enhance its contribution in support of the national response.

5.4 Future plans of the Department

The future plans of the Department will be unpacked in 2019/20 when the Department's 2020-2025 Strategic Plan is developed. The plan will be informed by the 2019 White Paper on Science, Technology and Innovation, as well as the priorities of the incoming administration. However, the Department will

implement the plans indicated below in the next financial year.

Sovereign Innovation Fund

In 2018/19 the proposed sovereign innovation fund was consolidated with the Small Business Fund to form the Small Business and Innovation Fund, which will be implemented in 2019/20. It is envisaged that the Small Enterprise Financing Agency, overseen by the Departments of Science and Technology and Small Business Development, will serve as the project management unit to implement the Small Business and Innovation Fund.

It is envisaged that the fund will offer primarily early-stage grants in support of pre-commercial, seed, start-up and fledgling companies, with scale-up funding being provided on an equity basis.

Science, technology and innovation partnerships

The DST will continue building on its successes in international relations and will manage, monitor and recommit to meaningful international partnerships in science, technology and innovation to contribute to the mandate of the DST. The Department will continue to champion science diplomacy in Africa.

The RDI priorities of the circular economy

The 2019 White Paper on Science, Technology and Innovation identified the circular economy as a new source of growth. In the short-term, the DST will enable the identification of critical circular economy RDI priorities to give effect to the policy intents of the White Paper. In addition, the DST will participate in broader processes to formalise a circular economy strategy for the country. The implementation of the Green Economy for Development programme will be ramped up in the coming financial year with support for SMMEs in the water and waste sectors (in particular, biorefineries).

The IIP and local systems of innovation

The DST will continue to implement the broader Industry Innovation Partnerships (IIP) portfolio. Significant effort will be dedicated in the coming year to the future implementation of the IIP portfolio, as well as the DST's Local Systems of Innovation portfolio, and how these align with the new White Paper and the new decadal plan. There will be concerted focus on programmes to develop the skills required for a digital economy. In addition, much effort will also be spent on developing DST's approach to contributing to a transition to a circular economy.

Mining research and development initiatives

In order to help secure the future of South Africa's mining industry, the National Treasury allocated the South African Mining Extraction RDI Strategy R63 million in the 2018/19 financial year. An additional 50% matching funds from the Minerals Council South Africa enabled substantial RDI programmes to be undertaken. The Mandela Mining Precinct was formally launched by the Ministers of Science and Technology and Mineral Resources in September 2018. The focus on mining RDI also includes an intentional effort to strengthen the local mining equipment manufacturing industry, which is led by the Department of Trade and Industry.

Development of next generation 3D printer

The development of the next generation additive manufacturing machine has progressed well, with a number of prototype parts having been completed. This is in response to strong overseas interest in using the large bed (printing large components) at high speeds. The Industrial Development Corporation is involved in the process of industrialising the technology, although the detailed industrialisation model (for leveraging the intellectual property) is expected to be completed in the next financial year.

5. REPORT OF THE ACCOUNTING OFFICER (CONTINUED)

5.5 Discontinued activities and implications for the Department

As the Department begins to implement the 2019 White Paper on Science, Technology and innovation, the DST's activities will have to be aligned to the new policy intents.

5.6 New or proposed activities and implications for the Department

There are no new or proposed activities that will be implemented in the next financial year.

5.7 Overview of the financial results of the Department

Departmental receipts

The table below highlights receipts collected by the Department in the financial year under review and the past financial year (2018/19 and 2017/18).

5. REPORT OF THE ACCOUNTING OFFICER (CONTINUED)

Departmental receipts	2018/19			2017/18		
	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	35	64	(29)	58	60	(2)
Interest, dividends and rent on land	26	27	(1)	56	34	22
Sale of capital assets	-	217	(217)	-	430	(430)
Financial transactions in assets and liabilities	35 000	32 441	(2 559)	8 072	9 774	(1 702)
Total	**35 061**	**32 749**	**(2 806)**	**8 189**	**10 298**	**(2 109)**

In the period under review, the Department collected significant revenue as compared to the previous financial year. The increase was due to surpluses on project funds that were refunded to the Department and sale of old vehicles that were uneconomical to maintain. The other collections were in relation to commission on insurance deducted from officials.

Spending trends

The Department's appropriation for the year under review was R7,958 billion, which was a 5,3% increase from R7,557 billion in 2017/18. The increase was mainly due to additional funding of R167 million to the National Research Foundation's iThemba LABS (South African Isotopes Facility) and baseline increases in some of the transfers and subsidies line items.

The table below shows budget and actual expenditure per Programme for the financial year under review (2018/19) and the previous financial year (2017/18).

The table below shows budget and actual expenditure per Programme for the financial year under review (2018/19) and the previous financial year (2017/18).

Programme	2018/19			2017/18		
	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
Administration	380 349	340 493	39 856	340 873	338 197	4 674
Technology Innovation	1 157 338	1 143 715	13 623	1 133 783	1 116 181	17 579
International Cooperation and Resources	142 449	139 872	2 577	168 211	130 598	35 594
Research Development and Support	4 519 058	4 516 626	2 432	4 300 795	4 291 924	8 869
Socio-Economic Innovation Partnerships	1 759 194	1 751 220	7 9748	1 613 567	1612 645	968
Total	**7 958 388**	**7 891 926**	**66 462**	**7 557 229**	**7 489 545**	**67 685**

The Department's spending performance has been consistently above 90% since its inception. It was 99,2% for the 2018/19 financial year.

Summary of budget expenditure analysis per economic classification

Details	2018/19 R'000	2018/19 %
Amount voted	7 958 388	100
Actual expenditure	7 891 926	99,2%
Unspent funds	66 462	0,8%
Economic classification		
Current payments	546 152	6,86%
Transfer payments	7 336 589	92,19%
Payments for capital assets	9 042	0,11%
Payments for financial assets	143	0,002%
Total payments	**7 891 926**	**99,2%**

Virements

The Department effected virements amounting to R73,4 million after the Adjusted Estimates of National Expenditure process, which represents 1% of the adjusted budget. An amount of R145 000 was moved between major items and R31 million was moved between Programmes.

R58,9 million was shifted within transfers and subsidies to fund the International Centre for Genetic Engineering and Biotechnology operations, intellectual property creator incentives, manufacturing of products and technology transfer related to indigenous knowledge systems, satellite launching capability and the South African Earth Observation Strategy.

Supply Chain Management

The Department has procurement policies and delegations in place, and ensured that they were adhered to in the period under review. The Supply Chain Management (SCM) Policy was reviewed to ensure that new procurement guidelines introduced by the National Treasury were complied with. Furthermore, the Department developed and implemented an SCM checklist for the procurement of goods and services to ensure compliance with all procurement processes. This checklist assisted in ensuring that the segregation of duties principle was observed at all times.

The Department has functional bid management committees. During the period under review the Department ensured that the relevant bid committee members were trained to ensure that they were able to discharge their responsibilities. No unsolicited bids were procured during the year under review.

5.8 Gifts and donations received in kind from non-related parties

There were no gifts and donations received in kind from non-related parties.

5.9 Standing Committee on Public Accounts (SCOPA) resolutions

There were no SCOPA resolutions.

5.10 Prior modifications to audit reports

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

5. REPORT OF THE ACCOUNTING OFFICER (CONTINUED)

5.11 Exemptions and deviations received from the National Treasury

No exemptions or deviations were raised by National Treasury.

5.12 Events after the reporting date

The Department received a claim at the end of the reporting period. A former manager of a science centre alleged unfair treatment and financial loss, and claimed financial restitution. On 20 June 2019 a legal opinion was received that indicated that the claim was frivolous and vexatious, and that it should be dismissed with costs.

5.13 Other

No other significant matters were raised during the period under review.

5.14 Acknowledgements and appreciation

I would like to express my appreciation to the DST staff and the DST Executive Committee for their support and dedication during the period under review. I would also like to thank Minister Kubayi-Ngubane and Deputy Minister Magwaza-Msibi for their support and leadership.

5.15 Conclusion

The Department is currently operating in an uncertain political and economic climate. However, it will continue to carry out is mandate.

5.16 Approval and sign-off

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



Dr PM Mjwara

Accounting Officer

31July 2019

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 the 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 regard);
- the Accounting Officer is responsible for establishing and implementing a system of internal control that have 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 were 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 2019.



Dr PM Mjwara

Accounting Officer

31 May 2019

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 that 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

The 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

The Act provides for the more effective use of intellectual property emanating from publicly financed research and development, through the establishment of the National Intellectual Property Management Office, the Intellectual Property Fund, and offices of technology transfer at higher education institutions and science councils.

8. LEGISLATIVE MANDATE (CONTINUE)

8.6 National Advisory Council on Innovation Act, 1997

The 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

The Act establishes the National Research Foundation 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

The Act refers to the activities of the Council for Scientific and Industrial Research, 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

The Act establishes the South African National Space Agency 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

The Act establishes the Technology Innovation Agency to promote the development and exploitation of discoveries, inventions, innovations and improvements in the public interest.

9. ORGANISATIONAL STRUCTURE



The Minister of Higher Education, Science and Technology
Dr BE Nzimande, MP



The Deputy Minister of Higher Education, Science and Technology
Mr KB Manamela, MP



Director-General
Dr Phil Mjwara



Acting Deputy Director-General: Institutional Planning and Support
Buhle Khumalo



Deputy Director-General: Corporate Services
Nombuyiselo Mokoena



Deputy Director-General: International Cooperation and Resources
Daan du Toit



Deputy Director-General: Technology Innovation
Mmboneni Muofhe



Acting Deputy Director-General: Research Development and Support
Dr Daniel Adams



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

10. ENTITIES REPORTING TO THE MINISTER

10.1 Academy of Science of South Africa

Overview of objectives

The Academy of Science of South Africa (ASSAf) aspires to be the apex organisation for science and scholarship in South Africa, recognised and connected both nationally and internationally. Through its membership, which represents the collective voice of the most active scholars in all fields of scholarly enquiry, ASSAf aims to generate evidence-based solutions to national problems.

As the only national science academy to be officially recognised by the South African government, ASSAf 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 fosters national, regional and international linkages.

Some of the highlights for the period under review are set out below.

Membership

ASSAf currently has a membership of 541 top scholars in South Africa across diverse scientific disciplines, who could be used as a resource for evidence-based solutions to national problems.

Evidence-based studies

Authoritative evidence-based studies aimed at providing critical scientific advice take cognisance of the National Development Plan and the need to address the triple challenge of poverty, inequality and unemployment. Many of the Academy's current studies address skills development challenges for a knowledge-based economy. ASSAf published four consensus study reports during the financial year – *Human Genetics and Genomics: Ethical, Legal and Social Implications; Status of Postgraduate Research Training in Engineering in South Africa*; and reports on two grouped peer reviews of scholarly journals, one in visual and performing arts and one in communication and information sciences. A fifth study, the Biennial Report on the State of Climate Change Science and Technology in South Africa, was completed in 2019.

SciELO SA

Scientific Electronic Library Online South Africa (SciELO SA), the first fully open access platform for scholarly publishing in the country and the continent, houses 1 739 South African open access journal issues, 27 619 articles and 76 journal titles. Comparative statistics show a 47% increase in views between March 2018 and March 2019.

International liaison

Internationally, ASSAf has strengthened collaboration with African and overseas academies of science. It continues to represent South Africa on a number of continental and global science advice bodies, including the Network of African Science Academies and the InterAcademy Partnership. ASSAf also hosts two regional offices of key international partners, namely the International Science Council Regional Office for Africa and the World Academy of Sciences Regional Office for Sub-Saharan Africa.

10.2 The Council for Scientific and Industrial Research

Overview of objectives

The Council for Scientific and Industrial Research (CSIR) is a world-class African research and development organisation, which was established through an

10. ENTITIES REPORTING TO THE MINISTER (CONTINUE)

Act of Parliament in 1945. The CSIR undertakes directed, multidisciplinary research and technological innovation that contributes to the improved quality of life of South Africans. The organisation plays a key role in supporting government's programmes through directed research that is aligned with the country's priorities, the organisation's mandate, and its science, engineering and technology areas of competence.

Some of the highlights for the period under review are set out below.

Demographic transformation

The CSIR met or exceeded the annual targets for seven of its 17 indicators. It had 2 342 employees at the end of the 2018/19 financial year, down 10,54% from 2 618 at the end of the 2017/18 financial year. This was as a result of (a) the moratorium on appointments as part of cost-containment measures, which allowed only critical staff to be recruited; (b) voluntary separations related to a repositioning and restructuring process; and (c) general staff turnover due to contracts ending, retirements and resignations. Of the staff, 1 608 (68,66%) were science, engineering and technology (SET) employees and 734 (31,34%) were support staff. Although the total number of SET staff was reduced, the transformation profile of the SET staff was maintained and targets for the percentage of black and female doctorates were achieved. The total number of chief researchers, especially the number of black chief researchers, remains a concern.

The majority (82,5%) of CSIR employees are employed in the professional and skilled categories. The CSIR is committed to the demographic transformation of its workforce. Approximately 5% (122 employees) of the workforce are non-South Africans, the majority of whom are employed as technical professionals. Black South Africans account for 66% (1 610 employees) of all employees, with black male South Africans accounting for 35% and black female South Africans accounting for 34% of all employees.

Staff qualification profile

There are 320 CSIR employees with doctoral qualifications and 586 with master's-level qualifications. The proportion of black and female South African employees with doctorates is relatively low (41% and 27% respectively), but the CSIR is committed to the long-term efforts needed to improve this situation. The figures for master's-level qualifications are positive – 41% of employees at this level are female South Africans and 59% are black South Africans.

Restructuring

A consultation process facilitated by the Commission for Conciliation, Mediation and Arbitration (CCMA) commenced in January 2019. The process was initiated to address operational areas that were not sustainable and to improve operational efficiency.

On 28 March 2019, employees who could not be placed in alternative positions within the CSIR were issued with notices of termination and a termination agreement setting out the restructuring package they qualified for in terms of the CSIR's retrenchment policy.

Contribution to scientific output

The CSIR contributes to scientific development by identifying and investing in relevant areas of research. The outputs of these interventions include the production of a range of high-quality technical outputs (including peer-reviewed journal articles and patents) and the generation of contract research and development (R&D) income through the provision of research services. The CSIR met or exceeded the annual targets for three of the four indicators in this category.

In total, 45% of CSIR articles were published in journals with an impact factor of 2 to 4.99 (i.e. in the top 10% of journals), and 9% of CSIR articles were published in journals with an impact factor of 5 or higher (i.e. in the top 6% of journals). At the end of the 2018/19 financial year, the CSIR had generated R1,746 billion in contract

R&D income against a target of R1,970 billion. The gap can be attributed mainly to delays in securing and finalising a number of planned contracts; the tender process requirements of National Treasury; changes in the funding landscape; models of key funders that require the CSIR to increase co-funding on various initiatives; and budget cuts and non-renewal of contracts with key customers resulting from global economic decline.

The total operating income of the CSIR amounted to R2,5 billion. The parliamentary grant recognised as income in 2018/19 was R752 million, an increase of 3,2% from the previous year. The CSIR's total contract income amounted to R1,75 billion. This includes a R78 million ring-fenced allocation from the DST. The decrease in contract income, excluding the revenue for investments in grant-funded property, plant and equipment of R34 million, amounts to 6,1%. Continued investment in acquiring and maintaining scientific infrastructure and equipment remains a priority.

10.3 Human Sciences Research Council

Overview of objectives

The Human Sciences Research Council (HSRC) is mandated to initiate, undertake and foster strategic basic and applied policy 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. Of all the work done by the HSRC in the year under review, two areas deserve emphasis. The first is the alignment of the organisation's research priorities around poverty and inequality. The second is its research into urban spatial inequality.

Some of the highlights for the period under review are set out below.

Understanding the informal sector

In order to understand one of South Africa's most important and active sectors, the HSRC launched the first standardised survey of innovation in the informal sector at an event at the Mpumuza Traditional Authority Centre in KwaZulu-Natal in March 2019. The survey is being conducted using a sample of informal businesses from the Sweetwaters area. It aims to fill a major gap in understanding innovation in South Africa, since national studies tend to focus more on measurement in formal industrial and service sub-sectors, and much less on innovation in specific geographic communities, including informal enterprises in township or rural communities.

Municipal innovation

The HSRC, in partnership with the University of KwaZulu-Natal and the South African Local Government Association, has embarked on the second phase of the Municipal Innovation Maturity Index (MIMI). MIMI is a policy tool that encourages municipalities to think of innovative solutions and to develop a culture of continuous improvement in service delivery. It is a knowledge management tool relevant to promoting innovation in the public sector more broadly. The DST is supporting a sector-wide scaling-up of MIMI across the two municipal tiers via an online platform. The digitisation project will continue for two years. Municipal user inputs will be incorporated, and stakeholders will be encouraged to share their experiences at regular learning forums.

"Access to the City"

The HSRC, in the year under review, completed a national evaluative study for the Department of Human Settlements on the theme of "Access to the City". A highly qualitative, people-centred approach was adopted to improve the understanding of the dynamics of housing development from the perspective of the poor. It considered how people navigate their way into cities and how they find suitable

or affordable places to live. The work was undertaken in collaboration with graduate students at five South African universities – Nelson Mandela University, the University of the Free State, the University of Pretoria, the University of South Africa, and the University of Fort Hare.

10.4 National Advisory Council on Innovation

Overview of objectives

The National Advisory Council on Innovation (NACI), established by the National Advisory Council on Innovation Act, 1997, is a statutory body that advises 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. The Act gives NACI a broad policy (advisory) mandate over all matters intrinsic to the functioning of the national system of innovation.

Some of the highlights for the period under review are set out below.

Advice on biomass use

The most commonly known application of biomass is in the energy sector, where it is used to provide heat, fuel or electricity. However, production of chemicals from biomass is more profitable than producing energy from this renewable resource. Through an exhaustive process including workshops and interviews with role players along the biomass value chain, NACI identified a broad list of chemicals and their potential for near-term deployment and market consideration. From this list, a group of 32 chemicals serving 13 market categories were shortlisted. Of the 32 chemicals, 28 serve multiple markets, while others serve the electronics and transportation industries.

South African Science, Technology and Innovation Indicators Report

The main output under this focus area was the publication of the 2017 South African Science, Technology and Innovation Indicators Report, which used to assess the state of the national system of innovation. NACI commissions the report annually. The report is produced using the innovation scorecard framework as a guide to obtain data and information from a range of international and local sources. Internal and external stakeholder inputs and those of experts in the system are also taken into consideration. The report, launched at a symposium on 28 June 2018, identified challenges such as a constrained human capital pipeline, and progress in areas such as transformation.

In an effort to ensure dissemination of the report findings beyond Gauteng, NACI teamed up with partner organisations to host roadshows on the report in Durban and Cape Town. The KwaZulu-Natal roadshow was hosted on 17 July 2018 in partnership with the Human Sciences Research Council (HSRC). This roadshow focused on the provincial innovation system, and included a panel discussion on the topic. The Western Cape roadshow was hosted on 20 July 2018 in partnership with the HSRC's Centre for Science, Technology and Innovation Indicators under the theme "Disruptive digitalisation, transformative change and inclusion: How do we design a responsive measurement agenda in South Africa?".

Design and implementation evaluation of the Sector Innovation Fund programme

A design and implementation evaluation of the DST's Sector Innovation Fund (SIF) programme was conducted, focusing in particular on how the programme contributes to increasing business expenditure on research and development (R&D). The SIF programme was established by the DST in 2013 to increase the competitiveness of South Africa's

industrial sectors, private sector R&D expenditure, and interaction with the private sector, as well as to stimulate or create other sectors. A mixed evaluation method was used in conducting this research. The methodology included a documentation analysis and literature review, a quantitative survey and qualitative interviews with key actors, data collection, and international and local benchmarking. In addition, a round-table discussion was held on 30 November 2018 to solicit stakeholder inputs.

Round-table discussion on preliminary findings regarding impacts of imported technologies in South Africa

On 15 October 2018, NACI hosted a round-table workshop in Pretoria to share and discuss preliminary findings on the impacts of imported technologies and solicit inputs from stakeholders on the national system of innovation. The findings covered research work based on a literature review on imported technologies, South Africa's technology balance of payments, and business sector innovation that stimulates economic growth and job creation. Discussion points included a disaggregation of private-sector and state-owned technologies, correlations between imported technologies and South African R&D, the distinction between low, medium and high technology and its importation, the examination of patents as intellectual property and their value if exploited, hindrances to firms wanting to access foreign technologies, policy around the importation of technology, and the adaptation of current procurement regulations to new innovations or pilots. The workshop concluded by acknowledging the need for a greater focus on business innovation and for research into policy implementation, as well as for cross-cutting research into the value of importing technologies to enhance business innovation.

10.5 National Research Foundation

Overview of objectives

The National Research Foundation (NRF) is an agency of the government. Its primary objective is to contribute to the improvement of the quality of life of all South Africans through the promotion of a knowledge economy based on the generation, transfer and use of knowledge. The organisation promotes and supports research through the provision of grants and bursaries, research infrastructure, international and industry collaboration opportunities and mobility through all the stages of a researcher's career, across the spectrum of basic, applied and strategic research, with a mix of programmes and funding mechanisms aligned to national priorities. The NRF also supports and promotes awareness of and engagement with science to improve science literacy and public participation in science, technology, engineering, mathematics and innovation.

Some of the highlights for the period under review are set out below.

Employment equity targets

Progress towards the achievement of long-term employment equity targets continues at a steady pace. The overall representation of black staff at the NRF is 72% against a target of 77% for the 2018/19 financial year. Female representation is 40,5% against a target of 44% (excluding foreign nationals). Key challenges remain gender representation at executive and senior management level and racial representation in the three highest employment categories. People with disabilities account for 0,6% of staff against a target of 1,72%.

10. ENTITIES REPORTING TO THE MINISTER (CONTINUE)

Occupation and qualification analysis

In the period under review, there were 170 employees with doctoral qualifications and 125 with master's degrees. A total of 34 employees enrolled for PhDs and 59 for master's degrees.

Science communication

Science communication aims to provide credible and accurate information that is accessible to all South African communities through partnerships between scientists, researchers and the media. Highlights for the period under review include the following:

- The Science and Technology Youth Journalism Programme has 26 young interns enrolled in the programme. They were deployed to cover the hydropower launch at Kwa Madiba in the Eastern Cape, the South African Environmental Observation Network (SAEON) Science Symposium in Phalaborwa in Limpopo, and a briefing session by the Minister of Science and Technology on the draft White Paper on Science, Technology and Innovation.
- The first-ever Loxion Science Fair and Expo was organised in the community of Mamelodi by Science for Ubuntu in partnership with Mams FM.
- SAEON scientists from the Arid Lands, Egagasini, Grassland-Forest-Wetland and Fynbos Nodes published more than 20 articles in national media.

Centre for High Resolution Transmission Electron Microscopy

This collaboration is jointly funded by the NRF and the Swedish Foundation for International Cooperation in Research and Higher Education. The centre was awarded a three-year grant to the total value of R850 000 as part of the joint science and technology research collaboration between the NRF and Poland's National Centre for Research and Development. The funding was awarded for studying the role of interfaces in multi-layered and coated structures. Extensive experimental work was undertaken, with exposure to top international research facilities.

Human capacity development

- Staff at the Nuclear Medicine Department at the iThemba Laboratory for Accelerator-Based Sciences (iThemba LABS) benefited from a two-week radio-chemistry course.
- The South African Institute for Aquatic Biodiversity continued to contribute to human capacity development through the African Coelacanth Ecosystem Programme, which supports marine science researchers and their students at four historically black universities. This programme supported 69 students (21 honours, 42 master's and six PhD students, as well as two postdoctoral fellows).
- SAEON's Graduate Student Network (GSN) is an excellent platform for building capacity and skills that postgraduate students require for careers as scientists. In the period under review, the GSN gave students an opportunity to interact with their peers and established scientists through the 11th SAEON GSN Indibano, which was held at the Wits Rural Facility in Limpopo. The theme of the conference was "Selling your Science, Selling Yourself", with a focus on communicating effectively about science with the public.

Knowledge generation

- The first test run of a pilot study was performed on six elephant blood samples (five from Knysna Elephant Park and one from Addo Elephant Park) in collaboration with a wildlife veterinarian and National Geographic photographer. The pilot potentially paved the way for a new project in collaboration with the Clinical Radiobiology Group at the GSI Helmholtzzentrum für Schwerionenforschung, in which the influence of the multiple copies of tumour suppressor gene

TP53 in elephants would be investigated in the context of the Peto Paradox in order to develop new strategies for the prevention of radiation-induced cancers or help to sensitise cells to radiotherapy.

- Articles were written on the involvement of SAEON in the International Long-Term Ecological Research Network, expanding SAEON's strategic role in the network.
- SAEON published 74 research articles that not only contributed to science advancement but were instrumental in influencing government decisions.

Research infrastructure and platforms

- Marine spatial data that can be acquired quickly and at higher resolutions is crucial for research, and this sometimes requires remote sensing platforms. Following the successful launch of the Shallow Marine and Coastal Research Infrastructure platform, the SAEON Elwandle Node acquired an aircraft that will be used as an airborne remote sensing platform. A hyperbaric chamber was installed to treat diving medical emergencies in order to ensure that a diving team's safety is prioritised in case of an emergency.
- SAEON established the uLwazi (isiZulu for "useful knowledge") Node for data and information platforms at the beginning of 2018. The node is well-resourced by way of government contracts relying on SAEON infrastructure for hosting a range of technology platforms, and is integrated with SAEON's research data infrastructure, data dissemination platform and associated systems such as the South African Risk and Vulnerability Atlas, Bioenergy Atlas, South African Earth Observation System of Systems, South African Spatial Development Infrastructure, Marine Information Management System and South African Carbon Sinks Atlas. These online systems support decision-making in the context of the objectives of the National Development Plan.
- The Grasslands Node Maputaland Coastal Plain Long-term Socio-Ecological Research Platform has grown. It extends from St Lucia to Kosi Bay. In addition to all groundwater monitoring sites, there is one fully automatic weather station with live feed, six automatic rain gauge stations, and new mini weather stations. These stations address a major gap in weather station data for the northern region, which is entirely dependent on rainfall for underground aquifer recharge. This observation platform is aimed at addressing local global change challenges through understanding the relative impacts of land use and climate change in the area. An approach to co-create knowledge is being used by linking into local community structures with the aim to doing science "with and for society".

10.6 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.

Some of the highlights for the period under review are set out below.

Growing and developing the pipeline

There were 1 570 new registrations at SACNASP in the period under review. By the end of the 2018/19 financial year, there were 13 791 scientists registered with SACNASP.

10. ENTITIES REPORTING TO THE MINISTER (CONTINUE)

To ensure a sustained growth in registration numbers, SACNASP has followed a multipronged approach to ensure that key stakeholders are aware of SACNASP and its registration requirements. Networking sessions were held in Gauteng, the North West, the Free State and Mpumalanga, providing opportunities to network and discuss key issues related to professional registration. SACNASP also held a session at Science Forum South Africa 2018 on "The Future of the Natural Science Professions". The session was well attended, with standing room only. In terms of free student enrolment at SACNASP, 11 universities have been visited to date, and almost 2 000 students have been enrolled. This campaign sparked some interesting debates on professional registration and its benefits. SACNASP also attended natural science voluntary association events to promote professional registration, and made a well-received keynote presentation at the 2019 Skills Development Summit, presenting the reasons for professional registration to training and human resource practitioners. To improve its online presence, SACNASP has developed a new website that allows scientists to apply online, pay annual fees and print their own certificates. SACNASP will also be working with a service provider to increase its presence on social media platforms, to create opportunities to leverage awareness with millions of readers and to drive awareness through reader engagement and interest.

SACNASP partnered with Split Second Science at Scifest Africa 2019 in Makhanda, Eastern Cape. Daily "Know Your Elements" and "Chemistry Bingo" science shows and workshops were held for learners, who received SACNASP-branded periodic tables. SACNASP has signed a memorandum of understanding with the South African Agency for Science and Technology Advancement (SAASTA) that will see registered scientists assisting SAASTA with its science education projects, including Olympiads and expos.

Publications

SACNASP has committed itself to producing research reports on the scientific community, and the first of these, The Role of the South African Council for Natural Scientific Professions and its Voluntary Associations in the National System of Innovation, was launched on 14 June 2018. The Human Research Council (HSRC) compiled the report with input from the voluntary associations and SACNASP. A second report, Tracking of Employed, Unemployed and Underemployed Natural Science Graduates (2007-2017) will be completed in the 2019/20 financial year. It is hoped that the information gained from these reports, developed with special project funding from the DST, will assist government with science education planning.

Stakeholder engagement

In terms of key stakeholder engagement, SACNASP once again focused on industry, government, academia and the recognised voluntary associations. SACNASP also contributed to the 2019 White Paper on Science, Technology and Innovation (STI), which all entities will use as a basis for their planning going forward. SACNASP was also invited to make input into the National STI Foresight Initiative arranged by NACI, and attended the inaugural BIO Africa Convention. SACNASP is assisting the DST with planning the Biological Science meeting as part of the South African Basic Sciences Platform meeting that will be held later in 2019.

In terms of interactions with other government departments, SACNASP worked with the Department of Agriculture, Forestry and Fisheries on draft amendments to the Agricultural Remedies Regulations, and participated in the Cluster Consultative Workshop on the Draft National Policy on Comprehensive Producer Development Support. SACNASP engaged with the Department of Higher Education and Training on the natural science fields for scholarships. SACNASP interacted with the National Disaster Management Centre of the Department of Cooperative Governance and Traditional Affairs on the professionalisation of the fire services. SACNASP met with the Department of Environmental Affairs on the professional registration of its staff, and with the Department of Trade and Industry (DTI) to

discuss how the DTI can assist SACNASP in terms of building relationships with the industries connected to the DTI. SACNASP assists the Department of Home Affairs with critical skills evaluations in the natural sciences. It is currently working with the Quality Council for Trades and Occupations on a new science-related occupational qualification for restoration/rehabilitation or environmental management programme practitioners, who will manage environmental degradation associated with developmental projects or major environmental incidents.

With the aim of understanding regulatory best practices and establishing networks in the national regulatory space, SACNASP has engaged with various national regulatory bodies. These include the Health Professions Council of South Africa, the Engineering Council of South Africa, the Environmental Assessment Practitioners Association of South Africa and the Construction Sector Charter Council, specifically on the inclusion of professional scientists in their charter. SACNASP also interacted with the South African Institute of Chartered Accountants on the mechanisms employed by them to create a pipeline of graduates for registration.

Governance

To ensure good governance and control of key SACNASP functions, the vacant post of Registration Manager was filled in late 2018. The incumbent will lead the registration section and manage the changes that need to be implemented to optimise the registration processes. In December 2018 a financial accountant was appointed to enhance SACNASP's finance department.

Continuous professional development

SACNASP's investment in continuous professional development (CPD) has yielded positive results. The CPD website is fully functional and, to date, 711 events have been validated on the SACNASP CPD portal. There are approximately 3 201 active registered scientists (professional natural scientists and certified natural scientists) on the portal. A total of 200 stakeholders (training providers, universities, recognised organisations and voluntary associations) are currently registered on the portal. This has helped registered natural scientists to ensure that their knowledge in their respective fields of practice is up to date. SACNASP is part of the steering committee of the candidate learnership programme at the Department of Water and Sanitation.

Ethical conduct

The professional conduct of registered scientists is managed by the Professional Conduct Committee, which is appointed by SACNASP to address and manage transgressions of the Code of Conduct. In the year under review a revised code of conduct was adopted. The revisions will enable the committee to be more effective in its regulatory mandate. An increasing number of professional conduct cases are reported to SACNASP for investigation, many of which are highly complex and sensitive.

10.7 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 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.

Some of the highlights for the period under review are

set out below.

Using space science to ensure national security

SANSA continues to contribute to the safety and security of the nation through the high-frequency propagation service it provides to the South African National Defence Force (SANDF) from the SANSA Space Weather Centre. SANSA has built a customised tool for high-frequency predictions, called the Ionospheric Characterisation, Analysis and Prediction (IOCAP) Frequency Demonstrator, to ensure that the services and solutions offered to the SANDF are used effectively. This tool has been designed to assist the SANDF in communications planning, and consists of a central core with modules customised to the needs of the Army, Air Force and Navy. This service is important because it allows the SANDF to prepare for operations and communicate optimally with military personnel on the ground. The IOCAP Frequency Demonstrator is also of value to other sectors, such as the aviation and maritime sectors, which require efficient, accurate information for their communications planning.

Postgraduate student support programme

In a rapidly changing global economy, where many traditional occupations are being displaced by technology, South Africa must develop its scientific research capabilities and produce suitably skilled people who can use technology to keep the country competitive and achieve socio-economic growth and transformation.

This will require a significant increase in science, technology, engineering and mathematics qualifications and the development of rare and transferable skills to meet the national demand for, among other things, a viable National Space Programme. Capacity development in space-related areas benefits not only space research but also other areas that require scientists, engineers and technicians. SANSA contributes to skills development through a number of initiatives, such as offering summer and winter schools, supervising postgraduates, and lecturing at partner universities.

SANSA's Student Development Programme focuses on building a skills pipeline by supporting postgraduate students in space-related areas or fields that are required for the National Space Programme. SANSA received student development funding through National Research Foundation grants, and is currently giving financial support to 42 postgraduate students.

Developing nanosatellite engineering skills

A postgraduate programme in satellite systems engineering was established at the Cape Peninsula University of Technology (CPUT) with seed funding from the DST and collaboration with Stellenbosch University and the then Hermanus Magnetic Observatory. The programme is hosted by the French South African Institute of Technology, which has since grown to incorporate the African Space Innovation Centre. The CPUT satellite programme's science, technology, engineering, mathematics and innovation outreach initiatives have had an impact on over 30 000 students since its inception. Furthermore, the programme has made significant strides in developing the next generation of skills required in the space industry and other high-tech industry sectors to support the country's participation in the fourth industrial revolution. So far, over 60 master's and doctoral students have graduated. Research and innovation outputs total 104 conference papers, 49 peer-reviewed journal papers, and 11 innovative technology developments. The programme also has 16 professional engineers in training.

Satellite and Weather Information for Disaster Resilience in Africa

SANSA and the South African Weather Service are partnering with other African countries on the Satellite and Weather Information for Disaster Resilience in Africa (SAWIDRA) Regional Advanced Retransmission System (RARS) project. SAWIDRA RARS aims to improve the core capacities of the specialised national and regional climate centres to meet the need for near real-time early warning systems based on numerical

weather predictions. Its specific aim is to improve the forecast and production capacity of regional climate centres and national meteorological services to enable them to provide the proper inputs to disaster risk mitigation agencies for issuing early warnings. Through this partnership with the African Development Bank, the African Centre of Meteorological Applications for Development (Niger), the Agence Gabonaise d'Etudes et d'Observations Spatiales (Gabon), and the African Intergovernmental Authority on Development Climate Prediction and Applications Centre, SAWS and SANSA aim to contribute to improving Africa's ability to address disaster risk reduction and management. SANSA's involvement in SAWIDRA RARS, like its involvement in the Digital Earth Africa project, stems from its commitment to the African space agenda.

10.8 Technology Innovation Agency

technology innovation AGENCY

Overview of objectives

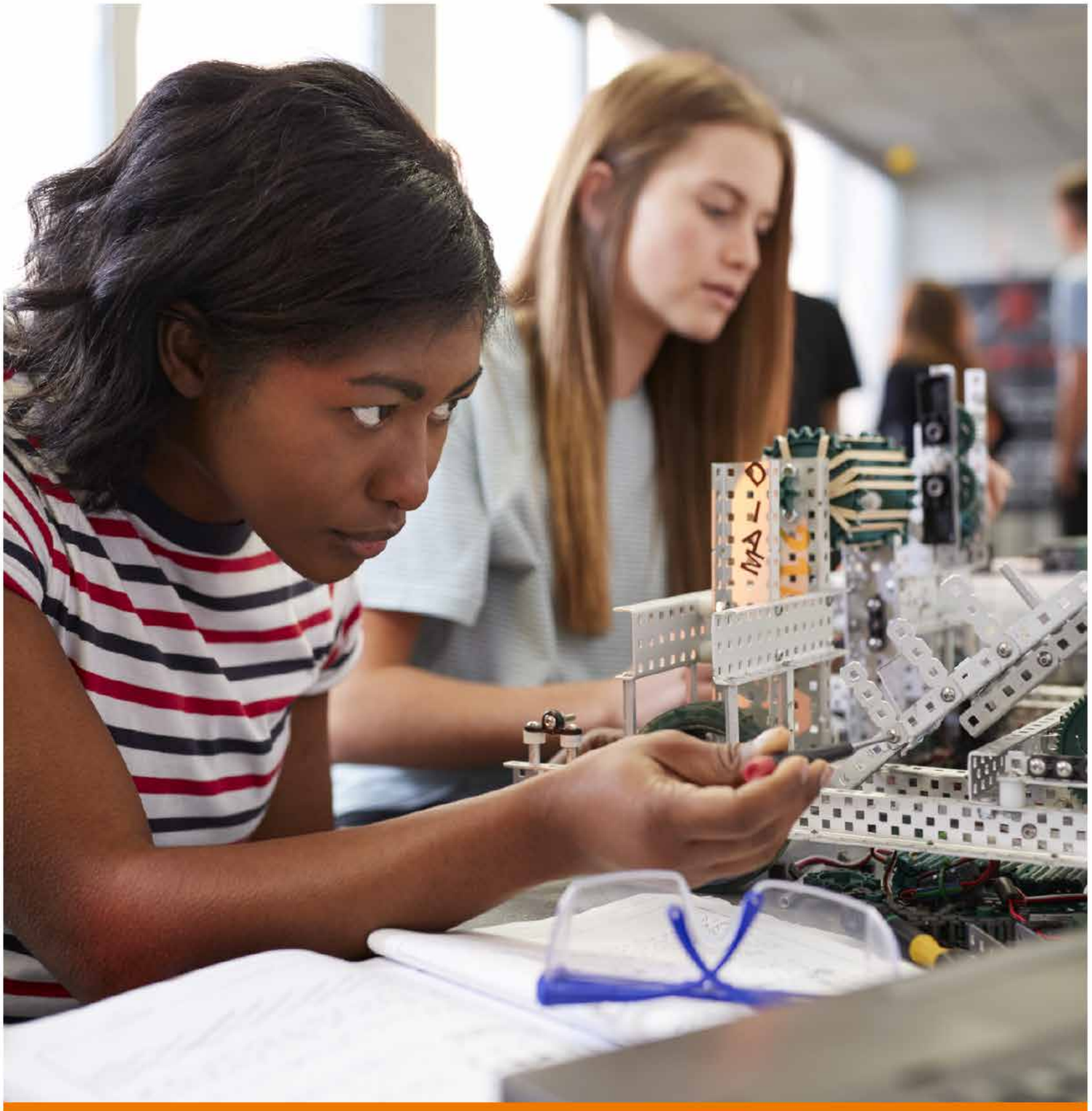
The Technology Innovation Agency (TIA) is mandated to provide customer-centric technology development funding and support, to provide an enabling environment for technology innovation in collaboration with other role players, and to develop an effective and efficient internal environment for the execution of its strategy.

Some of the highlights for the period under review are set out below.

Contribution to the African agenda

Following the launch of the TIA Africa Programme in the 2017/18 financial year, in 2018/19 the TIA undertook joint initiatives with Tunisia, Tanzania, Zambia, Botswana, Ethiopia, Ghana, Angola and Zambia. These initiatives included capacity building for intellectual property and innovation management and technology transfer with Tunisia, Botswana and Zambia, targeting researchers and technology transfer practitioners with the aim of enabling them to transfer their research outputs into commercialisation opportunities. The TIA hosted delegations from Tunisia and Zambia to launch the Bilateral Research Upscale Programme, which aims to scale up research activity and outputs from joint projects funded by the National Research Foundation with its African partners.

On the international front, the TIA mainly carried out activities to support the DST in the hosting of BRICS (Brazil, Russia, India, China and South Africa) activities under the Science and Technology Cooperation Agreement, and continued to implement other initiatives to promote closer cooperation with various African countries.



PART B
PERFORMANCE INFORMATION

1. AUDITOR-GENERAL 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 of the Auditor-General, published in Part E: Financial Information, on page 155.

2. OVERVIEW OF DEPARTMENTAL PERFORMANCE

2.1 Service delivery environment and alignment with broader government policies

In an effort to enhance service delivery by the government using the 2018/19 Annual Performance Plan as an implementation mechanism, the Department continued to contribute to the government's Programme of Action within the Medium-Term Strategic Framework by implementing its five strategic outcome-oriented goals as articulated in DST Strategic Plan. These goals are a responsive, coordinated and efficient national system of innovation; increased knowledge generation; using knowledge for economic development; human capital development (HCD); and using knowledge for inclusive development.

The DST initiatives are aligned with the broader government service delivery agenda. South Africa's National Development Plan (NDP) Vision 2030 highlights the importance of science, technology and innovation (STI) in national development. The NDP, published in 2012, notes that the developments in STI fundamentally alter the way people live, communicate and transact, with profound effects on economic growth and development. Science, technology and innovation are key to 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 capabilities in STI.

The 1996 White Paper on Science and Technology, which introduced the concept of a national system of innovation (NSI), is the current underlying policy framework for the science and technology sector and continued to guide the DST's service delivery environment in the year under review. The main focus of the Department in the reporting period was to create an environment in which its work and the work of the wider NSI contribute to the reduction of inequality, poverty and unemployment in South Africa, and give marginalised communities more and better opportunities to participate fully in the economy.

The STI-related services provided by the Department include knowledge-generation stimulus packages in the form of research grants and innovation infrastructure developments. To ensure equal access by all, grants are provided through several instruments designed to strengthen research capacity at universities, including the South African Research Chairs Initiative and the Centres of Excellence Programme. In the year under review, the DST awarded over 4 633 research grants through NRF-managed programmes, and NRF-funded researchers published 9 159 research articles, cited in the reputable Web of Science citation database.

The DST admits that the STI skills deficit in the country continues to be a major challenge. Education remains key to people's prospects for improving their participation in the labour market and pursuing their socio-economic goals. As part of HCD initiatives, the Department supported a total of 13 154 students, comprising pipeline students (4 572 honours/BTech), 5 202 master's and 3 380 doctoral students.

1. AUDITOR-GENERAL'S REPORT: PREDETERMINED OBJECTIVES

South Africa is faced with a crisis of high and rising youth unemployment. Young people aged 15 to 24 years are the most vulnerable in the South African labour market, with an unemployment rate of 55,2%. This figure includes 31% of graduates. With the implementation of the internship programme, the DST and its partners recognise that the solution will take action from a variety of sectors and actors in order to turn the tide.

The Department continued to place students and postgraduates in work environments to gain STI experience. Through various programmes, the Department supported a total of 1 052 graduates and interns during the 2018/19 financial year.

The Department delivered technology-related services to municipalities aimed at improving access to basic services and unlocking economic development opportunities for marginalised and excluded communities. The Department expanded the list of participants in the Municipal Innovation Maturity Index, a tool that provides critical information on the innovation capabilities and readiness of local government to deliver effective services.

Considerable progress was made with the DST's Grassroots Innovation Programme, which is designed to provide technical and financial support to social entrepreneurs and local innovators in townships and rural areas developing solutions addressing social challenges. These innovation entrepreneurs usually do not have access to formal expertise or access to research institutions. During the year under review, a call for grassroots innovations was issued. The call attracted over 288 responses from across the country, and over 100 qualifying local innovators are being enrolled in the programme, which will help them to develop their concepts, commercialise their ideas, and create prototypes.

Detailed STI-related service delivery outputs aimed at contributing to NDP goals are illustrated in Table 1 below and in the comprehensive strategic outcome-oriented goals performance section.

2. OVERVIEW OF DEPARTMENTAL PERFORMANCE (CONTINUED)

2.2 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
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 each financial year	All funding transferred by the end of the financial year
Financial support for offices of technology transfer (OTTs) located at higher education institutions and science councils	Recipients include 26 higher education institutions and 11 Schedule 1 institutions as per the Intellectual Property Rights from Publicly Financed Research and Development Act	OTTs financially supported by the end of the financial year	OTTs financially supported by the end of each financial year	OTTs financially supported by the end of the financial year
Support uptake of space applications by government departments and agencies	Government departments (national, provincial and local) and agencies	• National geospatial decision-support tool • Base maps for national land use and cover layer (human settlement layer, water bodies layer, disaster management and national vegetation maps) • Coordination of national Earth observation activities and promotion of the uptake of Earth observation applications	• Up-to-date national geospatial decision-support tool • Up-to-date base maps for national land use and cover layer (human settlement layer, water bodies layer, disaster management and national vegetation maps) • Better coordination and increased uptake of Earth observation applications	• Decision-support tools were developed through the National Oceans and Coastal Information Management System project (Operations Phakisa) and used by the Oceans and Coast stakeholders. • The annual stakeholder workshop for the Oceans and Coast community to solicit user requirements for the decision-support tools was held in November 2018).

2. OVERVIEW OF DEPARTMENTAL PERFORMANCE (CONTINUED)

Table 1: Main services and standards (continue)

Main services	Beneficiaries	Current/actual standard of service	Desired standard of service	Actual achievement
Postgraduate bursary support	University students (honours, master's, doctoral) and postdoctoral researchers	Support provided to about 8% of total enrolled postgraduate students in universities	To double the percentage of postgraduate students supported	Support provided to 9% of postgraduate students in 2018/19
Placement of graduates and postgraduate students in SETI institutions for workplace experience	Graduates and postgraduate students	Support provided to about 15% of qualifying graduates	To provide support to about 30% of qualifying graduates	Support provided to 16% of graduates in 2018/19
Research grants to researchers	Researchers in universities, science councils and other national research facilities	Support provided to about three of every 10 qualifying researchers	To double the support to about six out of 10 qualifying researchers	Four out of 10 researchers supported in 2018/19
Financial and strategic support of R&D initiatives that will lead to publications, patents and prototypes	Universities, science councils, public-private partnerships	Ongoing support provided to R&D and demonstration of technology-based solutions with the intention of promoting their commercialisation and use	To facilitate knowledge generation and exploitation through R&D in key priority areas	186 knowledge outputs (peer reviewed publications and patents) and 9 protypes were generated during 2018/19
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 each financial year	All funding transferred by the end of the financial year

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

Current/actual arrangement	Desired arrangement	Actual achievement
Protection, Promotion, Development and Management of Indigenous Knowledge Bill (IK Bill)	Public awareness campaign on the IK Bill prior to the public hearings, and awareness of the rights of beneficiaries after the Bill comes in force	During the period under review, the DST facilitated the approval by the National Assembly in order for the IK Bill to go to the National Council of Provinces for concurrence. On 13 March 2019, the National Assembly approved the IK Bill for the President's signature.
Stakeholders and role players in STI awareness and engagement invited to submit project proposals	Grant funding awarded in response to proposals to organise activities throughout the country	82 organisations were awarded grants to conduct 2018 National Science Week activities.
Institutions and agencies submit research and development (R&D) project proposals and business plans. These are evaluated and approved by the Department and funding is transferred once approval is obtained.	No change required	Institutions and agencies submitted R&D project proposals and business plans. These were evaluated and approved by the Department and funding was transferred once approval had been obtained.
Research and development project proposals and business plans submitted by institutions and agencies, evaluated and approved or rejected by the Department, with funding transferred once approval has been obtained	No change required.	R&D project proposals and business plans submitted by institutions and agencies are evaluated by the Department and, if approved, received funding.
Space awareness and advocacy	Public awareness campaigns make students, private companies and spin-offs aware of the benefits of space science and technology.	• Campaign was carried out in partnership with SANSA through direct visits to schools and festivals, as well as targeted campaigns such as the DST UNESCO International Day of Women and Girls in Science 2019. • The DST participated in the Cell C Take a Girl Child to Work Day campaign with the City of Ekurhuleni. • Learners took part in a competition to name ZACube-2, and also participated in the official send-off event for ZACube-2. • Space science and technology activities were included in the National Science Week festivities.
The administration process for the R&D tax incentive is being simplified and the turnaround time for providing decisions on applications is being improved.	Actions should be reviewed and formulated on the basis of recommendations to improve incentive administration made by the government-industry task team	• An impact evaluation was initiated, led by the National Treasury, to generate evidence about the benefits of the R&D tax incentive. The impact evaluation will inform policy decisions about the incentive going forward, including the remaining responses to recommendations of the government-industry task team to improve the administration of the incentive. • Activities for raising awareness among applicants were scaled down during 2018/19 due to staff capacity and budget constraints. • Recruitment processes were initiated to fill staff vacancies, and appointments will be made in 2019/20.

Table 3: Service delivery information tool

Current/actual information tool	Desired information tool	Actual achievement
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
Communication strategy, including exhibitions and media	Implementation plan for dissemination, including exhibitions and media	• Strategy approved by Exco • Exhibitions held at all public participation programmes, and media successfully used

Table 4: Complaints mechanism

Current/actual complaints mechanism	Desired complaints mechanism	Actual achievement
The National Research Foundation (NRF) has an appeal process for postgraduate students who are not awarded bursaries.	Panel of experts	Appeal framework reviewed by NRF
The NRF has an appeal process for researchers who are not awarded grants.	Panel of experts	Appeal framework reviewed by NRF
Technology Innovation Agency	Appeals procedure	Appeals procedure in implementation
The National Intellectual Property Management Office (NIPMO) has a dispute mechanism for administrative decisions it takes that may adversely affect a recipient.	Dispute panel	Dispute panel in place, with approved terms of reference and rules of procedure, as mandated by the Intellectual Property Rights from Publicly Financed Research and Development Act

In terms of the work of the Department's alignment with broader government policies, much has been said about the intrinsic need for STI in the delivery of the NDP goals. From the lessons learned internationally, the NDP acknowledges the role that STI can play in addressing the pressing challenges of poverty, unemployment and inequality in the country. For example, STI and related discoveries are recognised as future sources of economic growth, with the potential to create new types of jobs, and provide new solutions to problems trapping people in poverty, such as poor health and water shortages.

The importance of STI is increasingly occupying government's development agenda. Science, technology and innovation are fundamental to most government initiatives, including Operation Phakisa, as well as the cross-cutters in government's Nine-Point Plan. The Nine-Point Plan is diversifying and stimulating the economy through a number of initiatives, as articulated in the planning instruments.

2.3 Organisational environment

Although the DST functioned in a fiscally constrained environment during the period under review, with the compensation budget remaining a challenge, its operational efficient remained a priority.

The Department continued to ensure good corporate governance through sound administration practices, effective operational systems, mechanisms to ensure financial oversight, information technology, and the IT Steering Committee. Combined assurance involved governance structures such as Exco, the Enterprise Risk Management Committee and the Audit Committee, and regular reporting and face-to-face interactions. There is also collaboration with the Audit Steering Committee convened by the Auditor-General.

The DST remains one of the top-performing departments in terms of the Management Performance Assessment Tool (MPAT), which is administered by the Department of Planning, Monitoring and Evaluation. Its most recent rating was 82%.

During the period under review, 100% of SMS members submitted their financial disclosures by the due date. There was significant improvement in compliance with the Performance Management Development System, with documents submitted in time by 98% of SMS members and 100% of non-SMS members.

The Department implemented its Skills Development Plan to ensure that officials grew skills to improve service delivery. A total of 165 employees went on management development programmes or received training in work-related areas such as project management, financial management and technical skills relevant to the Department. Of the employees supported, 60% were women, which will advance the equity profile of the DST.

Employees also received orientation on policies and legislation applicable to government, particularly the Department's core functions.

A total of 113 officials were awarded bursaries to pursue studies in fields including science, technology and innovation. During the period, 61,9% of the bursary holders were women. In addition, 1 052 interns were given an opportunity to gain workplace experience.

The Department values the well-being of its employees and 536 health screenings were conducted during the 2018/19 financial year. The DST's wellness services also include executive wellness services offered through its service provider, Careways. Twenty-five DST executive and SMS members accessed these services.

There is a relationship between health and productivity, including health-related absence and impaired performance. The Department has a Health Risk Management Programme and provides regular health risk screening services. Employees at high risk are provided with monthly advice and support to manage their health. For example, in the reporting period, the services of a dietician were provided to educate employees on healthy meal options. With many employees losing sleep over debt, which affects both their health and productivity negatively, the DST

conducted a personal financial management skills workshop with women employees at the Women's Day event held on 31 August 2018. Careways provides holistic financial management counselling to all DST employees.

2.4 Key policy developments and legislative changes

The NSI has undergone significant changes in the past 20 years and has become more complex and interlinked. As part of the governance and coordination of the NSI, several initiatives, including legislative changes, have been undertaken to improve its coherence and efficiency. Progress in this regard during the period under review includes the following:

- **The new White Paper:** Cabinet approved the 2019 White Paper on Science, Technology and Innovation on 6 March 2019. The new STI White Paper sets the long-term policy direction for the South African government to ensure a growing role for STI in a more prosperous and inclusive economy. Its core themes are inclusivity, transformation, and partnerships. Proposals are made to address policy coherence, the development of human capabilities, knowledge expansion, innovation performance and increased investment.

- **The National Research Foundation Amendment Bill:** On 4 December 2018, the Amendment Bill was approved by the National Council of Provinces (NCOP) and sent to the President for assent.

- **Protection, Promotion, Development and Management of Indigenous Knowledge Bill**: The DST followed the NCOP process for public hearings on the Bill. On 13 February 2019, the Portfolio Committee on Science and Technology considered and approved the NCOP amendments to the Bill. The National Assembly adopted the Bill on 13 March 2019, and it has been sent to the President for assent.

- **Sutherland and Karoo Central Astronomy Advantage Area Regulations:** The Karoo Central Astronomy Advantage Area Regulations became effective on 15 December 2018, ushering in a new era in protecting the SKA/MeerKAT telescope from radio signals and electromagnetic radiation. The final list of exempted radio frequency spectrum will be published after concurrence has been received from Icasa. The Sutherland Central Astronomy Advantage Area Regulations were published for public comment on 22 November 2018. The final regulations will be promulgated in due course.

3. Strategic outcome-oriented goals

The DST has the mandate to coordinate a responsive and efficient national system of innovation. In order to realise the mandate, the Department has five strategic outcome-oriented goals, set out in the 2015-2020 DST Strategic Plan, that guide the Department's annual performance plans. During the year under review, the DST played a significant role in either leading or supporting the following Medium-Term Strategic Framework 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.

3. STRATEGIC OUTCOME-ORIENTED GOALS (CONTINUED)

Goal 1: A responsive, coordinated and efficient national system of innovation

Goal statement: Build on previous gains to create a responsive, coordinated and efficient national system of innovation

In response to rapid global technological advancement and megatrends such as geopolitical shifts and climate change, the Department embarked upon the renewal of South Africa's science, technology and innovation (STI) policy.

Policy development was informed by extensive review, including the 2012 Ministerial Review Committee on the STI Landscape in South Africa, the 2016 National Advisory Council on Innovation (NACI) Review of the 1996 White Paper on Science and Technology, and the 2017 NACI Review of the performance of the NSI from 1996 to 2016. Over a period of approximately two years, the inputs of a wide range of NSI stakeholders in academia, industry, government and civil society were canvassed to shape STI policy responses to a changing technological environment and South Africa's national imperatives. Public consultation culminated in a high-level stakeholder workshop hosted by the Minister of Science and Technology on 9 November 2018. Two panels of internationally renowned STI experts reviewed the draft White Paper on STI, and Cabinet approved the White Paper on 6 March 2019.

The White Paper on Science, Technology and Innovation rests on five pillars.

- The White Paper intends to elevate STI in government planning and to improve the governance (including the monitoring and evaluation) of the public STI system. Most notably, an annual STI Summit, chaired by the Presidency, and involving all NSI partners, will be held to consider the progress and needs of the NSI, based on monitoring and evaluation information provided by NACI.

- The White Paper contains a set of policy interventions to improve the innovation-enabling environment, such as the adoption of a government-wide innovation compact to, among other things, coordinate South Africa's STI response to the Fourth Industrial Revolution, secure resources for STI, and support business through the adoption of locally developed technologies and a stable and harmonised policy environment. Social and grassroots innovation receive attention, as do strategies to link local economic development planning to the enhancement of innovation at local and regional levels.

- The ambitions of the White Paper are underpinned by the improvement of South Africa's human capabilities, with policy interventions aimed at the concentration of technical skills, as well as retaining skills in the country. Policy interventions at early childhood development stage are included. Developing digital skills for the economy in the future is a particular focus, as is the cyberinfrastructure needed to underpin these skills.

- The White Paper aims to expand the research enterprise, for instance by improving the performance of higher-education institutions in terms of research output. It further supports openness and a diversity of knowledge fields, including indigenous knowledge systems. The role of research in society, particularly interdisciplinary and transdisciplinary research, as well as the diffusion of knowledge, is addressed.

- The White Paper focuses on increasing funding to the NSI, both from the public purse and industry. For instance, STI-intensive government departments will set aside a percentage of their budgets for STI programmes. Furthermore, to ensure funding efficiencies, a framework to guide public STI investment across government and its programmes will be developed.

The White Paper will be implemented through a series of decadal plans, which will be reviewed at least every five years. The decadal plans will be based on the NDP and a NACI foresight study currently under way.

During 2018/19, the panel appointed by the Minister to review the Intellectual Property Rights from Publicly Financed Research and Development Act, 2008 (IPR Act) and the National Intellectual Property Management Office (NIPMO) made significant

progress. Significant progress was made in this regard, and the initial findings of the review indicate that the IPR Act and NIPMO have generally been well-received within the NSI. Preliminary recommendations include consideration of the optimal positioning of NIPMO and amendments to the IPR Act. The final review document will be considered during 2019/20.

The DST commissioned a consensus study from the Academy of Science of South Africa (ASSAf) on the ethical, legal and social implications of genetics and genomics research in South Africa was approved by the DST Exco and launched during 2018/19. The study recommends that government considers stricter control measures to monitor developments in these rapidly evolving fields, to determine who is allowed to use genetic data and samples and to guide the formation of national regulations and policy. The recommendations made in the report include ways to fill gaps in the law and regulations, the possible establishment of an independent advisory body, as well as suggestions for how best to engage with communities.

In the period under review, the DST has initiated a coordinating committee, comprising the DST's science councils, to respond to policy questions around the Fourth Industrial Revolution (FIR). An additional input in this regard was a South African-European Union Dialogue on "Disruptive technologies and public policy in the age of the Fourth Industrial Revolution", held from 10 to 12 December 2018. The dialogue facilitated the exchange of ideas about key FIR topics, including the future of work, FIR technology platforms, the economic and social effects of the FIR, and a comparative review of different policy approaches towards the FIR in Europe and Africa. The HSRC is completing an exercise mapping South Africa's FIR capabilities in the NSI, with a focus on the strategic alignment of actions in the NSI.

Goal 2: Increased knowledge generation

Goal statement: Maintain and increase the relative contribution of South African researchers to global scientific output

Without investment in publications, research grants, and research and innovation infrastructure, knowledge generation is not possible. Research grants are provided through several instruments designed to strengthen research capacity at universities and research-performing institutions, including the science councils. In the period under review, the DST, through the National Research Foundation (NRF), awarded research grants to 4 633 researchers, 40% of whom were black, and 39% women. In terms of the production of new knowledge, over 9 161 research articles were published by funded researchers and cited in the Thomson Reuters Web of Science Citation Database. Researchers are supported throughout their research careers, from emerging researchers to established and internationally recognised ones, through instruments such as the Thuthuka Programme, the South African Research Chairs Initiative and the Centres of Excellence Programme.

During the 2018/19 financial year, the Department, through the NRF, awarded 35 research infrastructure grants, totalling R703,015 million. In 2018, one of the research facilities funded, the iThemba Laboratory for Accelerator-Based Science, celebrated the 10th anniversary of the SA-CERN collaboration, and the opportunities it has created for the South African research community to achieve excellence in the area of particle physics. The facility employs senior scientists who are part of the programme and offers world-class infrastructure and administrative support. Over the past decade, through participation in CERN experiments, South African researchers have made their mark in the global arena and contributed significantly to major breakthroughs. The country has also benefited greatly from the collaboration in terms of human capital development, as well as building research and innovation capacity.

The Shallow Marine and Coastal Research Infrastructure (SMCRI), another of the 13 research infrastructures

3. STRATEGIC OUTCOME-ORIENTED GOALS (CONTINUED)

under the South African Research Infrastructure Roadmap (SARIR), was launched in October 2018 at Nelson Mandela University. The main elements of the SMCRI include –

- research-intensive sites along the coast;
- an airborne remote sensing platform to observe changes taking place along the shoreline;
- a fleet of fully-equipped coastal research vessels to support nearshore marine research;
- a coastal biogeochemistry laboratory to measure seawater quality;
- underwater wave and current sensors to observe the increase in magnitude and frequency of storm surges;
- partial carbon dioxide and acidity sensors to quantify the risk of ocean acidification on marine ecosystems;
- water level gauges to determine the rate of sea-level rise;
- remotely operated vehicles and camera systems to observe sea life;
- a hyperbaric chamber on the Ocean Sciences Campus to support research diving;
- a suite of other sensors that will help to provide a better understanding of physical and chemical drivers, as well as ecosystem responses to the changes taking place.

It is anticipated that the SMCRI will make a significant contribution to the knowledge economy through the production of postgraduate degrees, the publication of peer-reviewed articles and the mentoring of interns. The data-driven economy will benefit from the publication of thousands of unique datasets that will be made openly available, and the blue economy from an improved understanding of ocean resources, the opportunities they offer and the threats they face.

The DST developed a framework for the establishment and maintenance of a sustainable National Integrated Cyberinfrastructure System (NICIS). The system aims to exploit the enormous synergies that can be derived from integrating national cyberinfrastructure into a cluster of mutually supporting activities, which leverage high-level financial and strategic planning, and allow for coordinated oversight and management. This integration is important for the implementation of competitive national science and technology strategies, international scientific and engineering collaborations, and socio-economic impact.

The Department strongly believes that NICIS, which is now in its fourth year of implementation, needs to be positioned prominently in the NSI, and will therefore promote engagements and research collaborations through the provision of high-speed network capacity and high-performance processing, storing, sharing and preservation of research data.

The South African Population Research Infrastructure Network (SAPRIN) was established under SARIR in 2016, and December 2018 saw the launch of the Dimamo Population Health Research Centre, a node of SAPRIN hosted by the South African Medical Research Council. Dimamo monitors the health and socio-economic well-being of people, providing information that can help to improve well-being.

Dimamo was developed to expand the existing research system, the Dikgale Health and Demographic Surveillance System, which has been operating at the University of Limpopo since 1995 The new facility is expected to advance interdisciplinary research and intervention capability in the country by observing the changing exposure risk factors to various non-communicable diseases such as high blood pressure and diabetes, which are rapidly increasing as lifestyles change.

The DST, with funding from the SA-EU Dialogue Facility, embarked on a SA-EU Open Science dialogue. The purpose of the project was to consult a wide range of stakeholders, and to use the knowledge and experiences of South African and European open science experts to formulate guidelines, principles,

recommendations and best practices for promoting open science in South Africa. The Open Science Framework was launched at the Science Forum South Africa in December 2018.

The 64-antenna MeerKAT radio telescope was completed and commissioned for science operations during the second quarter of 2018/19 and launched by the Deputy President on 13 July 2018. At the launch, a panorama obtained with the new telescope was unveiled. This revealed extraordinary detail in the region surrounding the supermassive black hole at the centre of the Milky Way, proving the MeerKAT to be one of the best scientific instruments in the world.

The Department also launched the MeerLICHT optical telescope during the year under review. The telescope is a collaboration between research institutions in the Netherlands, South Africa and the United Kingdom. The MeerLICHT will complement the MeerKAT by conducting simultaneous observations in the optical spectrum. This facility will add an unprecedented and innovative dimension to the novel observing mode of the MeerKAT telescope, and will open up the regime of simultaneous, radio-optical correlations in astrophysical transients. The launch of the instrument was a key milestone in multiwavelength astronomy development.

To increase astronomy capacity in historically disadvantaged institutions, the DST provided funds to North-West University to build a dome for their newly established Mahikeng Astronomical Observatory, which houses a 16-inch Meade LX200GPS optical telescope that is used for research by students as well as for outreach to local schools and the community.

The DST has completed the economic case for the National Space Programme and the Space Industry Framework in collaboration with the Department of Trade and Industry. The economic case clearly shows the value of space science and technology in modern day economics, and will serve to mobilise adequate funding for the implementation of a viable space programme and the development of a sustainable domestic space industry that will contribute to socio-economic development, inclusive growth and service delivery in the country.

The South African National Space Strategy, approved by Government in 2010, advocates for the growth of South African space science and technology (S&T) capability as a way of addressing the technology balance of payments for space services. The space-engineering sector value chain requires capabilities in the following areas:

- Spacecraft development – Earth-orbiting satellites, among others.
- Satellite launch development – launch vehicles, launch infrastructure (Overberg Test Range (OTR)) and launcher manufacturing and integration facilities (there are assembly, integration and testing facilities at Houwteq, Rheinmetall Denel Munition and OTR).
- Ground segment development capability – satellite communication centres, user terminals (VSAT and DSTV receivers) and satellite receiver stations (there are receiver stations at Hartebeesthoek and OTR.
- Space engineering and manufacturing facilities – Houwteq, RDM and OTR.

Goal 3: Human capital development

Goal statement: Increase the number of high-level graduates and improve their representivity

Investment in the development of skills and knowledge that can be used to create economic value for the country is vital. In the period under review the Department, through the NRF, funded or co-funded a total of 13 154 students, comprising 4 572 honours, 5 202master's and 3 380 doctoral students. The demographic targets for black (80%) and women (55%) students supported were exceeded at honours and master's level, but at doctoral level more needs to be done to achieve equity in the distribution of

bursaries, scholarships and fellowships. Of the 799 postdoctoral researchers supported in 2018/19, 395 were South Africans, 73 were permanent residents and 331 were non-South Africans.

The Centre for High Performance Computing Student Cluster Competition team supported by the DST received third place for South Africa (after China and Singapore) at the 2018 International Student Cluster Competition held in Germany in June 2018. In this competition, students had to demonstrate their innovative computer skills and were judged on their ability to design a supercomputer cluster that met strict power constraints and high-performance benchmarks.

On 10 May 2018, the DST hosted a Lindau Nobel Laureate pre-departure event for South African postgraduate students, all women, who had been selected to attend a week-long meeting with Noble Laureate winners in the fields of physiology and medicine. The actual meeting in Lindau took place from 24 to 29 June 2018.

The DST co-sponsored the 2018 Deep Learning Indaba with the aim of increasing African participation and contribution to advances in artificial intelligence and machine learning, and to address the issue of diversity in these fields. The DST funded the participation of four honours, 19 master's and seven doctoral students at the event.

The annual DST-led National Science Week was launched on 28 July 2018 at the University of Mpumalanga in Nelspruit. The focus week saw 82 grant holders, including NRF facilities, science councils, science centres, universities, museums and independent organisations engage the public in science awareness activities across the country. The primary goal of the campaign is to promote science and technology literacy, as well as awareness of the value of science, technology, engineering, mathematics and innovation in people's daily lives. Various stakeholders and interest groups conduct activities, and during the 2018/19 financial year over 29 million participants were reached through various programmes.

In support of the national transformation agenda, the Department hosted the South African Women in Science Awards (SAWiSA) in Polokwane, Limpopo, on 23 August 2018. The event served to recognise both young and established women researchers in the natural and applied sciences, and the social sciences and humanities. SAWiSA recognises and rewards excellence by women scientists and researchers, and profiles them as role models for younger women, towards a more inclusive science system. The SAWiSA event attracted significant public and media interest.

The DST, through its programmes, supported a total of 1 052 graduates and interns during the 2018/19 financial year. The DST-NRF Internship Programme is a workplace preparation programme that places students and postgraduates in work environments to gain experience. The programme makes a significant contribution to the absorption of postgraduate students in the job market, while also attracting them to research careers, thereby contributing to the reduction of unemployment and inequality. This programme is complemented by the National Youth Service programme, which places students with degrees and diplomas as volunteers operating as science communicators in the network of science centres across the country.

In the 2018/19 reporting period, the Department funded or co-funded students in designated niche areas (high-end skills) that support sustainable development. Over 210 postgraduate students received full or partial bursaries towards their studies in fields related to global change through programmes like the Applied Centre for Climate and Earth System Science, the Africa Earth Observatory Network/iPhakade, the South African Environmental Observation Network, the Risk and Vulnerability Science Centre, the Southern Ocean Carbon and Climate Observatory, and the Foundational Biodiversity Information Programme. More than 60 of these students and emerging researchers received support to attend relevant training, exchange

programmes, conferences and workshops, including the 4th National Conference on Global Change, held in December 2018. Funding was also provided to allow four established researchers to participate in international research programmes, e.g. the Intergovernmental Panel on Climate Change.

In 2018/19, the implementation of the Waste Research, Development and Innovation (RDI) Roadmap supported 81 researchers and funded over 20 grant projects, with 22 honours, master's and doctoral students completing degrees in waste management. Of the students funded, 56% were women and 83% black.

For the first time, the Institute of Waste Management of Southern Africa's biennial WasteCon conference held a special session dedicated to the students funded by the CSIR's Waste Roadmap Implementation Unit, at which seven students presented their work.

Goal 4: Using knowledge and innovation for economic development

Goal statement: Derive a greater share of economic growth from R&D-based opportunities and partnerships

STI initiatives have been identified as the primary drivers of economic growth, job creation and the socio-economic reform agenda in the country. During the period under review, the Department focused on the stimulation and intensification of technological innovation in order to improve economic growth.

The DST, the Department of Small Business Development and the National Treasury moved closer to concluding the process of establishing the Small Business Innovation Fund, which is intended to help bridge the current commercialisation funding gap. The fund will receive R1 billion a year for the MTEF period.

During the 2018/19 reporting period, the National Intellectual Property Management Office (NIPMO) continued to play an enabling role in the utilisation of knowledge for economic and social development through the Office of Technology Support Fund. The fund provides financial support to offices of technology transfer for human resources, capacity development and assistance with costs for the protection and maintenance of intellectual property (IP) rights through the Intellectual Property Fund. Since 2011, NIPMO has received 1 800 actionable disclosures from institutions for IP developed from publicly financed R&D, and the pipeline of IP from publicly financed R&D continues to grow. During the 2018/19 financial year the IP Creator Awards were introduced as an incentive.

Creating innovative industries for the future

The DST continues to encourage industry innovation partnerships as part of broader government efforts to support industry competitiveness. The main objective is to create an environment in which government can collaborate effectively with industry and support co-investments in RDI in key strategic sectors of the economy, encouraging the private sector to invest more in RDI. The DST has funded a number of large RDI programmes that have the potential to result in new industries or to renew the competitiveness and market share of existing industrial subsectors.

Progress was made with the flagship Aeroswift additive manufacturing project. Once industrialised, the Aeroswift has the potential to create a new manufacturing segment in South Africa. The technology development is proceeding well. A number of demonstration components have been completed, and some are already employed in a flying aircraft. International interest in using the specific capabilities of this novel, locally developed additive manufacturing machine continues to increase.

Through the Council for Scientific and Industrial Research (CSIR), the DST supports the Industry Innovation Partnerships facilities, for example, the Biorefinery Industrial Development Facility in Durban. The facility is aimed at innovation-led industry development and competitiveness, encouraging increased private sector investment in RDI activities and promoting job creation. It makes it easier and less

risky for existing and new industry players to develop, test and adapt biorefinery technologies for South African biomass sources, improving socio-economic and environmental conditions. The facility is currently focused on the forestry and paper and pulp sectors, which are under financial strain both nationally and internationally, and where technological innovations can help to prevent job losses and enable renewed growth. These two sectors will be the initial focus while the capability of the facility is demonstrated, but it is envisaged that the focus will broaden to include other organic biomass.

Under the Biorefinery RDI Consortium, which involves universities and SMMEs, the acquisition and commissioning of a 10-ton oil presser machine was finalised. The infrastructure enables the development and upscaling of the bio-based product portfolio, which includes biopaint and bioink.

During the period under review, the DST supported the development of protein and enzyme reagent processes and products for commercialisation through the ReagEnz Max initiative. The initiative seeks to develop and commercialise market-ready technologies for the recombinant production of protein and enzyme reagents in response to market needs. Progress made towards realising the project's intended outcome of commercialisation included the signing of an instant access licence agreement between the CSIR and a young entrepreneur to spin-out a commercial entity, and the incorporation of CapeBio Technologies (Pty) Ltd as a formal business entity. The CapeBio start-up has been registered as a Level 1 BBBEE company and has already raised initial start-up funding and incubation support from the Allan Gray Orbis Foundation.

Outcomes of the National Biocatalysis Initiative, which is a technology platform that uses biological catalysts to accomplish specific syntheses of chemical compounds towards the manufacture of both commodity and value-added products, included the signing of a technology licence agreement between the DST/CSIR and Puris (Pty) Ltd, and the transfer of four technology packages for upscaling and demonstration.

Renewable energy has become an integral part of the country's energy agenda. The DST and its partners understand that innovation is needed to revolutionise batteries to strengthen clean energy research capabilities, which can also create employment. South Africa's plentiful manganese and other mineral resources suitable for energy use in stationary and mobility applications give the country a comparative advantage in energy storage

During the reporting period, a multilateral agreement between Germany and South African partners was put in place to develop a low-cost nickel-iron battery. The partnership includes the University of the Western Cape, Eskom and the Fraunhofer Society, as well as one German and two South African SMMEs. The DST investment of R4 million was used to leverage R1,5 million from Eskom and R10 million from the German partners. The Department has made a significant investment into the development of an innovative algae technology, which has the ability to turn the millions of tons of coal dust wasted annually into high quality algae-based biofuel. Non-disclosure agreements were signed with companies in India (Manu Mishra), the United States of America (Avespa Holdings, LLC) and South Africa (Mzesi Energy) to explore the commercialisation of CoalgaeTM.

In support of technology commercialisation and getting hydrogen fuel cell technology into the global value chain, HyPlat, a spin-off of the HySA Catalysis Centre of Competence, had its membrane electrode assemblies (MEAs) evaluated by a global original equipment manufacturer, which found that the performance of the MEAs was on par with those available on the market.

Three electric scooters with a fuel cell range extender and supporting hydrogen refuelling infrastructure were completed in collaboration with the South African Post Office (SAPO) as demonstrators. The scooters will be used by SAPO to deliver mail. In April 2018, a 2,5kW fuel cell unit developed through the

HySA programme was launched at Poelano Secondary School near Ventersdorp. The unit, combined with 17 kW installed capacity of solar panels and 28,8 kWh of battery storage, on-site hydrogen production and storage, is providing renewable electricity for lights and ICT equipment for the benefit of more than 400 learners at the school. Furthermore, 10 SolarTurtle energy kiosks were deployed in Lesotho to support rural women in their business initiatives. This solution is based on the DST-funded solar energy programme.

In strengthening global partnerships, South Africa, through the DST, hosted the 30th International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE) Steering Committee meeting in Pretoria from 4 to 7 December 2018. The IPHE comprises 19 member countries and the European Commission, and is dedicated to the development, promotion and integration of hydrogen fuel cells in the global economy. Fuel cell technology uses hydrogen and platinum to generate electricity for use in stationary and mobile applications, and has the potential to support South Africa's economic growth, including the Mining Phakisa.

Research and development tax incentive

Much progress has been made in improving the turnaround time for providing decisions on applications for the R&D tax incentive. This incentive is designed to encourage private-sector investment in scientific and technological research and development activities. Of the 131 applications received, 95 (or 73%) had been provided with decisions by 31 March 2019. The percentage of applications provided with decisions within 90 days had increased to 39% (51 applications).

An impact evaluation was initiated by the National Treasury to generate evidence about the benefits of the R&D tax incentive. The findings are expected in the first quarter of 2019/20 financial year. In the interim, four separate, independent studies, made available in 2018/19, provided external opinions on the functioning of the R&D tax incentive. Firstly, a study by Trade and Industry Policy Strategies indicated that many businesses were aware of the existence of the R&D tax incentive, but needed more guidance on how to access it, and more user-friendly application processes. Secondly, the review of business incentives by the Department of Planning, Monitoring and Evaluation affirmed the relevance of government support through the R&D tax incentive and made specific recommendations on how the overall system of incentives in South Africa could be strengthened. These recommendations are consistent with the proposal in the 2019 White Paper on Science, Technology and Innovation to harmonise policy instruments for supporting business sector R&D and innovation.

Thirdly, a study was carried out for the Davis Tax Committee, which estimated that beneficiary companies spent an additional R1,83 on R&D for each rand of revenue foregone following the support through this incentive. Fourthly, an Organisation for Economic Cooperation and Development (OECD) study showed that, although South Africa's overall level of government support for business R&D was below the OECD average, estimates of the B-Index indicated that South Africa was providing a competitive tax system for R&D for small and large firms.

Goal 5: Using knowledge and innovation for inclusive development

Goal statement: Accelerate inclusive development through scientific knowledge, evidence and appropriate technology

Food security and sustainable rural development

Through the Sector Innovation Fund (SIF), the DST has supported a portfolio of seven industries, namely horticulture, post-harvest innovation, viticulture, forestry, mineral processing, paper manufacturing, and agroprocessing.

Small-scale agroprocessing initiatives in South Africa are still facing major challenges. The structural

constraints of such initiatives have been linked to and exacerbated by historical, natural and financial factors. The challenge is to co-design ways to manage these constraints effectively through innovation.

To address some of the challenges of the agricultural bioeconomy, the DST, in collaboration with the Technology Innovation Agency, supports the Agricultural Bioeconomy Innovation Partnership Programme (ABIPP). Current co-funding is received from the Winter Cereal Trust, the Sasol Trust, the Maize Trust, GrainSA and the Oil and Protein Seed Development Trust. Key project partners include GrainSA, Sensako, Pannar, the Agricultural Research Council, Stellenbosch University, the University of Pretoria, North-West University, Agri Technovation, the Eden Social Development Foundation, the Vaal University of Technology and the University of the Free State.

In the 2018/19 financial year ABIPP funded existing and new initiatives. Details are given below:

- The Wheat Breeding Platform. This focuses on developing drought-tolerant and pest-resistant varieties. In 2018/19, 270 lines were made available to different breeding companies, of which 161 were selected by the Agricultural Research Commission (ARC), 27 by Sensako and 18 by Corteva (Pannar). Since 2015, 27 new cultivars have been released by the breeding companies, one by the ARC, eight by Sensako and 18 by Pannar.

- The Maize Breeding Programme. This project, implemented by the Climate Resilience Consortium, focuses on developing hybrid varieties with increased resilience to drought and heat stress. The target is to reach 100 000 small-holder farmers over a five-year period.

- The Crop Protection Consortium. This initiative screens for soil-borne and seed-borne diseases with a view to developing and managing an early warning system for disease outbreak. Two projects were completed during the reporting period, one on prominent nematode pests affecting soybean and maize in summer grain-producing regions, and another looking at determinants of soil health, comparing soil disease complexes (specifically soil-borne diseases and nematodes) from conservation agricultural and conventional tillage systems to identify which crop rotation practices contributed to less diseased soils. A third project was initiated in 2018 to monitor the spread of fall armyworm in South Africa one on prominent nematode pests affecting soybean and maize in summer grain-producing regions, and another looking at determinants of soil health, comparing soil disease complexes (specifically soil-borne diseases and nematodes) from conservation agricultural and conventional tillage systems to identify which crop rotation practices contributed to less diseased soils. A third project was initiated in 2018 to monitor the spread of fall armyworm in South Africa

- The Soybean Food and Nutrition Project. This is aimed at developing appropriate technologies and disseminating them to farmers and communities to promote the production and processing of soybean. The project has the potential to support economic growth for emerging farmers.

- The Bioinnovation Aquaculture Programme: This was established under ABIPP and a call for proposals was made. The programme will initially support projects related to freshwater and marine production systems (particularly on increasing yield), aquatic animal feed, health and disease management technologies, and aquaculture value addition and post-harvest technologies for food security and nutrition. The intention is to support national priorities, including the Oceans Economy Phakisa.

- Agroprocessing for niche commodities. ABIPP funded agroprocessing initiatives through TIA in support of marula, honeybush and Cape Aloe. The three projects are aimed at developing

and commercialising the valuable nutritional and medicinal content of these indigenous plants, opening new market opportunities that will result in job creation and local benefit. A marula community development programme in Hoedspruit, aimed at expanding the marula market, and co-funded by the Industrial Development Corporation and TIA, was initiated during the 2018/19 financial year.

- In support of agri-parks, the DST is co-funding GrainSA's farmer development support initiative to provide additional innovation incentives and alternative sources of nutrition in communities through crops such as beans and maize. Seeds are distributed throughout communities to diversify people's diets and increase the amount of niacin consumed. Nixtamalisation technologies are demonstrated and recipes provided in rural communities. The project further looked at storage capabilities to prevent mycotoxin contamination, and threshing capabilities (efficient harvesting of maize). The Farmer Development Programme is also targeting communities within agri-parks.

During the reporting period, several initiatives were undertaken to promote co-operatives and agroprocessing initiatives. Fifteen community-based initiatives were supported through the construction and equipping of pilot pre-processing facilities and agri-businesses. The Innovation Hub (BioPark) incubated 14 SMMEs, supporting business development and entrepreneurship in RDI-based natural products.

ABIPP supported the Multi-African States Foot-and-Mouth Disease Rapid Response programme, which focuses on livestock disease management through the development of diagnostics and technologies to support and inform policies that will assist in managing notifiable diseases such as foot-and-mouth disease. The programme is implemented by the CSIR and aims to develop a coordinated emergency point-of-care diagnostic that will respond to foot-and-mouth disease outbreaks in livestock, and ultimately build human capacity by giving formal and informal training related to foot-and-mouth disease control and management to South African and non-South African participants. The Onderstepoort Veterinary Institute, the University of Pretoria and North-West University are also partners in the initiative.

Health innovation initiatives

Through the Strategic Health Innovation Partnerships programme at the South African Medical Research Council (SAMRC), the DST has been funding a Phase III clinical trial to assess the efficacy of levofloxacin preventive therapy in children that have been exposed to multidrug-resistant tuberculosis (MDR TB). The project has been completed and has demonstrated that novel paediatric levofloxacin formulation was well tolerated and safe in children less than five years of age. The study resulted in the development of a paediatric levofloxacin 100 mg dispersible formulation which has been prequalified by the World Health Organization (WHO) and is available globally to children living in countries that procure medicines from the Global Drug Facility. The results of the study, commissioned by the WHO, have directly informed WHO guidelines for MDR TB treatment in children.

In ensuring a healthy life for all, the TB and malaria drug discovery programmes at the University of Cape Town Drug Discovery and Development Centre have secured approximately R46 million over the next three years (2019 to 2021) from the Bill and Melinda Gates Foundation (BMGF). SHIP funding served as leverage to secure the extension of the BMGF funding. The funding will advance TB and malaria drug discovery efforts at the university with a focus on the further development of the malaria drug candidate and the chemical series for TB that are at various stages of development (hit identification, hit-to-lead, and lead optimisation).

The Medicines for Malaria Venture (MMV) has secured approximately R18 million over the next three years

as co-funding for the SHIP-funded malaria drug discovery programme. This represents a significant increase in MMV's contribution to the programme. The additional funding has enabled the expansion of the programme to a malaria consortium based in Gauteng. The extended malaria programme will also provide a platform for enhancing drug discovery capacity on the African continent, with chemists and biologists from the Universities of Nairobi, Ghana and Yaounde being included in the programme as a result of the additional funding provided by MMV.

With funding from the DST, the SAMRC and the CSIR, the University of Pretoria has completed a project in the Mamelodi District of Tshwane on the use of the Umbiflow device to screen and manage an unselected pregnant population. The results have been submitted for publication. The device, designed for use in resource-limited settings, has demonstrated significant potential in reducing premature births and child mortality. It has been estimated that about 20 000 premature births are recorded in South Africa annually. The routine use of the Umbiflow device could result in a significant reduction in the local perinatal mortality rate. The Transition to Scale programme of Grand Challenges Canada has committed CAD$500 000 over two years for the commercialisation of the Umbiflow. Efforts to find a suitable commercial partner are currently under way. The WHO has also committed an amount of US$218 000 to expand Umbiflow studies in other developing countries, including India, Kenya, Ghana and Rwanda.

The DST and its partner, the Central University of Technology in Bloemfontein, have established a new Medical Device Additive Manufacturing Technology Demonstrator in their Centre for Rapid Prototyping and Manufacturing (CRPM) for the production of medical-related additive manufacturing (AM) parts such as implants for teeth, disks for the spine, and new heart valves. The CRPM also became one of the world's first AM centres at a university to receive ISO 13485 accreditation, which is essential for the production of certified AM medical implants and devices. The DST awarded an amount of R39 750 Million for the acquisition and development of high-end infrastructure fot this facility.

The mLab initiative

MLab Southern Africa is a mobile technology solutions laboratory and start-up accelerator aimed at unlocking the mobile applications economy. In the 2018/19 financial year, in addition to the mLab sites in Pretoria and Cape Town, new sites began operating in Polokwane and Kimberley. Discussions to establish an mLab site in Mpumalanga are under way. The mLab initiative had evolved successfully, with offerings that include coding skills development, enterprise development (incubation) and co-creation opportunities with industry for university students, among others.

Improved access to sanitation

The DST and its partners, the Department of Water and Sanitation, the Department of Environmental Affairs, the Water Research Commission and the South African National Biodiversity Institute, offered a workshop at the 2018 Stockholm World Water Week on "Integrating grey and green for water security in Southern Africa". The session highlighted the interface between built (grey) infrastructure and green (ecological) infrastructure and that far less money was spent on ecological infrastructure than on built infrastructure.

Under the DST-Hitachi Engineer Exchange Programme, six engineers under the age of 35 working at municipalities or water utilities across South Africa spent two months in Japan learning about how water is managed at a municipal level. They were also exposed to different water technologies and innovations that could be used in their working environments. This programme has proven successful, with the South African Local Government Association (SALGA) participating in the selection of candidates, and has led to the creation of the Young Engineers "Changemakers" Programme, a partnership between

the WADER water technologies demonstration platform and SALGA.

Much progress was made in the demonstration of innovative technology solutions in support of improving access and quality of service delivery. The South African Sanitation Technology Demonstration Programme continued to contribute towards improving access to decent and appropriate sanitation services, mainly for rural households. The programme was refocused to strengthen its contribution to industrialisation and technology localisation within the context of the national Industrial Policy Action Plan. The DST participated in the discussions of the new global standards for off-grid sanitation, a key enabling factor for the industrialisation of the innovative sanitation technology sector

Support for service delivery

To contribute to the realisation of the NDP outcomes, the Department focused on interventions strengthening the capacity of the state to deliver basic services. This was done through the provision of innovative, evidence-based technologies to enhance decision-making and policy development. Innovation is key for a capable state and the Department advanced its Municipal Innovation Maturity Index initiative, which provides information on municipalities' innovation capabilities and readiness.

The Department also expanded its on Innovation Champions initiative, an instrument that recruits unemployed graduates to assist municipalities to incorporate innovation into their strategy and operations. The initiative has been piloted mainly in rural municipalities in an effort to sustain rural communities.

Supporting service delivery decision-making also saw the acknowledgement of the Urban Knowledge Exchange Southern Africa (UKESA) by key partners as a strategic online platform to support the Integrated Urban Development Framework. UKESA also contributes towards promoting innovation and good practice in cities, towns and villages. In support of sustainable human settlements, the Department's STI for Sustainable Human Settlements Roadmap project hosted the first national Off-the-Wall Human Settlements Showcase, which enabled innovators and entrepreneurs to showcase their innovative solutions for the human settlements sector. The roadmap project continues to influence the sustainable human settlements discourse in line with national, regional and global development outcomes.

Support for grassroots innovation

The Grassroots Innovation Programme is a DST initiative aimed at providing technical and financial support to social entrepreneurs and local innovators in townships and rural areas who are developing solutions to address social challenges. During the 2018/19 financial year, 100 qualifying local innovators were enrolled in the programme to develop their concepts, commercialise their ideas, develop prototypes, and access funding and technical expertise.

Using lessons learnt in the pilot phase, the Department moved to scale-up the Grassroots Innovation Programme, a key intervention under Policy Intent 4.10 of the Cabinet-approved White Paper on STI. The scaled-up programme was redesigned to give priority to contributing towards strengthening provincial innovation systems as well as collaboration with the private sector and non-profit organisations in supporting grassroots innovators, particularly towards the commercialisation of their solutions. One of the former beneficiaries of the Grassroots Innovation Programme secured industrial development funding for a manufacturing facility in her rural town. The beneficiaries of the programme are also participating as ambassadors of this initiative and, as such, contribute towards the notion of a responsible, inclusive and equitable system of innovation.

Furthermore, a new approach was adopted in the 2018/19 financial year for the DST's Local Systems of Innovation Portfolio, which was structured to solicit proposals for Regional Innovation Support Platforms, through a process managed on behalf of the DST by a

programme management unit established at the CSIR. A call for proposal process attracted 18 proposals, leading to support for innovation networking platforms in Limpopo, Welkom, East London and Kimberley. The outcomes of a second call are currently being finalised.

International cooperation in support of Goals 1 to 5

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. The Department succeeded in improving the coordination of participation by different South African organisations, especially in ensuring alignment with strategic national priorities. The DST has been implementing strategic frameworks to guide the participation of the NSI in partnership initiatives with other African partners, as well as to attract STI-oriented foreign investment to South Africa.

Science, technology and innovation support for Africa

The African partnership portfolio has once again been especially active, with 93 research and innovation projects jointly supported by the DST and African partner governments during the financial year. The DST also supported 17 African Union and Southern African Development Community (SADC) STI initiatives, making it possible for these initiatives to progress. Through diverse international partnerships, the DST enabled an investment of R91 million by these partners to build and strengthen STI capacity in other African countries.

To mark South Africa's Chairship of the SADC, the Department coordinated the production of the first SADC Regional Report on Investment in Research and Development. The report will be presented at the 2019 Joint Meeting of SADC Ministers responsible for Education and Training, and Science, Technology and Innovation. Being the first of its kind in the region, this report will serve as a baseline to monitor progress towards the target for R&D investment in the region as well as indications of national STI policies and their orientations.

Resources and access to expertise for the South African NSI

During the period under review, the DST ensured a greater focus on achieving socio-economic impact through its international partnerships, with special attention being paid to fostering cooperation with industry partners and developing collaboration with an innovation focus. Many initiatives to bolster the DST's ability to address poverty, unemployment and inequality in South Africa were also fostered, especially with development partners. Focused on the leveraging of global support for the use of knowledge production in South Africa, for both economic and inclusive development, the Department facilitated international investment of R517 million in the NSI during the year under review.

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 718 international partner organisations, 20% of which were private organisations. This collaboration saw an investment of more than R3,3 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 human capital development through international partnerships remains a cross-cutting strategic priority and saw, among other things, 1 470 South African students participating in international postgraduate training programmes. This was part of the implementation of the Global Knowledge Partnerships platform, created to support South African students accessing opportunities abroad. Of these students, 88% were black South Africans and

44% women. Sixty-seven technical exchanges aimed at building and reinforcing South Africa's capacity in key science and technology domains were facilitated with international partners.

South Africa played a significant role in the establishment of the Group on Earth Observations (GEO) and is a founding member. South Africa became Lead Co-Chair of GEO in November 2018, taking over from the United States of America. The function of the Lead Co-Chair is to preside over the GEO Plenary and Executive Committee, as well as to set priorities for the year and work closely with the GEO Secretariat to advance GEO's mission. Under South Africa's guidance, the GEO community will prioritise engagement with the Global South in building a results-orientated Global Earth Observation System of Systems (GEOSS), supporting global policy priorities through Earth observations and strengthening the sustainability of the GEO enterprise. As GEO moves towards its 5th Ministerial Meeting in 2019, it is important to emphasise the importance of the active engagement of the Global South in ensuring the diversity and inclusivity of its vision. GEO can only be effective if all regions are contributors to this vision, particularly the youth and entrepreneurs located in the Global South.

South Africa is the current Chair of AfriGEO (formerly AfriGEOSS), an initiative aimed at facilitating and coordinating the participation of Africa in GEO. As Chair, the DST finalised the process for the AfriGEO Secretariat to be hosted at the Regional Centre for Mapping of Resources for Development in Nairobi, Kenya. The Department will provide funding for the initial operationalisation of the Secretariat, while seeking further funding from the AfriGEO Member States.

Science diplomacy

The convention establishing the new international Square Kilometre Array Observatory, which will govern the global SKA radio telescope project, was signed in Rome after a negotiating process in which the DST played a crucial role.

Science diplomacy and the promotion of South Africa as a preferred international partner for STI initiatives remained a major aspect of the DST's work. In the period under review, the DST, ASSAf and the Department of International Relations and Cooperation hosted a workshop on diplomacy, leadership and negotiation. This provided a platform for the DST to create a uniquely branded South African STI diplomacy, and champion training at a continental level.

The fourth Science Forum South Africa attracted more than 3 000 participants from 79 countries. The DST 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.

Overseas bilateral cooperation

During the year under review, DST hosted the 6th BRICS (Brazil, Russia, India, China and South Africa) STI Ministerial Meeting, which focused on initiatives such as disruptive technologies and big data in order to provide BRICS countries with a competitive advantage in the Fourth Industrial Revolution. On the margins of the ministerial engagement, the DST also hosted the BRICS Young Scientist Forum, and the Minister of Science and Technology had bilateral meetings with her Indian and Chinese counterparts to recommit to bilateral cooperation and note progress with ongoing cooperation. In addition, the DST hosted engagements to establish new working groups for the New Industrial Revolution, a BRICS Academies of Science meeting, a BRICS working group meeting on health science, a BRICS energy working group meeting and a South Africa-Brazil seminar on start-ups.

The DST supported the visit of the Portfolio Committee on Science and Technology's visit to South Korea and Japan to learn about the science systems of these countries and to identify opportunities for South Africa. Several technical exchanges were held with international partners, including Sri Lanka

(water management), Jamaica (a seminar for young innovators and a national conference on STI), Taiwan (agribiotech), India (renewable energy) and Norway (research cooperation on the blue economy, climate change, the environment and renewable energy).

To manage, monitor and recommit to meaningful international partnership in science, technology and innovation, the DST engaged in consultations and partnership forums with the United Arab Emirates, Russia, Saudi Arabia, Iran, New Zealand, France and Vietnam. Negotiations were completed or new agreements signed with countries such as Ireland, the Czech Republic and Turkey.

On the margins of the 2018 Science Forum South Africa, the successful 20th anniversary of science and technology cooperation with Italy was celebrated and the Minister hosted the Iranian Vice President for Science and Technology, accompanied by a business marking a significant milestone in strengthening the science and technology cooperation between the two countries.

International resources

The DST's relations with the European Union were expanded in 2018/19 through the participation of the Director-General in the Annual Science|Business Framework Conference, the hosting of an open science workshop in partnership with the European Commission, securing funding from the SA-EU Strategic Partnership Dialogue Facility for the implementation of a policy dialogue on the circular economy to be implemented by the DST, and the finalisation of a multilateral call on disruptive technologies to be launched through the Eureka Network.

The DST secured EU General Budget Support (GBS) for the Green Economy for Development. This will strengthen the smallholder essential oils value-chain through local innovation and feasibility studies for industrial loan finance. In addition, new Sector Budget Support (SBS) was secured for R&D partnerships for competitiveness; validating the viability of innovation for service delivery, and international innovation support actions.

During the period under review the DST participated in the 8th EuroScience Open Forum and launched the Big Data Analytics and Transboundary Water Collaboration Programme, which is an initiative stemming from cooperation between the DST, the SADC Ground Water Management Institute, the USAID Global Development Lab and IBM.

Multilateral cooperation

The DST hosted a joint meeting of SADC Ministers for Education and Training and Science, Technology and Innovation as the Chair of SADC in 2018. Twelve member states, as well as representatives of the African Union, NEPAD, UNESCO, the International Labour Organisation, the Regional Universities Forum for Capacity Building in Agriculture, the African Academy of Sciences and the Southern African Regional Universities Association attended the meeting. Substantial support for the approved SADC Women in Science, Engineering and Technology (WISET) Organisation was garnered from all the member states in attendance. The DST hosted a successful National Consultation Forum on the establishment of a WISET National Chapter for South Africa. The main objective of the meeting was to discuss and adopt the draft WISET-SA Constitution and develop an activity roadmap, as requested by the SADC Education and Training, and Science, Technology and Innovation Ministers.

To manage, monitor and recommit to meaningful international partnership in science, technology and innovation, the DST engaged several African countries, including Botswana, Egypt, Ethiopia, Ghana, Lesotho, Mozambique, Tanzania and Uganda, in the year under review. A scientometric study was under taken to enlist an independent opinion and establish scientific background context to the repositioning of the DST's Joint Research Programme with Africa.

4. 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 national system of innovation.

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

Information System and Knowledge Management is responsible for the delivery of services that support the Department's strategic plan and individual unit's objectives through the effective use of information technology. Its purpose is to align the Department's Information Technology Strategy with its business strategy to ensure that the organisation 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 component 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.

4. PERFORMANCE INFORMATION BY PROGRAMME (CONTINUE)

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 component 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 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	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 to national priorities	DST public entities' annual performance plans and annual reports approved by the Minister and chairpersons of the boards	DST public entities' 2018/19 annual performance plans and CSIR shareholder compact signed by the Minister and chairpersons of the boards by 31 March 2018	DST public entities' 2019/20 annual performance plans and annual reports approved by the Minister by 31 March 2019	DST public entities' 2019/20 annual performance plans and annual reports approved by the Minister by 31 March 2019	None	**Achieved**	n/a
To develop and maintain good corporate governance systems for the Department and its entities	Combined assurance annual report on the status of combined assurance presented to the Risk and Audit Committees	1 combined assurance report was presented to the Audit Committee on 23 March 2018	1 combined assurance annual report on the status of combined assurance presented to the Risk and Audit Committees by 31 March 2019	1 combined assurance annual report on the status of combined assurance was presented to the Risk and Audit Committees by 31 March 2019	None	**Achieved**	n/a
To provide strategic communication for the DST and its entities	Number of media articles written to raise the DST's public profile	77 media articles written to raise the DST's public profile by 31 March 2018	24 media articles written to raise the DST's public profile by 31 March 2019	108 media articles written to raise the DST's public profile by 31 March 2019	+84	**Achieved**	The 2018 Science Forum South Africa attracted a high number of scientists and researchers.

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
through marketing, media and branding initiatives, and the Science Engagement Strategy							offering additional opportunities for articles.
	Number of public participation programmes held	11 public participation programmes held by 31 March 2018	10 public participation programmes held by 31 March 2019	17 public participation programmes held by 31 March 2019	+7	**Achieved**	Additional engagements were requested around women's issues and as part of a Back to School campaign.
To ensure effective and efficient financial and procurement services	Unqualified audit (clean audit) opinion with no financial matters in the audit report	Unqualified audit (clean audit) opinion with no financial matters in the audit report	Unqualified audit (clean audit) opinion with no financial matters in the audit report	Unqualified audit (clean audit) opinion with no financial matters in the audit report	None	**Achieved**	n/a

Programme 2: Technology Innovation

Purpose

To enable research and development (R&D) in space science and technology (S&T), energy security and the bioeconomy, and in the emerging and converging areas of nanotechnology, robotics, photonics and indigenous knowledge systems (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 intellectual property, technology transfer and technology commercialisation.

Chief directorates

Bioinnovation was previously known as Biotechnology and Health Innovation. The name change is a better reflection of its core mandate, and factors in the recent incorporation of the Indigenous Knowledge-based Technology Innovation unit into the component. Bioinnovation leads the DST's implementation of the Bio-economy Strategy, which focuses more on socio-economic outcomes, and the strengthening of research and innovation competencies that form the strategic base 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 crosscutting 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 this relates to the nascent global hydrogen economy, by informing and co-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 in 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 crosscutting and user-driven component 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 led by the Department of Trade and Industry. The National Space Strategy was a response to the Ten-Year Innovation Plan, which identified 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 presents.

Innovation Priorities and Instruments 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 focus includes the development of nanotechnology, photonics, robotics, and the South African Biodesign Initiative, through the roll-out of approved strategies and implementation plans.

The **National Intellectual Property Management Office** is the national implementing office for the Intellectual Property from Publicly Financed Research and Development Act (IPR Act), and is currently located in the Department as a specialised service delivery unit. It was established to provide for the more effective utilisation of intellectual property (IP) emanating from publicly financed R&D. It provides support to offices of technology transfer at universities and science councils, develops capacity in IP management, provides incentives for IP creators to encourage them to disclose, protect and commercialise their creations, provides funding through the IP Fund for the protection and maintenance of IP emanating

from publicly financed R&D, and provides incentives, support, capacity development, funding and compliance services. NIPMO also ensures compliance with the IPR Act and Regulations by recipients of publicly financed R&D.

Strategic objectives

- To facilitate and resource investments in space S&T, energy, bioinnovation, nanotechnology, robotics, photonics, indigenous knowledge systems (IKS), intellectual property (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 research and development 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

Achieved	Partially achieved	Not achieved

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
To facilitate and resource investments in space science, energy, bioinnovation, nanotechnology, robotics, photonics, IKS, IP management, technology transfer and technology commercialisation	Number of instruments funded in support of knowledge utilisation	19 instruments funded in support of knowledge utilisation by 31 March 2018	21 instruments funded in support of knowledge utilisation by 31 March 2019	21 instruments were funded in support of knowledge utilisation by 31 March 2019	None	Achieved	n/a
	Number of knowledge outputs generated	165 knowledge outputs generated	149 knowledge outputs generated by 31 March 2019	187 knowledge outputs were generated by 31 March 2019	+38	Achieved	The target for publications is affected by the publishing process, which allows for the exchange of documents between authors and publishers and can be lengthy. Therefore, it is difficult to predict a specific target.
	Number of strategic policy directives in designated areas in support of economic sectors	8 strategic policy directives in designated areas in support of economic sectors developed by 31 March 2018	5 strategic policy directives in designated areas in support of economic sectors by 31 March 2019	5 strategic policy directives in designated areas in support of economic sectors were developed by 31 March 2019	None	Achieved	n/a

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
	Number of decision-support interventions developed and maintained	3 decision-support interventions maintained by 31 March 2018	2 decision-support interventions maintained by 31 March 2019	2 decision-support interventions maintained by 31 March 2019	None	Achieved	n/a
	Percentage of regulatory recommendations made to the Executive Council established under the Genetically Modified Organisms Act (GMO Executive Council) through the Department of Agriculture, Forestry and Fisheries (DAFF) to support decision-making	28 regulatory recommendations for decision support by government by 31 March 2018	100% of regulatory recommendations made to the GMO Executive Council through DAFF to support decision making by 31 March 2019	100% of regulatory recommendations were made to the GMO Executive Council through DAFF to support decision making by 31 March 2019	None	Achieved	n/a
To oversee, monitor and regulate key policy initiatives, including institutions/agencies and support interventions in the key strategic areas of space science, energy, bioinnovation,	Number of new disclosures reported by publicly funded institutions	239 new disclosures reported by publicly funded institutions by 31 March 2018	220 new disclosures reported by publicly funded institutions by 31 March 2019	311 new disclosures were reported by publicly funded institutions by 31 March 2019	+91	Achieved	The target was based on performance trends in previous years. Meetings with individuals that attended IP Wise sessions resulted in better understanding of the requirements and benefits of

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
nanotechnology, robotics, photonics							benefits of submitting disclosures and therefore more were submitted
To coordinate and support high-end and skills development in the strategic and emerging S&T areas of space science, energy, bioinnovation, nanotechnology, robotics, photonics, synthetic biology, structural biology, systems biology and functional genomics (collectively the South African Biodesign Initiative), IP management, technology transfer and technology commercialisation	Number of postgraduate students (master's and doctoral) funded in designated areas	266 postgraduate students (master's and doctoral) funded in designated areas by 31 March 2018	340 postgraduate students (master's and doctoral) funded in designated areas by 31 March 2019	354 postgraduate students (master's and doctoral) were funded in designated areas by 31 March 2019	+14	Achieved	The target was based on trends in the previous years. Therefore, more students were supported than anticipated.
	Number of trainees attending training initiatives in designated areas	256 trainees attended training initiatives in designated areas by 31 March 2018	240 trainees attending training initiatives in designated areas by 31 March 2019	336 trainees attended training initiatives in designated areas by 31 March 2019	+96	Achieved	There was a high intake on the distance learning courses during the year and high attendance of the WIPO Technology and Innovation Support Centre workshop, which was on a new topic (use of information in the public domain).
To support, promote, and advocate for the development and translation of	Number of knowledge application products funded in designated	13 knowledge application products funded in designated	6 knowledge application products funded in designated areas by 31	9 knowledge application products were funded in designated areas	+3	Achieved	The high number of knowledge application products developed by the CSIR National

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
outputs into commercial products, processes and services that will contribute towards economic growth and a better quality of life				2019			Innovation Centre was not anticipated.
	Number of commercial outputs in designated areas	5 commercial outputs in designated areas by 31 March 2018	3 commercial outputs in designated areas by 31 March 2019	7 commercial outputs in designated areas by 31 March 2019	+4	Achieved	Target setting for commercialisation challenging. Experience has shown that products deemed to have high potential may fail to attract commercial partners, so the level of interest shown in products/innovations in the 2018/19 financial year was not anticipated.

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, 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, and to contribute 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 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
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	R448 million in international funds directly invested in research, innovation and STI HCD programmes, including research infrastructure investment in South Africa as part of cooperation initiatives implemented by the DST by 31 March 2018	R440 million 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 2019	R517 million 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 2019	+R77 million	**Achieved**	With the completion of the MeerKAT Radio Telescope during the financial year, substantial international funding came into the country
	Amount (expressed in rand millions) of funds invested by international partners in their own organisations and	R1,199 billion invested by international partners in their own organisations and initiatives, but targeted at	R280 million invested by international partners in their own organisations and initiatives, but targeted at	R3 347 billion invested by international partners in their own organisations and initiatives, but targeted at	+R3 067 billion	**Achieved**	There was an increase in funding from international partners because of the successes of NSI partners in competitive STI

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
	initiatives, but targeted at cooperation in research, innovation and STI HCD with South African partners as part of cooperation initiatives implemented by the DST	cooperation in research, innovation and STI HCD with South African partners as part of cooperation initiatives implemented by the DST by 31 March 2018	cooperation in research, innovation and STI HCD with South African partners as part of cooperation initiatives implemented by the DST by 31 March 2019	cooperation in research, innovation and STI HCD with South African partners as part of cooperation initiatives implemented by the DST by 31 March 2019			initiatives, especially the EU Horizon 2020 Framework Programme, which saw greater South African participation than anticipated, as well as an increase in cooperation with various bilateral partners.
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	241 South African students participating in international training programmes offering a postgraduate qualification as part of cooperation initiatives facilitated by the DST by 31 March 2017	650 South African students participating in international training programmes offering a postgraduate qualification as part of cooperation initiatives facilitated by the DST by 31 March 2019	1 470 South African students participating in international training programmes offering a postgraduate qualification as part of cooperation initiatives facilitated by the DST by 31 March 2019	+820	**Achieved**	There is complete evidence for 145 students directly linked to DST initiatives. However, as international partners are the sole investors in most of these opportunities, their privacy policies apply, so they cannot provide the DST with the required evidence. A total of 1 470 SA students were reported as

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
							benefiting from partnerships (including the DST-Department of Higher Education and Training partnerships) during the financial year .
	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	678 international partner organisations collaborating with South African partners within the formalised framework of collaborative research innovation or STI HCD projects a part of cooperation initiatives facilitated by the DST by 31 March 2018	550 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 2019	718 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 2019	+168	**Achieved**	The target was exceeded owing 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 as well as an

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
		March 2018					increase in cooperation with various bilateral partners.
	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	67 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 and facilitated by the DST by 31 March 2018	25 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 2019	36 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 2019	+11	**Achieved**	The target was exceeded owing 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 as well as an increase in cooperation with various bilateral partners.
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-	76 research, innovation and STI HCD cooperation projects co-funded or supported in kind by the DST	80 research, innovation and STI HCD cooperation projects co-funded or	93 research, innovation and STI HCD cooperation projects co-funded or	+13	**Achieved**	The target was exceeded owing to increased success in the Department's bilateral

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
	funded or supported in kind, by the DST and at least one other African partner	and at least one other African government by 31 March 2018	supported in kind by DST and at least one other African partner by 31 March 2019	supported in kind by DST and at least one other African partner by 31 March 2019			partnerships with other African countries.
	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	Total of R477 million 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 2018	R90 million 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 2019	R91 million 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 2019	+R1 million	**Achieved**	The target was exceeded owing to increased success in the Department's bilateral partnerships with other African countries, as well as South Africa's participation in EU programmes
	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 the DST	16 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 2018	17 AU or SADC STI initiatives, including programmes, projects or governance frameworks, endorsed at AU or SADC ministerial level supported	17 or SADC STI initiatives, including programmes, projects or governance frameworks, endorsed at AU or SADC ministerial level supported	None	**Achieved**	n/a

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
	ministerial level supported (financially or in kind) by the DST	kind) by DST by 31 March 2018	(financially or in kind) by DST by 31 March 2019	(financially or in kind) by DST by 31 March 2019			
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	5 formally recorded decisions made in an intergovernmental STI forum, such as a multilateral organisation, with a direct bearing on resource allocation to support priorities of government's Programme of Action following specific DST intervention by 31 March 2018	4 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 2019	6 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 2019	+2	**Achieved**	The target was exceeded owing to increased STI activities with bilateral and multilateral partners, where international partners were engaged in partnerships with the Department of International Relations and Cooperation.
	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	7 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 2018	4 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 2019	5 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 2019	+1	**Achieved**	The promotion of South Africa as a preferred STI partner provided opportunities to promote the country's STI leaders, which resulted in an additional leadership position for South Africa.

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 to develop human capital and increased knowledge production, as well as interfacing with relevant stakeholders in this regard. In addition, the chief directorate is responsible for supporting the development of a society that is scientifically literate and critically engaged with science through public engagement in STI and the enhancement of the youth's access to STI.

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 component 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 indigenous knowledge systems.

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 African Very Long Baseline Interferometry Network and Square Kilometre Array (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

Achieved	Partially achieved	Not achieved

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	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 PhD students awarded bursaries annually as reflected in the reports from the NRF and relevant entities	3 621 PhD students awarded bursaries through Programme 4 funds as reflected in the reports from the NRF and relevant entities by 31 March 2018	Not less than 3 100 PhD students awarded an annual bursary funds as reflected in the reports from the NRF and relevant entities by 31 March 2019	3 380 PhD students awarded an annual bursary funds as reflected in the reports from the NRF and relevant entities by 31 March 2019	+280	Achieved	The target was exceeded by 9% owing to the large number of quality applicants. Performance cannot be predicted or managed within closer margins because it depends on the pool of applicants, and the grant values, which cannot be perfectly predicted.
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 pipeline postgraduate students awarded bursaries annually as reflected in the reports from the NRF and relevant entities	10 601 (4 956 honours/BTech students and 5 645 master's) pipeline students awarded bursaries through Programme 4 funds as reflected in the reports from the NRF and	Not less than 10 800 pipeline postgraduate students awarded an annual bursary as reflected in the reports from the NRF and relevant entities	9 774 pipeline postgraduate students awarded bursaries as reflected in the NRF and relevant entities by 31 March 2019	-1 020	Not achieved	The target was missed by 9,4% due to the fact that the budget was not growing and compounded by cuts.

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
		relevant entities by 31 March 2018	by 31 March 2019				inflation increases in the per capita value of bursaries. (ii) A small portion of the budget was absorbed by the target on doctoral students supported.
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 SETI institutions	823 graduates and students placed in DST-funded work preparation programmes in SETI institutions 31 March 2018	Not less than 790 graduates and students placed in DST-funded work preparation programmes in SETI institutions by 31 March 2019	802 graduates and students placed in DST-funded work preparation programmes in SETI institutions by 31 March 2019	+12	Achieved	The target was exceeded by 1,6% owing to funds saved from interns that exited the programme early in the previous financial year. The funds were carried over to the new financial year, making it possible to place more interns. Moreover, the number of graduates and students placed depends on the pool of applicants, which cannot be

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
							predicted perfectly, and this target can therefore not be set with greater accuracy.
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 annually as per award letters	28 research infrastructure grants awarded as per award letters by 31 March 2018	30 annual research infrastructure grants awarded as per award letters by 31 March 2019	35 research infrastructure grants awarded as per award letters by 31 March 2019	+5	Achieved	The value of some of the individual grant requests were lower than the budgeted allocation per grant. Therefore, more grants could be awarded.
	Total available broadband capacity provided by the South African National Research Network (SANReN) per annum	3 292 Gbps total available broadband capacity provided by SANReN by 31 March 2018	3 400 Gbps total available broadband capacity provided by SANReN by 31 March 2019	3 557 Gbps total available broadband capacity provided by SANReN by 31 March 2019	+157	Achieved	The target was exceeded by 4,6% because the many variables on which the target is based (sites added, sites removed, sites upgraded, new links added, links removed, links upgraded and West Africa Cable System capacity

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
							activated) make it difficult to set precisely.
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 annually through NRF-managed programmes as reflected in the NRF project reports	4 707 researchers awarded research grants through NRF-managed programmes as reflected in the NRF project reports by 31 March 2018	Not less than 4 500 researchers awarded an annual research grant from Programme 4 funds through NRF-managed programmes as reflected by the NRF project reports by 31 March 2019	4 633 researchers awarded an annual research grant from Programme 4 funds through NRF-managed programmes as reflected by the NRF project reports by 31 March 2019	+133	Achieved	The target was exceeded by just over 3%. It cannot be set more accurately because it depends on the pool of applicants, which can only be estimated.
	Number of research articles published by NRF-funded researchers and cited in the Thomson Reuters Web of Science citation database as reflected in the NRF project reports	8 384 research articles published by NRF-funded researchers and cited in the Thomson Reuters Web of Science citation database as reflected in the NRF project reports by 31 March 2018	Not less than 7 000 research articles published by NRF-funded researchers and cited in the Thomson Reuters Web of Science citation database as reflected in the NRF project reports by 31 March 2018	9 159 research articles published by NRF-funded researchers and cited in the Thomson Reuters Web of Science citation database as reflected in the NRF project reports by 31 March 2018	+2 159	Achieved	The number of research articles published per researcher was higher than anticipated. This fluctuates slightly from year to year.
To strategically develop priority	Number of science mode	64 antennas installed and	64 ultra-high frequency (UHF)	64 UHF science mode receivers	None	Achieved	n/a

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
science areas in which South Africa enjoys a competitive advantage, by promoting internationally competitive research and training activities and outputs	receivers installed on MeerKAT	commissioned as per engineering specifications for a single polarisation array by 31 March 2018	science mode receivers installed on MeerKAT by 31 March 2019	installed on MeerKAT by 31 March 2019			
	Number of biennial reports on the state of climate change S&T in South Africa approved by Cabinet	A plan for compiling the second biennial report on the state of climate change S&T in South Africa was approved by Exco by 31 March 2018	Second biennial report on the state of climate change S&T in South Africa submitted to Cabinet by 31 March 2019	Second biennial report on the state of climate change S&T in South Africa not submitted to Cabinet by 31 March 2019		Not achieved	Owing to the Cabinet's busy schedule, the Minister could not submit the report to Cabinet by 31 March 2019.
To promote public engagement on science, technology and innovation	Number of participants in science awareness and engagement programmes as reflected in the project reports of the NRF and other service providers	2 575 839 people participated in DST-supported science engagement programmes by 31 March 2018	Not less than 2,1 million participants (learners and members of the public) in science awareness and engagement programmes as reflected in the project reports of the NRF and other service providers by 31 March 2019	About 29 418 913 participants (learners and members of the public) in science awareness and engagement programmes as reflected in the project reports of the NRF and other service providers by 31 March 2019	+27 318 913	Achieved	The deviation is due to the increased use of mainstream media, specifically television.

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 component 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 increase the level of private sector investment in scientific or technological R&D.

Table 9: Programme 5: Socio-economic Innovation Partnerships

Not achieved	Partially achieved	Achieved

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
Through knowledge, evidence and learning, to inform and influence how S&T can be used to achieve inclusive development	Number of knowledge products on innovation for inclusive development published	6 knowledge products on innovation for inclusive development published on the DST website by 31 March 2018	6 knowledge products on innovation for inclusive development published by between 1 April 2015 and 31 March 2019	8 knowledge products on innovation for inclusive development published by between 1 April 2015 and 31 March 2019	+2	**Achieved**	The Rural Innovation Assessment Tool (RIAT) implementation team was able to deliver additional knowledge products due to the fact that they were able to allocate more capacity to this exercise, at no additional funding.
	Number of decision-support interventions introduced and maintained	10 decision-support systems maintained and improved by 31 March 2018	10 decision-support systems maintained and improved by 31 March 2019	10 decision-support system maintained and improved by 31 March 2019	None	**Achieved**	n/a
	Number of learning interventions (seminars) generated	13 learning interventions (seminars) generated by 31 March 2018	9 learning interventions (seminars) generated by 31 March 2019	10 learning interventions (seminars) generated by 31 March 2019	+1	**Achieved**	The additional learning intervention was due to two Innovation for Inclusive Development-funded projects whose findings had implications for policy and pratice that made it

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
							necessary to engage with relevant stakeholders.
To identify, grow and sustain niche high-potential STI capabilities for sustainable development and the greening of society and the economy	Number of unique honours, master's and doctoral students fully funded or co-funded in designated niche areas that support the greening of society and the economy and sustainable development	106 honours, 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 2018	90 unique honours, 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 2019	84 unique honours, 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 2019	-6	Not achieved	New students were not funded in 2018/19 as there were no call for proposals because the contract for Waste is coming to an end in March 2019/20, there is no guarantee that there will be funding for students to complete the studies. There is also a delay in contracting the Water roadmap. Based on the funding criteria to determine if a student can be counted, a decision was taken to remove the IIP students.
	Number of knowledge and innovation products added	5 knowledge and innovation products added to the	4 knowledge and innovation products (for example, patents,	5 knowledge and innovation products (for example,	+1	Achieved	It is difficult to predict targets for knowledge products accurately due to

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
	to the sustainable development IP portfolio between 1 April 2015 to 31 March 2020 through funded or co-funded	innovation product portfolio	prototypes, technology demonstrators and technology transfer packages) added to the IP portfolio through fully funded or co-funded research by 31 March 2019	patents, prototypes, technology demonstrators and technology transfer packages) added to the IP portfolio through fully funded or co-funded research by 31 March 2019			the nature of RDI processes.
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	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 the Industry Innovation	291 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) by 31 March 2018	At least 242 master's and doctoral students fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals, ICTs and the Industry Innovation Programme, including the SIF) by 31 March 2019	At least 249 master's and doctoral students fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals, ICTs and the Industry Innovation Programme,	+7	**Achieved**	The desired outcome on funding/co-funding students are to fund the maximum possible number of students. The target were exceed due to the emphasis (increased awareness) on student funding/ co-funding, resulting in an active effort by the implementing agencies to fund students. Co-funding enables more students to be

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviations
• facilitate the development of R&D-led new targeted industries.	Programme (including the SIF)			including the SIF) by 31 March 2019			supported, but it is also difficult to forecast as there is no rule on how much/little co-funding is required.
	Number of interns fully funded or co-funded in R&D related to design, manufacturing and product development	195 interns fully funded or co-funded in R&D related to design, manufacturing and product development by 31 March 2018	At least 126 interns fully funded or co-funded in R&D related to design, manufacturing and product development by 31 March 2019	At least 250 interns fully funded in R&D related to design, manufacturing and product development or co-funded by 31 March 2019	+124	**Achieved**	The demand (for P2 and P3 students to achieve their qualifications) remains high, and in the context of the high youth unemployment, the DST increased the priority of funding for interns by redirecting interest earned on a contract to fund more interns.
	Number of knowledge and innovation products added to the Industrial Development IP portfolio through fully funded or co-funded research initiatives	38 knowledge and innovation products (patents, prototypes, technology demonstrators or technology transfer packages) added to the IP portfolio by 31 March 2018	At least 26 industrially relevant knowledge and innovation products (patents, prototypes, technology demonstrators or technology transfer packages) added to the industrial	At least 42 industrially relevant knowledge and innovation products (patents, prototypes, technology demonstrators or technology transfer packages) added to the industrial	+16	**Achieved**	Increased monitoring and awareness resulted in the increased declaration of IP. Furthermore, owing to the unpredictability associated with maturing technology, it is difficult to forecast IP targets.

Not achieved	Partially achieved	Achieved

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
			development IP portfolio by 31 March 2019	development IP portfolio by 31 March 2019			
	Number of instruments funded in support of increased localisation, competitiveness and R&D-led industry development	6 instruments funded in support of increased localisation, competitiveness and R&D-led industry development in aerospace, advanced manufacturing, chemicals, advanced metals, mining, ICTs and sector innovation funds by 31 March 2018	At least 9 instruments funded in support of increased localisation, competitiveness and R&D-led industry development by 31 March 2019	9 instruments funded in support of increased localisation, competitiveness and R&D-led industry development by 31 March 2019	None	**Achieved**	n/a
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	5 innovation-support interventions funded or co-funded that strengthen provincial or rural innovation systems by 31 March 2018	8 innovation-support interventions funded or co-funded that strengthen provincial or rural innovation systems between 1 April 2016 and 31 March 2019	11 innovation support interventions funded or co-funded that strengthen provincial or rural innovation systems between 1 April 2016 and 31 March 2019	+3	**Achieved**	An engagement between the DST, the implementing agent (Seda Essential Oils Business Incubator) and beneficiaries resulted in the development of project plans for short-term interventions, which were not in the

Not achieved	Partially achieved	Achieved

Strategic objective	Performance indicator	Actual achievement 2017/18	Planned target 2018/19	Actual achievement 2018/19	Deviation between planned target and actual achievement for 2018/19	Status	Comment on deviation
							initial signed annual plan.
To enhance understanding and analysis that support improvements in the functioning and performance of the NSI	Number of statistical reports and policy briefs approved by Exco for publication and/or submitted to Cabinet	3 statistical reports and policy briefings submitted to Cabinet by 31 March 2018	6 statistical reports or policy briefs approved by Exco for publication and/ or submitted to Cabinet by 31 March 2019	5 statistical reports or policy briefs approved by Exco for publication and/or submitted to Cabinet by 31 March 2019	-1	**Not achieved**	The finalisation of 1 policy brief (the impact evaluation of R&D tax incentive) was delayed, largely owing to resignation of the project leader. A new project leader was assigned and it is expected that the report will be finalised in the first quarter of the 2019/20 financial year.
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	Preapproval decisions provided within 101 days (on average)	Preapproval decisions provided within 90 days from date of receipt for 80% of applications received for the R&D tax incentive received between 1 January 2018 and 31 December 2018	Preapproval decisions provided within 90 days on 39% (or 51) of the 131 applications received from 1 January 2018 to 31 December 2018. for the R&D tax incentive received between 1 January 2018 to 31 December 2018. Overall, of all the 131 applications received over the same period, 95 (or 73%) have been provided with decision.	In addition to processing new applications, the available capacity was used to clear the applications received prior 1 January 2018	**Not achieved**	Almost all applications received prior January 2018. Only 4 such applications remained at 31 March 2019

4. PERFORMANCE INFORMATION BY PROGRAMME (CONTINUED)

Changes to planned targets

There were no changes to planned targets.

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 2018/19 financial year at its meeting of 27 May 2019, and that Exco made inputs into the content of the report, which reflects the DST's performance for the period covered in the report.



Dr PM Mjwara

Director-General

31 May 2019

5. TRANSFER PAYMENTS

The Department transfers funds to various entities in pursuit of its mandate. These entities assist the Department to achieve 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	14 286	14 134	Assistance for research activities
Total	**14 286**	**14 134**	

Programme 2: Technology Innovation

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Biotechnology Strategy	37 742	37 742	Implementation of the Biotechnology Strategy
Energy Grand Challenge	37 049	37 049	Support R&D in the renewable energy sector
Health innovation	75 747	75 697	R&D for new health products and services
HIV/Aids prevention and treatment technologies	24 588	24 588	Research into technologies to combat and prevent HIV/ Aids
Hydrogen Strategy (Capital)	70 971	70 971	Support research infrastructure in the hydrogen and energy sector
Hydrogen Strategy (Current)	40 206	40 206	Support R&D in the hydrogen and energy sector
Indigenous knowledge systems	28 071	28 071	Implementation of indigenous knowledge systems initiatives
Innovation projects	9 417	9 417	To promote intellectual property management, regulation and commercialisation
International Centre for Genetic Engineering and Biotechnology	32 077	31 249	R&D of new health products
South African National Space Agency	138 036	138 036	To support the creation of an environment conducive to industrial development and space technology
Space science	18 499	18 499	R&D to support space science initiatives
Technology Innovation Agency	420 322	420 322	To stimulate and intensify technologyinnovation and commercialisation output
Biofuels	7 245	7 245	Biofuels research

5. TRANSFER PAYMENTS (CONTINUED)

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Emerging Research Areas	96 501	96 402	R&D into emerging research areas
Offices of technology transfer – Support	49 000	49 000	Intellectual Property Fund and capacitating offices of technology transfer
South African National AIDS Council	-	--	HIV and Aids research
Technology Top 100	-	-	Technology Top 100 Awards
Total	**1 085 471**	**1 083 258**	

Programme 3: International Cooperation and Resources

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Global science: Bilateral cooperation	14 948	14 793	Growing international partnerships with the aim of leveraging resources for R&D and human capital development
Global science: International resources	43 139	43 094	Growing international partnerships with the aim of leveraging resources for R&D and human capital development
Global science: Multilateral cooperation	9 388	9 388	Growing international partnerships with the aim of leveraging resources for R&D and human capital development
Total	**67 475**	**67 275**	

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	25 668	25 668	To promote innovative and independent scientific thinking
Astronomy	30 639	30 639	Support to radio and optical astronomy
Human and Social Development Dynamics	27 409	27 399	Policy and institution building (10-year plan and centres of excellence)
Human resource development	897 506	897 506	Implementation of human capital development initiatives

5. TRANSFER PAYMENTS (CONTINUED)

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
National Research Foundation	904 752	904 752	To support and promote research through funding human resource development
Science awareness	77 253	77 253	Research and initiatives towards youth involvement in the science arena
Square Kilometre Array (Capital)	709 412	709 412	Infrastructure for the SKA project
South African Research Chairs Initiative	530 274	530 274	To fund research chairs in higher education institutions
Cyberinfrastructure	236 339	236 339	Operation and management of CHPC initiatives and connectivity of research institutions
Research and development infrastructure	822 185	822 185	Infrastructure development
Total	**4 468 126**	**4 468 126**	

Programme 5: Socio-economic Innovation Partnerships

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Advanced Manufacturing Technology Strategy	52 662	52 662	Implementation of the Advanced Manufacturing Technology Strategy
Council for Scientific and Industrial Research	963 164	963 164	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	32 611	31 713	Identifying and initiating S&T programmes that support the growth of the environmental technologies and services sector in South Africa
Human Sciences Research Council	303 733	303 733	Parliamentary grant as per the Estimates of National Expenditure. To conduct large-scale policy-relevant social science research

5. TRANSFER PAYMENTS (CONTINUED)

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Information and communication technology	26 237	26 237	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)
Mining research and development	63 000	63 000	Mining research and development
Local manufacturing capacity	105 864	105 864	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	71 992	71 992	Support for local innovation interventions and science parks. Support for industry innovation partnerships.
Research Information Management System	4 000	4 000	Information access for decision making – continued development and maintenance of the Research Information Management System
Resource-based industries	48 443	45 191	S&T policy strategy and direction-setting support to harness value from South Africa's natural resources
Innovation for Inclusive Development	25 841	25 840	Development of indicators and instruments for measuring and monitoring investments in S&T and the performance of the NSI. Supports experimentation with S&T-based innovations for tackling poverty, inequality and unemployment through the creation of sustainable job and wealth opportunities and enhancing the delivery of basic services.

5. TRANSFER PAYMENTS (CONTINUED)

Organisation/theme	Budget R'000	Actual expenditure R'000	Reasons for transfer payment
Science and technology indicators	9 984	9 984	Development of indicators and instruments for measuring and monitoring investment in S&T and the performance of the NSI
Total	**1 707 531**	**1 703 379**	

6. DONOR FUNDS

6.1 Donor funds received

6.1.1 Donor funds received in cash

The DST received official development assistance (ODA) from the European Union, Finland and Austria. 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)	5 000
Period of the commitment	3 years
Purpose of the funding	ESASTAP 2020
Expected outputs	Develop a skilled and capable workforce
Actual outputs achieved	The project is a coordination and support platform created to strengthen science, technology and innovation (STI) cooperation between South Africa (SA) and the European Union (EU). The project is dived in to five different work packages, each of which is further broken down into separate tasks, addressing specific areas of cooperation within broader SA-EU STI relations. **Task 1.1 – Promotion of SA participation in the EU Framework Programme** A number of H2020 roadshows/info-days and exhibitions were organised in the 2018/2019 financial year, in Gauteng, the Free State, the Western Cape, Limpopo and the Northern Cape, among others. The focus was on disseminating information on EU programmes to historically disadvantaged institutions. The 2018-2020 work programme for Horizon 2020 highlighted potential flagship initiatives. **Task 1.2 – Analysis of SA Horizon 2020 participation by the Academy of Science of South Africa (ASSAf)** The DST provided support to ASSAf for the analysis of SA participation in the H2020 Framework Programme. ASSAf successfully updated the report and submitted to the coordinator. **Task 1.3 – Promotion of SA research and innovation programmes in Europe to enhance SA-EU bilateral cooperation activities of the Reciprocity Forum (DST)** Through the DST, South Africa participated in the EuroScience Open Forum 2018 in France, as part of the project deliverables to host two events showcasing South African programmes in Europe. The DST was allocated an exhibition stand where SA expertise was profiled in order to attract interest from EU researchers for collaboration with SA under the European Union Framework Programme for research and innovation, Horizon 2020. The ESASTAP 2020 project participated in the ICT 2018 event hosted by the European Commission in Austria from 4 to 6 December 2018. The event attracted 4 800 visitors and focused on the digital transformation of society and industry. It presented an opportunity for the people involved in this transformation to share their experience and vision of the world in the digital age. The event also assisted in introducing and preparing participants for the remaining call for proposals under the Horizon 2020 Framework Programme.

6. DONOR FUNDS (CONTINUED)

Actual outputs achieved	A delegation of six selected researchers and three DST officials attended the event, funded through ESASTAP 2020. At the event a networking session convened by ESASTAP 2020 project, which provided an opportunity for the South African delegation to make presentations on policy matters, available instruments for cooperation and research expertise, and to discuss strategies for improving cooperation between the SA and EU. **Task 1.4 – Supporting of the SA National Contact Points (NCPs)** The DST reviewed the NCP network and its effectiveness and appointed a new network comprising representatives for 22 thematic areas. Subsequently, there were several resignations from the NCPs for security, energy, advanced manufacturing and nanotechnology. The assistant NCPs replaced them. The DST has provided financial support to the NCP network with regard to attending the training sessions organised by the European Commission (EC) and convening information-sharing sessions on the opportunities in the EU programmes for the South African national system of innovation (NSI). • The DST supported two NCPs/representatives of the NSI to attend international training in November 2018 (energy and nanotechnology). • NCPs have participated in DST-organised H2020 information session roadshows The second NCP meeting was in the form of one-on-one consultations with the Deputy Director-General: International Cooperation and Resources, putting emphasis on the remaining calls of the H2020 programme until the end of the Framework Programme in 2020. An NCP consultative report was submitted by the DST to the coordinator. **Task 1.5 – Support the bilateral SA-EU S&T policy dialogues and contribute to the implementation of the EU-SA Joint S&T Cooperation Committee (JSTCC) and the SA-EU National Innovation Policy Dialogues recommendations (DST)** The JSTCC is an annual meeting between SA and the EU to assess progress with STI cooperation between the two partners. The meeting alternates between the two continents (Africa and Europe) and is co-chaired by the Directors-General of the DST and the EC Directorate for Research and Innovation. The project is responsible for the implementation of the recommendations emanating from the JSTCC discussions. The project implemented the recommendations of the 2017 SA-EU JSTCC held in December 2017 in South Africa. These included planning an international technology transfer exchange programme for SA participants with European organisations. The 16th SA-EU JSTCC took place in Belgium on 12 April in 2019, co-chaired by the Director-General of the DST and the EC Directorate for Research and Innovation. The ESASTAP 2020 project convened side activities alongside the 16th SA-EU JSTCC.
Amount received in current period (R'000)	1 118
Amount spent by the department (R'000)	1 118
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. DONOR FUNDS (CONTINUED)

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	To develop a skilled and capable work force
Actual outputs achieved	The Programme has created awareness of SANBio through its partners in different countries where stakeholder workshops were held, engaging over 250 participants. A major output was the development of a video series for the FemBioBiz competition, which will be aired online and on national televisions. The video is aimed raising public awareness of SANBio and its contribution to gender equity in the biosciences, as well as attracting partners to collaborate with SANBio on this initiative, indirectly encouraging young female students to see opportunities in biosciences. To date, 10 of the 12 projects have passed the prototyping stage and seven are generating revenue. Six start-ups have been established and all the other projects have a commercialisation partner to assist them with product commercialisation.
Amount received in current period (R'000)	14 176
Amount spent by the department (R'000)	14 176
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. DONOR FUNDS (CONTINUED)

Name of donor	Austria
Full amount of the funding (R'000)	54
Period of the commitment	1 year
Purpose of the funding	M-ERA.NET
Expected outputs	To enhance South Africa's national science, technology and innovation capabilities through access to international knowledge, capacity and resources.
Actual outputs achieved	Funds allocated from ERA.NET for materials research and innovation project (M-ERA.NET 2) are provided by the European Commission for the activities and travel of partners to the consortium meetings. The DSI has an obligation as per grant agreement to participate in all consortium meetings. The DST participated in a working group meeting held in Bucharest, Romania, on 18 and 19 September 2018. The meeting was for the 44-member consortium to discuss various operational aspects of the network. The consortium also received updates on management matters relating to the 2018 call and funding arrangements from the partners. A steering board meeting was held from 29 to 30 January 2019 in Rome and the DST was represented. The consortium discussed the planning for the 2019 additional joint call and additional activities, including monitoring and evaluation assessments. For the 2019 call, five applications were received from South Africans. The initial evaluation will be done during the next working group meeting in September 2019.
Amount received in current period (R'000)	54
Amount spent by the department (R'000)	54
Reasons for the funds unspent	n/a
Monitoring mechanism by the donor	These funds are audited by Auditor-General or external auditors at the request of the donor.

6. DONOR FUNDS (CONTINUED)

Name of donor	European Union
Full amount of the funding (R'000)	30 000
Period of the commitment	1 year
Purpose of the funding	General Budget Support – Green Economy for Development
Expected outputs	• Develop technologies to maximise the use of valuable natural resources by minimising the generation of waste. • Develop technologies for the beneficiation of waste biomass (production of high value materials and products from the waste) to avoid landfilling. • Demonstrate the validity of technologies and the potential to create jobs in the biomanufacturing sector. • Demonstrate the ability of technologies to increase revenue in the sector. • Enable demonstrable technology transfer to SMMEs and/or large industry to build sustainable businesses; • Increase industry competitiveness through local technology development and localisation of product development. • Human capital development: Impart skills relevant to the industry through training and technology transfer.
Actual outputs achieved	**New programme and work in still in progress.**
Amount received in current period (R'000)	30 000
Amount spent by the department (R'000)	26 000
Reasons for the funds unspent	Not applicable
Monitoring mechanism by the donor	These funds are audited by Auditor-General or external auditors at the request of the donor.

7. CAPITAL INVESTMENT

7.1 Capital investments, maintenance and asset management plan

The Department has an asset management policy that assists in ensuring the effective and efficient management of assets. The policy will be reviewed in the next financial year to ensure that it is aligned with new asset management requirements. During the year under review, the Department embarked on a process of enhancing its asset management system to assist with asset management and reporting.

In the year under review, the Department conducted two asset verifications thus ensuring that all redundant, obsolete and damaged assets were disposed and replaced on time. As part of its asset management strategy, the Department periodically reviews its assets and procures new ones where necessary. During the year under review, the Department embarked on a process of refreshing old computer equipment such as laptops. The process of refreshing old computers will be continued in the next 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 Department's corporate governance arrangements.

2. RISK MANAGEMENT

The Department views enterprise risk management (ERM) as 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 possible negative events in a proactive and timely manner, while exploiting opportunities presented by future uncertainties.

Various processes have been instituted to ensure the commitment of the entire Department to ERM, and the definition of clear risk management roles and responsibilities. These include the provision of awareness sessions, the publication of articles in the Department's quarterly newsletter, regular risk assessments and subsequent follow-ups.

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

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

Name	Member status	Meetings attended	Notes
C Boltman	Independent member (Chairperson)	5 of 5	Appointed as member and Chairperson on 1 Feb. 2018
C Marais	Independent member	5 of 5	Appointed as member on 1 Feb. 2018
F Kobo	Independent member	5 of 5	Appointed as member on 1 Feb. 2018
M Ramataboe	Independent member	5 of 5	Appointed as member on 1 Feb. 2018
T Makhode	Ex officio member	5 of 5	Appointed as member on 1 Feb. 2018
D Mmakola	Ex officio member	1 of 2	DDG: Institutional Planning and Support – resigned with effect from 31 Oct. 2018.
N Mokoena	Ex officio member	3 of 3	Appointed as acting DDG: Institutional Planning and Support with effect from 1 Nov. 2018
N January	Ex officio member	2 of 2	ERMC composition revised – number of ex officio members reduced from 4 to 1.
P Makukule	Ex officio member	1 of 2	ERMC composition revised – number of ex officio members reduced from 4 to 1.
L Konar	Audit Committee Chairperson – Standing invitee	4 of 5	

2. RISK MANAGEMENT (CONTINUE)

The Department's Internal Audit Activity and the Audit Committee provide independent assurance on 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 addition, risk assessments were conducted for key projects, including projects managed on behalf of the Department by its entities.

The ERMC Chairperson briefed the Director-General every quarter, and the Minister annually, on the effectiveness and adequacy of enterprise risk management across the Department. The annual briefing of the Minister was introduced in the 2016/17 financial year.

The following improvements were made in the period under review:

- The composition of the ERMC was revised, with the number of ex officio members reduced from four to one. There are still four independent members, one of whom serves as the chairperson. The change was made in line with the King IV Report on Corporate Governance for South Africa, which recommends that risk governance committees be made up of executive and non-executive members, with the majority being non-executive members.

- An additional meeting of the ERMC was introduced in the third or fourth week of January each year, for the purpose of reviewing the first draft of the Department's strategic, Programme, and fraud risk profiles. The additional meeting allows the ERMC to better exercise its oversight role in terms of the completeness and quality of the Department's risk profiles. In the period under review, this meeting took place on 31 January 2019.

- The Department refined its articulation of risks, as part of improving the quality of risk documents and making it easier for staff to identify the real risks facing the Department.

3. FRAUD AND CORRUPTION

The Department has an effective system for fraud risk management, including a framework, a strategy, whistle-blowing policies, and an annual fraud prevention and detection plan.

The fraud risk profile was finalised at the beginning of the period under review, and served as the basis for the formulation of the annual fraud prevention and detection plan. The implementation of the plan is driven by the Directorate: ERM and progress is monitored quarterly by the ERMC and the 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 during this period. In the year under review, the Department's programme focused on heightening staff awareness of cybercrime.

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

For the period under review, no new matters were referred by the Public Service Commission to the Department for investigation.

4 MINIMISING CONFLICT OF INTEREST

The Public Service Regulations and the Department of Public Service and Administration directive on financial disclosures requires both SMS and non-SMS employees to disclose their financial interests. 100% of SMS and 98% non-SMS employees in the Department disclosed their financial interests as required, and corrective action was taken against the employees who did not disclose their financial interests in time.

The Department also requires potential conflicts of interest to be declared by all members of all governance structures.

5. CODE OF CONDUCT

The Department conducted awareness sessions on the Code of Conduct for the Public Service in a bid to promote a high standard of ethical behaviour, as required by the Constitution of the Republic of South Africa and the Public Service Regulations.

The Ethics Committee was formally launched as part of Anti-Corruption Month activities in November 2018, with the aim of creating awareness about its functions and as part of an ongoing process of promoting ethical conduct within the Department.

6. HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

Section 8 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), requires every employer to "provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of his employees". Furthermore, Occupational Health and Safety Assessment Series (OHSAS) 18001:2007, which is the accepted international standard for OHS management systems, requires the employer to identify all possible workplace hazards, assess the risks associated with these hazards, and as far as is reasonably practicable, mitigate or eliminate these risks.

The Department's Occupational Health and Safety (OHS) Strategy focuses on four objectives, which are to (i) improve the DST working environment by regularly conducting occupational hygiene surveys, and monitoring the implementation of green working environment standards; (ii) review the OHS management system to address OHS challenges within the Department; and (iii) enhance compliance with OHS legislation and other requirements, and promote OHS awareness among DST employees. 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 about 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 with guidelines. These included notices on 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 effectively in case of emergency. Emergency evacuation drills were conducted as required.

7. PORTFOLIO COMMITTEE

Information on briefings to the Portfolio Committee on Science and Technology between 17 April 2018 and 27 February 2019.

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
17 April 2018	Department of Science and Technology on their 2019/20 Annual Performance Plans and Budget.	All questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
18 April 2018	Briefing by the National Research Foundation (NRF) on its 2018/2019 Annual Performance Plan and budget.	All questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
18 April 2018	Briefing by the National Advisory Council on Innovation (NACI) on its 2018/2019 Annual Performance Plan and budget.	All questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
18 April 2018	Briefing by the Human Sciences Research Council (HSRC) on its 2018/2019 Annual Performance Plan and budget	All questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
19 April 2018	Briefing by Academy of Science of South Africa (ASSAf) on its 2018/2019 Annual Performance Plan and budget.	Members asked how will ASSAF and the National Research Foundation (NRF) collaborate with the Science Engagement Programme. Members asked what was the outcome of the consensus study on Postgraduate Research Training in Engineering. All the other questions were answered and no follow-up questions were raised.	ASSAf will take up the question of science engagement with new Minister but thought more efficiency is possible if collaborating with NRF. ASSAf indicated that they will provide feedback on the status of the consensus study on Postgraduate Research Training in Engineering as soon as the document is finalised. All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org za/minutes).
19 April 2018	Briefing by the Technology Innovation Agency (TIA) on its 2018/2019 Annual Performance Plan and budget.	All questions were answered and no follow-up questions were raised.	Matters were addressed satisfactory.

7. PORTFOLIO COMMITTEE (CONTINUED)

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
25 April 2018	Briefing by Council for Scientific and Industrial Research (CSIR) on its 2018/2019 Annual Performance Plan and budget.	Members asked for status update on bursaries and number of dropped out. Members wanted to know the extent the CSIR had collaborated with the Water Research Council.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
25 April 2018	Briefing by the South African National Space Agency (SANSA) on its 2018/2019 Annual Performance Plan and budget.	Members wanted to know how much had been spent on the EOSAT1satellite over the three years and further asked as if SANSA was looking at the Department, National Treasury or Parliament for a commitment to the R400 million needed to launch or was there another plan to get to the launch stage after 2020. All the other questions were answered and no follow-up questions were raised.	All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
25 April 2018	Briefing by the Department of Science and Technology to the Select Committee on the Protection, Promotion, Development and Management of Indigenous Knowledge Bill.	All questions were answered and no follow-up questions were raised.	Matters were addressed satisfactory.
16 May 2018	Briefing by the Department of Science and Technology on the review of the South African Science, Technology and Innovation Institutional Landscape(STIIL) Report	All questions were answered and no follow-up questions were raised.	Matters were addressed satisfactory.

7. PORTFOLIO COMMITTEE (CONTINUED)

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
23 May 2018	Briefing by the Department of Science and Technology on the DST Concept Note: Sovereign Innovation Fund.	Members asked if the Department had any knowledge about the Council for Scientific and Industrial Research (CSIR) retail store developed for recyclable paper bag and further asked if maybe the CSIR could make direct contact with the Ackerman Foundation and with Pick 'n Pay about this. All the other questions were answered and no follow-up questions were raised.	The Department had been alerted to this and a letter had been sent to CSIR executives to find out if they knew about this and if they did could they provide more information about his. The Department acknowledged the Committee's advice that it was important for the CSIR to make contact with the Ackerman Foundation and Pick 'n Pay. The Department would keep oversight over this as part of their oversight over the CSIR. The Department would keep the Committee informed about this matter. All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
30 May 2018	Briefing by the Department of Science and Technology Fourth Industrial Revolution and the Digital Economy.	Members asked if there were a source document that provided more information than the presentation on fourth Industrial Revolution and the Digital Economy. Members asked about the possibilities of new jobs within this revolution because it was not only in terms of the data or science but also jobs in the more creative fields. All the other questions were answered and no follow-up questions were raised.	The Department indicated that they did not have a source document. The Minister had asked the Department to compile a document which had to be completed by the end of the month (May). This document would be forwarded to the Committee on completion. The Department was happy to provide a detailed answer. This was what the Inter-Departmental team had been asked to develop. All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).

7. PORTFOLIO COMMITTEE (CONTINUED)

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
6 June 2018	Briefing by the DST on Mining Research Development and Innovation Programme and Phakisa	Members asked that the Committee be provided with a list of all the rankings so that it was clear where South Africa stood in comparison with the rest of the world and asked if mining was in trouble, plateauing or if it was just ageing. All the other questions were answered and no follow-up questions were raised.	The Department replied that the ranking was in the world and that the Department indicated that the mining arena was quite broad. The strategy was really about gold and platinum because this was where efforts were being deepened. The future of mining depended on its stakeholders and the decisions they made. The degree of mechanisation in mining also influenced the choices society made. All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes). .
22 August 2018	Briefing by the Department of Science and Technology on the Science and Technology Laws Amendment Bill, 2018:	Members asked whether it would be possible to get copies of all the submission made because there were submissions that had been dealt with but the Committee did not have access to them. All the other questions were answered and no follow-up questions were raised.	The Department indicated that copies of the submissions and the responses would be made available to the Committee. All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
29 August 2018	Briefing by the Department of Science and Technology (DST) on the Square Kilometer Array (SKA) Convention – the international organisation governance role	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).

7. PORTFOLIO COMMITTEE (CONTINUED)

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
5 September 2018	Briefing by the Department of Science and Technology on the South African Research Infrastructure Roadmap and the National Integrated Cyber Infrastructure System.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
10 October 2018	Brief by the Office of the AG on the audit outcomes of the Department of Science and Technology (DST) and entities for 2017/18 Briefing by the South African National Space Agency (SANSA) on annual performance and financials 2017/18.	Members asked about the neglected areas such as telecoms and Global Navigation Satellite Services (GNSS)' and if SANSA communicated with the Department of Telecommunications and Postal Services. Members asked what gender category distribution was present within the racial distribution categories of SANSA's employee demographics and what racial categories made up the gender distribution of the company (60.7% male, 39.3% female). All the other questions were also answered and no follow-up questions were raised	CEO replied that regarding the neglected areas and limited resources, SANSA had been engaging with the Department of Telecommunications and Postal Services (DTPS). From a DTPS perspective, it had been trying to construct a national strategy for telecommunications, and SANSA had been helping since it had experience through developing the space strategy policy. The process was ongoing, and SANSA was part of the committee, and there were options in terms of securing South Africa's telecoms satellite, which was what the DTPS was currently considering. From a Global Navigation Satellite Services' perspective, the other key department was the Department of Transport. SANSA indicated that the racial and gender distribution was shown in SANSA's annual report on page 101. In the executive team there were four women -- one was in Geneva, one was defending a contract currently at risk, and the Executive Director for Enterprise Services was also away at the moment. SANSA's executive female colleagues were very busy -- it was not that it had not brought them to the meeting.

7. PORTFOLIO COMMITTEE (CONTINUED)

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
			All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
10 October 2018	Briefing by the National Research Foundation (NRF) on annual performance and financials 2017/18	All the questions were answered and no follow-up questions were raised.	AMatters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
11 October 2018	Briefing by Council for Scientific and Industrial Research (CSIR) on annual performance and financials 2017/18.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
11 October 2018	Briefing by Technology Innovation Agency (TIA) on annual performance and financials 2017/18	All the questions were answered and no follow-up questions were raised.	All questions were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
11 October 2018	Briefing by the Academy of Science of South Africa (ASSAf) on annual performance and financials 2017/18.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
11 October 2018	Brief by South African Council for Natural Scienctific Professions (SACNASP) on annual performance and financials 2017/18	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
17 October 2018	Briefing by the Department of Science and Technology (DST) on annual performance and financials 2017/18.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
17 October 2018	Brief by the National Advisory Council on Innovation (NACI) on annual performance and financials 2017/18.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
24 October 2018	Briefing by the Department of Science and Technology (DST) on the draft 2018 White Paper on Science , Technology and Innovation.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).

7. PORTFOLIO COMMITTEE (CONTINUED)

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
31 October 2018	DST brief on STI landscapes approach to supporting the Sustainable Development Goals agenda	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
31 October 2018	Briefing by the DST on the National Research Foundation Bill	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
7 November 2018	Briefing by the DST on the status of Climate Change Research in South Africa (DST contribution).	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
21 November 2018	Briefing by the DST on its 2nd quarter financial and performance report.	Members asked if there was a possibility of unravel the mystery of an ancient civilisation that existed in the distant past that was even more intelligent than people today. Members asked for the number of companies that benefited from the MeerKAT (Square Kilometre Array – SKA) and pointed out that he was still awaiting a response. Members requested a list of the students from all the Departmental entities who had received bursaries, along with the family background assessments of each student. All the other questions were answered and no follow-up questions were raised.	The Department indicated that they would follow up with relevant officials, who kept record of the questions and which ones whose answers had been submitted to the Chairperson of the Committee. He added that he would check the progress of the process and request further information from the funding agencies (mainly the NRF), if it had not been activated. The Department will provide the committee with the detail report. The Department will provide the committee with the detail report. All other matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
13 February 2019	NCOP Amendments to Protection, Promotion, Development and Management of Indigenous Knowledge Bill.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).

7. PORTFOLIO COMMITTEE (CONTINUED)

Date	Subject	Matters raised by the Portfolio Committee (highlights of high-level issues)	How the matters were addressed/resolved
20 February 2019	Brief by DST on Science and Technology Laws Amendment Bill.	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).
27 February 2019	Briefing by the DST on issues emanating from public hearings on S&T Laws Amendment Bill (DST).	All the questions were answered and no follow-up questions were raised.	Matters were addressed satisfactorily and recorded on the Parliamentary Monitoring Group website (www.pmg.org.za/minutes).

7. PORTFOLIO COMMITTEE (CONTINUED)

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 internal control functions are performed by the Internal Audit Activity.

11. INTERNAL AUDIT AND AUDIT COMMITTEES

Key activities and objectives of Internal Audit Activity

Internal audit is a primary assurance tool that supports stewardship and accountability in the spending of public funds, and is a key component of the governance of the Department in terms of improving the Department's governance, risk management and management controls. This is achieved by proactively providing independent, objective assurance and consulting activities as outlined in the three-year risk based rolling internal audit plan.

In establishing audit priorities during the strategic planning cycle for 2015 to 2020, Internal Audit Activity employed a risk-based approach, considering the key areas of risk for the Department relating both to its current operations and to those proposed in the current Strategic Plan and risk management strategy.

Emerging risks and issues were considered when completing the audit plan. Internal Audit Activity conducted a follow-up of audit recommendations to ensure that value was derived from the auditing performed.

Summary of audit work done

Audit effort was directed to the areas of reporting on performance against predetermined objectives, financial reporting, supply chain management, information technology, Management Performance Assessment Tool results, strategic risk profiles, and a sample of projects implemented by the Department in the achievement of its strategic objectives. Internal Audit Activity also evaluated the level of combined assurance provided by the various assurance providers to determine whether the combined assurance received was appropriate for addressing all significant risks facing the Department.

11. INTERNAL AUDIT AND AUDIT COMMITTEES (CONTINUED)

Audit effort was directed to the areas of reporting on performance against predetermined objectives, financial reporting, supply chain management, information technology, Management Performance Assessment Tool results, strategic risk profiles, and a sample of projects implemented by the Department in the achievement of its strategic objectives. Internal Audit Activity also evaluated the level of combined assurance provided by the various assurance providers to determine whether the combined assurance received was appropriate for addressing all significant risks facing the Department.

Key activities and objectives of the Audit Committee

The Audit Committee is constituted to fulfil the Department's statutory obligations in terms of section 77 of the Public Finance Management Act, 1999, and the Treasury Regulations issued in terms of the Act. The Audit Committee is an oversight body, providing independent oversight over governance, risk management and control processes of the Department. The Committee's mandate and responsibilities are clearly defined in the Audit Committee Charter, in accordance with which four Audit Committee meetings were convened in the year under review.

Attendance of Audit Committee meetings by Audit Committee members

Name	Qualifications	Internal or external	Date appointed	Date contract ended	Number of meetings attended
Shirley Machaba	CA (SA), CD (SA), CRMA, CCSA	External	1 Oct. 2012	30 Sept. 2018	2 of 4
Len Konar	DCom, CA (SA), CRMA	External	1 Oct. 2016	n/a	4 of 3
Nicolette Middleton	MBA, CIA, BCom Hons (Informatics)	External	1 Mar. 2018	n/a	4 of 4
Irene Tlhase	MA in Economics, BSc (Agribusiness)	External	1 Oct. 2018	n/a	2 of 2
Moshupi Mokgobinyane	CA (SA), MPhil in Accounting Sciences, BCom Hons (Accounting), CTA	External	1 Nov. 2018	n/a	2 of 2

12. AUDIT COMMITTEE REPORT

We are pleased to present our report for the financial year ended 31 March 2019.

1. Audit Committee responsibility

The Audit Committee has fulfilled its responsibilities in terms of section 38(1)(a)(ii) of the Public Finance Management Act and Treasury Regulation 3.1.13. The Committee has adopted formal terms of reference as its Audit Committee Charter, and has regulated its affairs and discharged all its responsibilities in compliance with the Charter, except that it has not reviewed changes to accounting policies and practices.

2. The effectiveness of Internal Audit Activity

Internal Audit Activity reports functionally to the Audit Committee. The Audit Committee approves the internal audit charter and annual audit plan of Internal Audit Activity to maintain its independence. A quality assurance and improvement programme is

implemented annually and the results are presented to the Audit Committee. Internal Audit Activity received a generally conforms rating this year during the external quality assurance validation exercise that is performed every five years.

Under the guidance of the Audit Committee and the Enterprise Risk Management Committee, the combined assurance plan was reviewed to assess whether the combined assurance received was appropriate for addressing all significant risks facing the Department. All assurance providers carried out their responsibilities as indicated in the combined assurance plan. The Audit Committee is satisfied that Internal Audit Activity is operating effectively and has addressed pertinent risks to the Department by implementing the annual audit plan.

3. The effectiveness of internal controls

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;
- contract management;
- information technology audits;
- strategic risk profiles;
- follow-up of internal and external audit findings;
- projects funded by the Department;
- the Management Performance Assessment Tool.

An area of concern is the adequacy and effectiveness of Information Technology controls in the areas of IT Service Continuity Management, User Access Management and Program Change Management.

4. In-year management and monthly/quarterly reporting

The Department submits monthly reports on departmental expenditure and quarterly reports on its interim financial statements to the Treasury, as required by the Public Finance Management Act. The Department also reports quarterly to the Department of Planning, Monitoring and Evaluation on performance against predetermined objectives. During the year under review, the Audit Committee monitored these reports, which were prepared and issued by the Accounting Officer and management.

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.

Overall, the Audit Committee 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 that 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 significant risks and is satisfied that they 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 Chairperson of the Audit Committee and the Chief Audit Executive are standing invitees to the Enterprise Risk Management Committee, and the Chairperson of the Enterprise Risk Management Committee and the Chief Risk Officer are standing invitees to the Audit Committee.

7. Annual performance review

The Committee has considered the performance information reports submitted to the AGSA for review.

8. Auditor-General's report

We have reviewed the Department's commitments identified in the AGSA status of review document for audit issues raised in the previous year and we are satisfied that the matters are being adequately addressed. However, the following areas of concern require management intervention:

- The adequacy and effectiveness of Information Technology controls in the areas of IT Service Continuity Management, User Access Management and Program Change Management.

The Audit Committee concurs with 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 AGSA.

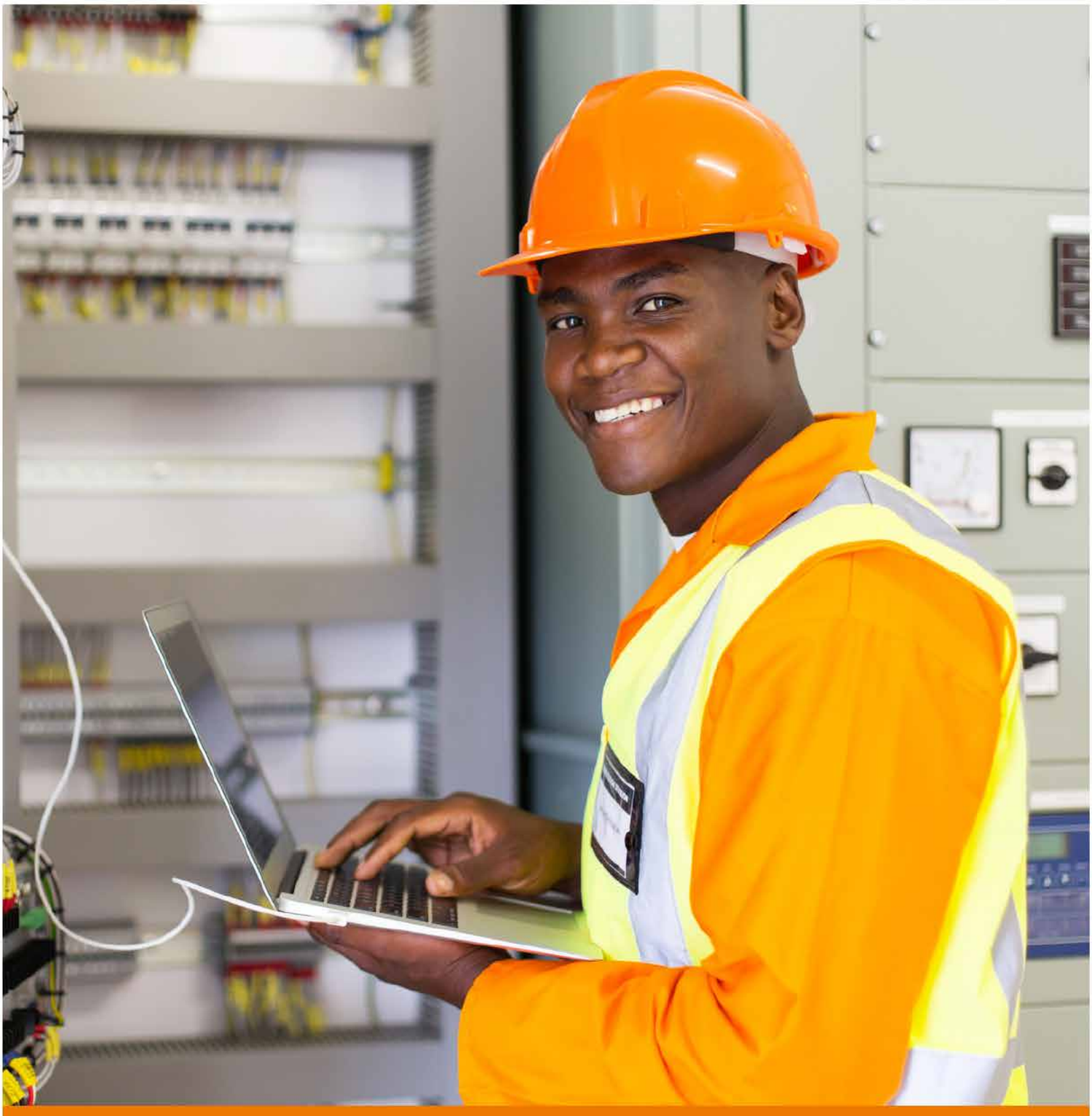


Dr Len Konar

Chairperson of the Audit Committee

Department of Science and Technology

25 July 2019



PART D
HUMAN RESOURCE MANAGEMENT

PART D: HUMAN RESOURCE MANAGEMENT

1. Introduction

The reporting information contained in this section of the Annual Report has been prescribed by the Department of Public Service and Administration for all departments within the Public Service.

2. Overview of Human Resources

As at 31 March 2019, the departmental post establishment was at 490, with 400 positions filled and 90 vacant, translating to an 18,37% vacancy rate. This was owing the impact of the National Treasury decision to reduce the baseline of the allocation for compensation of employees, which resulted in all vacant positions being declared unfunded.

A total of 29 employees left the Department and two employees were recruited from within the Public Service, making the departmental turnover rate 6,8%. Resignation accounted for most (62,1%) terminations, with transfers to other departments accounting for 13,8% and death for 10,4%.

The Department continued to comply with the Performance Management and Development System. All 103 Senior Management Service (SMS) members submitted their performance agreements by the due date and all performance rewards for both SMS and non-SMS were processed by 31 December 2018.

As part of the Department's ongoing commitment to health promotion programmes, it has a designated SMS member, a dedicated directorate and an adequate budget. All the committees required in this regard by the Public Service Regulations are functioning.

As at 31 March 2019, only 81% of the approved departmental organisational structure was funded. The process of reviewing the organisational structure was suspended during the transition from the fifth to the sixth administration. With 19% of the approved structure unfunded, staff in funded positions carry out the functions of unfunded positions, and many employees are overburdened and overstretched.

3. HUMAN RESOURCES OVERSIGHT STATISTICS

3. Human resources oversight statistics

3.1 Personnel-related expenditure

Table 3.1.1: Personnel expenditure by Programme in the period 1 April 2018 to 31 March 2019

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	380 349	165 290	4 277	5 266	43,4	826
Technology Innovation	1 157 338	42 159	0	0	3,6	878
International Cooperation and Resources	142 449	48 017	0	211	33,7	842
Research Development and Support	4 519 058	34 754	0	0	0,7	772
Socio-economic Innovation Partnerships	1 759 194	40 530	0	0	2,3	862
Total	**7 958 388**	**330 750**	**4 277**	**5 477**	**4,1%**	**827**

Table 3.1.2: Personnel costs by salary band in the period 1 April 2018 to 31 March 2019

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)	3 224	0,91	12	269
Highly skilled production (Levels 6-8)	40 338	11,4	99	407
Highly skilled supervision (Levels 9-12)	150 312	42,6	185	812
Senior and top management (Levels 13-16)	136 876	38,8	104	1 316
Total	**330 750**	**93,7**	**400**	**827**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

Table 3.1.3: Salaries, overtime, home owner's allowance and medical aid by Programme in the period 1 April 2018 to 31 March 2019

Programme	Salaries		Overtime		Home owner s allowance (HOA)		Medical aid	
	Amount (R'000)	Salaries as % of personnel costs	Amount (R'000)	Overtime as % of personnel costs	Amount	HOA as % of personnel costs	Amount	Medical aid as % of personnel costs
Administration	154 097	88,5	893	0,2	2 219	0,6	3 631	1
Technology Innovation	42 512	86,2	5	0,001	709	0,2	530	0,1
International Cooperation and Resources	45 572	90,5	133	0,3	588	0,1	1 071	0,3
Research Development and Support	31 885	88	44	0,1	714	0,2	606	0,1
Socio-economic Innovation Partnerships	38 690	90	0	0	454	0,1	531	0,1
Total	**312 756**	**88,6**	**1 076**	**0,3**	**4 684**	**1,3**	**6 369**	**1,8**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

Table 3.1.4: Salaries, overtime, home owner's allowance and medical aid by salary band in the period 1 April 2018 to 31 March 2019

Programme	Salaries		Overtime		Home owner s allowance (HOA)		Medical aid	
	Amount (R'000)	Salaries as % of personnel costs	Amount (R'000)	Overtime as % of personnel costs	Amount	HOA as % of personnel costs	Amount	Medical aid as % of personnel costs
Lower skilled (Levels 1-2)	0	0	0	0	0	0	0	0
Skilled (Levels 3-5)	2 608	0,7	101	0,03	101	0,02	207	0,06
Highly skilled production (Levels 6-8)	32 167	9,1	572	0,2	1 391	0,4	2 573	0,7
Highly skilled supervision (Levels 9-12)	132 070	37,4	403	0,1	1 698	0,4	2 580	0,7
Senior and top management (Levels 13-16)	145 911	41,3	0	0	1 494	0,4	1 009	0,3
Total	**312 756**	**88,6**	**1 076**	**0,3**	**4 684**	**1,3**	**6 369**	**1,8**

3.2 Employment and vacancies

Table 3.2.1: Employment and vacancies by Programme as at 31 March 2019

Programme	Number of posts on approved establishment	Number of posts filled	Vacancy rate	Number of employees additional to the establishment
Administration	242	203	16,12%	3
Technology Innovation	62	48	22,6%	0
International Cooperation and Resources	69	57	17,4%	3
Research Development and Support	55	45	18,2%	0
Socio-economic Innovation Partnerships	62	47	24,2%	0
Total	**490**	**400**	**18,37%**	**6**

Table 3.2.2: Employment and vacancies by salary band as at 31 March 2019

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	0,0%	0
Skilled (Levels 3-5)	13	12	7,7%	0
Highly skilled production (Levels 6-8	124	100	19,3%	3
Highly skilled supervision (Levels 9-12)	229	185	19.21%	3
Senior and top management (Levels 13-16)	124	103	16,94%	0
Total	**490**	**400**	**18,37%**	**6**

Table 3.2.3: Employment and vacancies by critical occupation as at 31 March 2019

Programme	Number of posts on approved establishment	Number of posts filled	Vacancy rate	Number of employees additional to the establishment
None	0	0	0	0
Total	**0**	**0**	**0**	**0**

3.3 Filling of Senior Management Service posts

Table 3.3.1: SMS post information as at 31 March 2019

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	1	1	100	0	0
Salary Level 16	0	0	0	0	0
Salary Level 15	9	6	66,7	3	33,3
Salary Level 14	27	20	74,1	7	25,9
Salary Level 13	87	76	87,36	11	12,64
Total	**124**	**103**	**83,06**	**21**	**16,94%**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

Table 3.3.2: SMS post information as at 30 September 2018

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	1	1	100	0	0
Salary Level 16	0	0	0	0	0
Salary Level 15	9	8	88,9	1	11,1
Salary Level 14	27	19	70,4	8	29,6
Salary Level 13	87	76	87,36	11	12,64
Total	**124**	**104**	**83,87**	**20**	**16,13**

Table 3.3.3: Advertising and filling of SMS posts in the period 1 April 2018 to 31 March 2019

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	1	1	100	0	0
Salary Level 16	0	0	0	0	0
Salary Level 15	9	6	66,7	3	33,3
Salary Level 14	27	20	74,1	7	25,9
Salary Level 13	87	76	87,36	11	12,64
Total	**124**	**103**	**83,06**	**21**	**16,94%**

Table 3.3.4: Reasons for not having complied with time frames for the filling of funded vacant SMS posts – advertised within 6 months and filled within 12 months after becoming vacant – in the period 1 April 2018 to 31 March 2019

Reasons for vacancies not being advertised within six months

Positions which were vacant on 1 November 2017 were declared unfunded as a result of the reduction of the baseline allocation for the compensation of employees by National Treasury in November 2017.

Reasons for vacancies not being filled within six months

Positions which were vacant on 1 November 2017 were declared unfunded as a result of the reduction of the baseline allocation for the compensation of employees by National Treasury in November 2017.

Table 3.3.5: Disciplinary steps taken for not complying with the prescribed time frames for filling SMS posts in the period 1 April 2018 to 31 March 2019

Vacancies not advertised within six months

None

Vacancies not filled within six months

None

3.4 Job Evaluation

Table 3.4.1: Job evaluation by salary band in the period 1 April 2018 to 31 March 2019

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 (Levels 1-2)	0	0	0	2 219	0,6	3 631	1
Skilled (Levels 3-5)	13	0	0	709	0,2	530	0,1
Highly skilled production (Levels 6-8)	124	1	0,81	714	0,2	606	0,1
Highly skilled supervision (Levels 9-12)	228	25	11	454	0,1	531	0,1
Senior Management Service Band A	88	12	13,6	0	0	0	0
Senior Management Service Band B	27	3	11,1	0	0	0	0

Senior Management Service Band C	9	6	66,6	0	0	0	0
Senior Management Service Band D	1	0	0	0	0	0	0
Total	**490**	**47**	**9,6%**	**0**	**0**	**0**	**0**

Table 3.4.2: Profile of employees whose positions were upgraded due to their posts being upgraded in the period 1 April 2018 to 31 March 2019

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

Table 3.4.3: Employees with salary levels higher than those determined by job evaluation by occupation in the period 1 April 2018 to 31 March 2019

Occupation	Number of employees	Job evaluation level	Remuneration level	Reason for deviation
Deputy Director-General	0	0	0	0
Chief Director	0	0	0	0
Director	0	0	0	0
Deputy Director	4	11	12	Personal notch
Assistant Director	4	9	10	Personal notch
	1	9	11	Personal notch
Total	**9**	**0**	**0**	**Personal notch**
Total number of employees whose salaries exceeded the level determined by job evaluation				**9**
Percentage of total employed				**2,27%**

Table 3.4.4: Profile of employees with salary levels higher than those determined by job evaluation in the period 1 April 2018 to 31 March 2019

Gender	African	Asian	Coloured	White	Total
Female	4	0	0	2	6
Male	2	0	0	1	3
Employees with a disability	0	0	0	0	0
Total	**6**	**0**	**0**	**3**	**9**

3.5 Employment changes

Table 3.5.1: Annual turnover rates by salary band in the period 1 April 2018 to 31 March 2019

Salary band	Number of employees as at 1 April 2018	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)	13	0	1	7,7%
Highly skilled production (Levels 6-8)	110	0	8	7,3%
Highly skilled supervision (Levels 9-12)	197	1	13	6,6%
Senior Management Service Band A 13	77	0	2	2,6%
Senior Management Service Band B 14	22	1	3	13,6%
Senior Management Service Band C 15	8	0	2	25%
Senior Management Service Band D	1	0	0	0
Total	**428**	**2**	**29**	**6,8%**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

Table 3.5.2: Annual turnover rates by critical occupation in the period 1 April 2018 to 31 March 2019

Critical occupation	Number of employees at beginning of period April 2018	Appointments and transfers into the department	Terminations and transfers out of the department	Turnover rate
None	0	0	0	0
Total	**0**	**0**	**0**	**0**

Table 3.5.3: Reasons why staff left the Department in the period 1 April 2018 to 31 March 2019

Termination type	Number	% of total resignations/ terminations
Death	3	10,4%
Resignation	18	62,1%
Expiry of contract	1	3,4%
Dismissal – operational changes	0	0
Dismissal – misconduct	0	0
Dismissal – inefficiency	0	0
Discharged due to ill-health	0	0
Retirement	3	10,3%
Transfer to other Public Service departments	4	13,8%
Other	0	0
Total	29	**100%**
Total number of employees who left as a percentage of total employment		**7,3%**

Table 3.5.4: Promotions by critical occupation in the period 1 April 2018 to 31 March 2019

Occupation	Employees 1 April 2018	Promotions to another salary level	Salary level promotions as a % of employees by occupation	Progressions to another notch within a salary level	Notch progression as a % of employees by occupation
None	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**

Table 3.5.5: Promotions by salary band in the period 1 April 2018 to 31 March 2019

Salary band	Employees 1 April 2018	Promotions to a higher salary level	Salary bands 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)	13	0	0	11	84,6
Highly skilled production (Levels 6-8)	110	0	0	88	80
Highly skilled supervision (Levels 9-12)	197	0	0	176	89,3
Senior Management (Levels 13-16)	108	0	0	85	78,7
Total	**428**	**0**	**0**	**360**	**84,1**

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 2019

Occupational category	Male				Female				Total
	African	Coloured	Asian	White	African	Coloured	Asian	White	
Legislators, senior officials and managers 13-15	42	3	4	4	32	3	5	8	103
Professionals 9-12	73	1	2	5	92	4	2	7	186
Technicians and associate professionals 6-8	23	2	0	0	65	5	0	4	99
Clerks 3-5	7	0	0	0	4	1	0	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	1008	0	0	0	0	0	0	0
Elementary occupations	0	0	0	0	0	0	0	0	0
Total	145	7	6	10	193	13	7	19	400
Employees with disabilities	2	0	0	1	7	1	0	2	13

Table 3.6.2: Total number of employees (including employees with disabilities) in each of the following occupational bands as at 31 March 2019

Occupational category	Male				Female				Total
	African	Coloured	Asian	White	African	Coloured	Asian	White	
Top management 15-16	4	0	1	1	1	0	0	0	7
Senior management 13-14	38	4	3	4	31	3	5	8	96
Professionally qualified and experienced specialists and middle management 9-12	73	1	2	5	92	4	2	7	186
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents 6-8	23	2	0	0	65	5	0	4	99

Semi-skilled and discretionary decision making 3-5	7	0	0	0	4	1	0	0	12
Unskilled and defined decision making									
Total	**145**	**7**	**6**	**10**	**193**	**13**	**7**	**19**	**400**
Employees with disabilities	**2**	**0**	**0**	**1**	**7**	**1**	**0**	**2**	**13**

Table 3.6.3: Recruitment in the period 1 April 2018 to 31 March 2019

Occupational category	Male				Female				Total
	African	Coloured	Asian	White	African	Coloured	Asian	White	
Top management 15-16	0	0	0	0	0	0	0	0	0
Senior management 13-14	0	0	0	0	1	0	0	0	1
Professionally qualified and experienced specialists and middle management 9-12	0	0	0	0	1	0	0	0	1
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents 6-8	0	0	0	0	0	0	0	0	0

Semi-skilled and discretionary decision making 3-5	0	0	0	0	0	0	0	0	0
Unskilled and defined decision making	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**
Employees with disabilities	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 3.6.4: Promotions in the period 1 April 2018 to 31 March 2019

Occupational category	Male				Female				Total
	African	Coloured	Asian	White	African	Coloured	Asian	White	
Top management 15-16	0	0	0	0	0	0	0	0	0
Senior management 13-14	0	0	0	0	1	0	0	0	1
Professionally qualified and experienced specialists and middle management 9-12	0	0	0	0	1	0	0	0	1
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents 6-8	0	0	0	0	0	0	0	0	0

Semi-skilled and discretionary decision making 3-5	0	0	0	0	0	0	0	0	0
Unskilled and defined decision making	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**
Employees with disabilities	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 3.6.5: Terminations in the period 1 April 2018 to 31 March 2019

Occupational category	Male				Female				Total
	African	Coloured	Asian	White	African	Coloured	Asian	White	
Top management 15-16	1	0	0	1	0	0	0	0	2
Senior management 13-14	0	1	0	1	0	0	1	2	5
Professionally qualified and experienced specialists and middle management 9-12	4	1	1	0	7	0	0	0	13
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents 6-8	3	0	0	0	5	0	0	0	8

Semi-skilled and discretionary decision making 3-5	0	0	0	0	1	0	0	0	1
Unskilled and defined decision making	0	0	0	0	0	0	0	0	0
Total	**8**	**2**	**1**	**2**	**12**	**0**	**1**	**3**	**29**
Employees with disabilities	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 3.6.6: Disciplinary action in the period 1 April 2018 to 31 March 2019

Disciplinary action	Male				Female				Total
	African	Coloured	Asian	White	African	Coloured	Asian	White	
Correctional counselling	0	0	0	0	0	0	0	0	0
Verbal warning	0	0	0		0	0	0	0	0
Written warning	0	0	0	0	0	0	0	0	0
Final written warning	0	0	0	0	0	0	0	0	0
Suspension without pay	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

Table 3.6.7: Skills Development in the period 1 April 2018 to 31 March 2019

Occupational category	Male				Female				Total
	African	Coloured	Asian	White	African	Coloured	Asian	White	
Legislators, senior officials and managers 13-15	15	1	1	0	16	0	0	0	33
Professionals 9-12	27	0	1	1	34	1	0	1	65
Technicians and associate professionals 6-8	2	0	0	0	1	0	0	0	3
Clerks 3-5	10	0	0	0	37	0	0	2	52
Service and sales workers	7	1	0	0	3	3	0	0	12
Skilled agriculture and fishery workers	0	0	0	0	0	1	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	61	2	2	1	91	5	0	3	165
Employees with disabilities	1	0	0	0	1	0	0	0	2

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

3.7 Signing of performance agreements by SMS members

Table 3.7.1: Signing of performance agreements by SMS members as at 31 March 2019

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	1	1	1	100
Salary Level 16	0	0	0	0
Salary Level 15	9	6	6	100
Salary Level 14	27	20	20	100
Salary Level 13	87	76	76	100
Total	**124**	**103**	**103**	**100**

Table 3.7.2: Reasons for not having concluded performance agreements for all SMS members as at 31 March 2019

n/a

Table 3.7.3: Disciplinary steps taken against SMS members for not having concluded performance agreements as at 31 May 2019

n/a

3.8 Performance rewards

Table 3.8.1: Performance rewards by race, gender and disability in the period 1 April 2018 to 31 March 2019

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	115	1480	77,0	1 757	15,3
Female	172	1970	87,3	2 524	14,7
Asian					
Male	5	7	71,4	72	14,4
Female	9	9	100	150	16,7
Coloured					
Male	5	6	83,3	71	14,2
Female	9	12	75	146	16,2
White					
Male	7	12	58,3	93	13,3
Female	17	19	89,4	294	17,3
Total	**339**	**410**	**82,6**	**5 109**	**15,1**

Table 3.8.2: Performance rewards by salary band for personnel below Senior Management Service level in the period 1 April 2018 to 31 March 2019

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)	10	12	83,3	170	17	5,3
Highly skilled production (Levels 6-8)	96	104	92,3	1 433	14,9	3,5
Highly skilled supervision (Levels 9-12	169	198	85,3	2 466	14,6	1,6
Total	**275**	**314**	**88,6**	**4 069**	**14,8**	**1,2**

Table 3.8.3: Performance rewards by critical occupation in the period 1 April 2018 to 31 March 2019

Critical occupation	Beneficiary profile			Cost	
	Number of beneficiaries	Number of employees	% of total within occupation	Total cost (R'000	Average cost per employee
None	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**

Table 3.8.4: Performance-related rewards (cash bonus), by salary band for Senior Management Service in the period 1 April 2018 to 31 March 2019

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	50	76	0	0	0	0
Band B	14	20	0	0	0	0
Band C	14	6	70	214	15,3	0,06
Band D	50	1	72,5	826	16,5	0,2
Total	**64**	**103**	**67,7**	**1 040**	**16,2**	**0,3**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

3.9 Foreign workers

Table 3.9.1: Foreign workers by salary band in the period 1 April 2018 to 31 March 2019

Salary band	1 April 2018		31 March 2019		Change	
	Number	% of total	Number	% of total	Number	% of total
Lower skilled	0	0	0	0	0	0
Highly skilled production (Levels 6-8	0	0	0	0	0	0
Highly skilled supervision (Levels 9-12)	0	0	0	0	0	0
Periodic Remuneration	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

Table 3.9.2: Foreign workers by major occupation in the period 1 April 2018 to 31 March 2019

Major occupation	1 April 2018		31 March 2019		Change	
	Number	% of total	Number	% of total	Number	% of total
Lower skilled	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

3.10 Leave utilisation

Table 3.10.1: Sick leave in the period 1 January 2018 to 31 December 2018

Salary band	Total days taken	% days with medical certification	Number of employees using sick leave	% of total employees using sick leave	Average days per employee	Estimated cost (R'000)
Lower skilled (Levels 1-2)	0	0	0	0	0	0
Skilled (Levels 3-5)	51	2,4	9	75	6	42
Highly skilled production (Levels 6-8)	670	31,2	89	89,9	7,5	916
Highly skilled supervision (Levels 9-12)	1 056	49,1	159	85,9	6,6	3 005
Top and senior management (Levels 13-16)	373	17,3	68	67,3	5,5	1 641
Total	**2 150**	**25,0**	**325**	**81,9**	**7**	**5 604**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

Table 3.10.2: Disability leave (temporary and permanent) in the period 1 January 2018 to 31 December 2018

Salary band	Total days taken	% days with medical certification	Number of employees using sick leave	% of total employees using sick leave	Average days per employee	Estimated cost (R'000)
Lower skilled (Levels 1-2)	0	0	0	0	0	0
Skilled (Levels 3-5)	31	100%	2	16,7%	15,5	25
Highly skilled production (Levels 6-8)	123	100%	11	11,1%	11,1	327
Highly skilled supervision (Levels 9-12)	196	100%	11	5,9%	17,8	486
Top and senior management (Levels 13-16)	48	100%	3	3%	16	209
Total	**2 150**	**100%**	**27**	**6,8%**	**14,7**	**1 047**

Table 3.10.3: Annual leave in the period 1 January 2018 to 31 December 2018

Salary band	Total days taken	Number of employees using annual leave	Average per employee
Lower skilled (Levels 1-2)	0	0	0
Skilled (Levels 3-5)	361	15	24
Highly skilled production (Levels 6-8)	2 838	112	25
Highly skilled supervision (Levels 9-12)	5 045	202	25
Senior management (Levels 13-16)	2 809	113	25
Total	**11 053**	**442**	**25**

Table 3.10.4: Capped leave in the period 1 January 2018 to 31 December 2018

Salary band	Total days taken	Number of employees using annual leave	Average per employee	Average capped leave per employee as at 31 March 2019
Lower skilled (Levels 1-2)	0	0	0	0
Skilled (Levels 3-5)	2	1	2	12
Highly skilled production (Levels 6-8)	0	0	0	29
Highly skilled supervision (Levels 9-12)	0	0	0	35
Senior management (Levels 13-16)	2	0	0	22
Total	**2**	**1**	**0**	**29**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

Table 3.10.5: Leave payouts in the period 1 January 2018 to 31 December 2018

Reason	Total amount (R'000)	Number of employees	Average per employee (R'000)
Leave payouts in 2018 due to non-utilisation of leave for the previous cycle	0	0	0
Capped leave payouts on termination of service in 2018	58	1	58
Current leave payouts on termination of service in 2018	693	19	36
Total	**751**	**20**	**38**

3.11 HIV/Aids and health promotion programmes

Table 3.11.1: Steps taken to reduce the risk of occupational exposure

Units/categories of employees identified to be at high risk of contracting HIV and related diseases (if any)	Key steps taken to reduce the risk
None	None

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		Ms Siphiwe Mthombeni Director: Special Programmes
2. Does the Department have a dedicated unit or has it designated specific staff members to promote the health and well-being of its 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 (one director, one deputy director and two assistant directors). R1,966 million was allocated for the promotion of employees' health and wellness, including HIV, Aids and TB programmes.

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

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 are outsourced to Careways. The services offered include assistance with personal, family, work, financial, health and legal challenges. Key elements of the programme include counselling, health risk 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 2. Ms Ellen Moloi 3. Mr Sphiwe Shange 4. Ms Truelove Mnguni 5. Ms Nombulelo Dlalisa 6. Ms Pertunia Mphato 7. Mr Vincent Napo 8. Ms Ncumisa Runeyi 9. Ms Caroline Mohlamonyane 10. Mr Siyabonga Ndlovu 11. Mr Phumelele Yabo 12. Ms Tumisang Sebitloane 13. Ms Matlhodi Mathebula 14. Mr Wiseman Ndlela 15. Ms Vivienne Gondwe 16. Mr Benny Nhlapo 17. Ms Hlamalani Khoza 18. Ms Siphiwe Mthombeni The committee represents all employees in the Department (both SMS and non-SMS members).

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

5. Has the Department reviewed its employment policies and practices to ensure that they 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 were reviewed and approved: 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 for People with Disabilities. 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		The Department has a Policy on HIV Aids and TB. A number of awareness and education initiatives were implemented to address the issue of stigma and discrimination, such as the commemoration of World Aids Day and the annual candlelight memorial. Information on disability awareness was provided through the intranet and workshops were conducted with employees.
7. Does the Department encourage its employees to undergo voluntary HIV counselling and testing? If so, list the results that this has achieved. .	X		The Department conducts quarterly HIV counselling and testing (HCT) drives. An average of 24% of employees were tested over the four quarters. A service provider was appointed with effect from 16 February 2018 to provide off-site HCT services for employees and their family members nationwide.
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 has adopted measures and indicators as provided by the Department of Public Service and Administration (DPSA) Employee Health and Wellness Strategic Framework for the Public Service. Quarterly progress reports (with remedial actions) are submitted to the DPSA. The Department's wellness unit also monitors the implementation of services by Careways and employees provide an evaluation of the services provided.

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

3.12 Labour relations

Table 3.12.1: Collective agreements in the period 1 April 2018 to 31 March 2019

Total number of collective agreements	None

Table 3.12.2: Misconduct and disciplinary hearings finalised in the period 1 April 2018 to 31 March 2019

Outcomes of disciplinary hearings	Number	% of total
Correctional counselling	0	0
Verbal warning	0	0
Written warning	0	0
Final written warning	0	0
Suspension without pay	0	0
Demotion	0	0
Dismissal	0	0

Total number of disciplinary hearings finalised	None

Table 3.12.3: Types of misconduct addressed at disciplinary hearings in the period 1 April 2018 to 31 March 2019

Types of misconduct	Number	% of total
None	0	0
Total	0	0

Table 3.12.4: Grievances lodged in the period 1 April 2018 to 31 March 2019

Grievances	Number	% of total
Number of grievances resolved	4	100%
Number of grievances not resolved	0	0%
Total number of grievances lodged	**4**	**100%**

Table 3.12.5: Disputes logged with councils in the period 1 April 2018 to 31 March 2019

Dispute	Number	% of total
Number of disputes upheld	0	0%
Number of disputes dismissed	1	100%
Total number of disputes lodged	**1**	**100%**

Table 3.12.6: Strike actions in the period 1 April 2018 to 31 March 2019

Total number of person working days lost	0
Total cost of working days lost	0
Amount recovered as a result of no work no pay (R'000)	0

Table 3.12.7: Precautionary suspensions in the period 1 April 2018 to 31 March 2019

Total number of person working days lost	29
Total cost of working days lost	**R93 960,00**
Amount recovered as a result of no work no pay (R'000)	0

3.13 Skills development

Table 3.13.1: Training needs identified in the period 1 April 2018 to 31 March 2019

Occupational category	Gender	Number of employees as at 1 April 2018	Training identified at start of the reporting period			
			Learnerships	Skills programmes and other short courses	Other forms of training	Total
Legislators, senior officials and managers	Female	47	0	3	4	7
	Male	53	0	3	4	7
Professionals	Female	108	0	10	14	24
	Male	91	0	10	16	16
Technicians and associate professionals	Female	1	0	2	0	2
	Male	3	0	3	0	3
Clerks	Female	82	0	5	8	13
	Male	19	0	3	3	6
Service and sales workers	Female	4	0	3	1	4
	Male	8	0	3	1	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	3	0	3
	Male	2	0	1	1	2
Subtotal	Female	247	0	26	27	53
	Male	181	0	25	26	51
Total		**428**	**0**	**51**	**53**	**104**

Table 3.13.2: Training provided in the period 1 April 2018 to 31 March 2019

Occupational category	Gender	Number of employees as at 1 April 2018	Training identified at start of the reporting period			
			Learnerships	Skills programmes and other short courses	Other forms of training	Total
Legislators, senior officials and managers	Female	47	0	3	4	7
	Male	53	0	3	4	7
Professionals	Female	108	0	10	14	24
	Male	91	0	10	16	16
Technicians and associate professionals	Female	1	0	2	0	2
	Male	3	0	3	0	3
Clerks	Female	82	0	5	8	13
	Male	19	0	3	3	6
Service and sales workers	Female	4	0	3	1	4
	Male	8	0	3	1	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	3	0	3
	Male	2	0	1	1	2
Subtotal	Female	247	0	26	27	53
	Male	181	0	25	26	51
Total		**428**	**0**	**51**	**53**	**104**

3.14 Injury on duty

Table 3.14.1: Injury on duty in the period 1 April 2018 to 31 March 2019

Nature of injury	Number	% of total employees
Required basic medical attention only	3	0,75%
Temporary total disablement	0	0%
Permanent disablement	0	0%
Fatal	0	0%
Total	**3**	**0,75%**

3. HUMAN RESOURCES OVERSIGHT STATISTICS (CONTINUED)

3.15 Use of consultants

Table 3.15.1: Report on consultant appointments using appropriated funds in the period 1 April 2018 to 31 March 2019

Project title	Total number of consultants that worked on project	Duration (work days)	Contract value in Rand
Health Risk Management	2	261	95 326.60
Employee Health Wellness Programme	1	365	1 399 048

Total number of projects	Total number of consultants that worked on project	Duration (work days)	Contract value in Rand
1	2	261	95 326.60
1	1	365	1 399 048

Table 3.15.2: Analysis of consultant appointments using appropriated funds, in terms of historically disadvantaged individuals, in the period 1 April 2018 to 31 March 2019

Project title	Percentage ownership by HDI groups	Percentage management by HDI group	Number of consultants from HDI groups that worked on the project
Health Risk Management	0	0	0
Employee Health Wellness Programme	0	0	0

Table 3.15.3: Report on consultant appointments using donor funds in the period 1 April 2018 to 31 March 2019

Project title	Total number of consultants that worked on project	Duration (work days)	Contract value in Rand
None	0	0	0
Total	0	0	0

Table 3.15.4: Analysis of consultant appointments made using donor funds, in terms of historically disadvantaged individuals, in the period 1 April 2018 to 31 March 2019

Project title	Percentage ownership by HDI groups	Percentage management by HDI group	Number of consultants from HDI groups that worked on the project
None	0	0	0
Total	0	0	0

3.16 Severance packages

Table 3.16.1: Granting of employee-initiated severance packages in the period 1 April 2018 to 31 March 2019

Salary band	Number of applications received	Number of applications referred to the MPSA	Number of applications supported by MPSA	Number of packages approved by department
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
Highly skilled supervision (Levels 9-12)	0	0	0	0
Senior management (Levels 13-16)	0	0	0	0
Total	0	0	0	0



PART E
FINANCIAL INFORMATION

ANNUAL FINANCIAL STATEMENT

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REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON VOTE NO. 30: DEPARTMENT OF SCIENCE AND TECHNOLOGY

Report on the audit of the financial statements

Opinion

1. I have audited the financial statements of the Department of Science and Technology set out on pages 162 to 289 which comprise of the appropriation statement, the statement of financial position as at 31 March 2019, the statement of financial performance, the statement of changes in net assets and the statement of cash flows for the year then ended, as well as the notes to the financial statements, including a summary of significant accounting policies.

2. 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 2019, and its financial performance and cash flows for the year then ended in accordance with the Modified Cash Standard (MCS) prescribed by National Treasury and the requirements of the Public Finance Management Act of South Africa, 1999 (Act no. 1 of 1999) (PFMA).

Basis for opinion

3. I conducted my audit in accordance with the International Standards on Auditing (ISAs). My responsibilities under those standards are further described in the auditor-general's responsibilities for the audit of the financial statements section of this auditor's report.

4. I am independent of the department in accordance with sections 290 and 300 of the International Ethics Standards Board for Accountants' *Code of ethics* for professional accountants (IESBA code), parts 1 and 3 of the International Ethics Standards Board for Accountants' International *Code of Ethics* for Professional Accountants (including International Independence Standards) and the ethical requirements that are relevant to my audit in South Africa. I have fulfilled my other ethical responsibilities in accordance with these requirements and the IESBA codes.

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

Other matters

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

Unaudited Supplementary Schedules

7. The supplementary information set out on pages 290 to 307 does not form part of the financial statements and is presented as additional information. I have not audited these schedules and, accordingly, I do not express an opinion on them.

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON VOTE NO. 30: DEPARTMENT OF SCIENCE AND TECHNOLOGY

Responsibilities of the accounting officer for the financial statements

8. The accounting officer is responsible for the preparation and fair presentation of the financial statements in accordance with MCS as prescribed by National Treasury and the requirements of the 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.

9. In preparing the financial statements, the accounting officer is responsible for assessing the Department of Science and Technology's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless the appropriate governance structure either intends to liquidate the department or to cease operations, or has no realistic alternative but to do so.

Auditor-general's responsibilities for the audit of the financial statements

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

11. A further description of my responsibilities for the audit of the financial statements is included in the annexure to this auditor's report.

Report on the audit of the annual performance report

Introduction and scope

12. 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 material findings on the reported performance information against predetermined objectives for selected programmes presented in the annual performance report. I performed procedures to identify findings but not to gather evidence to express assurance.

13. My procedures address the reported performance information, which must be based on the approved performance planning documents of the department. I have not evaluated the completeness and appropriateness of the performance indicators/ measures included in the planning documents. My procedures also did not extend to any disclosures or assertions relating to planned performance strategies and information in respect of future periods that may be included as part of the reported performance information. Accordingly, my findings do not extend to these matters.

14. I evaluated the usefulness and reliability of the reported performance information in accordance with the criteria developed from the performance management and reporting framework, as defined in the general notice, for the following selected programmes presented in the annual performance report of the department for the year ended 31 March 2019:

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON VOTE NO. 30: DEPARTMENT OF SCIENCE AND TECHNOLOGY

Programmes	Pages in annual performance report
Programme 2 – technology innovation	71– 76
Programme 4 – research development and support	84 – 89
Programme 5 – socio-economic innovation partnerships	90 – 97

15. I performed procedures to determine whether the reported performance information was properly presented and whether performance was consistent with the approved performance planning documents. I performed further procedures to determine whether the indicators and related targets were measurable and relevant, and assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.

16. I did not raise any material findings on the usefulness and reliability of the reported performance information for these programmes.

Other matter

17. I draw attention to the matter below.

Achievement of planned targets

18. Refer to the annual performance report on pages 43 to 98 for information on the achievement of planned targets for the year and explanations provided for the under/ over achievement of a number of targets.

Report on the audit of compliance with legislation

Introduction and scope

19. In accordance with the PAA and the general notice issued in terms thereof, I have a responsibility to report material findings on the compliance of the department with specific matters in key legislation. I performed procedures to identify findings but not to gather evidence to express assurance.

20. I did not raise material findings on compliance with the specific matters in key legislation set out in the general notice issued in terms of the PAA.

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON VOTE NO. 30: DEPARTMENT OF SCIENCE AND TECHNOLOGY

Other information

21. The accounting officer is responsible for the other information. The other information comprises the information included in the annual report which includes the accounting officer's report and the audit committee's report. The other information does not include the financial statements, the auditor's report and those selected programmes presented in the annual performance report that have been specifically reported in this auditor's report.

22. My opinion on the financial statements and findings on the reported performance information and compliance with legislation do not cover the other information and I do not express an audit opinion or any form of assurance conclusion thereon.

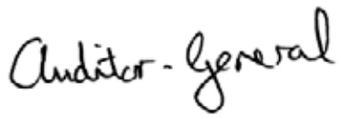
23. In connection with my audit, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements and the selected programmes presented in the annual performance report, or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

24. I did not receive the other information prior to the date of this auditor's report. When I do receive and read this information, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance and request that the other information be corrected. If the other information is not corrected, I may have to retract this auditor's report and re-issue an amended report as appropriate. However, if it is corrected this will not be necessary.

Internal control deficiencies

25. I considered internal control relevant to my audit of the financial statements, reported performance information and compliance with applicable legislation; however, my objective was not to express any form of assurance on it.

26. I did not identify any significant deficiencies in internal control.



Pretoria
31 July 2019



ANNEXURE – AUDITOR-GENERAL'S RESPONSIBILITY FOR THE AUDIT

1. As part of an audit in accordance with the ISAs, I exercise professional judgement and maintain professional scepticism throughout my audit of the financial statements, and the procedures performed on reported performance information for selected programmes and on the department's compliance with respect to the selected subject matters.

Financial statements

2. In addition to my responsibility for the audit of the financial statements as described in this auditor's report, I also:
   - identify and assess the risks of material misstatement of the financial statements whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control
   - obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the departments's internal control
   - evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the accounting officer
   - conclude on the appropriateness of the accounting officer's use of the going concern basis of accounting in the preparation of the financial statements. I also conclude, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Department of Science and Technology's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements about the material uncertainty or, if such disclosures are inadequate, to modify the opinion on the financial statements. My conclusions are based on the information available to me at the date of this auditor's report. However, future events or conditions may cause a department to cease continuing as a going concern
   - evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation

Communication with those charged with governance

3. I communicate with the accounting officer regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.
4. I also confirm to the accounting officer that I have complied with relevant ethical requirements regarding independence, and communicate all relationships and other matters that may reasonably be thought to have a bearing on my independence and, where applicable, related safeguards.

Appropriation per Programme									
	2018/19							2017/18	
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	379,514	-	835	380,349	340,493	39,856	89.5%	340,873	338,197
2. Technology Innovation	1,131,723	-	25,615	1,157,338	1,143,715	13,623	98.8%	1,133,783	1,116,181
3. International Cooperation and Resources	137,899	-	4,550	142,449	139,872	2,577	98.2%	168,211	130,598
4. Research Development and Support	4,530,992	-	(11,934)	4,519,058	4,516,626	2,432	99.9%	4,300,795	4,291,924
5. Socio-economic Innovation Partnerships	1,778,260	-	(19,066)	1,759,194	1,751,220	7,974	99.5%	1,613,567	1,612,645
TOTAL	**7,958,388**	**-**	**-**	**7,958,388**	**7,891,926**	**66,462**	**99.2%**	**7,557,229**	**7,489,545**
Reconciliation with Statement of Financial Performance									
ADD:									
Departmental receipts				32,749				10,298	
NRF receipts									
Aid assistance				45,348				25,791	
Actual amounts per Statement of Financial Performance (Total Revenue)				**8,036,485**				**7,593,318**	
ADD:									
Aid assistance					45,348				25,459
Prior year unauthorised expenditure approved without funding					-				-
Actual amounts per Statement of Financial Performance (Total Expenditure)					**7,937,274**				**7,515,004**

Appropriation per Programme									
	2018/19							2017/18	
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
Economic classification									
Current payments	**602,655**	**-**	**(1,686)**	**600,969**	**546,152**	**54,817**	**90.9%**	**520,480**	**514,153**
Compensation of employees	**352,880**	**-**	**-**	**352,880**	**330,750**	**22,130**	**93.7%**	**326,827**	**323,806**
Salaries and wages	312,756	398	-	313,154	296,762	16,392	94.8%	292,217	289,969
Social contributions	40,124	(398)	-	39,726	33,988	5,738	85.6%	34,610	33,837
Goods and services	**249,775**	**-**	**(1,686)**	**248,089**	**215,402**	**32,687**	**86.8%**	**193,653**	**190,347**
Administrative fees	6,493	(480)	884	6,897	3,797	3,100	55.1%	2,215	2,127
Advertising	11,588	15,027	(922)	25,693	24,938	755	97.1%	36,434	36,301
Minor assets	644	178	-	822	693	129	84.3%	92	88
Audit costs: External	9,869	(4,600)	-	5,269	5,245	24	99.5%	5,193	5,193
Bursaries: Employees	3,514	(1,900)	-	1,614	1,545	69	95.7%	1,315	1,309
Catering: Departmental activities	3,305	2,283	176	5,764	5,250	514	91.1%	2,816	2,695
Communication (G&S)	13,707	(4,116)	(301)	9,290	8,255	1,035	88.9%	7,083	6,986
Computer services	7,370	12,588	214	20,172	19,872	300	98.5%	19,612	19,569
Consultants: Business and advisory services	27,372	(9,010)	(264)	18,098	16,390	1,708	90.6%	9,733	9,579
Scientific and technological services	-	-	-	-	-	-	-	-	-
Legal services	914	226	-	1,140	769	371	67.5%	3,330	3,329
Contractors	10,614	(5,638)	923	5,899	5,604	295	95.0%	3,686	3,650

Appropriation per Programme									
	2018/19							2017/18	
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
Agency and support/outsourced services	11,887	(6,716)	7,575	12,746	12,008	738	94.2%	6,571	6,480
Entertainment	1,572	(647)	(32)	893	248	645	27.8%	969	860
Fleet services (incl. government motor transport)	-	1,347	-	1,347	1,347	-	100.0%	832	829
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Medical supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	1,509	2,274	5	3,788	2,472	1,316	65.3%	1,297	1,240
Consumables: Stationery, printing and office supplies	9,954	1,277	(3,402)	7,829	6,786	1,043	86.7%	3,238	3,229
Operating leases	7,762	(4,608)	-	3,154	3,023	131	95.8%	4,943	3,032
Property payments	18,007	(6,150)	-	11,857	11,769	88	99.3%	12,616	12,588
Transport provided: Departmental activity	529	(529)	-	-	-	-	-	-	-

Appropriation per Programme									
	2018/19							2017/18	
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
Travel and subsistence	58,839	7,883	(7,636)	59,086	56,941	2,145	96.4%	53,197	53,069
Training and development	10,888	(3,147)	360	8,101	2,689	5,412	33.2%	3,264	3,157
Operating payments	7,456	800	471	8,727	8,472	255	97.1%	6,699	6,666
Venues and facilities	24,356	2,334	726	27,416	14,863	12,553	54.2%	7,110	7,011
Rental and hiring	1,626	1,324	(463)	2,487	2,426	61	97.5%	1,408	1,360
Transfers and subsidies	**7,343,539**	**-**	**-**	**7,343,539**	**7,336,589**	**6,950**	**99.9%**	**7,014,513**	**6,954,524**
Departmental agencies and accounts	**5,496,494**	**-**	**(5,391)**	**5,491,103**	**5,003,551**	**487,552**	**91.1%**	**5,196,248**	**4,768,216**
Departmental agencies	5,496,494	-	(5,391)	5,491,103	5,003,551	487,552	91.1%	5,196,248	4,768,216
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**1,504,755**	**-**	**(4,609)**	**1,500,146**	**1,850,374**	**(350,228)**	**123.3%**	**1,443,949**	**1,722,519**
Public corporations	**1,504,755**	**-**	**(4,609)**	**1,500,146**	**1,836,527**	**(336,381)**	**122.4%**	**1,443,949**	**1,702,754**
Subsidies on products	963,164	-	-	963,164	963,164	-	100.0%	915,645	915,645
Other transfers to public corporations	541,591	-	(4,609)	536,982	873,363	(336,381)	162.6%	528,304	787,109
Private enterprises	**-**	**-**	**-**	**-**	**13,847**	**(13,847)**	**-**	**-**	**19,765**
Other transfers to private enterprises	-	-	-	-	13,847	(13,847)	-	-	19,765

Appropriation per Programme									
	2018/19							2017/18	
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
Non-profit institutions	341,640	-	10,000	351,640	481,367	(129,727)	136.9%	373,776	462,544
Households	**650**	**-**	**-**	**650**	**1,297**	**(647)**	**199.5%**	**540**	**1,245**
Social benefits	-	-	-	-	647	(647)	-	540	565
Other transfers to households	650	-	-	650	650	-	100.0%	-	680
Payments for capital assets	**12,194**	**-**	**1,541**	**13,735**	**9,042**	**4,693**	**65.8%**	**22,018**	**20,649**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	12,194	-	1,541	13,735	9,042	4,693	65.8%	22,018	20,649
Transport equipment	-	226	223	449	448	1	99.8%	2,280	1,596
Other machinery and equipment	12,194	(226)	1,318	13,286	8,594	4,692	64.7%	19,738	19,053
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payments for financial assets	**-**	**-**	**145**	**145**	**143**	**2**	**98.6%**	**218**	**219**
Total	**7,958,388**	**-**	**-**	**7,958,388**	**7,891,926**	**66,462**	**99.2%**	**7,557,229**	**7,489,545**

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
1.1 Ministry	5,145	-	-	5,145	4,379	766	85.1%	4,381	4,348
1.2 Management	119,616	(9,543)	2,316	112,389	100,735	11,654	89.6%	99,820	99,125
1.3 Corporate Services	240,505	9,402	(2,614)	247,293	223,741	23,552	90.5%	220,884	219,226
1.4 Governance	9,215	141	1,133	10,489	9,482	1,007	90.4%	8,204	7,950
1.5 Office Accommodation	5,033	-	-	5,033	2,156	2,877	42.8%	7,584	7,548
Total	**379,514**	**-**	**835**	**380,349**	**340,493**	**39,856**	**89.5%**	**340,873**	**338,197**

Economic classification									
Current payments	**353,034**	**-**	**(833)**	**352,201**	**317,016**	**35,185**	**90.0%**	**300,939**	**300,463**
Compensation of employees	**174,032**	**-**	**-**	**174,032**	**165,290**	**8,742**	**95.0%**	**159,901**	**161,487**
Salaries and wages	154,097	328	-	154,425	147,758	6,667	95.7%	142,055	143,723
Social contributions	19,935	(328)	-	19,607	17,532	2,075	89.4%	17,846	17,764
Goods and services	**179,002**	**-**	**(833)**	**178,169**	**151,726**	**26,443**	**85.2%**	**141,038**	**138,976**
Administrative fees	5,547	(1,165)	-	4,382	1,503	2,879	34.3%	1,060	1,048
Advertising	9,217	14,870	-	24,087	23,458	629	97.4%	35,198	35,189
Minor assets	644	178	-	822	693	129	84.3%	92	88
Audit costs: External	9,869	(4,600)	-	5,269	5,245	24	99.5%	5,193	5,193
Bursaries: Employees	3,514	(1,900)	-	1,614	1,545	69	95.7%	1,315	1,309

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Catering: Departmental activities	1,597	3,085	-	4,682	4,514	168	96.4%	2,005	2,000
Communication (G&S)	9,579	(3,260)	(600)	5,719	5,214	505	91.2%	4,307	4,307
Computer services	6,893	13,030	-	19,923	19,775	148	99.3%	19,492	19,490
Consultants: Business and advisory services	12,406	(5,437)	964	7,933	7,310	623	92.1%	5,809	5,806
Scientific and technological services	-	-	-	-	-	-	-	-	-
Legal services	864	-	-	864	493	371	57.1%	2,714	2,713
Contractors	10,544	(5,100)	-	5,444	5,265	179	96.7%	3,308	3,275
Agency and support/outsourced Services	8,596	(6,465)	6,079	8,210	7,878	332	96.0%	3,951	3,949
Entertainment	588	-	(23)	565	50	515	8.8%	127	115
Fleet services (incl. government motor transport)	-	1,347	-	1,347	1,347	-	100.0%	832	829
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Consumable supplies	1,120	2,453	-	3,573	2,453	1,120	68.7%	1,231	1,222
Consumables: Stationery, printing and office supplies	9,098	1,292	(3,436)	6,954	6,585	369	94.7%	3,009	3,007
Operating leases	7,762	(4,608)	-	3,154	3,023	131	95.8%	4,943	3,032
Property payments	18,007	(6,286)	-	11,721	11,633	88	99.2%	12,488	12,460
Transport provided:									
Departmental activity	-	-	-	-	-	-	-	-	-
Travel and subsistence	32,751	877	(4,288)	29,340	28,799	541	98.2%	21,979	21,972
Training and development	8,101	-	-	8,101	2,689	5,412	33.2%	3,160	3,157
Operating payments	6,096	(542)	471	6,025	5,865	160	97.3%	4,970	4,964
Venues and facilities	16,148	-	-	16,148	4,158	11,990	25.7%	2,929	2,927
Rental and hiring	61	2,231	-	2,292	2,231	61	97.3%	926	924
Transfers and subsidies	**14,286**	**-**	**-**	**14,286**	**14,331**	**(45)**	**100.3%**	**17,814**	**16,982**
Departmental agencies and accounts	**-**	**-**	**-**	**-**	**1,152**	**(1,152)**	**-**	**-**	**-**
Departmental agencies	-	-	-	-	1,152	(1,152)	-	-	-
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**1,415**	**(1,415)**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	**-**	**-**	**-**	**-**	**1,415**	**(1,415)**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	1,415	(1,415)	-	-	-
Non-profit institutions	14,286	-	-	14,286	11,567	2,719	81.0%	17,503	16,642
Households	**-**	**-**	**-**	**-**	**197**	**(197)**	**-**	**311**	**340**
Social benefits	-	-	-	-	197	(197)	-	311	340
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**12,194**	**-**	**1,541**	**13,735**	**9,020**	**4,715**	**65.7%**	**22,018**	**20,649**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	12,194	-	1,541	13,735	9,020	4,715	65.7%	22,018	20,649
Transport equipment	-	226	223	449	448	1	99.8%	2,280	1,596
Other machinery and equipment	12,194	(226)	1,318	13,286	8,572	4,714	64.5%	19,738	19,053
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	127	127	126	1	99.2%	102	103
Total	**379,514**	**-**	**835**	**380,349**	**340,493**	**39,856**	**89.5%**	**340,873**	**338,197**

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**5,145**	**-**	**-**	**5,145**	**4,379**	**766**	**85.1%**	**4,381**	**4,348**
Compensation of employees	**5,145**	**-**	**-**	**5,145**	**4,379**	**766**	**85.1%**	**4,381**	**4,348**
Salaries and wages	4,631	(77)	-	4,554	3,788	766	83.2%	3,765	3,738
Social contributions	514	77	-	591	591	-	100.0%	616	610
Goods and services	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Administrative fees	-	-							
Advertising	-	-	-	-	-	-	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	-	-	-	-	-	-	-	-	-
Communication (G&S)	-	-	-	-	-	-	-	-	-
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	-	-	-	-	-	-	-	-	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	-	-	-	-	-	-	-	-	-
Entertainment	-	-	-	-	-	-	-	-	-
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumables: 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	-	-	-	-	-	-	-	-	-
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
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	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	5,145	-	-	5,145	4,379	766	85.1%	4,381	4,348

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**104,228**	**(9,543)**	**2,197**	**96,882**	**86,091**	**10,791**	**88.9%**	**80,049**	**80,892**
Compensation of employees	**70,709**	**(9,543)**	**-**	**61,166**	**53,190**	**7,976**	**87.0%**	**53,254**	**54,141**
Salaries and wages	64,108	(9,543)	-	54,565	48,664	5,901	89.2%	48,218	49,126
Social contributions	6,601	-	-	6,601	4,526	2,075	68.6%	5,036	5,015
Goods and services	**33,519**	**-**	**2,197**	**35,716**	**32,901**	**2,815**	**92.1%**	**26,795**	**26,751**
Administrative fees	173	655	-	828	828	-	100.0%	548	546
Advertising	193	-	-	193	7	186	3.6%	1,371	1,371
Minor assets	193	(12)	-	181	52	129	28.7%	4	4
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	445	-	-	445	327	118	73.5%	104	101
Communication (G&S)	2,434	-	-	2,434	1,951	483	80.2%	1,513	1,513
Computer services	2,006	(731)	-	1,275	1,127	148	88.4%	1,705	1,703
Consultants: Business and advisory services	3,007	(887)	964	3,084	2,481	603	80.4%	1,126	1,126
Legal services	-	-	-	-	-	-	-	-	-
Contractors	606	-	-	606	521	85	86.0%	423	390
Agency and support/outsourced services	1,796	(4,765)	5,073	2,104	2,104	-	100.0%	1,272	1,270
Entertainment	327	-	(23)	304	34	270	11.2%	87	87
Fleet services (incl. government motor transport)	-	996	-	996	996	-	100.0%	577	577

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	105	145	-	250	145	105	58.0%	14	14
Consumables: Stationery, printing and office supplies	660	-	-	660	291	369	44.1%	299	299
Operating leases	1,427	(1,350)	-	77	26	51	33.8%	-	-
Property payments	3,569	(3,500)	-	69	-	69	-	63	61
Travel and subsistence	13,350	10,649	(4,288)	19,711	19,710	1	100.0%	15,674	15,674
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	1,843	(1,200)	471	1,114	1,108	6	99.5%	1,501	1,501
Venues and facilities	1,385	-	-	1,385	1,193	192	86.1%	505	505
Rental and hiring	-	-	-	-	-	-	-	9	9
Transfers and subsidies	**14,286**	**-**	**-**	**14,286**	**14,239**	**47**	**99.7%**	**17,644**	**16,783**
Departmental agencies and accounts	-	-	-	-	**1,152**	**(1,152)**	-	-	-
Departmental agencies	-	-	-	-	1,152	(1,152)	-	-	-
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**1,415**	**(1,415)**	**-**	**-**	**-**
Public corporations	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	**-**	**-**	**-**	**-**	**1,415**	**(1,415)**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	1,415	(1,415)	-	-	-
Non-profit institutions	14,286	-	-	14,286	11,567	2,719	81.0%	17,503	16,642
Households	**-**	**-**	**-**	**-**	**105**	**(105)**	**-**	**141**	**141**
Social benefits	-	-	-	-	105	(105)	-	141	141
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**1,102**	**-**	**-**	**1,102**	**287**	**815**	**26.0%**	**2,082**	**1,405**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	1,102	-	-	1,102	287	815	26.0%	2,082	1,405
Transport equipment	-	226	-	226	225	1	99.6%	1,980	1,371
Other machinery and equipment	1,102	(226)	-	876	62	814	7.1%	102	34
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**119**	**119**	**118**	**1**	**99.2%**	**45**	**45**
Total	**119,616**	**(9,543)**	**2,316**	**112,389**	**100,735**	**11,654**	**89.6%**	**99,820**	**99,125**

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**229,617**	**9,402**	**(4,163)**	**234,856**	**214,938**	**19,918**	**91.5%**	**200,926**	**199,766**
Compensation of employees	**90,899**	**9,402**	**-**	**100,301**	**100,301**	**-**	**100.0%**	**95,252**	**96,041**
Salaries and wages	79,693	9,010	-	88,703	88,703	-	100.0%	83,884	84,684
Social contributions	11,206	392	-	11,598	11,598	-	100.0%	11,368	11,357
Goods and services	**138,718**	**-**	**(4,163)**	**134,555**	**114,637**	**19,918**	**85.2%**	**105,674**	**103,725**
Administrative fees	329	336	-	665	665	-	100.0%	501	496
Advertising	8,422	15,006	-	23,428	23,428	-	100.0%	33,820	33,815
Minor assets	451	190	-	641	641	-	100.0%	88	84
Audit costs: External	9,869	(4,600)	-	5,269	5,245	24	99.5%	5,193	5,193
Bursaries: Employees	3,514	(1,900)	-	1,614	1,545	69	95.7%	1,315	1,309
Catering: Departmental activities	1,102	3,085	-	4,187	4,187	-	100.0%	1,877	1,875
Communication (G&S)	6,988	(3,260)	(600)	3,128	3,128	-	100.0%	2,669	2,669
Computer services	4,887	13,761	-	18,648	18,648	-	100.0%	17,787	17,787
Consultants: Business and advisory services	8,741	(3,900)	-	4,841	4,829	12	99.8%	4,681	4,680
Scientific and technological services	-	-	-	-	-	-	-	-	-
Legal services	864	-	-	864	493	371	57.1%	2,714	2,713
Contractors	9,938	(5,100)	-	4,838	4,673	165	96.6%	2,885	2,885
Agency and support/outsourced services	6,800	(1,700)	(127)	4,973	4,874	99	98.0%	2,447	2,447
Entertainment	249	-	-	249	16	233	6.4%	27	23

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Fleet services (incl. government motor transport)	-	351	-	351	351	-	100.0%	255	252
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	1,015	2,307	-	3,322	2,307	1,015	69.4%	1,217	1,208
Consumables: Stationery, printing and office supplies	8,410	1,260	(3,436)	6,234	6,234	-	100.0%	2,639	2,639
Operating leases	6,335	(4,900)	-	1,435	1,426	9	99.4%	3,013	1,114
Property payments	14,438	(3,300)	-	11,138	11,119	19	99.8%	6,771	6,769
Transport provided:									
Departmental activity	-	-	-	-	-	-	-	-	-
Travel and subsistence	19,251	(9,867)	-	9,384	8,844	540	94.2%	6,100	6,097
Training and development	8,101	-	-	8,101	2,689	5,412	33.2%	3,160	3,157
Operating payments	4,253	-	-	4,253	4,099	154	96.4%	3,176	3,176
Venues and facilities	14,761	-	-	14,761	2,965	11,796	20.1%	2,422	2,422
Rental and hiring	-	2,231	-	2,231	2,231	-	100.0%	917	915
Transfers and subsidies	**-**	**-**	**-**	**-**	**62**	**(62)**	**-**	**158**	**158**
Departmental agencies and accounts	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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 enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	**62**	**(62)**	-	**158**	**158**
Social benefits	-	-	-	-	62	(62)	-	158	158
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**10,888**	-	**1,541**	**12,429**	**8,733**	**3,696**	**70.3%**	**19,743**	**19,244**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	10,888	-	1,541	12,429	8,733	3,696	70.3%	19,743	19,244
Transport equipment	-	-	223	223	223	-	100.0%	300	225
Other machinery and equipment	10,888	-	1,318	12,006	8,510	3,696	69.7%	19,443	19,019
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	8	8	8	-	100.0%	57	58
Total	**240,505**	**9,402**	**(2,614)**	**247,293**	**223,741**	**23,552**	**90.5%**	**220,884**	**219,226**

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**9,011**	**141**	**1,133**	**10,285**	**9,452**	**833**	**91.9%**	**7,999**	**7,909**
Compensation of employees	**7,279**	**141**	**-**	**7,420**	**7,420**	**-**	**100.0%**	**7,014**	**6,957**
Salaries and wages	5,665	938	-	6,603	6,603	-	100.0%	6,188	6,175
Social contributions	1,614	(797)	-	817	817	-	100.0%	826	782
Goods and services	**1,732**	**-**	**1,133**	**2,865**	**2,032**	**833**	**70.9%**	**985**	**952**
Administration fees	12	-	-	12	10	2	83.3%	11	6
Advertising	602	(136)	-	466	23	443	4.9%	7	3
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	50	-	-	50	-	50	-	24	24
Communication (G&S)	157	-	-	157	135	22	86.0%	125	125
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	658	(650)	-	8	-	8	-	2	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	-	-	1,133	1,133	900	233	79.4%	232	232
Entertainment	12	-	-	12	-	12	-	13	5
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	1	-	1	1	-	100.0%	-	-
Consumables: Stationery, printing and office supplies	28	32	-	60	60	-	100.0%	71	69
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	150	95	-	245	245	-	100.0%	205	201
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	658	-	658	658	-	100.05	293	287
Venues and facilities	2	-	-	2	-	2	-	2	-
Rental and hiring	61	-	-	61	-	61	-	-	-
Transfers and subsidies	-	-	-	-	**30**	**(30)**	-	**12**	**41**
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations	-	-	-	-	-	-	-	-	-
Subsidies on products									
Other transfers to public corporations	-	-	-	-	-	-	-	-	-
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	-	-	-	-	-
Households	-	-	-	-	**30**	**(30)**	-	**12**	**41**
Social benefits	-	-	-	-	30	(30)	-	12	41
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	204	-	-	204	-	204	-	193	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	**204**	-	-	**204**	-	**204**	-	**193**	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	204	-	-	204	-	204	-	193	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	**9,215**	**141**	**1,133**	**10,489**	**9,482**	**1,007**	**90.4%**	**8,204**	**7,950**

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**5,033**	**-**	**-**	**5,033**	**2,156**	**2,877**	**42.8%**	**7,584**	**7,548**
Compensation of employees	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Salaries and wages	-	-	-	-	-	-	-	-	-
Social contributions	-	-	-	-	-	-	-	-	-
Goods and services	**5,033**	**-**	**-**	**5,033**	**2,156**	**2,877**	**42.8%**	**7,584**	**7,548**
Administrative fees	5,033	(2,156)	-	2,877	-	2,877	-	-	-
Advertising	-	-	-	-	-	-	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	-	-	-	-	-	-	-	-	-
Communication (G&S)	-	-	-	-	-	-	-	-	-
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	-	-	-	-	-	-	-	-	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	-	-	-	-	-	-	-	-	-
Entertainment	-	-	-	-	-	-	-	-	-
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumables: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	1,642	-	1,642	1,642	-	100.0%	1,930	1,918
Property payments	-	514	-	514	514	-	100.0%	5,654	5,630
Travel and subsistence	-	-	-	-	-	-	-	-	-
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	-	-	-	-	-	-	-	-
Venues and facilities	-	-	-	-	-	-	-	-	-
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	-	-	-	-	-	-	-	-	-
Departmental agencies and accounts	-	-	-	-	-	-	-	-	-
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-

Detail per Programme 1 – Administration for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
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	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	**5,033**	**-**	**-**	**5,033**	**2,156**	**2,877**	**42.8%**	**7,584**	**7,548**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
2.1 Space Science	161,875	1,351	10,293	173,519	170,132	3,387	98.0%	192,142	191,823
2.2 Hydrogen and Energy	167,813	-	(997)	166,816	164,828	1,988	98.8%	147,723	147,467
2.3 Bio-economy	178,423	(1,035)	40,543	217,931	215,302	2,629	98.8%	178,200	162,465
2.4 Innovation Priorities and Instruments	572,744	(2,967)	(34,224)	535,553	531,360	4,193	99.2%	536,585	535,581
2.5 National Intellectual Property Management Office	50,868	2,651	10,000	63,519	62,093	1,426	97.8%	79,133	78,845
Total	**1,131,723**	**-**	**25,615**	**1,157,338**	**1,143,715**	**13,623**	**98.8%**	**1,133,783**	**1,116,181**
Economic classification									
Current payments	**71,867**	**-**	**(6)**	**71,861**	**60,334**	**11,527**	**84.0%**	**55,687**	**54,421**
Compensation of employees	**49,317**	**-**	**-**	**49,317**	**42,159**	**7,158**	**85.5%**	**42,738**	**41,912**
Salaries and wages	42,512	872	-	43,384	37,933	5,451	87.4%	38,501	37,871
Social contributions	6,805	(872)	-	5,933	4,226	1,707	71.2%	4,237	4,041
Goods and services	**22,550**	**-**	**(6)**	**22,544**	**18,175**	**4,369**	**80.6%**	**12,949**	**12,509**
Administrative fees	437	69	(6)	500	365	135	73.0%	371	365
Advertising	363	140	-	503	473	30	94.0%	49	14
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Catering: Departmental activities	283	(99)	-	184	78	106	42.4%	226	151
Communication (G&S)	902	20	(3)	919	657	262	71.5%	689	655
Computer services	96	-	-	96	20	76	20.8%	68	68
Consultants: Business and advisory services	7,057	(840)	3	6,220	5,153	1,067	82.8%	1,170	1,150
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	125	-	125	125	-	100.0%	-	-
Agency and support/outsourced services	1,881	(873)	-	1,008	634	374	62.9%	433	414
Entertainment	20	-	-	20	5	15	25.0%	85	56
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies							-		
Consumable supplies	106	4	-	110	6	104	5.5%	20	2
Consumables: Stationery, printing and office supplies	717	(50)	-	667	27	640	4.0%	38	38

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	128	128
Transport provided:									
Departmental activity	-	-	-	-	-	-	-	-	-
Travel and subsistence	8,600	1,535	-	10,135	8,934	1,201	88.1%	7,424	7,391
Training and development	-	-	-	-	-	-	-	68	-
Operating payments	357	263	-	620	598	22	96.5%	220	212
Venues and facilities	1,731	(294)	-	1,437	1,100	337	76.5%	1,935	1,865
Rental and hiring	-	-	-	-	-	-	-	25	-
Transfers and subsidies	**1,059,856**	**-**	**25,615**	**1,085,471**	**1,083,375**	**2,096**	**99.8%**	**1,078,039**	**1,061,703**
Departmental agencies and accounts	**687,332**	**-**	**16,811**	**704,143**	**714,920**	**(10,777)**	**101.5%**	**705,308**	**699,378**
Departmental agencies	**687,332**	**-**	**16,811**	**704,143**	**714,920**	**(10,777)**	**101.5%**	**705,308**	**699,378**
Higher education institutions	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**97,697**	**-**	**(1,196)**	**96,501**	**127,785**	**(31,284)**	**132,4%**	**100,848**	**103,090**
Public corporations	**97,697**	**-**	**(1,196)**	**96,501**	**126,880**	**(30,379)**	**131.5%**	**100,848**	**100,623**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporation	97,697	-	(1,196)	96,501	126,880	(30,379)	131.5%	100,848	100,623
Private enterprises	-	-	-	-	**905**	**(905)**	-	-	**2,467**
Other transfers to private enterprises	-	-	-	-	905	(905)	-	-	2,467
Non-profit institutions	274,827	-	10,000	284,827	240,553	44,274	84.5%	271,795	259,146
Households	-	-	-	-	**117**	**(117)**	-	**88**	**88**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Social benefits	-	-	-	-	117	(117)	-	88	88
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	6	6	6	-	100.0%	57	57
Total	1,131,723	-	25,615	1,157,338	1,143,715	13,623	98.8%	1,133,783	1,116,181

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**14,639**	**1,351**	**994**	**16,984**	**13,597**	**3,387**	**80.1%**	**12,441**	**12,122**
Compensation of employees	**11,322**	**(251)**	**-**	**11,071**	**7,781**	**3,290**	**70.3%**	**9,560**	**9,405**
Salaries and wages	10,127	(251)	-	9,876	7,021	2,855	71.1%	8,816	8,697
Social contributions	1,195	-	-	1,195	760	435	63.6%	744	708
Goods and services	**3,317**	**1,602**	**994**	**5,913**	**5,816**	**97**	**98.4%**	**2,881**	**2,717**
Administrative fees	106	(20)	(6)	80	68	12	85.0%	101	96
Advertising	-	3	-	3	3	-	100.0%	9	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	120	(100)	-	20	-	20	-	175	113
Communication (G&S)	170	-	-	170	133	37	78.2%	115	97
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	-	1,219	1,000	2,219	2,219	-	100.0%	15	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	347	73	-	420	420	-	100.0%	14	-
Entertainment	6	-	-	6	-	6	-	60	54
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	2	-	2	2	-	100.0%	-	-
Consumables: Stationery, printing and office supplies	70	(50)	-	20	-	20	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,522	682	-	2,204	2,203	1	100.0%	1,875	1,870
Training and development	-	-	-	-	-	-	-	4	-
Operating payments	-	168	-	168	168	-	100.0%	5	2
Venues and facilities	976	(375)	-	601	600	1	99.8%	508	485
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**147,236**	**-**	**9,299**	**156,535**	**156,535**	**-**	**100.0%**	**179,701**	**179,701**
Departmental agencies and accounts	**147,236**	**-**	**9,299**	**156,535**	**151,236**	**5,299**	**96.6%**	**179,681**	**176,086**
Departmental agencies	147,236	-	9,299	156,535	151,236	5,299	96.6%	179,681	176,086
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations and private enterprises	-	-	-	-	-	-	-	-	-
Public corporations	-	-	-	-	-	-	-	-	-
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporation	-	-	-	-	-	-	-	-	-
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	5,299	(5,299)	-	-	3,595
Households	-	-	-	-	-	-	-	**20**	**20**
Social benefits	-	-	-	-	-	-	-	20	20
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	**161,875**	**1,351**	**10,293**	**173,519**	**170,132**	**3,387**	**98.0%**	**192,142**	**191,823**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 2.2: Hydrogen and 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	**12,342**	**-**	**(997)**	**11,345**	**9,357**	**1,988**	**82.5%**	**9,356**	**9,100**
Compensation of employees	**8,227**	**-**	**-**	**8,227**	**7,211**	**1,016**	**87.7%**	**6,871**	**6,741**
Salaries and wages	7,451	-	-	7,451	6,489	962	87.1%	6,176	6,071
Social contributions	776	-	-	776	722	54	93.0%	695	670
Goods and services	**4,115**	**-**	**(997)**	**3,118**	**2,146**	**972**	**68.8%**	**2,485**	**2,359**
Administrative fees	67	-	-	67	64	3	95.5%	70	69
Advertising	5	-	-	5	-	5	-	25	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	15	1	-	16	16	-	100.0%	18	5
Communication (G&S)	72	20	-	92	92	-	100.0%	92	90
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	1,720	-	(997)	723	-	723	-	18	14
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	710	(576)	-	134	-	134	-	385	383
Entertainment	6	-	-	6	1	5	16.7%	8	1

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 2.2: Hydrogen and 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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	4	-	-	4	1	3	25.0%	13	-
Consumables: Stationery, printing and office supplies	40	-	-	40	-	40	-	1	1
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,210	555	-	1,765	1,765	-	100.0%	1,580	1,564
Training and development	-	-	-	-	-	-	-	3	-
Operating payments	171	-	-	171	157	14	91.8%	180	176
Venues and facilities	95	-	-	95	50	45	52.6%	85	56
Rental and hiring	-	-	-	-	-	-	-	7	-
Transfers and subsidies	**155,471**	-	-	**155,471**	**155,471**	-	**100.0%**	**138,367**	**138,367**
Departmental agencies and accounts	**37,049**	-	-	**37,049**	-	**37,049**	-	**32,677**	**17,500**
Departmental agencies	37,049	-	-	37,049	-	37,049	-	32,677	17,500
Higher education institutions	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 2.2: Hydrogen and 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
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	**39,012**	**(39,012)**	-	-	**2,165**
Public corporations	-	-	-	-	**39,012**	**(39,012)**	-	-	**2,165**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	39,012	(39,012)	-	-	2,165
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	118,422	-	-	118,422	116,459	1,963	98.3%	105,690	118,702
Households	-	-	-	-	-	-	-	-	-
Social benefits	-	-	-	-	-	-	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	**167,813**	**-**	**(997)**	**166,816**	**164,828**	**1,988**	**98.8%**	**147,723**	**147,467**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**20,738**	**(1,035)**	**(3)**	**19,700**	**17,949**	**1,751**	**91.1%**	**16,067**	**15,927**
Compensation of employees	**13,798**	**-**	**-**	**13,798**	**13,013**	**785**	**94.3%**	**12,298**	**12,247**
Salaries and wages	12,348	-	-	12,348	11,738	610	95.1%	11,047	11,010
Social contributions	1,450	-	-	1,450	1,275	175	87.9%	1,251	1,237
Goods and services	**6,940**	**(1,035)**	**(3)**	**5,902**	**4,936**	**966**	**83.6%**	**3,769**	**3,680**
Administrative fees	209	-	-	209	134	75	64.1%	145	145
Advertising	318	83	-	401	401	-	100.0%	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees								-	-
Catering: Departmental activities	81	-	-	81	50	31	61.7%	6	6
Communication (G&S)	265	-	(3)	262	201	61	76.7%	181	173
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	847	(18)	-	829	485	344	58.5%	30	30
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	125	-	125	125	-	100.0%	-	-
Agency and support/outsourced services	134	20	-	154	154	-	100.0%	11	11
Entertainment	4	-	-	4	1	3	25.0%	-	-
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	5	-	-	5	-	5	-	4	1
Consumables: Stationery, printing and office supplies	159	-	-	159	27	132	17.0%	3	3
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	4,347	(1,310)	-	3,037	2,948	89	97.15	2,390	2,383
Training and development	-	-	-	-	-	-	-	57	-
Operating payments	176	65	-	241	241	-	100.0%	12	11
Venues and facilities	395	-	-	395	169	226	42.8%	929	917
Rental and hiring	-	-	-	-	-	-	-	1	-
Transfers and subsidies	**157,685**	**-**	**40,540**	**198,225**	**197,347**	**878**	**99.6%**	**162,133**	**146,538**
Departmental agencies and accounts	**44,196**	**-**	**40,540**	**84,736**	**137,889**	**(53,153)**	**162.7%**	**66,987**	**76,409**
Departmental agencies	44,196	-	40,540	84,736	137,889	(53,153)	162.7%	66,987	76,409
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations and private enterprises	**-**	**-**	**-**	**-**	**7,800**	**(7,800)**	**-**	**-**	**12,974**
Public corporations	**-**	**-**	**-**	**-**	**7,500**	**(7,500)**	**-**	**-**	**11,974**
Subsidies on products	-	-	-	-			-	-	-
Other transfers to public corporations	-	-	-	-	7,500	(7,500)	-	-	11,974
Private enterprises	**-**	**-**	**-**	**-**	**300**	**(300)**	**-**	**-**	**1,000**
Other transfers to private enterprises	-	-	-	-	300	(300)	-	-	1,000
Non-profit institutions	113,489	-	-	113,489	51,658	61,831	45.5%	95,132	57,141
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**14**	**14**
Social benefits	-	-	-	-	-	-	-	14	14
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**6**	**6**	**6**	**-**	**100.0%**	**-**	**-**
Total	**178,423**	**(1,035)**	**40,543**	**217,931**	**215,302**	**2,629**	**98.8%**	**178,200**	**162,465**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 2.4: Innovation Priorities and Instruments	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	**12,280**	**(2,967)**	**-**	**9,313**	**5,124**	**4,189**	**55.0%**	**7,279**	**7,015**
Compensation of employees	**6,495**	**-**	**-**	**6,495**	**4,428**	**2,067**	**68.2%**	**5,831**	**5,595**
Salaries and wages	5,002	-	-	5,002	3,978	1,024	79.5%	5,205	5,046
Social contributions	1,493	-	-	1,493	450	1,043	30.1%	626	549
Goods and services	**5,785**	**(2,967)**	**-**	**2,818**	**696**	**2,122**	**24.7%**	**1,448**	**1,420**
Administrative fees	55	-	-	55	10	45	18.2%	7	7
Advertising	25	-	-	25	-	25	-	1	-
Minor assets		-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	40	-	-	40	12	28	30.0%	4	4
Communication (G&S)	155	-	-	155	60	95	38.7%	77	72
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	3,390	(2,967)	-	423	423	-	100.0%	-	1,037
Legal services									-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	240	-	-	240	-	240	-	-	-
Entertainment	2	-	-	2	1	1	50.0%	4	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 2.4: Innovation Priorities and Instruments	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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	96	-	-	96	-	96	-	-	-
Consumables: Stationery, printing and office supplies	408	-	-	408	-	408	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,299	-	-	1,299	188	1,111	14.5%	295	293
Training and development	-	-	-	-	-	-	-	4	-
Operating payments	10	-	-	10	2	8	20.0%	7	7
Venues and facilities	65	-	-	65	-	65	-	6	-
Rental and hiring	-	-	-	-	-	-	-	5	-
Transfers and subsidies	**560,464**	**-**	**(34,224)**	**526,240**	**526,236**	**4**	**100.0%**	**529,305**	**528,565**
Departmental agencies and accounts	**458,851**	**-**	**(33,028)**	**425,823**	**423,722**	**2,101**	**99.5%**	**425,963**	**422,482**
Departmental agencies	458,851	-	(33,028)	425,823	423,722	2,101	99.5%	425,963	422,482
Higher education institutions	-	-	-	-	-	-	-	-	-

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 2.4: Innovation Priorities and Instruments	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	**97,697**	**-**	**(1,196)**	**96,501**	**72,716**	**23,785**	**75.4%**	**100,848**	**81,500**
Public corporations	**97,697**	**-**	**(1,196)**	**96,501**	**72,716**	**23,785**	**75.4%**	**100,848**	**81,450**
Subsidies on products								-	-
Other transfers to public corporations	97,697	-	(1,196)	96,501	72,716	23,785	75.4%	100,848	81,450
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**50**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	50
Non-profit institutions	3,916	-	-	3,916	29,703	(25,787)	758.5%	2,494	24,583
Households	**-**	**-**	**-**	**-**	**95**	**(95)**	**-**	**-**	**-**
Social benefits	-	-	-	-	95	(95)	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-						1	1
Total	**572,744**	**(2,967)**	**(34,224)**	**535,553**	**531,360**	**4,193**	**99.2%**	**536,585**	**535,581**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**11,868**	**2,651**	**-**	**14,519**	**14,307**	**212**	**98.5%**	**10,544**	**10,257**
Compensation of employees	**9,475**	**215**	**-**	**9,726**	**9,726**	**-**	**100.0%**	**8,178**	**7,924**
Salaries and wages	7,584	1,123	-	8,707	8,707	-	100.0%	7,257	7,047
Social contributions	1,891	(872)	-	1,019	1,019	-	100.0%	921	877
Goods and services	**2,393**	**2,400**	**-**	**4,793**	**4,581**	**212**	**95.6%**	**2,366**	**2,333**
Administrative fees	-	89	-	89	89	-	100.0%	48	48
Advertising	15	54	-	69	69	-	100.0%	14	14
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	27	-	-	27	-	27	-	23	23
Communication (G&S)	240	-	-	240	171	69	71.3%	224	223
Computer services	96	-	-	96	20	76	20.8%	68	68
Consultants: Business and advisory services	1,100	926	-	2,026	2,026	-	100.0%	69	69
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	450	(390)	-	60	60	-	100.0%	23	20
Entertainment	2	-	-	2	2	-	100.0%	13	1

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	1	2	-	3	3	-	100.0%	3	1
Consumables: Stationery, printing and office supplies	40	-	-	40	-	40	-	34	34
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	128	128
Transport provided:									
Departmental activity	-	-	-	-	-	-	-	-	-
Travel and subsistence	222	1,608	-	1,830	1,830	-	100.0%	1,284	1,281
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	30	-	30	30	-	100.0%	16	16
Venues and facilities	200	81	-	281	281	-	100.0%	407	407
Rental and hiring	-	-	-	-	-	-	-	12	-
Transfers and subsidies	**39,000**	**-**	**10,000**	**49,000**	**47,786**	**1,214**	**97.5%**	**68,533**	**68,532**
Departmental agencies and accounts	**-**	**-**	**-**	**-**	**2,073**	**(2,073)**	**-**	**-**	**6,901**

Detail per Programme 2 – Technology Innovation for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Departmental agencies	-	-	-	-	2,073	(2,073)	-	-	6,901
Higher education institutions	-	-	-	-			-	-	-
Foreign governments and international organisations	-	-	-	-			-	-	-
Public corporations and private enterprises	-	-	-	-	**8,257**	**(8,257)**	-	-	**6,451**
Public corporations	-	-	-	-	**7,652**	**(7,652)**	-	-	**5,034**
Subsidies on products	-	-	-	-			-	-	
Other transfers to public corporations	-	-	-	-	7,652	(7,652)	-	-	5,034
Private enterprises	-	-	-	-	**605**	**(605)**	-	-	**1,417**
Other transfers to private enterprises	-	-	-	-	605	(605)	-	-	1,417
Non-profit institutions	39,000	-	10,000	49,000	37,434	11,566	76.4%	68,479	55,125
Households	-	-	-	**22**	**(22)**	-	-	**54**	**54**
Social benefits	-	-	-	22	(22)	-	-	54	54
Other transfers to households	-	-	-	-			-	-	
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-		-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and Equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-						56	56
Total	**50,868**	**2,651**	**10,000**	**63,519**	**62,093**	**1,426**	**97.8%**	**79,133**	**78,845**

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
3.1 Multilateral Cooperation and Africa	32,217	2,069	1,984	36,270	36,123	147	99.6%	33,966	31,353
3.2 International Resources	63,005	(69)	556	63,492	61,851	1,641	97.4%	94,826	61,481
3.3 Overseas Bilateral Cooperation	42,677	(2,000)	2,010	42,687	41,898	789	98.2%	39,419	37,764
Total	**137,899**	**-**	**4,550**	**142,449**	**139,872**	**2,577**	**98.2%**	**168,211**	**130,598**
Economic classification									
Current payments	**69,774**	**-**	**4,547**	**74,321**	**71,697**	**2,624**	**96.5%**	**69,586**	**66,381**
Compensation of employees	**50,352**	**-**	**-**	**50,352**	**48,017**	**2,335**	**95.4%**	**48,843**	**46,068**
Salaries and wages	45,572	(241)	-	45,331	43,484	1,847	95.9%	44,208	41,632
Social contributions	4,780	241	-	5,021	4,533	488	90.3%	4,635	4,436
Goods and services	**19,422**	**-**	**4,547**	**23,969**	**23,680**	**289**	**98.8%**	**20,743**	**20,313**
Administrative fees	162	382	832	1,376	1,345	31	97.7%	381	373
Advertising	446	(313)	28	161	161	-	100.0%	171	90
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	393	(253)	176	316	267	49	84.5%	368	355
Communication (G&S)	1,455	(500)	311	1,266	1,263	3	99.8%	995	978

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Computer services	183	(320)	214	77	77	-	100.0%	21	11
Consultants: Business and advisory services	285	(61)	1,760	1,984	1,984	-	100.0%	1,293	1,186
Legal services								-	-
Contractors	-	(596)	923	327	211	116	64.5%	35	32
Agency and support/outsourced services	693	(670)	-	23	-	23	-	559	524
Entertainment	826	(647)	-	179	179	-	100.0%	673	658
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Medical supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	228	(158)	5	75	8	67	10.7%	21	15
Consumables: Stationery, printing and office supplies	-	6	34	40	40	-	100.0%	56	54

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	136	-	136	136	-	100.0%	-	-
Transport provided:									
Departmental activity	529	(529)	-	-	-	-		-	-
Travel and subsistence	6,117	3,676	(359)	9,434	9,434	-	100.0%	13,720	13,648
Training and development	2,787	(3,147)	360	-	-	-	-	18	-
Operating payments	267	245	-	512	512	-	100.0%	836	822
Venues and facilities	3,486	3,656	726	7,868	7,868	-	100.0%	1,448	1,432
Rental and hiring	1,565	(907)	(463)	195	195	-	100.0%	148	135
Transfers and subsidies	**68,125**	-	-	**68,125**	**68,165**	**(40)**	**100.1%**	**98,622**	**64,214**
Departmental agencies and accounts	**14,948**	-	-	**14,948**	**29,525**	**(14,577)**	**197.5%**	**14,130**	**45,136**
Departmental agencies	14,948	-	-	14,948	29,525	(14,577)	197.5%	14,130	45,136
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	-	-	-	-	**8,780**	**(8,780)**	-	-	**4,790**
Public corporations	-	-	-	-	**8,402**	**(8,402)**	-	-	**4,790**
Other transfers to public corporations	-	-	-	-	8,402	(8,402)	-	-	4,790
Private enterprises	-	-	-	-	**378**	**(378)**	-	-	-
Other transfers to private enterprises	-	-	-	-	378	(378)	-	-	-
Non-profit institutions	52,527	-	-	52,527	28,970	23,557	55.2%	84,478	14,278

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Households	**650**	**-**	**-**	**650**	**890**	**(240)**	**136.9%**	**14**	**10**
Social benefits	-	-	-	-	240	(240)	-	14	10
Other transfers to households	650	-	-	650	650	-	100.0%	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**10**	**(10)**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	10	(10)	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	10	(10)	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**3**	**3**	**-**	**3**	**-**	**3**	**3**
Total	**137,899**	**-**	**4,550**	**142,449**	**139,872**	**2,577**	**98.2%**	**168,211**	**130,598**

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 3.1: Multilateral Cooperation 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	**22,829**	**2,069**	**1,981**	**26,879**	**26,735**	**144**	**99.5%**	**25,080**	**24,284**
Compensation of employees	**15,345**	**2,772**	**-**	**18,117**	**18,117**	**-**	**100.0%**	**17,332**	**16,616**
Salaries and wages	13,648	2,531	-	16,179	16,179	-	100.0%	15,465	14,840
Social contributions	1,697	241	-	1,938	1,938	-	100.0%	1,867	1,776
Goods and services	**7,484**	**(703)**	**1,981**	**8,762**	**8,618**	**144**	**98.4%**	**7,748**	**7,668**
Administrative fees	40	382	-	422	422	-	100.0%	101	101
Advertising	160	(101)	-	59	59	-	100.0%	1	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	112	(136)	176	152	152	-	100.0%	217	217
Communication (G&S)	277	70	-	347	344	3	99.1%	262	250
Computer services	35	(172)	200	63	63	-	100.0%	3	-
Consultants: Business and advisory services	-	152	1,334	1,486	1,486	-	100.0%	1,186	1,186
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	(596)	766	170	54	116	31.8%	22	22
Agency and support/outsourced services	-	-	-	-	-	-	-	534	519
Entertainment	117	(111)	-	6	6	-	100.0%	31	19

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 3.1: Multilateral Cooperation 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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	25	3	-	28	3	25	10.7%	2	2
Consumables: Stationery, printing and office supplies	-	-	-	-	-	-	-	25	25
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	4,867	(933)	(495)	3,439	3,439	-	100.0%	4,900	4,883
Training and development	-	-	-	-	-	-	-	7	-
Operating payments	177	(115)	-	62	62	-	100.0%	127	124
Venues and facilities	1,674	854	-	2,528	2,528	-	100.0%	327	320
Rental and hiring	-	-	-	-	-	-	-	3	-
Transfers and subsidies	**9,388**	**-**	**-**	**9,388**	**9,388**	**-**	**100.0%**	**8,886**	**7,069**
Departmental agencies and accounts	**-**	**-**	**-**	**-**	**5,200**	**(5,200)**	**-**	**-**	**3,300**
Departmental agencies	-	-	-	-	5,200	(5,200)	-	-	3,300
Higher education institutions	-	-	-	-			-	-	-

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
	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	-	-	-	-	**4,002**	**(4,002)**	-	-	**3,110**
Public corporations	-	-	-	-			-	-	**3,110**
Subsidies on products	-	-	-	-			-	-	-
Other transfers to public corporations	-	-	-	-	4,002	(4,002)	-	-	3,110
Private enterprises	-	-	-	-			-	-	-
Other transfers to private enterprises	-	-	-	-			-	-	-
Non-profit institutions	9,388	-	-	9,388	186	9,202	2.0%	8,872	649
Households	-	-						**14**	**10**
Social benefits	-	-						14	10
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-		-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	3	3	-	3	-	-	-
Total	**32,217**	**2,069**	**1,984**	**36,270**	**36,123**	**147**	**99.6%**	**33,966**	**31,353**

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**19,866**	**(69)**	**556**	**20,353**	**18,694**	**1,659**	**91.8%**	**19,218**	**18,313**
Compensation of employees	**16,352**	**(772)**	**-**	**15,580**	**13,991**	**1,589**	**89.9%**	**14,717**	**13,884**
Salaries and wages	14,722	(772)	-	13,950	12,769	1,181	91.5%	13,353	12,552
Social contributions	1,630	-	-	1,630	1,222	408	75.0%	1,364	1,332
Goods and services	**3,514**	**703**	**556**	**4,773**	**4,703**	**70**	**98.5%**	**4,501**	**4,429**
Administrative fees	105	-	-	105	74	31	70.5%	99	98
Advertising	212	(212)	-	-	-	-	-	100	80
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	195	(117)	-	78	78	-	100.0%	70	70
Communication (G&S)	298	-	311	609	609	-	100.0%	461	458
Computer services	148	(148)	-	-	-	-	-	3	-
Consultants: Business and advisory services	72	-	426	498	498	-	100.0%	3	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	23	-	-	23	-	23	-	22	5
Entertainment	199	(98)	-	101	101	-	100.0%	148	147

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	16	-	2	18	2	16	11.1%	12	10
Consumables: Stationery, printing and office supplies	-	6	-	6	6	-	100.0%	11	11
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,250	1,460	(730)	1,980	1,980	-	100.0%	2,720	2,716
Training and development	-	(360)	360	-	-	-	-	7	-
Operating payments	90	360	-	450	450	-	100.0%	609	601
Venues and facilities	906	(188)	-	718	718	-	100.0%	115	115
Rental and hiring	-	-	187	187	187	-	100.0%	121	118
Transfers and subsidies	**43,139**	**-**	**-**	**43,139**	**43,157**	**(18)**	**100.0%**	**75,606**	**43,166**
Departmental agencies and accounts	**-**	**-**	**-**	**-**	**9,532**	**(9,532)**	**-**	**-**	**27,857**
Departmental agencies	-	-	-	-	9,532	(9,532)		-	27,875
Higher education institutions	-	-	-	-			-	-	

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	-	-	-	-	**4,778**	**(4,778)**	-	-	**1,680**
Public corporations	-	-	-	-	**4,400**	**(4,400)**	-	-	**1,680**
Subsidies	-	-	-	-			-	-	-
Other transfers to public corporations	-	-	-	-	4,400	(4,400)	-	-	1,680
Private enterprises	-	-	-	-	**378**	**(378)**	-	-	-
Other transfers to private enterprises	-	-	-	-	378	(378)	-	-	-
Non-profit institutions	43,139	-	-	43,139	28,784	14,355	66.7%	75,606	13,629
Households	-	-	-	-	**63**	**(63)**	-	-	-
Social benefits	-	-	-	-	63	(63)	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets									
Total	**63,005**	**(69)**	**556**	**63,492**	**61,851**	**1,641**	**97.4%**	**94,826**	**61,481**

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**27,079**	**(2,000)**	**2,010**	**27,089**	**26,268**	**821**	**97.0%**	**25,288**	**23,784**
Compensation of employees	**18,655**	**(2,000)**	**-**	**16,655**	**15,909**	**746**	**95.5%**	**16,794**	**15,568**
Salaries and wages	17,202	(2,000)	-	15,202	14,536	666	95.6%	15,390	14,240
Social contributions	1,453	-	-	1,453	1,373	80	94.5%	1,404	1,328
Goods and services	**8,424**	**-**	**2,010**	**10,434**	**10,359**	**75**	**99.3%**	**8,494**	**8,216**
Administrative fees	17	-	832	849	849	-	100.0%	181	174
Advertising	74	-	28	102	102	-	100.0%	70	10
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	86	-	-	86	37	49	43.0%	81	68
Communication (G&S)	880	(570)	-	310	310	-	100.0%	272	270
Computer services	-	-	14	14	14	-	100.0%	15	11
Consultants: Business and advisory services	213	(213)	-	-	-	-	-	104	-
Legal services								-	-
Contractors	-	-	157	157	157	-	100.0%	13	10
Agency and support/outsourced services	670	(670)	-	-	-	-	-	3	-
Entertainment	510	(438)	-	72	72	-	100.0%	494	492
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Medical supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	187	(161)	3	29	3	26	10.3%	7	3
Consumables: Stationery, printing and office supplies	-	-	34	34	34	-	100.0%	20	18
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	136	-	136	136	-	100.0%	-	-
Transport provided:									
Departmental activity	529	(529)	-					-	-
Travel and subsistence	-	3,149	866	4,015	4,015	-	100.0%	6,100	6,049
Training and development	2,787	(2,787)	-					4	-
Operating payments								100	97
Venues and facilities	906	2,990	726	4,622	4,622	-	100.0%	1,006	997
Rental and hiring	1,565	(907)	(650)	8	8	-	100.0%	24	17
Transfers and subsidies	**15,598**	**-**	**-**	**15,598**	**15,620**	**(22)**	**100.1%**	**14,130**	**13,979**
Departmental agencies and accounts	**14,948**	**-**	**-**	**14,948**	**14,793**	**155**	**99.0%**	**14,130**	**13,979**
Departmental agencies	14,948	-	-	14,948	14,793	155	99.0%	14,130	13,979

Detail per Programme 3 – International Cooperation and Resources for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Higher education institutions	-	-	-	-	-	-	-	-	-
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	**650**	-	-	**650**	**827**	**(177)**	**127.2%**	-	-
Social benefits	-	-	-	-	177	(177)	-	-	-
Other transfers to households	650	-	-	650	650	-	100.0%	-	-
Payment for capital assets	-	-	-	-	**10**	**(10)**	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	10	(10)	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	10	(10)	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	1	1
Total	**42,677**	**(2,000)**	**2,010**	**42,687**	**41,898**	**789**	**98.2%**	**39,419**	**37,764**

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
4.1 Human Capital and Science Promotion	2,457,111	(2,761)	(6,039)	2,448,311	2,447,150	1,161	100.0%	2,375,504	2,367,069
4.2 Science Missions	225,755	3,097	(5,073)	223,779	223,348	431	99.8%	214,313	214,211
4.3 Basic Sciences and Infrastructure	1,095,484	334	-	1,095,818	1,095,294	524	100.0%	977,723	977,488
4.4 Astronomy	752,642	(670)	(822)	751,150	750,834	316	100.0%	733,255	733,156
Total	**4,530,992**	**-**	**(11,934)**	**4,519,058**	**4,516,626**	**2,432**	**99.9%**	**4,300,795**	**4,291,924**
Economic classification									
Current payments	**55,353**	**-**	**(4,421)**	**50,932**	**49,365**	**1,567**	**96.9%**	**47,992**	**47,532**
Compensation of employees	**36,211**	**-**	**-**	**36,211**	**34,754**	**1,457**	**96.0%**	**35,412**	**35,206**
Salaries and wages	31,885	(271)	-	31,614	31,176	438	98.6%	31,768	31,627
Social contributions	4,326	271	-	4,597	3,578	1,019	77.8%	3,644	3,579
Goods and services	**19,142**	**-**	**(4,421)**	**14,721**	**14,611**	**110**	**99.3%**	**12,580**	**12,326**
Administrative fees	218	209	67	494	494	-	100.0%	309	256
Advertising	1,343	453	(950)	846	846	-	100.0%	1,002	1,002
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	735	(382)	-	353	352	1	99.7%	163	147

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Communication (G&S)	735	(219)	(9)	507	507	-	100.0%	519	486
Computer services	122	(122)	-	-	-	-	-	31	-
Consultants: Business and advisory services	3,964	318	(2,991)	1,291	1,291	-	100.0%	1,081	1,064
Scientific and technological services	-	-	-	-	-	-	-	-	-
Legal services	50	(50)	-	-	-	-	-	-	-
Contractors	70	(70)	-	-	-	-	-	343	343
Agency and support/outsourced services	531	(1,337)	1,496	690	681	9	98.7%	273	238
Entertainment	32	-	(9)	23	8	15	34.8%	29	16
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	50	(27)	-	23	3	20	13.0%	19	-
Consumables: Stationery, printing and office supplies	139	(64)	-	75	41	34	54.7%	43	42

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	8,368	1,559	(2,025)	7,902	7,902	-	100.0%	7,159	7,145
Training and development	-	-	-	-	-	-	-	4	-
Operating payments	693	87	-	780	749	31	96.0%	551	546
Venues and facilities	2,092	(355)	-	1,737	1,737	-	100.0%	745	740
Rental and hiring	-	-	-	-	-	-	-	309	301
Transfers and subsidies	**4,475,639**	**-**	**(7,513)**	**4,468,126**	**4,467,246**	**880**	**100.0%**	**4,252,752**	**4,244,341**
Departmental agencies and accounts	**4,225,500**	**-**	**(7,513)**	**4,217,987**	**3,859,068**	**358,919**	**91.5%**	**3,978,235**	**3,639,288**
Departmental agencies	4,225,500	-	(7,513)	4,217,987	3,859,068	358,919	91.5%	3,978,235	3,639,,288
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**250,139**	**-**	**-**	**250,139**	**466,743**	**(216,604)**	**186.6%**	**274,413**	**457,544**
Public corporations	**250,139**	**-**	**-**	**250,139**	**466,743**	**(216,604)**	**186.6%**	**274,413**	**457,544**
Subsidies	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	250,139	-	-	250,139	466,743	(216,604)	186.6%	274,413	457,544
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	141,435	(141,435)	-	-	146,725
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**104**	**784**

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Social benefits	-	-	-	-	-	-	-	104	104
Other transfers to households	-	-	-	-	-	-	-	-	680
Payment for capital assets	**-**	**-**	**-**	**-**	**12**	**(12)**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	12	(12)	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	12	(12)	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**3**	**(3)**	**-**	**51**	**51**
Total	**4,530,992**	**-**	**(11,934)**	**4,519,058**	**4,516,626**	**2,432**	**99.9%**	**4,300,795**	**4,291,924**

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**16,192**	**(2,761)**	**(573)**	**12,858**	**11,697**	**1,161**	**91.0%**	**12,333**	**12,188**
Compensation of employees	**11,606**	**(2,000)**	**-**	**9,606**	**8,480**	**1,126**	**88.3%**	**10,092**	**10,013**
Salaries and wages	9,904	(2,000)	-	7,904	7,640	264	96.7%	9,112	9,041
Social contributions	1,702	-	-	1,702	840	862	49.4%	980	972
Goods and services	**4,586**	**(761)**	**(573)**	**3,252**	**3,217**	**35**	**98.5%**	**2,241**	**2,175**
Administrative fees	52	-	67	119	119	-	100.0%	62	62
Advertising	43	(939)	-	4	4	-	100.0%	1	1
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	235	(145)	-	90	89	1	98.9%	40	37
Communication (G&S)	315	(147)	-	168	168	-	100.0%	178	171
Computer services	80	(80)	-	-	-	-	-	3	-
Consultants: Business and advisory services	-	-	-	-	-	-	-	-	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	193	-	486	679	670	9	98.7%	122	120
Entertainment	16	-	(9)	7	2	5	28.6%	15	4
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	20	-	-	20	-	20	-	19	-
Consumables: Stationery, printing and office supplies	-	-	-	-	-	-	-	2	1
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	2,213	720	(1,117)	1,816	1,816	-	100.0%	1,540	1,534
Training and development	-	-	-	-	-	-	100.0%	2	-
Operating payments	212	112	-	324	324	-		250	245
Venues and facilities	1,207	(1,182)	-	25	25	-	100.0%	5	-
Rental and hiring	-	-	-	-	-	-	-	2	-
Transfers and subsidies	**2,440,919**	**-**	**(5,466)**	**2,435,453**	**2,435,453**	**-**	**100.0%**	**2,363,123**	**2,354,833**
Departmental agencies and accounts	**2,427,119**	**-**	**(5,466)**	**2,421,653**	**2,370,729**	**50,924**	**97.9%**	**2,311,922**	**2,265,705**
Departmental agencies	2,427,119	-	(5,466)	2,421,653	2,370,729	50,924	97,9%	2,311,922	2,265,705
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations and private enterprises	**13,800**	**-**	**-**	**13,800**	**43,396**	**(29,596)**	**314.5%**	**51,140**	**39,056**
Public corporations	**13,800**	**-**	**-**	**13,800**	**43,396**	**(29,596)**	**314.5%**	**51,140**	**39,056**
Subsidies									
Other transfers to public corporations	13,800	-	-	13,800	43,396	(29,596)	314.5%	51,140	39,056
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	21,328	(21,328)	-	-	49,611
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	61	461
Social benefits	-	-	-	-	-	-	-	61	61
Other transfers to households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	400
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**48**	**48**
Total	**2,457,111**	**(2,761)**	**(6,039)**	**2,448,311**	**2,447,150**	**1,161**	**100.0%**	**2,375,504**	**2,367,069**

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**17,430**	**3,097**	**(3,437)**	**17,090**	**17,059**	**31**	**99.8%**	**15,949**	**15,847**
Compensation of employees	**11,215**	**1,892**	**-**	**13,107**	**13,107**	**-**	**100.0%**	**12,935**	**12,901**
Salaries and wages	10,140	1,631	-	11,771	11,771	-	100.0%	11,583	11,563
Social contributions	1,075	261	-	1,336	1,336	-	100.0%	1,352	1,338
Goods and services	**6,215**	**1,205**	**(3,437)**	**3,983**	**3,952**	**31**	**99.2%**	**3,014**	**2,946**
Administrative fees	58	21	-	79	79	-	100.0%	69	69
Advertising	-	32	-	32	32	-	100.0%	5	5
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	43	(43)	-	-	-	-	-	31	28
Communication (G&S)	194	(26)	-	168	168	-	100.0%	183	161
Computer services	42	(42)	-	-	-	-	-	26	-
Consultants: Business and advisory services	3,314	947	(3,000)	1,261	1,261	-	100.0%	497	482
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	3	3
Agency and support/outsourced services	278	(278)	-	-	-	-	-	-	-
Entertainment	5	(1)	-	4	4	-	100.0%	5	5
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumables: Stationery, printing and office supplies	-	-	-	-	-	-	-	10	10
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,920	811	(437)	2,294	2,294	-	100.0%	2,164	2,162
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	181	(36)	-	145	114	31	78.6%	3	3
Venues and facilities	180	(180)	-	-	-	-	-	18	18
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**208,325**	**-**	**(1,636)**	**206,689**	**206,289**	**400**	**99.8%**	**198,364**	**198,364**
Departmental agencies and accounts	**208,325**	**-**	**(1,636)**	**206,689**	**188,883**	**17,806**	**91.4%**	**198,321**	**180,626**
Departmental agencies	208,325	-	(1,636)	206,689	188,883	17,806	91.4%	198,321	180,626
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations and private enterprises	-	-	-	-	6,355	(6,355)	-	-	5,215
Public corporations	-	-	-	-	6,355	(6,355)	-	-	5,215
Subsidies	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	6,355	(6,355)	-	-	5,215
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	11,051	(11,051)	-	-	12,480
Households	-	-	-	-	-	-	-	43	43
Social benefits	-	-	-	-	-	-	-	43	43
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	225,755	3,097	(5,073)	223,779	223,348	431	99.8%	214,313	214,211

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 4.3: Basic Sciences 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	**9,551**	**334**	**-**	**9,885**	**9,841**	**44**	**99.6%**	**9,734**	**9,620**
Compensation of employees	**7,401**	**1,163**	**-**	**8,564**	**8,554**	**10**	**99.9%**	**7,994**	**7,937**
Salaries and wages	6,477	1,153	-	7,630	7,620	10	99.9%	7,121	7,101
Social contributions	924	10	-	934	934	-	100.0%	873	836
Goods and services	**2,150**	**(829)**	**-**	**1,321**	**1,287**	**34**	**97.4%**	**1,740**	**1,683**
Administrative fees	20	18	-	38	38	-	100.0%	66	65
Advertising	-	-	-	-	-	-	-	1	1
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	145	(85)	-	60	60	-	100.0%	17	14
Communication (G&S)	110	13	(9)	114	114	-	100.0%	92	88
Computer services	-	-	-	-	-	-	-	2	-
Consultants: Business and advisory services	-	21	9	30	30	-	100.0%	2	-
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	-	11	-	11	11	-	100.0%	51	20
Entertainment	-	1	-	1	1	-	100.0%	5	4

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 4.3: Basic Sciences 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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	2	-	2	2	-	100.0%	-	-
Consumables: Stationery, printing and office supplies	35	-	-	35	1	34	2.9%	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,695	(677)	-	1,018	1,018	-	100.0%	1,305	1,299
Training and development	-	-	-	-	-	-	-	2	-
Operating payments	-	-	-	-	-	-	-	-	-
Venues and facilities	145	(133)	-	12	12	-	100.0%	192	192
Rental and hiring	-	-	-	-	-	-	-	5	-
Transfers and subsidies	**1,085,933**	**-**	**-**	**1,085,933**	**1,085,453**	**480**	**100.0%**	**967,986**	**967,865**
Departmental agencies and accounts	**849,594**	**-**	**-**	**849,594**	**559,610**	**289,984**	**65.9%**	**744,713**	**469,678**
Departmental agencies	849,594	-	-	849,594	559,610	289,984	65.9%	744,713	469,678
Higher education institutions	-	-	-	-	-	-	-	-	-

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 4.3: Basic Sciences 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	**236,339**	**-**	**-**	**236,339**	**416,992**	**(180,653)**	**176.4%**	**223,273**	**413,273**
Public corporations	**236,339**	**-**	**-**	**236,339**	**416,992**	**(180,653)**	**176.4%**	**223,273**	**413,273**
Subsidies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to public corporations	236,339	-	-	236,339	416,992	(180,653)	176.4%	223,273	413,273
Private enterprises	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	**-**	**-**	**-**	**-**	108,851	(108,851)	**-**	**-**	84,634
Households	-	-	-	-	-	-	-	-	280
Social benefits	-	-	-	-	-	-	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	280
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Machinery and equipment	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Payment for financial assets	**-**	-	-	-	-	-	-	3	3
Total	**1,095,484**	**334**	**-**	**1,095,818**	**1,095,294**	**524**	**100.0%**	**977,723**	**977,488**

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**12,180**	**(670)**	**(411)**	**11,099**	**10,768**	**331**	**97.0%**	**9,976**	**9,877**
Compensation of employees	**5,989**	**(1,055)**	**-**	**4,934**	**4,613**	**321**	**93.5%**	**4,391**	**4,355**
Salaries and wages	5,364	(1,055)	-	4,309	4,145	164	96.2%	3,952	3,922
Social contributions	625	-	-	625	468	157	74.9%	439	433
Goods and services	**6,191**	**385**	**(411)**	**6,165**	**6,155**	**10**	**99.8%**	**5,585**	**5,522**
Administrative fees	88	170	-	258	258	-	100.0%	112	60
Advertising	1,300	460	(950)	810	810	-	100.0%	995	995
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	312	(109)	-	203	203	-	100.0%	75	68
Communication (G&S)	116	(59)	-	57	57	-	100.0%	66	66
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	650	(650)	-	-	-	-	-	582	582
Scientific and technological services	-	-	-	-	-	-	-	-	-
Legal services	50	(50)	-	-	-	-	-	-	-
Contractors	70	(70)	-	-	-	-	-	340	340
Agency and support/outsourced services	60	(1,070)	1,010	-	-	-	-	100	98
Entertainment	11	-	-	11	1	10	9.1%	4	3

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	30	(29)	-	1	1	-	100.0%	-	-
Consumables: Stationery, printing and office supplies	104	(64)	-	40	40	-	100.0%	31	31
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	2,540	705	(471)	2,774	2,774	-	100.0%	2,150	2,150
Training and development	-	-	-	-	-	-	-	1	-
Operating payments	300	11	-	311	311	-	100.0%	298	298
Venues and facilities	560	1,140	-	1,700	1,700	-	100.0%	530	530
Rental and hiring	-	-	-	-	-	-	-	302	301
Transfers and subsidies	**740,462**	**-**	**(411)**	**740,051**	**740,051**	**-**	**100.0%**	**723,279**	**723,279**
Departmental agencies and accounts	**740,462**	**-**	**(411)**	**740,051**	**739,846**	**205**	**100.0%**	**723,279**	**723,279**
Departmental agencies	740,462	-	(411)	740,051	739,846	205	100.0%	723,279	723,279
Higher education institutions	-	-	-	-	-	-	-	-	-

Detail per Programme 4 – Research Development and Support for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
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	-	-	-	-	205	(205)		-	
Households	-	-	-	-	-	-	-	-	-
Social benefits	-	-	-	-	-	-	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	**12**	**(12)**	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	12	(12)	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	**3**	**3**	-	-	-
Total	**752,642**	**(670)**	**(822)**	**751,150**	**750,834**	**316**	**100.0%**	**733,255**	**733,156**

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
5.1 Sector Innovation and Green Economy	1,036,797	(1,074)	(3,361)	1,032,362	1,102,855	(70,493)	106.8%	974,369	996,730
5.2 Innovation for Inclusive Development	354,814	764	(14,049)	341,529	339,953	1,576	99.5%	356,943	356,729
5.3 Science and Technology Investment	27,327	2,828	-	30,155	29,935	220	99.3%	22,613	22,198
5.4 Technology Localisation, Beneficiation and Advanced Manufacturing	359,322	(2,518)	(1,656)	355,148	278,477	76,671	78.4%	259,642	236,988
Total	**1,778,260**	**-**	**(19,066)**	**1,759,194**	**1,751,220**	**7,974**	**99.5%**	**1,613,567**	**1,612,645**
Economic classification									
Current payments	**52,627**	**-**	**(973)**	**51,654**	**47,740**	**3,914**	**92.4%**	**46,276**	**45,356**
Compensation of employees	**42,968**	**-**	**-**	**42,968**	**40,530**	**2,438**	**94.3%**	**39,933**	**39,133**
Salaries and wages	38,690	(290)	-	38,400	36,411	1,989	94.8%	35,685	35,116
Social contributions	4,278	290	-	4,568	4,119	449	90.2%	4,248	4,017
Goods and services	**9,659**	**-**	**(973)**	**8,686**	**7,210**	**1,476**	**83.0%**	**6,343**	**6,223**
Administrative fees	129	25	(9)	145	90	55	62.1%	94	85
Advertising	219	(123)	-	96	-	96	-	14	6
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	297	(68)	-	229	39	190	17.0%	54	42
Communication (G&S)	1,036	(157)	-	879	614	265	69.9%	573	560
Computer services	76	-	-	76	-	76	-	-	-
Consultants: Business and advisory services	3,660	(2,990)	-	670	652	18	97.3%	380	373
Legal services	-	276	-	276	276	-	100.0%	616	616
Contractors	-	3	-	3	3	-	100.0%	-	-
Agency and support/outsourced services	186	2,629		2,815	2,815	-	100.0%	1,355	1,355
Entertainment	106	-	-	106	6	100	5.7%	55	15
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing, material and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	5	2	-	7	2	5	28.6%	6	1

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Consumables: Stationery, printing and office supplies	-	93	-	93	93	-	100.0%	92	88
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	3,003	236	(964)	2,275	1,872	403	82.3%	2,915	2,913
Training and development	-	-	-	-	-	-	-	14	-
Operating payments	43	747	-	790	748	42	94.7%	122	122
Venues and facilities	899	(673)	-	226	-	226	-	53	47
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**1,725,633**	**-**	**(18,102)**	**1,707,531**	**1,703,472**	**4,059**	**99.8%**	**1,567,286**	**1,567,284**
Departmental agencies and accounts	**568,714**	**-**	**(14,689)**	**554,025**	**398,886**	**155,139**	**72.0%**	**498,575**	**384,413**
Departmental agencies	568,714	-	(14,689)	554,025	398,886	155,139	72.0%	498,575	384,413
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-
Public corporations and private enterprises	**1,156,919**	**-**	**(3,413)**	**1,153,506**	**1,245,651**	**(92,145)**	**108.0%**	**1,068,688**	**1,157,095**
Public corporations	**1,156,919**	**-**	**(3,413)**	**1,153,506**	**1,234,502**	**(80,996)**	**107.0%**	**1,068,688**	**1,139,797**
Subsidies on products	963,164	-	-	963,164	963,164	-	100.0%	915,645	915,645
Other transfers to public corporations	193,755	-	(3,413)	190,342	271,338	(80,996)	142.6%	153,043	224,152
Private enterprises	**-**	**-**	**-**	**-**	**11,149**	**(11,149)**	**-**	**-**	**17,298**

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual expenditure	Variance	Expenditure as % of final appropriation	Final appropriation	Actual expenditure
	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
Other transfers to private enterprises	-	-	-	-	11,149	(11,149)	-	-	17,298
Non-profit institutions	-	-	-	-	58,842	(58,842)	-	-	25,753
Households	**-**	**-**	**-**	**-**	**93**	**(93)**	**-**	**23**	**23**
Social benefits	-	-	-	-	93	(93)	-	23	23
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible -assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**9**	**9**	**8**	**1**	**88.9%**	**5**	**5**
Total	**1,778,260**	**-**	**(19,066)**	**1,759,194**	**1,751,220**	**7,974**	**99.5%**	**1,613,567**	**1,612,645**

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**12,388**	**(1,074)**	**(973)**	**10,341**	**9,742**	**599**	**94.2%**	**9,946**	**9,914**
Compensation of employees	**8,373**	**400**	**-**	**8,773**	**8,701**	**72**	**99.2%**	**8,690**	**8,695**
Salaries and wages	7,335	460	-	7,795	7,734	61	99.2%	7,701	7,719
Social contributions	1,038	(60)	-	978	967	11	98.9%	989	976
Goods and services	**4,015**	**(1,474)**	**(973)**	**1,568**	**1,041**	**527**	**66.4%**	**1,256**	**1,219**
Administrative fees	66	-	(9)	57	37	20	64.9%	19	19
Advertising	85	-	-	85	-	85	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	95	-	-	95	11	84	11.6%	4	4
Communication (G&S)	358	-	-	358	159	199	44.4%	161	161
Computer services	76	-	-	76	-	76	-	-	-
Consultants: Business and advisory services	1,593	(1,593)	-	-	-	-	-	58	58
Legal services	-	-	-	-	-	-	-	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	44	366	-	410	410	-	100.0%	151	151
Entertainment	21	-	-	21	-	21	-	20	2
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	5	-	-	5	-	5	-	5	-
Consumables: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,406	-	(964)	442	423	19	95.7%	757	757
Training and development	-	-	-	-	-	-	-	14	-
Operating payments	19	-	-	19	1	18	5.3%	67	67
Venues and facilities	247	(247)	-	-	-	-	-	-	-
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**1,024,409**	**-**	**(2,397)**	**1,022,012**	**1,093,105**	**(71,093)**	**107.0%**	**964,423**	**986,816**
Departmental agencies and accounts	**32,611**	**-**	**-**	**32,611**	**4,250**	**28,361**	**13.0%**	**21,895**	**3,755**
Departmental agencies	32,611	-	-	32,611	4,250	28,361	13.0%	21,895	3,755
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations and private enterprises	**991,798**	**-**	**(2,397)**	**989,401**	**1,037,947**	**(48,546)**	**104.9%**	**942,528**	**965,388**
Public corporations	**991,798**	**-**	**(2,397)**	**989,401**	**1,037,546**	**(48,145)**	**104.9%**	**942,528**	**961,435**
Subsidies on products and production	963,164	-	-	963,164	963,164	-	100.0%	915,645	915,645
Other transfers to public corporations	28,634	-	(2,397)	26,237	74,382	(48,145)	283.5%	26,883	45,790
Private enterprises	**-**	**-**	**-**	**-**	**401**	**(401)**	**-**	**-**	**3,953**
Other transfers to private enterprises	-	-	-	-	401	(401)	-	-	3,953
Non-profit institutions	-	-	-	-	50,908	(50,908)	-	-	17,673
Households	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Social benefits	-	-	-	-	-	-	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	**-**	**9**	**9**	**8**	**1**	**88.9%**	**-**	**-**
Total	**1,036,797**	**(1,074)**	**(3,361)**	**1,032,362**	**1,102,855**	**(70,493)**	**106.8%**	**974,369**	**996,730**

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**11,191**	**764**	**-**	**11,955**	**10,380**	**1,575**	**86.8%**	**9,147**	**8,933**
Compensation of employees	**10,446**	**(900)**	**-**	**9,546**	**8,102**	**1,444**	**84.9%**	**7,709**	**7,512**
Salaries and wages	9,773	(1,050)	-	8,723	7,282	1,441	83.5%	6,907	6,750
Social contributions	673	150	-	823	820	3	99.6%	802	762
Goods and services	**745**	**1,664**	**-**	**2,409**	**2,278**	**131**	**94.6%**	**1,438**	**1,421**
Administrative fees	43	-	-	43	23	20	53.5%	43	43
Advertising	11	-	-	11	-	11	-	8	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	58	-	-	58	11	47	19.0%	8	8
Communication (G&S)	168	(66)	-	102	102	-	100.0%	91	91
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	18	-	-	18	-	18	-	7	-
Legal services	-	276	-	276	276	-	100.0%	-	-
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	142	1,036	-	1,178	1,178	-	100.0%	-	-
Entertainment	14	-	-	14	3	11	21.4%	4	4
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumables: Stationery, printing and office supplies	-	-	-	-	-	-	-	-	-
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	55	630	-	685	685	-	100.0%	1,243	1,241
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	24	-	-	24	-	24	-	34	34
Venues and facilities	212	(212)	-	-	-	-	-	-	-
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**343,623**	**-**	**(14,049)**	**329,574**	**329,573**	**1**	**100.0%**	**347,796**	**347,796**
Departmental agencies and accounts	**343,623**	**-**	**(14,049)**	**329,574**	**322,839**	**6,735**	**98.0%**	**347,796**	**339,705**
Departmental agencies	343,623	-	(14,049)	329,574	322,839	6,735	98.0%	347,796	339,705
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Public corporations and private enterprises	-	-	-	-	-	-	-	-	**5,182**
Public corporations	-	-	-	-	-	-	-	-	**5,182**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	-	-	-	-	-	-	-	-	5,182
Private enterprises	-	-	-	-	-	-	-	-	-
Other transfers to private enterprises	-	-	-	-	-	-	-	-	-
Non-profit institutions	-	-	-	-	6,734	(6,734)	-	-	2,909
Households	-	-	-	-	-	-	-	-	-
Social benefits	-	-	-	-	-	-	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	**354,814**	**764**	**(14,049)**	**341,529**	**339,953**	**1,576**	**99.5%**	**356,943**	**356,729**

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**13,343**	**2,828**	**-**	**16,171**	**15,858**	**313**	**98.1%**	**15,637**	**15,222**
Compensation of employees	**11,616**	**2,500**	**-**	**14,116**	**13,856**	**260**	**98.2%**	**13,168**	**12,800**
Salaries and wages	10,391	2,300	-	12,691	12,479	212	98.3%	11,746	11,513
Social contributions	1,225	200	-	1,425	1,377	48	96.6%	1,422	1,287
Goods and services	**1,727**	**328**	**-**	**2,055**	**2,002**	**53**	**97.4%**	**2,469**	**2,422**
Administrative fees	20	-	-	20	5	15	25.0%	19	10
Advertising	123	(123)	-	-	-	-	-	6	6
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	78	(68)	-	10	10	-	100.0%	33	21
Communication (G&S)	304	(91)	-	213	213	-	100.0%	176	176
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	503	(143)	-	360	360	-	100.0%	240	240
Legal services	-	-	-	-	-	-	-	397	397
Contractors	-	3	-	3	3	-	100.0%	-	-
Agency and support/outsourced services	-	1,103	-	1,103	1,103	-	100.0%	1,137	1,137
Entertainment	40	-	-	40	2	38	5.0%	28	6

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	-	-	-	-	-	-	-	-
Consumables: Stationery, printing and office supplies	-	14	-	14	14	-	100.0%	43	39
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	445	(165)	-	280	280	-	100.0%	357	357
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	12	-	12	12	-	100.0%	12	12
Venues and facilities	214	(214)	-	-	-	-	-	21	21
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**13,984**	**-**	**-**	**13,984**	**14,077**	**(93)**	**100.7%**	**6,976**	**6,976**
Departmental agencies and accounts	**13,984**	**-**	**-**	**13,984**	**13,984**	**-**	**100.0%**	**6,953**	**6,953**
Departmental agencies	13,984	-	-	13,984	13,984	-	100.0%	6,953	6,953
Higher education institutions	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	-	-	-	-	93	(93)	-	23	23
Social benefits	-	-	-	-	93	(93)	-	23	23
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	-	-	-	-	-	-	-	-	-
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	-	-	-	-	-	-	-	-	-
Total	27,327	2,828	-	30,155	29,935	220	99.3%	22,613	22,198

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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	**15,705**	**(2,518)**	**-**	**13,187**	**11,760**	**1,427**	**89.2%**	**11,546**	**11,287**
Compensation of employees	**12,533**	**(2,000)**	**-**	**10,533**	**9,871**	**662**	**93.7%**	**10,366**	**10,126**
Salaries and wages	11,191	(2,000)	-	9,191	8,916	275	97.0%	9,331	9,134
Social contributions	1,342	-	-	1,342	955	387	71.2%	1,035	992
Goods and services	**3,172**	**(5180)**	**-**	**2,654**	**1,889**	**765**	**71.2%**	**1,180**	**1,161**
Administrative fees	-	25	-	25	25	-	100.0%	13	13
Advertising	-	-	-	-	-	-	-	-	-
Minor assets	-	-	-	-	-	-	-	-	-
Audit costs: External	-	-	-	-	-	-	-	-	-
Bursaries: Employees	-	-	-	-	-	-	-	-	-
Catering: Departmental activities	66	-	-	66	7	59	10.6%	9	9
Communication (G&S)	206	-	-	206	140	66	68.0%	145	132
Computer services	-	-	-	-	-	-	-	-	-
Consultants: Business and advisory services	1,546	(1,254)	-	292	292	-	100.0%	75	75
Legal services	-	-	-	-	-	-	-	219	219
Contractors	-	-	-	-	-	-	-	-	-
Agency and support/outsourced services	-	124	-	124	124	-	100.0%	67	67
Entertainment	31	-	-	31	1	30	3.2%	3	3
Fleet services (incl. government motor transport)	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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
Inventory: Clothing and accessories	-	-	-	-	-	-	-	-	-
Inventory: Fuel, oil and gas	-	-	-	-	-	-	-	-	-
Inventory: Material and supplies	-	-	-	-	-	-	-	-	-
Inventory: Other supplies	-	-	-	-	-	-	-	-	-
Consumable supplies	-	2	-	2	2	-	100.0%	1	1
Consumables: Stationery, printing and office supplies	-	79	-	79	79	-	100.0%	49	49
Operating leases	-	-	-	-	-	-	-	-	-
Property payments	-	-	-	-	-	-	-	-	-
Travel and subsistence	1,097	(229)	-	868	484	384	55.8%	558	558
Training and development	-	-	-	-	-	-	-	-	-
Operating payments	-	735	-	735	735	-	100.0%	9	9
Venues and facilities	226	-	-	226	-	226	-	32	26
Rental and hiring	-	-	-	-	-	-	-	-	-
Transfers and subsidies	**343,617**	**-**	**(1,656)**	**341,961**	**266,717**	**75,244**	**78.0%**	**248,091**	**225,696**
Departmental agencies and accounts	**178,496**	**-**	**(640)**	**177,856**	**57,813**	**120,043**	**32.5%**	**121,931**	**34,000**
Departmental agencies	178,496	-	(640)	177,856	57,813	120,043	32.5%	121,931	34,000
Higher education institutions	-	-	-	-	-	-	-	-	-
Foreign governments and international organisations	-	-	-	-	-	-	-	-	-

Detail per Programme 5 – Socio-economic Innovation Partnerships for the year ended 31 March 2019									
	2018/19							2017/18	
Subprogramme 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**
Public corporations and private enterprises	**165,121**	**-**	**(1,016)**	**164,105**	**207,704**	**(43,599)**	**126.6%**	**126,160**	**186,525**
Public corporations	**165,121**	**-**	**(1,016)**	**164,105**	**196,956**	**(32,851)**	**120.0%**	**126,160**	**173,180**
Subsidies on products	-	-	-	-	-	-	-	-	-
Other transfers to public corporations	165,121	-	(1,016)	164,105	196,956	(32,851)	120.0%	126,160	173,180
Private enterprises	**-**	**-**	**-**	**-**	**10,748**	**(10,748)**	**-**	**-**	**13,345**
Other transfers to private enterprises	-	-	-	-	10,748	(10,748)	-	-	13,345
Non-profit institutions	-	-	-	-	1,200	(1,200)	-	-	5,171
Households	**-**	**-**	**-**	**-**			**-**	**-**	**-**
Social benefits	-	-	-	-	-	-	-	-	-
Other transfers to households	-	-	-	-	-	-	-	-	-
Payment for capital assets	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Buildings and other fixed structures	-	-	-	-	-	-	-	-	-
Machinery and equipment	-	-	-	-	-	-	-	-	-
Transport equipment	-	-	-	-	-	-	-	-	-
Other machinery and equipment	-	-	-	-	-	-	-	-	-
Software and other intangible assets	-	-	-	-	-	-	-	-	-
Payment for financial assets	**-**	-				-	-	5	5
Total	**359,322**	**(2,518)**	**(1,656)**	**355,148**	**278,477**	**76,671**	**78.4%**	**259,642**	**236,988**

NOTES TO THE APPROPRIATION STATEMENT
FOR THE YEAR ENDED 31 MARCH 2019

Details of transfers and subsidies as per the Appropriation Act (after virement)

Details of these transactions can be viewed in the note to the Transfers and Subsidies, disclosure notes and Annexure 1 (B, C, E, D, F and G) to the Annual Financial Statements.

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.

Details of payments for financial assets

The details of these transactions can be viewed in note 7 to the Annual Financial Statements.

Explanations of material variances from amounts voted (after virement)

Per Programme	Per Final appropriation	Actual expenditure	Variance	Variance as a % of final appropriation
	R'000	R'000	R'000	%
Programme name				
Administration				
Compensation of employees	174,032	165,290	8,742	5.0%
Goods and services	178,169	151,726	26,443	14.8%
Payments for capital assets	13,735	9,020	4,715	34.3%

The variances are due to delays in filling identified critical positions, cancellation of events, discontinuation of roof replacement, savings on audit fees, and delays in finalising an agreement for Microsoft licences.

Per Programme				
Technology Innovation				
Goods and services	22,544	18,175	4,369	19.4%

The variance is due to late receipt of invoices for travel and subsistence and the hosting of the Indigenous Knowledge Bio-innovation programme.

Per Programme				
Socio-economic Innovation				
Partnerships				
Goods and services	8,686	7,210	1,476	16.9%

The variance is due to the postponement of the intellectual property and technology transfer survey projects.

NOTES TO THE APPROPRIATION STATEMENT
FOR THE YEAR ENDED 31 MARCH 2019

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	352,880	330,750	22,130	6.3%
Goods and services	248,089	215,402	32,687	13.2%
Interest and rent on land	-	-	-	-
Transfers and subsidies				
Departmental agencies and accounts	5,491,103	330,750	22,130	6.3%
Higher education institutions	-	-	-	-
Public corporations and private enterprises	1,500,146	1,850,374	(350,228)	(23.3%)
Non-profit institutions	351,640	481,367	(129,727)	(36.9%)
Households	650	1,297	(647)	(99.5%)
Payments for capital assets				
Machinery and equipment	13,735	9,042	4,693	34.2%
Intangible assets	-	-	-	-

STATEMENT OF FINANCIAL PERFORMANCE
FOR THE YEAR ENDED 31 MARCH 2019

PERFORMANCE	Note	2018/19 R'000	2017/18 R'000
REVENUE			
Annual appropriation	1	7,958,388	7,557,229
Departmental revenue	2	32,749	10,298
Aid assistance	3	45,348	25,791
TOTAL REVENUE		**8,036,485**	**7,593,318**
EXPENDITURE			
Current expenditure			
Compensation of employees	4	330,750	323,806
Goods and services	5	215,402	190,348
Aid assistance	3	1,151	2,750
Total current expenditure		**547,303**	**516,904**
Transfers and subsidies			
Transfers and subsidies	7	7,336,589	6,954,523
Aid assistance	3	44,176	22,709
Total transfers and subsidies		**7,380,765**	**6,977,232**
Expenditure for capital assets			
Tangible capital assets	8	9,063	20,649
Intangible assets	8	-	-
Total expenditure for capital assets		**9,063**	**20,649**
Unauthorised expenditure approved without funding		-	-
Payment for financial assets	6	143	219
TOTAL EXPENDITURE		**7,937,274**	**7,515,004**
SURPLUS FOR THE YEAR		**99,211**	**78,314**
Reconciliation of net surplus for the year			
Voted funds		66,462	67,684
Departmental revenue	14	32,749	10,298
Aid assistance	3	-	332
SURPLUS FOR THE YEAR		**99,211**	**78,314**

STATEMENT OF FINANCIAL POSITION
FOR THE YEAR ENDED 31 MARCH 2019

POSITION	Note	2018/19 R'000	2017/18 R'000
ASSETS			
Current assets		**65,652**	**80,818**
Cash and cash equivalents	9	64,589	79,922
Prepayments and advances	10	953	447
Receivables	11	110	449
Non-current assets		**221**	**343**
Receivables	11	221	343
TOTAL ASSETS		**65,873**	**81,161**
LIABILITIES			
Current liabilities		**65,842**	**81,131**
Voted funds to be surrendered to the Revenue Fund	13	65,812	67,684
Departmental revenue to be surrendered to the Revenue Fund	14	12	7
Payables	15	18	13,108
Aid assistance repayable	3	-	332
TOTAL LIABILITIES		**65,842**	**81,131**
NET ASSETS		**31**	**30**
Represented by:			
Recoverable revenue		31	30
TOTAL		**31**	**30**

STATEMENT OF CHANGES IN NET ASSETS
FOR THE YEAR ENDED 31 MARCH 2019

NET ASSETS	Note	2018/19 R'000	2017/18 R'000
Recoverable revenue			
Opening balance		30	56
Transfers:		**1**	**(26)**
Debts revised		-	-
Debts recovered (included in departmental receipts)		(41)	(30)
Debts raised		42	4
Closing balance		**31**	**30**
TOTAL		**31**	**30**

CASH FLOW STATEMENT
FOR THE YEAR ENDED 31 MARCH 2019

CASH FLOW	Note	2018/19 R'000	2017/18 R'000
CASH FLOWS FROM OPERATING ACTIVITIES			
Receipts		**8,035,618**	**7,592,888**
Annual appropriated funds received	1.1	7,957,738	7,557,229
Departmental revenue received	2	32,505	9,834
Interest received	2.2	27	34
Aid assistance received	3	45,348	25,791
Net (increase)/decrease in working capital		(13,135)	14,289
Surrendered to Revenue Fund		(100,428)	(55,698)
Surrendered to RDP Fund/Donor		(332)	(1,425)
Current payments		(547,303)	(516,904)
Interest paid		-	-
Payments for financial assets		(143)	(219)
Transfers and subsidies paid		(7,380,765)	(6,977,232)
Net cash flow available from operating activities	16	**(6,488)**	**55,699**
CASH FLOWS FROM INVESTING ACTIVITIES			
Payments for capital assets	8	(9,063)	(20,649)
Proceeds from sale of capital assets	2.3	217	430
Net cash flows from investing activities		**(8,846)**	**(20,219)**
CASH FLOWS FROM FINANCING ACTIVITIES			
Increase/(decrease) in net assets		1	(26)
Net cash flows from financing activities		**1**	**(26)**
Net increase/(decrease) in cash and cash equivalents		(15,333)	35,454
Cash and cash equivalents at beginning of period		79,922	44,468
Cash and cash equivalents at end of period	17	**64,589**	**79,922**

ACCOUNTING POLICIES
FOR THE YEAR ENDED 31 MARCH 2019

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, where necessary. 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, 1999 (Act No. 1 of 1999), as amended by Act No. 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 for the following reasons, among others:

(i) The Department was allocated a budget over the Medium Term Expenditure Framework period that includes R8 billion that was allocated for the next financial year for its operations. This budget will assist in paying for short-term financial obligations such as personnel and other priority projects.

(ii) The Department's five-year (2015-2020) Strategic Plan is still ongoing. The plan is being implemented and will only be reviewed after 2020.

3. Presentation currency

All amounts have been presented in South African rands (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 comprise departmental allocations. 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 is measured at the fair value of the consideration receivable. Write-offs, if any, are made according to the Department's debt write-off policy

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 Accruals and payables not recognised

Accruals and payables not recognised are 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, or in the case of transfers and subsidies, when they are due and payable. Accruals and payables not recognised are measured at cost.

8.4 Leases

8.4.1 Operating leases

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 leases 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 any transaction costs that are directly attributable to the acquisition or issue of the financial assets. At the reporting date, a department shall measure its financial assets at cost, less any 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 reflected in the asset register of the Department and recorded in the notes to the financial statements at cost or fair value where the cost cannot be determined reliably. Immovable capital assets acquired in a non-exchange transaction are recorded at fair value at the date of acquisition. Immovable assets are subsequently carried in the asset register at cost and are not currently subject to depreciation or impairment.

Subsequent expenditure of a capital nature forms part of the cost of the existing asset when ready for use.

Additional information on immovable assets not reflected in the asset register is provided in the notes to financial statements.

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 are measured at fair value as at the date of acquisition. Where the cost of movable capital assets cannot be determined accurately, the assets are measured at fair value, and where fair value cannot be determined; the assets are measured at R1.

All assets acquired prior to 1 April 2002 (or a later date 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 a 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 that 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 assets are measured at fair value, and where fair value cannot be determined; the assets are measured at R1. All assets acquired prior to 1 April 2002 (or a later date as approved by the Office of the Accountant General) 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.

16.4 Project Costs: Work in progress

Expenditure of a capital nature is initially recognised in the statement of financial performance at cost when paid. Amounts paid towards capital projects are separated from the amounts recognised and accumulated in work-in-progress until the underlying assets are ready for use. Once ready for use, the total accumulated payments are recorded in the asset register. Subsequent payments to complete the project are added to the capital asset in the asset register. Where the Department is not the custodian of the completed project asset, the asset is transferred to the custodian subsequent to completion.

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 with funding and the related funds are received; or
- approved by Parliament 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 therefore are provided in the notes.

Irregular expenditure is removed from the notes 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 Modified Cash Standard (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 are accounted for in the financial statements, if occurred. Events after the reporting date that are classified as non-adjusting events after the reporting date are disclosed in the notes to the financial statements, if occurred.

23. Agent-principal arrangements

The Department is in an agent-principal arrangement with the Department of Justice and Constitutional Development. In terms of the arrangement of a principal-agent, all related revenues, expenditures, assets and liabilities have to be recognised or recorded in terms of the relevant policies listed herein. Additional disclosures have to be 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; and that there was no departure from any particular requirement to achieve fair presentation.

25. Capitalisation reserve

The capitalisation reserve comprises financial assets and/or liabilities originating in a prior reporting period but which are recognised in the Statement of Financial Position for the first time in the current reporting period. Amounts are recognised in the capitalisation reserves when identified in the current period and are transferred to the National Revenue Fund when the underlying asset is disposed of 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 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 Statement of Financial Performance. 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 (the factors which could lead to the revaluation of inventory includes but is not limited to obsolescence, defects, over-supply, and major price declines). Subsequent measurement of the cost of inventory is determined on the weighted average basis. The Department is not an inventory institution, therefore the note on inventory is not applicable

29. Public-private partnerships

Public-private partnerships (PPPs) are accounted for based on the nature and/or substance of the partnership. The transaction is accounted for in accordance with the relevant accounting policies. The summary of the significant terms of the PPP agreement, the parties to the agreement, and the date of commencement thereof together with the description and nature of the concession fees received, the unitary fees paid, and the rights and obligations of the Department are recorded in the notes to the financial statements. The Department is not a party to any public-private partnership.

30. Employee benefits

The value of each major class of employee benefit obligation (accruals, payables not recognised, and provisions) is disclosed in the employee benefits note.

1. Annual appropriation

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

	Final appropriation 2018/2019	Actual funds 2018/2019	Funds not requested/ not received	Final appropriation 2017/2018	Appropriation received 2017/2018
	R'000	R'000	R'000	R'000	R'000
Administration	383,802	383,152	650	342,871	342,871
Technology Innovation	1,131,723	1,131,723	-	1,133,760	1,133,760
International Cooperation and Resources	136,399	136,399	-	166,192	166,192
Research Development and Support	4,528,204	4,528,204	-	4,300,793	4,300,793
Socio-economic Innovation Partnerships	1,778,260	1,778,260	-	1,613,613	1,613,613
Total	**7,958,388**	**7,957,738**	**650**	**7,557,229**	**7,557,229**

The Department anticipated underspending under goods and services as a result of an amount of R650 000 that was not requested.

2. Departmental revenue

	Note	2018/19 R'000	2017/18 R'000
Sales of goods and services other than capital assets	2.1	64	60
Interest, dividends and rent on land	2.2	27	34
Sale of capital assets	2.3	217	430
Transactions in financial assets and liabilities	2.4	32,441	9,774
Departmental revenue collected		**32,749**	**10,298**

2.1 Sales of goods and services other than capital assets

	Note 2	2018/19 R'000	2017/18 R'000
Other sales		64	59
Sales of scrap, waste and other used current goods		-	1
Total		**64**	**60**

2.2 Interest, dividends and rent on land

	Note 2	2018/19 R'000	2017/18 R'000
Interest		27	34
Total		**27**	**34**

2.3 Sale of capital assets

	Note 2	2018/19 R'000	2017/18 R'000
Machinery and equipment		217	430
Total		**217**	**430**

The sale of capital assets relates to vehicles that were damaged and uneconomical to maintain that were disposed of.

2.4 Transactions in financial assets and liabilities

	Note 2	2018/19 R'000	2017/18 R'000
Other receipts, including recoverable revenue		32,441	9,774
Total		**32,441**	**9,774**

3. Aid assistance

3.1 Aid assistance received in cash from RDP

	Note 3	2018/19 R'000	2017/18 R'000
Foreign			
Opening balance		332	1,425
Prior year error		-	-
As restated		332	1,425
Transferred from Statement of Financial Performance		-	332
Paid during the year		(332)	(1,425)
	Note 3	**2018/19 R'000**	**2017/18 R'000**
Closing balance		**-**	**332**

3.2 Analysis of balance by source

	Note	2018/19	2017/18
	3	R'000	R'000
Aid assistance from RDP		-	332
RDP Fund		-	332
Closing balance		-	**332**

3.3 Analysis of balance

	Note	2018/19	2017/18
	3	R'000	R'000
Aid assistance repayable		-	332
Closing balance		-	**332**

3.4 Aid assistance expenditure per economic classification

	Note	2018/19	2017/18
	3	R'000	R'000
Current		1,151	2,750
Capital		21	-
Transfers and subsidies		44,176	22,709
Closing balance		**45,348**	**25,459**

The analysis on sub-note 3.4 was introduced in 2018/19 to indicate the allocation of donor funds expenditure during the financial year.

4. Compensation of employees

4.1 Salaries and wages

	Note	2018/19	2017/18
	4	R'000	R'000
Basic salary		218,142	212,898
Performance award		5,161	4,857
Service-based		152	154
Compensative/circumstantial		4,757	4,016
Periodic payments		-	62
Other non-pensionable allowances		68,549	67,984
Total		**296,761**	**289,971**

4.2 Social contributions

	Note	2018/19	2017/18
	4	R'000	R'000
Employer contributions			
Pension		27,581	27,239
Medical		6,371	6,560
Bargaining council		37	36
Total		**33,989**	**33,835**
Total compensation of employees		**330,750**	**323,806**
Average number of employees		**407**	**426**

5. Goods and services

	Note	2018/19	2017/18
		R'000	R'000
Administrative fees		3,799	2,127
Advertising		24,813	36,299
Minor assets	5.1	692	87
Bursaries (employees)		1,545	1,309
Catering		5,376	2,694
Communication		8,255	6,987
Computer services	5.2	19,872	19,569
Consultants: Business and advisory services		16,391	9,580
Legal services		766	3,329
Contractors		5,534	3,649
Agency and support/outsourced services		12,005	6,481
Entertainment		248	861
Audit cost – external	5.3	5,245	5,193
Fleet services		1,347	829
Consumables	5.4	9,256	4,470
Operating leases		3,069	3,032
Property payments	5.5	11,660	12,587
Rental and Hiring		2,425	1,360
Travel and subsistence	5.6	56,944	53,070
Venues and facilities		14,863	7,011
Training and development		2,689	3,157
Other operating expenditure	5.7	8,608	6,667
Total		**215,402**	**190,348**

5.1 Minor assets

	Note	2018/19	2017/18
	5	R'000	R'000
Tangible assets		**692**	**87**
Machinery and equipment		692	87
Intangible assets			**-**
Total		**692**	**87**

5.2 Computer services

	Note	2018/19	2017/18
	5	R'000	R'000
SITA computer services		8,500	13,802
External computer service providers		11,372	5,767
Total		**19,872**	**19,569**

5.3 Audit cost – External

	Note	2018/19	2017/18
	5	R'000	R'000
Regularity audits		5,245	5,193
Total		**5,245**	**5,193**

5.4 Consumables

	Note	2018/19	2017/18
	5	R'000	R'000
Consumables supplies		2,517	1,240
Uniform and clothing		215	267
Household supplies		781	19
IT consumables		1,144	322
Other consumables		377	632
Stationery, printing and office supplies		6,739	3,230
Total		**9,256**	**4,470**

5.5 Property payments

	Note	2018/19	2017/18
	5	R'000	R'000
Municipal services		1,548	5,630
Property maintenance and repairs		-	-
Other		10,112	6,957
Total		**11,660**	**12,587**

5.6 Travel and subsistence

	Note	2018/19	2017/18
	5	R'000	R'000
Local		38,137	28,575
Foreign		18,807	24,495
Total		**56,944**	**53,070**

5.7 Other operating expenditure

	Note	2018/19	2017/18
	5	R'000	R'000
Professional bodies, membership and subscription fees		2,726	2,835
Resettlement costs		186	48
Other		5,696	3,784
Total		**8,608**	**6,667**

6. Payments for financial assets

	Note	2018/19	2017/18
		R'000	R'000
Other material losses written off	6.1	133	168
Debts written off	6.2	10	51
Total		**143**	**219**

6.1 Other material losses written off

	Note	2018/19	2017/18
	6	R'000	R'000
Nature of losses			
Losses in respect of damaged vehicles written off		133	168
Total		**133**	**168**

6.2 Debts written off

	Note 6	2018/19 R'000	2017/18 R'000
Nature of losses			
Irrecoverable debts written off		10	51
Total		**10**	**51**

7. Transfers and subsidies

	Note	2018/19 R'000	2017/18 R'000
Departmental agencies and accounts	*Annex 1B*	5,003,551	4,768,216
Higher education institutions	*Annex 1C*	-	-
Foreign governments and international organisations	*Annex 1E*	-	-
Public corporations and private enterprises	*Annex 1D*	1,850,374	1,722,519
Non-profit institutions	*Annex 1F*	481,367	462,544
Households, gifts, donations and sponsorships	*Annex 1G and 1J*	1,297	1,244
Total		**7,336,589**	**6,954,523**

8. Expenditure for capital assets

	Note	2018/19 R'000	2017/18 R'000
Tangible assets		**9,063**	**20,649**
Machinery and equipment	8.1	9,063	20,649
Intangible assets		**-**	**-**
Software	8.1	-	-
Patents, licences, copyright, brand names, trademarks		-	-
Total		**9,063**	**20,649**

8.1 Analysis of funds utilised to acquire capital assets – 2018/19

	Voted funds R'000	Aid assistance R'000	Total R'000
Tangible assets		-	
Machinery and equipment	9,042	21	9,063
Total	**9,042**	**21**	**9,063**

The amount of R20,500 is in respect of the donor funded project ESASTAP which is funded by the European Union and is accounted for under a different fund of the Department.

8.2 Analysis of funds utilised to acquire capital assets – 2017/18

	Voted funds	Aid assistance	Total
	R'000	R'000	R'000
Machinery and equipment	20,649	-	20,649
Total assets acquired	20,649	-	20,649
Total	20,649	-	20,649

8.3 Finance lease expenditure included in expenditure for capital assets

	Note	2018/19	2017/18
		R'000	R'000
Tangible assets			
Machinery and equipment		1,729	1,899
Total		1,729	1,899

9. Cash and cash equivalents

	Note	2018/19	2017/18
		R'000	R'000
Consolidated Paymaster-General Account		64,556	79,889
Cash on hand		33	33
Total		64,589	79,922

10. Prepayments and advances

	Note	2018/19	2017/18
		R'000	R'000
Travel and subsistence		133	45
Advances paid		820	402
Total		953	447

10.1 Advances paid (not expensed)

	Amount as at 1 April 2018	Less: Amount expensed in current year	Add/Less: Other	Add: Current year advances	Balance as at 31 March 2019
	R'000	R'000	R'000	R'000	R'000
National Departments	402	(1,602)	-	2,020	820
Provincial departments	-	-	-	-	-
Closing balance	**402**	**(1,602)**	**-**	**2,020**	**820**

	Amount as at 1 April 2017	Less: Amount expensed in current year	Add/Less: Other	Add: Current year advances	Balance as at 31 March 2018
	R'000	R'000	R'000	R'000	R'000
National departments	543	(5,485)	-	5,344	402
Provincial departments	-	-	-	-	-
Closing balance	**543**	**(5,485)**	**-**	**5,344**	**402**

11. Receivables

		2018/19			2017/18		
	Note	Current	Non-current	Total	Current	Non-current	Total
		R'000	R'000	R'000	R'000	R'000	R'000
Claims recoverable	11.1	62	46	108	267	52	319
Recoverable expenditure	11.2	1	124	125	10	243	253
Staff debt	11.3	47	51	98	172	48	220
Total		**110**	**221**	**331**	**449**	**343**	**792**

11.1 Claims recoverable

	Note	2018/19	2017/18
	11	R'000	R'000
National departments		-	230

Households and non-profit institutions		108	89
	Total	**108**	**319**

11.2 Recoverable expenditure (disallowance accounts)

	Note	2018/19	2017/18
	11	R'000	R'000
Income tax debt		-	-
Persal Salaries and Stoppages		-	-
Damages to vehicles		125	253
VAT Clearing account		-	-
Total		**125**	**253**

11.3 Staff debt

	Note	2018/19	2017/18
	11	R'000	R'000
Salary overpayment		40	136
Cell phone debts		37	51
Previous employees – Resettlement debt		-	-
Income tax debt		12	21
Other		9	12
Total		**98**	**220**

12. Investments

The Department acquired shares for a 35% shareholding of the Biological and Vaccines Institute (Biovac) of South Africa valued at R74,070 million (calculated as a percentage of retained earnings of Biovac as at 31 December 2018) from the Department of Health 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.

13. Voted funds to be surrendered to the Revenue Fund

	Note	2018/19	2017/18
		R'000	R'000
Opening balance		67,684	45,401
Prior period error		-	-
As restated		67,684	45,401
Transfer from Statement of Financial Performance		66,462	67,684
Voted funds not requested/not received	1.1	(650)	-
Paid during the year		(67,684)	(45,401)
Closing balance		**65,812**	**67,684**

14. Departmental revenue to be surrendered to the Revenue Fund

	Note	2018/19 R'000	2017/18 R'000
Opening balance		7	6
Prior period error		-	-
As restated		7	6
Transfer from Statement of Financial Performance		32,749	10,298
Paid during the year		(32,744)	(10,297)
Closing balance		**12**	**7**

15. Payables – current

	Note	2018/19 R'000	2017/18 R'000
Clearing accounts	15.1	18	108
Other payables	15.2	-	13,000
Total		**18**	**13,108**

15.1 Clearing accounts

	Note 15	2018/19 R'000	2017/18 R'000
Sal: GEHS refund control acc: CL		18	12
Sal: Income tax: CL		-	96
Total		**18**	**108**

15.2 Other payables

	Note 15	2018/19 R'000	2017/18 R'000
Transfer from Eastern Cape Provincial Department		-	13,000
Total		**-**	**13,000**

16. Net cash flow available from operating activities

	Note	2018/19 R'000	2017/18 R'000
Net surplus as per Statement of Financial Performance		99,211	78,314
	Note	**2018/19 R'000**	**2017/18 R'000**
Add back non-cash/cash movements not deemed operating activities		(105,699)	(22,615)
(Increase)/decrease in receivables – current		461	995
(Increase)/decrease in prepayments and advances		(506)	191
Increase/(decrease) in payables – current		(13,090)	13,103
Proceeds from sale of capital assets		(217)	(430)
Expenditure on capital assets		9,063	20,649
Surrenders to Revenue Fund	13	(100,428)	(55,698)
Surrenders to Donor Fund		(332)	(1,425)
Voted funds not requested/not received		(650)	-
Net cash flow generated by operating activities		**(6,488)**	**55,699**

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

	Note	2018/19 R'000	2017/18 R'000
Consolidated Paymaster-General Account		64,556	79,889
Cash on hand		33	33
Total		**64,589**	**79,922**

18. Contingent liabilities

	Note	2018/19 R'000	2017/18 R'000
Liable to			
Claims against the department	*Annex 3B*	401	830
Total		**401**	**830**

The Department received a claim at the end of the reporting period, in which a former manager of a science centre alleges unfair treatment and financial loss, and is therefore claiming restitution. As at 31 May 2019, management was of the opinion that the summons received should be disclosed as a contingent liability based on the information at our disposal. On 20 June 2019, management received a legal opinion indicating that the claim is frivolous and vexatious, therefore it must be dismissed with costs; furthermore, the amount of the claim is not a reliable estimate, and therefore it cannot be disclosed.

19. Commitments

	Note	2018/19 R'000	2017/18 R'000
Current expenditure			
Approved and contracted		23,292	29,243
Approved but not yet contracted		127	8,635
		23,419	**37,878**
Capital expenditure			
Approved and contracted		553	503
Approved but not yet contracted		-	-
		553	**503**
Total commitments		**23,972**	**38,381**

The Department has commitments for more than a year for contracts that are needed for its operations, such as employee health and wellness, knowledge management and information systems, and consulting services, among others.

20. Accruals and payables not recognised

20.1 Accruals

Listed by economic classification	30 days	30+ days	Total	Total
Goods and services	3,570	3,348	**6,918**	**7,504**
Capital assets	-	-	-	-
Total	**3,570**	**3,348**	**6,918**	**7,504**

Listed by Programme	Note	2018/19 R'000	2017/18 R'000
Programme 1: Administration		3,564	4,484
Programme 2: Technology Innovation		479	714
Programme 3: International Cooperation and Resources		2,430	1,087
Programme 4: Research Development and Support		335	977
Programme 5: Socio-economic Innovation Partnerships		110	242
Total		**6,918**	**7,504**

20.2 Payables not recognised

Listed by economic classification	30 days	30 +days	Total	Total
Goods and services	459	-	459	2,356
Capital assets	-	-	-	-
Total	**459**	-	**459**	**2,356**

Listed by Programme	Note	2018/19 R'000	2017/18 R'000
Programme 1: Administration		256	175
Programme 2: Technology Innovation		200	903
Programme 3: International Cooperation and Resources		-	880
Programme 4: Research Development and Support		3	1
Programme 5: Socio-economic Innovation Partnerships		-	397
Total		**459**	**2,356**

	Note	2018/19 R'000	2017/18 R'000
Confirmed balances with other departments	*Annex 5*	2,442	870
Confirmed balances with other government entities		-	360
Total		**2,442**	**1,230**

21. Employee benefits

	Note	2018/19 R'000	2017/18 R'000
Leave entitlement*		12,521	13,066
Service bonus (Thirteenth cheque)		7,496	7,392
Performance awards		5,293	4,954
Capped leave commitments		3,278	3,024
Other (Long Service Awards)		31	69
Total		**28,619**	**28,505**

*A negative amount of R526,198.02 was offset against leave entitlement. The amount was as a result of a pro-rata calculation of leave taken by employees as at 31 March 2019. In terms of the pro-rata calculation, employees are entitled to 5.49 days of leave from 1 January to 31 March. If an employee takes more leave, this results in a negative leave taken for the three-month period. This situation will automatically be rectified during the leave period.

22. Lease commitments

22.1 Operating leases expenditure

2018/19	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	785	785
Later than 1 year and not later than 5 years	-	-	-	-
Total lease commitments	**-**	**-**	**785**	**785**

2017/18	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	1,323	1,114	2,437
Later than 1 year and not later than 5 years	-	-	743	743
Total lease commitments	**-**	**1,323**	**1,857**	**3,180**

22.2 Finance leases expenditure

2018/19	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	2,015	2,015
Later than 1 year and not later than 5 years	-	-	555	555
Total lease commitments	**-**	**-**	**2,570**	**2,570**

2017/18	Land	Buildings and other fixed structures	Machinery and equipment	Total
	R'000	R'000	R'000	R'000
Not later than 1 year	-	-	1,760	1,760
Later than 1 year and not later than 5 years	-	-	1,123	1,123
Total lease commitments	**-**	**-**	**2,883**	**2,883**

23. Accrued departmental revenue

	Note	2018/19 R'000	2017/18 R'000
Transactions in financial assets and liabilities		201	7,076
Total		**201**	**7,076**

23.1 Analysis for accrued departmental revenue

	Note	2018/19 R'000	2017/18 R'000
Opening balance		7,076	146
Less: Amounts received		(3,914)	146
Add: Amounts recognised		201	7,076
Less: Amounts written off/reversed as irrecoverable		(3,162)	-
Total		**201**	**7,076**

The one implementing agency confirmed its intention to refund the Department R7,076 million as a surplus on completed projects. However, they subsequently sent a letter indicating that only R3,914 million would be refunded, because the balance of R3,162 million was still committed.

24. Irregular expenditure

24.1 Reconciliation of irregular expenditure

	Note	2018/19 R'000	2017/18 R'000
Opening balance		49,604	35,118
As restated		49,604	35,118
Add: Irregular expenditure – relating to prior year		-	11,753
Add: Irregular expenditure – relating to current year		684	2,733
Less: Prior year amount condoned		(15,184)	-
Less: Current year amounts condoned		-	-
Less: Amounts recoverable (not condoned)		-	-
Irregular expenditure awaiting condonation		**35,104**	**49,604**

Analysis of awaiting condonation per age classification		
Current year	684	2,733
Prior years	34,420	46,871
Total	**35,104**	**49,604**

24.2 Details of irregular expenditure – current year

Incident	Disciplinary steps taken/criminal proceedings	2018/19 R'000
Non-compliance with SCM processes	Matter was reported to Accounting Officer	398
Non-compliance with SCM processes	Matter was reported to Accounting Officer	249
Non-compliance with SCM processes	Matter was reported to Accounting Officer	19
Non-compliance with SCM processes	Matter was reported to Accounting Officer	18
Total		**684**

24.3 Details of irregular expenditure – condoned

Incident	Condoned by	2018/19 R'000
Non-compliance with SCM processes	National Treasury	698
Non-compliance with SCM processes	National Treasury	14,486
Total		**15,184**

24.4 Irregular expenditures referred to the National Treasury

The Department referred prior years' irregular expenditure amounting to R34,420 million to the National Treasury for condonement, and no feedback has been received yet. The matters are being followed up with the National Treasury on a regular basis.

25. Fruitless and wasteful expenditure

25.1 Reconciliation of fruitless and wasteful expenditure

	Note	2018/19 R'000	2017/18 R'000
Opening balance		-	64
Prior year period error		-	-
As restated		-	64
Fruitless and wasteful expenditure – relating to prior years			-
Fruitless and wasteful expenditure – relating to current year		526	-
Less: Amounts resolved		-	(64)
Fruitless and wasteful expenditure awaiting condonement		**526**	**-**

25.2 Analysis of current year's fruitless and wasteful expenditure

Incident	Disciplinary steps taken	2018/19 R'000
Cancellation of the event	Investigation	526
Total		**526**

26. Events after the reporting date

The Department received a claim at the end of the reporting period, in which a former manager of a science centre alleges unfair treatment and financial loss, and is therefore claiming restitution. As at 31 May 2019, management was of the opinion that the summons received should be disclosed as a contingent liability based on the information at our disposal. On 20 June 2019, management received a legal opinion indicating that the claim is frivolous and vexatious, therefore it must be dismissed with costs; furthermore, the amount of the claim is not a reliable estimate, and therefore it cannot be disclosed.

27. Related party transactions

27.1 Related party transactions

Payments made	2018/19 R'000	2017/18 R'000
Goods and services	-	-
Total	-	-

27.2 Public entities under ownership control of the Department

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

Schedule 3A – National public entities

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

Schedule 3B – National government business enterprises

- Council for Scientific and Industrial Research

The Department s transactions with these entities are limited to transfer and subsidy payments. Annexure 1C and 1E to the Annual Financial Statements 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 that provides office accommodation free of charge to the Department. The Department of Public Works claims maintenance fees only. The Department has a relationship with the Academy of Science of South Africa that is funding its operations. All the transactions the Department has with these entities are at arm's length.

28. Key management personnel

	No. of individuals	2018/19	2017/18
		R'000	R'000
Political office bearers	2	4,357	4,353
Officials:			
Level 15 to 16	12	17,767	15,625
Level 14 (incl. CFO if at a lower level)	32	31,160	31,065
Total		**53,284**	**51,043**

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 2019

	Opening balance	Value adjustments	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**104,683**	**-**	**7,702**	**(7,312)**	**105,073**
Transport assets	7,339	-	789	(1,033)	7,095
Computer equipment	56,354	-	5,583	(6,233)	55,704
Furniture and office equipment	18,869	-	30	(34)	18,865
Other machinery and equipment	22,121	-	1,300	(12)	23,409
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	**104,683**	**-**	**7,702**	**(7,312)**	**105,073**

29.1 Additions

Additions to movable tangible capital assets per asset register for the year ended 31 March 2019

	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	**9,042**	**389**	**(1,729)**	**-**	**7,702**
Transport assets	448	341	-	-	789
Computer equipment	5,576	7	-	-	5,583
Furniture and office equipment	30	-	-	-	30
Other machinery and equipment	2,988	41	(1,729)	-	1,300
TOTAL ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS	**9,042**	**389**	**(1,729)**	**-**	**7,702**

Included in computer equipment is the amount of R317 000 for the server memory upgrade. Furthermore, included in the non-cash is an amount of R341 000 for a vehicle that was lost, written off and subsequently recovered.

29.2 Disposals

Disposals of movable tangible capital assets per asset register for the year ended 31 March 2019

	Sold for cash	Non-cash disposals	Total disposals	Cash received actual
	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**839**	**6,473**	**7,312**	**217**
Transport assets	839	194	1,033	217
Computer equipment	-	6,233	6,233	-
Furniture and office equipment	-	34	34	-
Other machinery and equipment	-	12	12	-
TOTAL DISPOSALS OF MOVABLE TANGIBLE CAPITAL ASSETS	**839**	**6,473**	**7,312**	**217**

29.3 Movement for 2017/18

Movement in movable tangible capital assets per asset register for the year ended 31 March 2018

	Opening balance	Prior period errors	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**90,731**	**(690)**	**18,750**	**(4,108)**	**104,683**
Transport assets	7,299	-	1,596	(1,556)	7,339
Computer equipment	43,445	(359)	15,368	(2,100)	56,354
Furniture and office equipment	18,715	-	326	(172)	18,869
Other machinery and equipment	21,272	(331)	1,460	(280)	22,121
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	**90,731**	**(690)**	**18,750**	**(4,108)**	**104,683**

29.3.1 Prior period errors

Nature of prior error	2017/18 R'000
Capital assets recorded twice on the asset register	(690)
Total	**(690)**

Furniture and office equipment	18,869	-	30	(34)	18,865
Other machinery and equipment	22,121	-	1,300	(12)	23,409
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	**104,683**	**-**	**7,702**	**(7,312)**	**105,073**

29.1 Additions

Additions to movable tangible capital assets per asset register for the year ended 31 March 2019

	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	**9,042**	**389**	**(1,729)**	**-**	**7,702**
Transport assets	448	341	-	-	789
Computer equipment	5,576	7	-	-	5,583
Furniture and office equipment	30	-	-	-	30
Other machinery and equipment	2,988	41	(1,729)	-	1,300
TOTAL ADDITIONS TO MOVABLE TANGIBLE CAPITAL ASSETS	**9,042**	**389**	**(1,729)**	**-**	**7,702**

Included in computer equipment is the amount of R317 000 for the server memory upgrade. Furthermore, included in the non-cash is an amount of R341 000 for a vehicle that was lost, written off and subsequently recovered.

29.2 Disposals

Disposals of movable tangible capital assets per asset register for the year ended 31 March 2019

	Sold for cash	Non-cash disposals	Total disposals	Cash received actual
	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**839**	**6,473**	**7,312**	**217**
Transport assets	839	194	1,033	217
Computer equipment	-	6,233	6,233	-
Furniture and office equipment	-	34	34	-
Other machinery and equipment	-	12	12	-
TOTAL DISPOSALS OF MOVABLE TANGIBLE CAPITAL ASSETS	**839**	**6,473**	**7,312**	**217**

29.3 Movement for 2017/18

Movement in movable tangible capital assets per asset register for the year ended 31 March 2018

	Opening balance	Prior period errors	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
MACHINERY AND EQUIPMENT	**90,731**	**(690)**	**18,750**	**(4,108)**	**104,683**
Transport assets	7,299	-	1,596	(1,556)	7,339
Computer equipment	43,445	(359)	15,368	(2,100)	56,354
Furniture and office equipment	18,715	-	326	(172)	18,869
Other machinery and equipment	21,272	(331)	1,460	(280)	22,121
TOTAL MOVABLE TANGIBLE CAPITAL ASSETS	**90,731**	**(690)**	**18,750**	**(4,108)**	**104,683**

29.3.1 Prior period errors

Nature of prior error	2017/18 R'000
Capital assets recorded twice on the asset register	(690)
Total	**(690)**

29.4 Minor assets

Minor assets of the Department for the year ended 31 March 2019

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Opening balance	-	-	6,583	-	6,583
Value adjustments	-	-	5		5
Additions	-	-	692	-	692
Disposals	-	-	(253)	-	(253)
TOTAL MINOR ASSETS	**-**	**-**	**7,027**	**-**	**7,027**
Number of R1 minor assets	-	-	5,748	-	5,748
Number of minor assets at cost	-	-	4,165	-	4,165
Total	**-**	**-**	**9,913**	**-**	**9,913**

Minor assets of the Department for the year ended 31 March 2018

	Intangible assets	Heritage assets	Machinery and equipment	Biological assets	Total
	R'000	R'000	R'000	R'000	R'000
Opening balance	-	-	6,798	-	6,798
Prior period error	-	-	(13)	-	(13)
Additions	-	-	87	-	87
Disposals	-	-	289	-	289
Total	**-**	**-**	**6,583**	**-**	**6,583**
Number of R1 minor assets	-	-	5,746	-	5,746
Number of minor assets at cost	-	-	3,840	-	3,840
Total	**-**	**-**	**9,586**	**-**	**9,586**

29.4.1 Prior period errors

Nature of prior error	2017/18 R'000
Capital assets incorrectly classified as minor assets	(13)
Total	**(13)**

30. Intangible capital assets

Movement in intangible capital assets per asset register for the year ended 31 March 2019

	Opening balance	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000
Software	7,483	-	-	7,483
Patents, licences, copyright, brand names, trademarks	-	-	-	-
TOTAL INTANGIBLE CAPITAL ASSETS	**7,483**	**-**	**-**	**7,483**

30.1 Additions

Additions to intangible capital assets per asset register for the year ended 31 March 2019

	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 INTANGIBLE CAPITAL ASSETS	**-**	**-**	**-**	**-**	**-**

30.2 Disposals

Disposals of intangible capital assets per asset register for the year ended 31 March 2019

	Sold for cash	Transfer out or destroyed or scrapped	Total disposals	Cash received actual
	R'000	R'000	R'000	R'000
Software	-	-	-	-
TOTAL DISPOSALS OF INTANGIBLE CAPITAL ASSETS	**-**	**-**	**-**	**-**

30.3 Movement for 2017/18

Movement in intangible capital assets per asset register for the year ended 31 March 2018

	Opening balance	Prior year error balances	Additions	Disposals	Closing balance
	R'000	R'000	R'000	R'000	R'000
Software	7,483	-	-	-	7,483
Patents, licences, copyright, brand names, trademarks	-	-	-	-	-
TOTAL INTANGIBLE CAPITAL ASSETS	**7,483**	**-**	**-**	**-**	**7,483**

31. Principal-agent arrangements

31.1 Department acting as the principal

	2018/19 R'000	2017/18 R'000
Department of Justice and Constitutional Development	673	3,091
Total	**673**	**3,091**

The Department of Science and Technology and Department of Justice and Constitutional Development are in an agent-principal arrangement. The Department of Justice appoints legal representatives to settle litigations and labour matters on behalf of the Department. The Department of Justice then claims the proceedings from the Department.

31.1.1 Prior period errors

Nature of prior error

	Note	Amount before error correction R'000	Prior period error R'000	2017/18 R'000 Restated amount R'000
Agent-principal arrangement with the Department of Justice and Constitutional Development	31	-	3,091	3,091
TOTAL INTANGIBLE CAPITAL ASSETS	**31**	**-**	**3,091**	**3,091**

ANNEXURE 1B

STATEMENT OF TRANSFERS TO DEPARTMENTAL AGENCIES AND ACCOUNTS

Department/agency/account	Transfer allocation				Transfer		2017/18
	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	62,510	-	-	62,510	52,510	84%	37,547
Council for Geoscience	-	-	-	-	-	-	3,103
Human Sciences Research Council	332,000	-	-	332,000	324,643	98%	318,093
National Research Foundation	4,169,316	-	(5,391)	4,163,924	3,746,667	90%	4,033,841
South African Medical Research Council	142,000	-	-	142,000	138,196	97%	97,807
South African National Biodiversity Institute	35,000	-	-	35,000	31,450	90%	21,954
South African National Energy Development Institute	-	-	-	-	-	-	4,500
South African National Space Agency	175,000	-	-	175,000	158,736	91%	184,780
Technology Innovation Agency	555,000	-	-	555,000	525,681	95%	494,623
Academy of Science of South Africa	25,668	-	-	25,668	25,668	100%	-
Total	**5,496,494**	**-**	**(5,391)**	**5,491,103**	**5,003,551**		**5,196,248**

ANNEXURE 1B

STATEMENT OF TRANSFERS TO DEPARTMENTAL AGENCIES AND ACCOUNTS

Department/agency/account	Transfer allocation				Transfer		2017/18
	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	62,510	-	-	62,510	52,510	84%	37,547
Council for Geoscience	-	-	-	-	-	-	3,103
Human Sciences Research Council	332,000	-	-	332,000	324,643	98%	318,093
National Research Foundation	4,169,316	-	(5,391)	4,163,924	3,746,667	90%	4,033,841
South African Medical Research Council	142,000	-	-	142,000	138,196	97%	97,807
South African National Biodiversity Institute	35,000	-	-	35,000	31,450	90%	21,954
South African National Energy Development Institute	-	-	-	-	-	-	4,500
South African National Space Agency	175,000	-	-	175,000	158,736	91%	184,780
Technology Innovation Agency	555,000	-	-	555,000	525,681	95%	494,623
Academy of Science of South Africa	25,668	-	-	25,668	25,668	100%	-
Total	**5,496,494**	**-**	**(5,391)**	**5,491,103**	**5,003,551**		**5,196,248**

ANNEXURE 1D

STATEMENT OF TRANSFERS/SUBSIDIES TO PUBLIC CORPORATIONS AND PRIVATE ENTERPRISES

Name of public corporation/private enterprise	Transfer allocation				Expenditure				2017/18
	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	78,431	142.6%	6,026	72,405	51,232
Council for Scientific and Industrial Research	441,591	-	(4,609)	436,982	739,673	-	369,641	370,033	420,765
South African Nuclear Energy Corporation Ltd	-	-	-	-	55,259	-	1,300	53,959	56,307
National Health Laboratory Services	45,000	-	-	45,000	-	-	-	-	-
Subtotal	**541,591**	**-**	**(4,609)**	**536,982**	**873,363**	**162.6%**	**376,967**	**496,397**	**528,304**
Subsidies									
Council for Scientific and Industrial Research	963,164	-	-	963,164	963,164	100.0%	-	963,164	915,645
Subtotal	**963,164**	**-**	**-**	**963,164**	**963,164**	**100.0%**	**-**	**963,164**	**915,645**
Total	**1,504,755**	**-**	**(4,609)**	**1,500,146**	**1,836,527**	**122.4%**	**376,967**	**1,459,561**	**1,443,949**

ANNEXURE 1D

STATEMENT OF TRANSFERS/SUBSIDIES TO PUBLIC CORPORATIONS AND PRIVATE ENTERPRISES

Name of public corporation/private enterprise	Transfer allocation				Expenditure				2017/18
	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	78,431	142.6%	6,026	72,405	51,232
Council for Scientific and Industrial Research	441,591	-	(4,609)	436,982	739,673	-	369,641	370,033	420,765
South African Nuclear Energy Corporation Ltd	-	-	-	-	55,259	-	1,300	53,959	56,307
National Health Laboratory Services	45,000	-	-	45,000	-	-	-	-	-
Subtotal	**541,591**	**-**	**(4,609)**	**536,982**	**873,363**	**162.6%**	**376,967**	**496,397**	**528,304**
Subsidies									
Council for Scientific and Industrial Research	963,164	-	-	963,164	963,164	100.0%	-	963,164	915,645
Subtotal	**963,164**	**-**	**-**	**963,164**	**963,164**	**100.0%**	**-**	**963,164**	**915,645**
Total	**1,504,755**	**-**	**(4,609)**	**1,500,146**	**1,836,527**	**122.4%**	**376,967**	**1,459,561**	**1,443,949**

ANNEXURE 1F

STATEMENT OF TRANSFERS TO NON-PROFIT INSTITUTIONS

Non-profit institutions	Transfer allocation				Expenditure		2017/18
	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%	-
Africabio NPC	500	-	-	500	500	100%	-
Academy of Science of South Africa	13,000	-	-	13,000	14,371	111%	6,040
Black Science Technology and Engineering	150	-	-	150	150	-	-
Bakgatla Ba Kgafela Traditional	-	-	-	-	-	-	500
Cape Peninsula University of Technology	25,000	-	-	25,000	29,740	119%	1,324
Central University of Technology	30,000	-	-	30,000	39,467	132%	4,025
Centre for Phonetic and Genomic	10,000	-	-	10,000	15,000	150%	12,000
CUTIS	300	-	-	300	300	100%	-
Da Vinci TT100 Awards Programme	-	-	-	-	-	-	1,754
Department of Mineral Resources	800	-	-	800	800	100%	800
Durban University of Technology	2,500	-	-	2,500	3,278	131%	1,595
Egolibio	-	-	-	-	-	-	500
Engineering and biotechnology	-	-	-	-	-	-	36,979
Department of Environmental Affairs	-	-	-	-	-	-	930
Gauteng Department of Sports, Art, Culture and Recreation	350	-	-	350	310	89%	500
Fresh Produce Exporters Forum	4,000	-	-	4,000	4,002	100%	-
Forestry South Africa	3,000	-	-	3,000	3,000	100%	-

Non-profit institutions	Transfer allocation				Expenditure		2017/18
	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
Government Technical Advisory Centre	-	-	-	-	-	-	2,236
Grahamstown Foundation	2,000	-	-	2,000	2,000	100%	2,000
Grain South Africa	-	-	-	-	-	-	12,800
Green Youth Network	450	-	-	450	401	89%	-
Green matter	1,000	-	-	1,000	1,000	100%	-
Green Cape Sector Development	400	-	-	400	374	94%	-
International Atomic Energy Agency	9,000	-	-	9,000	9,850	-	4,709
International Centre for Genetic	30,000	-	-	30,000	40,812	136%	-
Innovation Hub Management	1,700	-	-	1,700	2,451	144%	-
Mangosuthu Technikon	100	-	-	100	100	100%	28
Mapungubwe Institute for Strategy	2,400	-	-	2,400	2,339	97%	-
Mobile Application Laboratory NP	-	-	-	-	-	-	3,131
Mpilonhle	-	-	-	-	-	-	292
Mpumalanga Tourism and Parks	300	-	-	300	260	87%	500
National Health Laboratory Services	1,700	-	-	1,700	1,670	-	3,500
National Science and Technology Forum	2,800	-	-	2,800	2,778	-	19,402
National Metrology Institute	600	-	-	600	600	100%	-
Nelson Mandela University	8,200	-	-	8,200	8,117	99%	6,465
NEPAD Business Foundation	-	-	-	-	-	-	496
North-West University	50,000	-	-	50,000	69,770	140%	34,831
PAMDEV	1,500	-	-	1,500	1,500	100%	-
Resonance Bazaar	-	-	-	-	-	-	350
Rhodes University	1,400	-	-	1,400	2,426	173%	1,144
SARIMA	1,600	-	-	1,600	2,500	156%	2,494
SABINANO	6	-	-	6	6	100%	-

Non-profit institutions	Transfer allocation				Expenditure		2017/18
	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
SALGA	750	-	-	750	718	96%	-
SIOPSA	750	-	-	750	718	96%	-
SASS	-	-	-	-	-	-	30
SEDA Essential Oils	2,000	-	-	2,000	2,950	148%	-
Sci-Bono Discovery Centre	3,100	-	-	3,100	4,037	130%	-
Scientific Professions	-	-	-	-	-	-	4,441
South African Chemical Institute	150	-	-	150	120	80%	50
South African Institute of Physics	1,500	-	-	1,500	1,500	-	1,500
South African Mathematics Foundation	1,100	-	-	1,100	1,060	96%	1,060
South African National Aids Council	-	-	-	-	-	-	15,000
South African San Institute	300	-	-	300	300	100%	500
Stellenbosch University	35,000	-	-	35,000	44,144	126%	28,096
Sugar Milling Research Institute	2,000	-	-	2,000	1,989	99%	4,060
Top Media and Communication	150	-	-	150	150	100%	-
Tshwane University of Technology	2,200	-	-	2,200	2,160	-	259
University of Cape Town	30,000	-	-	30,000	29,279	98%	38,283
University of Fort Hare	1,000	-	-	1,000	955	96%	4,028
University of Free State	3,000	-	-	3,000	3,870	129%	9,293
University of Johannesburg	1,100	-	-	1,100	2,096	191%	2,938
University of KwaZulu-Natal	8,000	-	-	8,000	12,213	153%	6,105
University of Limpopo	7,000	-	-	7,000	9,633	138%	17,808
University of Mpumalanga	310	-	-	310	310	100%	-
University of Pretoria	15,000	-	-	15,000	21,076	141%	12,085
University of South Africa	1,122	-	-	1,122	1,341	120%	4,073
University of Venda	2,736	-	-	2,736	3,493	128%	5,001
University of Venda Foundation	450	-	-	450	450	100%	2,000

Non-profit institutions	Transfer allocation				Expenditure		2017/18
	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
University of the Western Cape	3,166	-	10,000	13,166	54,630	415%	10,844
University of the Witwatersrand	3,600	-	-	3,600	4,511	125%	2,048
University of Zululand Foundation	-	-	-	-	-	-	750
Vaal University of Technology	-	-	-	-	-	-	3,558
Walter Sisulu University	500	-	-	500	500	100%	4,337
Water Institute of Southern Africa	-	-	-	-	-	-	540
Water Meteorological Organisation	-	-	-	-	-	-	5,000
Water Research Commission	7,000	-	-	7,000	12,544	179%	7,403
Wine Industry Network of Expertise	2,500	-	-	2,500	2,500	100%	-
Wits Health Consortium	1,300	-	-	1,300	1,273	98%	-
Women in Science Awards	-	-	-	-	875	-	-
Total	**341,640**	**-**	**10,000**	**351,640**	**481,367**	**-**	**352,415**
Subsidies							
Academy of Science of South Africa	-	-	-	-	-	-	25,261
	-	**-**	**-**	**-**	**-**	**-**	**25,261**
Total	**341,640**	**-**	**10,000**	**351,640**	**481,367**	**-**	**377,676**

ANNEXURE 1G
STATEMENT OF TRANSFERS TO HOUSEHOLDS

Households	Transfer allocation				Expenditure		2017/18
	Adjusted Appropriation Act	Rollovers	Adjustments	Total available	Actual transfer	% of available funds transferred	Appropriation Act
	R'000	R'000	R'000	R'000	R'000	%	R'000
Transfers							
Leave gratuity: Arendse N	-	-	-	-	177	-	-
Leave gratuity: Auf Der Heyde TPE	-	-	-	-	19	-	-
Leave gratuity: Boyi WS	-	-	-	-	83	-	-
Leave gratuity: Chauke CT	-	-	-	-	15	-	-
Leave gratuity: Hlatshwayo MP	-	-	-	-	-	-	12
Leave gratuity: Klose K	-	-	-	-	72	-	-
Leave gratuity: Kgotleng DW	-	-	-	-	-	-	43
Leave gratuity: Khumalo LML	-	-	-	-	-	-	41
Leave gratuity: Mahangi NL	-	-	-	-	12	-	-
Leave gratuity: Makhode LT	-	-	-	-	86	-	-
Leave gratuity: Malabi SP	-	-	-	-	-	-	60
Leave gratuity: Mandaha D	-	-	-	-	-	-	30
Leave gratuity: Masenthal TC	-	-	-	-	-	-	39
Leave gratuity: Mathibela S	-	-	-	-	34	-	-
Leave gratuity: Matutu PP	-	-	-	-	-	-	61
Leave gratuity: Mlisa A	-	-	-	-	-	-	20
Leave gratuity: Mnwana NB	-	-	-	-	10	-	-
Leave gratuity: Molefe M	-	-	-	-	29	-	-
Leave gratuity: Mofokeng NT	-	-	-	-	-	-	9
Leave gratuity: Mokone D	-	-	-	-	-	-	23
Leave gratuity: Motlhaping BN	-	-	-	-	-	-	12

Households	Transfer allocation				Expenditure		2017/18
	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: Mthethwa BC	-	-	-	-	-	-	32
Leave gratuity: Munsami V	-	-	-	-	-	-	10
Leave gratuity: Naicker I	-	-	-	-	48	-	-
Leave gratuity: Nomawule U	-	-	-	-	22	-	-
Leave gratuity: Nyatlo SM	-	-	-	-	-	-	54
Leave gratuity: Selala WM	-	-	-	-	-	-	32
Leave gratuity: Selowa MR	-	-	-	-	-	-	35
Leave gratuity: Shandu SB	-	-	-	-	-	-	37
Leave gratuity: Tawane BCT	-	-	-	-	-	-	14
Leave gratuity: Sibindla VTJ	-	-	-	-	16	-	-
Leave gratuity: Thosago MP	-	-	-	-	24	-	-
Women in Science Awards	-	-	-	-	-	-	680
Young Science Professionals	-	-	650	650	650	100%	-
Total	**-**	**-**	**650**	**650**	**1,297**		**1,244**
	-	**-**	**650**	**650**	**1,297**		**1,244**

ANNEXURE 1I
STATEMENT OF LOCAL AND FOREIGN AID ASSISTANCE RECEIVED

Name of donor	Purpose	Opening balance R'000	Revenue R'000	Expenditure R'000	Paid back on/by 31 March R'000	Closing balance R'000
Received in cash						
European Union	To develop vibrant and sustainable rural communities that contribute to adequate food supply.	21	-	-	21	-
European Union	To strengthen the European-South African Science and Advancement Programme (ESASTAP 2)	311	1,118	1,118	311	-
Finland	To develop a skilled and capable workforce	-	14,176	14,176	-	-
Austria	M-ERA.NET Programme	-	54	54	-	-
European Union	GBS Green Economy for Development	-	30,000	30,000	-	-
Subtotal		**332**	**45,348**	**45,348**	**332**	**-**
Received in kind		**-**	-	-	**-**	-
Subtotal						**-**
Total		**332**	**45,348**	**45,348**	**332**	**-**

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	2018/19	2017/18
	R'000	R'000
Paid in cash		
Women in Science Awards	875	680
Young Science Professionals	650	
Subtotal	**1,525**	**680**
Total	**1,525**	**680**

ANNEXURE 2B
STATEMENT OF INVESTMENTS IN AND AMOUNTS OWING BY/TO ENTITIES AS AT 31 MARCH 2019

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	
		2018/19	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19	2017/18
Controlled entities									
		-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-
Non-controlled entities									
Biological Vaccine Institute (Biovac)	Pharmaceutical Industry (35% shareholding)	-	-	74,070	86,240	-	-	-	-
Total		-	-	74,070	86,240	-	-	-	-

The Department of Science and Technology acquired Biovac shares from the Department of Health. The shares were transferred to the DST without any financial implications to the Department. The amount of R74,070 million is the value of shares calculated at 35% of the retained earnings of Biovac as at 31 December 2018.

ANNEXURE 3B
STATEMENT OF CONTINGENT LIABILITIES AS AT 31 MARCH 2019

Nature of liability	Opening balance 1 April 2018	Liabilities incurred during the year	Liabilities paid/ cancelled/reduced during the year	Liabilities recoverable	Closing balance 31 March 2019
	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
Review application of the arbitrator's decision.	429	-	(429)	-	-
Total	**830**	**-**	**(429)**	**-**	**401**

The Department received a claim at the end of the reporting period, in which a former manager of a science centre alleges unfair treatment and financial loss, and is therefore claiming restitution. As at 31 May 2019, management was of the opinion that the summons received should be disclosed as a contingent liability based on the information at our disposal. On 20 June 2019, management received a legal opinion indicating that the claim is frivolous and vexatious, therefore it must be dismissed with costs; furthermore, the amount of the claim is not a reliable estimate, and therefore it cannot be disclosed.

ANNEXURE 4
CLAIMS RECOVERABLE

Government entity	Confirmed balance outstanding		Unconfirmed balance outstanding		Total	
	31/03/19	31/03/18	31/03/19	31/03/18	31/03/19	31/03/18
	R'000	R'000	R'000	R'000	R'000	R'000
Department						
Gauteng Department of Education	-	32	-	-	-	32
Department of Cooperative Governance and Traditional Affairs	-	7	-	-	-	7
Department of Higher Education and Training	-	191	-	-	-	191
Subtotal	**-**	**230**	**-**	**-**	**-**	**230**
Other government entities						
	-	-	-	-	-	-
Subtotal	**-**	**-**	**-**	**-**	**-**	**-**
Total	**-**	**230**	**-**	**-**	**-**	**230**

ANNEXURE 5
INTER-GOVERNMENT PAYABLES

Government entity	Confirmed balance		Unconfirmed balance		Total	
	31/03/19	31/03/18	31/03/19	31/03/18	31/03/19	31/03/18
	R'000	R'000	R'000	R'000	R'000	R'000
Department						
Current						
Department of International Relations and Cooperation	2,239	859	-	-	2,239	859
Provincial Department of Eastern Cape: Safety and Liaison	-	4	-	-	-	4
Department of Water and Sanitation	-	7	-	-	-	7
Department of Justice and Constitutional Development	203	-	-	-	203	-
Subtotal	**2,442**	**870**	**-**	**-**	**2,442**	**870**
Other government entities						
Current						
	-	-	-	-	-	-
	-	-	-	-	-	-
Total	**2,442**	**870**	**-**	**-**	**2,442**	**870**

ANNEXURE 6
INVENTORY

Inventory	Note	Quantity	2018/19 R'000	Quantity	2017/18 R'000
Opening balance		-	-	-	-
Add/(Less): Adjustments to prior year balance		-	-	-	-
Add: Additions/purchases – Cash		-	-	-	-
Add: Additions – Non-cash		-	-	-	-
(Less): Disposals		-	-	-	-
(Less): Issues		-	-	-	-
Add/(Less): Adjustments		-	-	-	-
Closing balance		-	-	-	-

The inventory was transferred to consumables in terms of the requirements of the Modified Cash Standard and the accounting manual for departments. In terms of the Modified Cash Standard, the disclosure for inventory is not applicable in 2018/19 financial year.

ANNEXURE 8A
INTER-ENTITY ADVANCES PAID (note 17)

Government entity	Confirmed balance		Unconfirmed balance		Total	
	31/03/19	31/03/18	31/03/19	31/03/18	31/03/19	31/03/18
	R'000	R'000	R'000	R'000	R'000	R'000
Departments						
Current						
Department of International Relations and Cooperation	820	336	-	-	820	336
Department of Communications (former GCIS)	-	66	-	-	-	66
Total	**820**	**402**	**-**	**-**	**820**	**402**

APPROVAL

The Annual Financial Statements set out from pages 162 to 307 for the financial year ended 31 March 2019 have been approved.



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Dr Phil Mjwara

DIRECTOR-GENERAL

DEPARTMENT OF SCIENCE AND TECHNOLOGY
ANNUAL REPORT 2018/2019

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