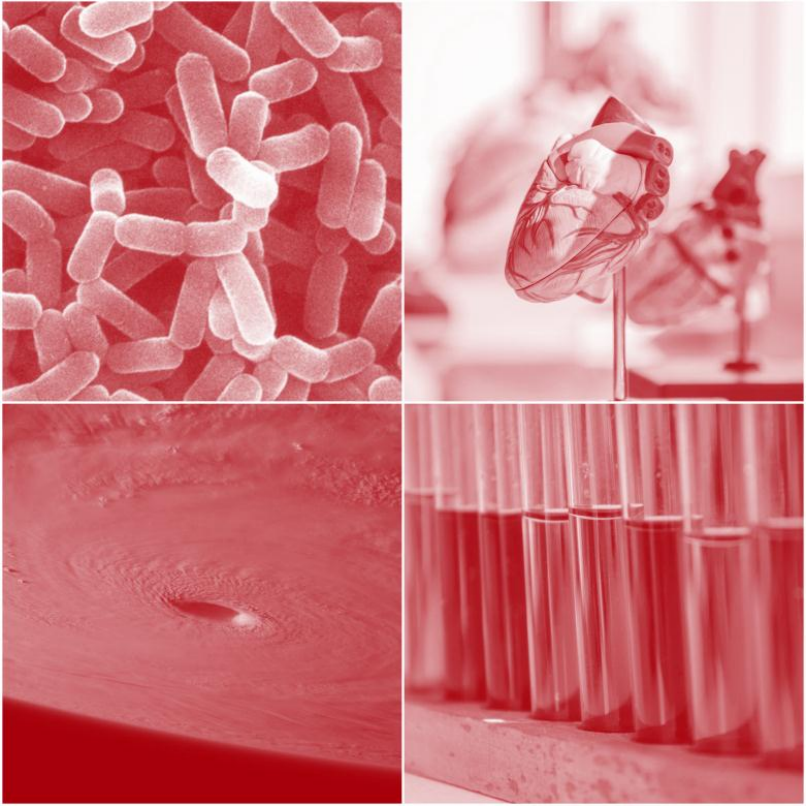


ESASTAP plus

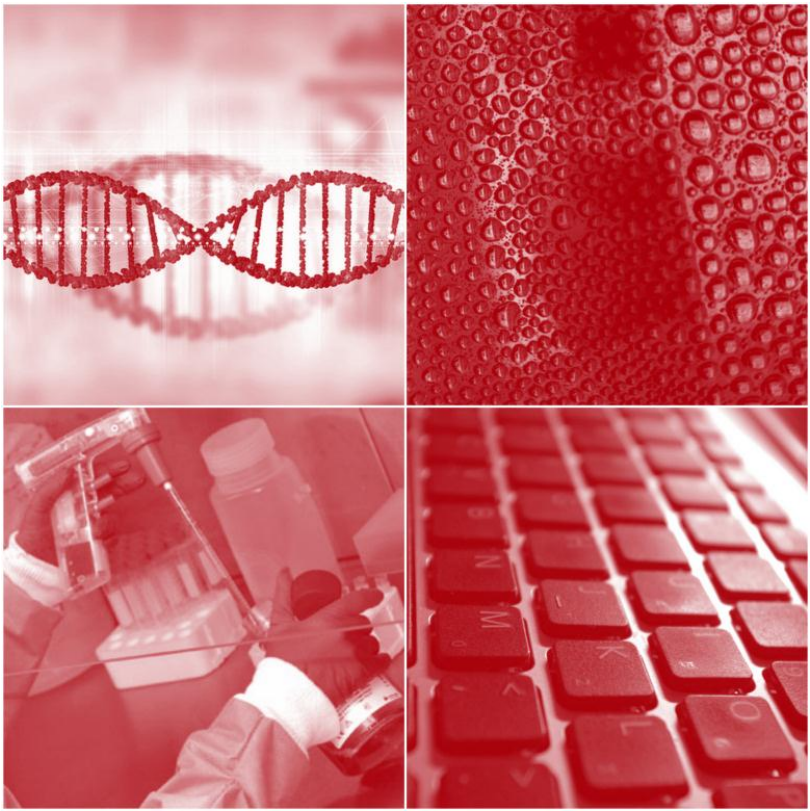
Strengthening Technology, Research and Innovation Cooperation between Europe and South Africa

REPORT

Report listing ongoing EU and SA bilateral S&T cooperation programmes

Institute de Recherche pour le Développement (IRD)

2017



Strengthening Technology, Research and Innovation Cooperation between Europe an South Africa

The Institute de Recherche pour le Développement (IRD) is a public science and technology establishment (EPST) under the joint supervision of the Ministry of Higher Education and Research and the Ministry of Foreign and European Affairs.

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Executive Summary

This report constitutes deliverable 2.1 of ESASTAP Plus, Strengthening Technology, Research and Innovation Cooperation between Europe and South Africa[1], funded under the EU's 7th Framework Programme for Research and Development (FP7). The report maps bilateral science and technology (S&T) cooperation programmes taking place between South Africa, EU Member States (MS) and Associated Countries (ACs). The information we have reviewed and analyzed was gathered from national Programme Owners[2].

Based on a thorough review and analysis of this information, three conclusions can be drawn. Firstly, across EU MS and ACs which have signed an S&T cooperation agreement, a relatively small group of European countries stand out with much higher levels of involvement in S&T cooperation. Among the members of this group, *Germany, Sweden, France, Italy, The UK, Norway, Switzerland, Flanders, and Finland* have the greatest number of programmes for S&T cooperation with South Africa. The structures of their respective diplomatic services for supporting S&T cooperation with South Africa are also significant and active. *Spain*, *Poland, Hungary* have also a wide range of programmes, whereas Denmark, the Netherland, Czech Republic, Romania, and Austria have the fewest.

Second, on the basis of the information reviewed and analysed, a thematic arrangement of S&T cooperation could offer building blocks for how to design and develop joint programmes in S&T cooperation between South Africa and the above identified EU MS&ACs. On this thematic level, programmes were mostly concentrated in the following areas: *environment & climate change; Health and medicine; bioeconomy & nanotechnology; social and human sciences; astronomy space; and agriculture*. It is also interesting to see that most bilateral cooperation programmes of the identified MS&ACs tend to integrate and promote innovation as an important aspect of their new programmes.

Furthermore, similarities can also be identified based on the structural nature of funding programmes. Finland, France and Germany have many programmes but few Programme Owners and no or few funding agencies; countries such as Austria or Switzerland have few Programme Owners, with a smaller number of programmes; and finally, countries such as Spain have only one Programme Owner. With regards to South Africa, it has multiple programmes and Programme Owners, with several funding agencies.

Finally, most of these thematic areas are in line with the ones identified under the up-coming

[1] For more detailed information on ESASTAP Plus, see http: www.esastap.org.za

[2] Programme Owner refers to the organization providing funding for a programme, such as a government department or ministry. Programme owners are typically national/regional ministries/governments responsible for defining, financing, or managing research programmes carried out at a national or regional level.

EU framework programme for Research and Innovation, Horizon2020. The societal challenges[3] are indeed key priorities in which EU MS&ACs could easily find a common ground. Furthermore, this study also addresses better coordination potential with others European programmes involved in S&T cooperation with South Africa - COST; ACP S&T; EU SBS Programme.

Although cooperation is growing among the profiled countries - cooperation programmes with South Africa tend to have a greater regional dimension, and there is still clearly room for consolidation and coordination of these efforts. There is rich scope for better coordination of the different bilateral S&T cooperation initiatives between these identified European countries/programmes and South Africa. Better coordination of these various research and innovation initiatives could result in a more optimal investment of resources through funding partners, and also provide key resources and new tools of cooperation for South Africa. In thematic areas particularly, a cooperative approach will serve to better address and coordinate funding activities.

[3] (1) Health, demographic change and well-being; (2) Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy; (3) Secure, clean and efficient energy; (4) Smart, green and integrated transport;(4) Climate action, environment, resource efficiency and raw materials; (6) Europe in a changing world - inclusive, innovative and reflective societies; (7) Secure societies - protecting freedom and security of Europe and its citizens.

Introduction

In order to enhance SA-EU S&T cooperation and coordination, the ESASTAP Plus scheme was launched under the 7th Framework Programme (FP7). The overarching objective of the scheme is to support the deepening of scientific and technological cooperation with a special focus on innovation.

ESASTAP Plus (Strengthening Technology, Research and Innovation Cooperation between Europe and South Africa) is a BILAT funded under FP7, focusing on achieving goals of mutual benefit for SA; EU MS and ACs. Among other tasks, ESASTAP Plus aims to enhance better coordination of Member States and AC's research policies and programmes with South Africa. The ESASTAP Plus consortium consists of the following 9 partners and participants:

- Foundation for Research and Technology Hellas (FORTH), Greece
- Department of Science and Technology (DST), South Africa
- Agenzia per la Promozione della Ricerca Europea (APRES), Italy
- Deutsches Zentrum Fuer Luft – und Raumfahrt EV (DLR), Germany
- Institut de Recherche pour le Développement (IRD), France
- Kinno Knowledge and Innovation Consultants (KINNO), Greece
- Verein Euresearch (EURESEARCH), Switzerland
- Academy of Science for South Africa (ASSAf), South Africa
- Southern Africa Research and Innovation Management Association (SARIMA), South Africa

Work Package 2 (WP2) is led by The French Institute for Research and Development (IRD), and aims at improving the coordination of and enhancing synergy between the various research and innovation cooperation initiatives currently being implemented between SA and the EU. According to the ESASTAP Plus Description of Work (DoW), the steps to be taken include:

a. To Identify focus areas for coordination of European research and innovation cooperation programmes with South Africa;
b. To develop a roadmap for the coordination process between actors involved with bilateral cooperation with South Africa;
c. To launch a Coordination Taskforce (CT) towards the implementation of the roadmap;

d. To facilitate the implementation of joint activities;
e. To promote the twinning of research organisations between MS&AC and SA;
f. To study the feasibility for a joint liaison office of European research organisations in SA.

Methodology

The purpose of Task 2.1 in ESASTAP Plus's Work Package 2 is to develop a comprehensive knowledge base on the potential for better coordination of and synergy between programmes. The results of this task are presented in this report, which lists ongoing EU-SA and ACs bilateral programmes, and highlights those with a potential for an enhanced cooperation. Throughout the report, "niches" for a better S&T coordination and potential synergies have been identified by thematic areas and societal challenges (H2020).

Bilateral S&T cooperation programmes/initiatives between SA, EU MS and ACs were firstly gathered through desk research. This enabled us to clearly identify ongoing flagship bilateral programmes between the main actors of the South African and European cooperation[4]. Specific European cooperation programmes were also taken into account (COST; ACP S&T; EU SBS Programme).

In addition to this study, information on bilateral S&T cooperation programmes were also gathered from the ESASTAP Plus workshop held in Pretoria on the 19th of July 2013. The event hosted by the Department of Science and Technology (DST) was an official side event to the sixth South Africa-EU Summit. Its main objectives were to explore opportunities for greater cooperation and synergies in research and innovation partnerships between South Africa and Europe. The workshop was specially focused on ensuring greater impact and efficiency in addressing major societal challenges, such as sustainable food security; competitive low-carbon economy; water innovation; blue growth, unlocking the potential of oceans; and waste: a resource to recycle, reuse and recover raw materials.

By bringing together high level panellists from EU member states, embassies and representatives of South Africa, research and technology organisations, experts on S&T cooperation, South African university representatives as well as researches, the workshop provided key and significant information for this report. Synergies were identified through the presentations delivered by the EU Member States, South African national programmes and through the Horizon 2020 presentation.

[4] See appendix B: *Overview table of ongoing flagship bilateral programmes between MS, ACs and SA*, p.18

The South African National Research Foundation (NRF), which is the public institute primarily responsible for funding research on behalf of the SA government, provided relevant data information on past and ongoing bilateral programmes[5]. However, the full set of data required to produce an exhaustive report was not made available. Nevertheless, the data provided by the three sources mentioned above ensured the production of an accurate report listing EU, AC, and SA S&T bilateral programmes.

Due to delays in task commencement and changes in the mode of operation, interviews with Programme Owners to gather further information on these programmes could not take place. Nevertheless, exchanges with key Programme Owners did take place during events, which provided complementary qualitative information and data on bilateral programmes to complete the report and highlight where niches for better cooperation lay.

Finally, possible paths to strengthen cooperation and ensure better coordination between S&T stakeholders as well as existing barriers to the coordination of bilateral programmes were introduced.

[5]; See appendix C: *Overview table from the National Research Foundation (NRF) - grants attributed by MS&ACs*, p.35.

Results

As previously mentioned within the methodology, a quantitative study was undertaken through the collection of key data to list S&T bilateral programmes cooperation between SA, European MS and ACs. In order to facilitate reading and to underline the key aspects of the research, the below summary tables have been produced. In these tables, bilateral cooperation programmes are classified by thematic areas and Societal Challenges in line of the Horizon 2020 EU framework.

A qualitative analysis of these results is presented below the summary tables. This analysis highlights potential niches for better cooperation and introduces possible paths as well as some barriers to ensure joint activities between the Programme Owners.

Summary tables

STI cooperation between MS&ACs and South Africa: current supported Thematic Areas

	C. Republic	Germany	Hungary	Italy	Poland	Norway	Sweden	Switzerland
Space Sciences & Remote Sensing		+++	+	+	+++		+	
ICT		+	+		+	+	+	
Engineering		+++	+	+	+++		++	
Biosciences, Biotech & nanotech		+++	+	++	+	+++	++	+++
Health Sciences		+++	+	+++	+	+++	+++	+++
Social Sciences & Humanities	+	+++	+	+	+	++	+++	+
Geosciences & Mineral Resources		+	+	+	+		++	
Energy		+++		+		++	+	+
Environment & Climate Change	++	+++	+	++	+	+++	+	++
Mathematical Sciences	+	+	+		++		+	
Agriculture		+	+	+	+	+	+	
Laser Technology		+					+	

	IIASA (Austria)	UK	Spain	Flanders	France	Finland	Netherlands	Denmark
Space Sciences & Remote Sensing		+++		+	+++		++	
ICT		+	++		+++			
Engineering	+	++		+	+++		++	
Biosciences, Biotech & nanotech	+	+++	++	+	+	+++		
Health Sciences		+++		+++	+++	+++		
Social Sciences & Humanities	+	+	+	++	+			
Geosciences & Mineral Resources	+	+		+++	+++	+	+	
Energy	++	++			+	+		
Environment & Climate Change	+	+++	+		+++	+++		
Mathematical Sciences	+	+		+	+			
Agriculture	+	+	+	++	+			+
Laser Technology		+	+	+	+			

Supported Societal Challenges as identified by H2020

	C. Republic	Germany	Hungary	Italy	Poland	Norway	Sweden	Switzerland
1.Health, demographic change and well-being	x	x	x	x	x	x	x	x
2. Food security, sustainable agriculture, marine and maritime research, and the bio-economy;		x	x	x	x	x	x	x
3. Secure, clean and efficient energy		x				x	x	x
4. Smart, green and integrated transport		x					x	
5. Climate action, resource efficiency and raw materials		x	x	x	x	x	x	
6. Europe in a changing world - inclusive, innovative and reflective societies		x	x	x	x	x		x
7. Secure societies - protecting freedom and security of Europe and its citizens.		x	x	x	x	x		x

	IIASA (Austria)	UK	Spain	Flanders	France	Finland	Netherlands	Denmark
1.Health, demographic change and well-being	x	x	x	x	x		x	
2. Food security, sustainable agriculture, marine and maritime research, and the bio-economy;	x	x	x	x	x	x	x	x
3. Secure, clean and efficient energy	x	x		x	x		x	
4. Smart, green and integrated transport		x						
5. Climate action, resource efficiency and raw materials	x	x			x	x		
6. Europe in a changing world - inclusive, innovative and reflective societies		x		x	x	x	x	
7. Secure societies - protecting freedom and security of Europe and its citizens.	x	x		x	x	x	x	

Qualitative analysis

Dating back to their 1996 Cooperation Agreement, South Africa and The European Union (EU) have long been committed to significant cooperation in science and technology. In addition, several bilateral cooperation agreements on S&T between EU MS and South Africa have taken place to create a robust national system of innovation and enable its transition into a knowledge economy. These agreements are intended to provide a framework in which science and technology cooperation is promoted by facilitating a set of activities, such as the exchange of scientists, mobility grants, joint research projects (submission of joint proposal), flagship projects in line with national priorities, joint flagship (programme of Cooperation), support of workshops, conferences and research training courses.

Main European stakeholders in S&T cooperation With South Africa

Among ACs[6], only two countries have signed bilateral agreements on S&T and are currently implementing cooperation programmes with South Africa, namely *Switzerland* and *Norway*. Israel signed an inter-governmental agreement on Co-operation, including S&T co-operation, with South Africa on 8 September 1995. However, no programmes specifically dedicated to S&T cooperation was launched under this framework. Turkey also signed a general agreement by the Ministry of Foreign Affairs that included S&T cooperation but no programmes specifically dedicated to S&T were launched.

Among the 28 European MS, sixteen have signed S&T bilateral agreements, and a relatively small group of them stand out with much higher involvement in S&T cooperation: *Germany, the UK, France, Flanders, Finland, and the Netherland*. Their diplomatic national representations in South Africa are significantly active in supporting S&T cooperation. *Italy, Poland, Hungary* have also a wide range of programmes, whereas Spain, Denmark, Czech Republic or Austria have the fewest.

Three others European programmes involved in S&T cooperation with South Africa need also to be considered by the study: the intergovernmental framework for European Cooperation in Science and Technology named COST; the ACP Science and Technology Programme (ACP S&T) funded by the European Union and implemented by the ACP Secretariat; and the Sector Budget Support Programme for Science and Technology funded under the EU development cooperation programme and managed by the Department of Science and Technology (DST).

[6] Albania, Iceland, Israel, Liechtenstein, the Former Yugoslav Republic of Macedonia, Montenegro, Moldova, Norway, Serbia, Switzerland and Turkey.

As analysed below, some of the main priorities of these European programmes are aligned with MS&ACs thematic priorities.

Thematic areas & common grounds

Areas for coordination and potential synergies for the EU-South African cooperation on ST&I are wide-ranging. However, some thematic areas can be identified as key priority fields where potential for better coordination and synergies can be found. These tables below reveal the areas of common ground: environment & climate change; health and medicine; bioeconomy & nanotechnology; social and human sciences; space; and to some extent, energy.

The global context embeds S&T cooperation as a key priority and pushes European and international actors toward a more interconnected relationship. Preventing dangerous climate change and safeguarding the environment is a global strategic priority that requires a high level of coordination. In this sense, environment & climate change is a case in point, where better partnership is absolutely required if such challenges are to be solved. These programmes include sub-thematic areas such as oceanography (marine ecosystems, ocean-atmosphere exchanges, etc.), sustainable resource management (fisheries, forestry, etc.), biodiversity, and water management. Switzerland will also integrate this crucial thematic area within the next stage (2013-2016) of its' main cooperation programme. Cooperation in the sector of health and medicine is well established, strong and diversified, with a growing interest in biotech from institutional cooperation. Illnesses such HIV/AIDS or tuberculosis are key priorities for South Africa. South Africa has confirmed bioeconomy, along with nanotechnology, as a major focus area in which S&T bilateral cooperation is very important. Social and human sciences are another thematic area widely shared among S&T bilateral cooperation, but usually receive smaller funds. Finally, space research has long been a field of study where cooperation between difference MS takes place. However, these programmes usually require significant funding, which limits the number of European stakeholders. For instance, three MS previously identified (France, Germany and the UK) have on-going cooperation programmes in space technology, astrophysics, astronomy, and other areas. Bilateral S&T projects in the field of energy are usually highly connected to the thematic area of climate change. To a some extent, most of the MS&ACs identified have sub-thematic areas related to the development of renewable, clean and secure energy. Further sectors considered attractive for cooperation are engineering, ICT, and agriculture.

A summary of international agreements and programmes between Europe and South Africa shows that supported thematic areas are not completely aligned with new areas of investigation or necessarily responsive to areas of priority of the EU and further afield. For example, cooperation in the field of energy and agriculture - two areas identified as crucial priorities by SA, is not supported adequately by SA partners.

Furthermore, most of the identified thematic areas are also aligned with the Societal Challenges defined under the new Horizon 2020 EU framework[7]. Societal challenge number four, 'Smart, green and integrated transport', is not currently identified as a priority field of bilateral cooperation between Europe and South Africa. It is also worth noting that most bilateral cooperation programmes of the identified MS&ACs tend to integrate and promote innovation as an important aspect of their programmes.

Furthermore, cooperation programmes with South Africa tend to have a greater regional dimension. A number of regional and multilateral activities have been launched with South Africa and other African partners, in particular from the SADC region. In this regard, there is also a need to link bilateral activities more explicitly with regional and multilateral initiatives in order to build on leverage effects and synergies more effectively and to avoid duplication. It also appears that bilateral programmes tend to be a first gateway for stakeholders to enter into bigger regional initiatives. This trend can be explained to a large extent by the nature of the current global challenges but also by the importance of the European Framework Programme.

Key European programmes such as the intergovernmental framework for European Cooperation in Science and Technology, known as COST; the ACP Science and Technology Programme (ACP S&T) funded by the European Union and implemented by the ACP Secretariat; and the Sector Budget Support Programme for Science and Technology[8] funded under the EU development cooperation programme and managed by the Department of Science and Technology (DST) also have their main priorities aligned with MS&ACs thematic areas in S&T cooperation. For instance, the first priority of COST is in "biomedicine and

[7] Health, demographic change and well-being; Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy; Secure, clean and efficient energy; Smart, green and integrated transport; Climate action, environment, resource efficiency and raw materials; Europe in a changing world - inclusive, innovative and reflective societies; Secure societies - protecting freedom and security of Europe and its citizens.
[8] Sustainable livelihoods and economic development; access to basic and social; technology and innovation infrastructure services; Developing human capital; global environmental challenges; and institutional capacity and regional collaboration.

molecular biosciences", one of the main fields of study where MS&ACS could find a common ground. Among the ACP S&T Programme's priorities, health science is a traditional field of cooperation between most European countries and South Africa. Finally, with the overall objective of poverty alleviation, the SBS Programme focuses on six main areas, among which two - improving South Africa's response to global environmental challenges & enhancing sustainable economic development, are aligned with two key fields of study among MS and ACs.

Funding agency systems

Further analysis shows that the funding agency system of governance related to S&T programmes is mostly centralized (i.e. with only one or two Programme Owners) in EU MS/AC with the most programmes. In Finland, the primary coordinating unit is the Ministry of Foreign Affairs, which directly governs most of the programmes. In France, two funding agencies (IRD & CNRS) are also the principal Programme Owners, along with the French Ministry of Foreign Affairs. In Belgium, most programmes are coordinated by one Programme Owner, the General Directorate for Development of the Belgian Ministry of Foreign Affairs, Foreign Trade and Development Cooperation. In Germany, the system of programme governance is also very centralized, as the German Federal Ministry of Education and Research (BMBF), or offices under it, function as the PO, funding agency and administrative agency in most of the programmes. The UK has three main POs; the SA-UK Science Networking; the Economic and Social Research Council; and the national ministry through the British High Commission in Pretoria. Regarding Switzerland, two POs lead the cooperation: the Swiss National Science Foundation and the State Secretariat for Education and Research (SER).

Even though South Africa has several POs, there is clear clustering around two of them: the National Research Foundation (NRF) and Department for Science and Technology (DST), which own or co-own most programmes respectively, with the NRF serving as the principal funding agency.

In general, countries with many programmes and those with few programmes had a centralisation of Programme Owners. Those with a medium number programmes, however, have more Programme Owners. It is important to note is that the critical factor was the number of programmes, not the size of the budget.

Regarding South African beneficiaries[9] in 2012, six universities received most of the grants attributed through bilateral cooperation between South Africa and MS&ACs: the University of Cape Town, the Stellenbosch University, the University of Pretoria, the University of the Witwatersrand and the University of Johannesburg. Indeed, among the 25 recipient research organisations, these six universities received more than 70% of all the MS&ACs grants attributed in South Africa.

[9] See: *Overview table of Beneficiary recoded (NRF) - grants attributed by MS&ACs in 2012*, p.52

A possible path to ensure better coordination

South Africa's research is advanced in many sectors; special thematic areas are very much wider due to the size and the diversity of the country. Limiting research to few countries would mean to have smaller numbers of specialists. Involving several countries means more expertise and more special technologies. South Africa's great potential in STI is as a gateway for opening important business fields for both regions. In this sense, cooperation between EU MS&AC and South Africa would lead to a widening in the market knowledge.

Another striking effect of multilateral cooperation is the improved scientific impact of the research thematic when both sides publish together. However, the final and most interesting benefit is to shorten the time and investment needed to achieve new and more efficient technologies.

Main benefits

- Facing global (societal) challenges together is the only way to resolve them
- Facing global competitiveness with better tools
- Brainstorming and sharing experiences to avoid duplication and to promote complementarities
- Better cost-efficiency by up-scaling and targeting actions and achieving a better overall impact

These main benefits need to be highlighted to emphasis the possibilities and advantages of better coordination among MS&ACs. ESASTAP Plus' way forward to enhanced coordination is to set up an active platform where key MS and ACs in S&T cooperation with South Africa can: share information and experiences; realize by themselves that synergies between programmes do exist, and; willingly identify joint future priorities to launch joint activities. The challenge is to be more effective in the different key areas of science and technology (S&T) that address the basic needs of sustainable development, and to do so in a manner which is better informed and coordinated. Results obtained through pilot joint initiatives represent quality inputs for dialogue on the coordination of bilateral cooperation stakeholders at the policy level.

However, some barriers to the implementation of such a path do exist. There are some misunderstandings and sensitivities with regard to bilateral programmes coordination. Firstly, for some stakeholders from both continents, joint activities and multilateral cooperation in science and technology is difficult and less attractive than bilateral cooperation, where partners know each other and are familiar with the rules of their partnerships. Secondly, from a state's perspective, multilateral cooperation can be seen as less effective to promote national interests. Moreover, bilateral cooperation programmes tend to be better at promoting the visibility of the two states instead of joint programmes which stakeholders may underestimate.

MS&ACs should be opened for coordinated cooperation activities with South Africa, on the condition that the idea of joining force comes from the stakeholders themselves. Thus, promoting the idea of better coordination in a diplomatic and cautious way, and making sure that the principle of ownership is respected should be the first objectives. With this in mind, ESASTAP Plus will share information in order to raise awareness of the potential for synergy and coordination, and preparing the ground for commitments in enhancing coordination.

Appendix A: Overseas bilateral agreements

Asia	**Americas**	**Europe**	**Gulf**	**Agency-to-Agency**	'Special Projects
China	Argentina	Belarus	Iran	CNRS (France)	!Khure (France)
India	Brazil	Czech Rep.	Oman	FAS (Finland)	Inkaba Ye Africa (Germany)
Japan	Cuba	Croatia		FWO (Flanders)	IIASA (Netherlands)
Malaysia	Mexico	Finland		NSF (USA)	JINR (Russia)
South Korea	USA	Flanders		RFBR (Russia)	KIC
Taiwan		France		ASCR (Czech Rep.)	SNSF (Switzerland)
		Germany		DFG (Germany)	IBSA
		Hellenic (Greece)		JSTA (Japan)	
		Hungary		JSPS (Japan)	
		Italy		NOW (Netherlands)	
		Netherland		NSFC (China)	
		Norway		DAAD (Germany)	
		Poland			
		Romania			
		Russia			
		Slovakia			
		Spain			
		Sweden			
		Switzerland			
		United Kingdom			
		Ukraine			

Appendix B: Overview table of ongoing bilateral flagship

Name of the programme/ project Duration	Thematic areas	European organizations involved in the project/programme and country of origin	South African organizations involved in the project/programme	Type of instrument/Scope (bilateral, regional, multilateral)	Amount and sources of funding	H2020 societal challenges*	Brief description	Contact point
Challenge Program Water for Food, CPWF Limpopo **2011-2014**	Water resource management and governance	France - CIRAD	SA - International Water Management Institute, South Africa (IWMI); - University of the Western Cape	international collaborative project Scope : regional	87500 USD CGIAR	2. 6. 7.	Conducting basin-wide, cross-scale institutional analysis incorporating biophysical, social, economic and political elements of water governance. Approach analysis power differences based on socio-economic status, gender and ethnicity. *Website:* www.cgiar.org	David Love dlove@waternetonline.org
A study of the interaction between wild and domestic ungulates in the Great Limpopo Transfrontier Park (GLTFCA BUCAIT)	Animal health	France - CIRAD	SA -South African veterinary services	international collaborative project - scope : regional Technical and scientific partners of three countries (South Africa, Mozambique and Zimbabwe).	Cirad, FAO, SANParks, south African Veterinary Services	1. 5. 6.	Study of African buffalo population movements in the border area of "Crook's Corner" - Great Limpopo *Website:* www.afrique-orientale-australe.cirad.fr/en/research_in_partnership/ongoing_projects/animal_health_and_emer	Alexandre Caron alexandre.caron@cirad.fr

2010-2013							ging_diseases/gltfca_bucait	
PI@ntnet **2009-2013**	Flora and Fauna inventory - collaborative information system - natural resources management	France - CIRAD/INRIA/IUCN	SA -Kruger National Park	international collaborative project - scope : regional	3,000,000 euros Agropolis Foundation	2. 5.	Taxonomical survey on the phenotype variability, phenology, ecology and geographical distribution of numerous plants, including domesticated plants. Accumulation of basic knowledge of flora and vegetation. *Website:* www.amap.cirad.fr/en/pt_plantnet.php#	Daniel Barthélémy daniel.barthelemy@cirad.fr
Effect of increased aridity and drought frequency on socio-ecological systems in the savannah (SAVARID) **2012-2015**	animal health - sub thematic: effects of climate change on an ecosystem	France - CNRS/CIRAD	SA - University of Witwatersrand - University of Cape Town	international collaborative project - scope : regional France-Zimbabwe-SA)	Agence Nationale de la Recherche (FR)	1. 5. 6.	Estimating the effects of aridification. Study: climatic changes, sustainability of the savannah anthropo-ecosystems *Website:* www.rp-pcp.org/projects/on-going/savarid	Hervé Fritz fritz@biomserv.univ-lyon1.fr

Decentralized governance of water in Africa **2010-2013**	natural resource management - sub thematic: water governance	France - CIRAD	SA Water Research Commission of South Africa, BM	international collaborative project - scope: regional	Word Bank and WRC of SA	2. 5.	Studying of the decentralization policy process related to water management *Website:* www.afrique-orientale-australe.cirad.fr/en/research_in_partnership/ongoing_projects/public_policy_poverty_and_inequality/water_governance	Stefano Farolfi stefano.farolfi@cirad.fr
ICEMASA - International Centre for Education, Marine and Atmospheric Sciences over Africa **2009-2013** **perspective: 2014-2018**	Marine sciences	France - Laboratoire de Physique des Océans - LPO Centre de Recherche Halieutique Méditerranéenne et Tropicale - Ecosystèmes Marins Exploités - CRH-EME Laboratoire des sciences de l'environnement marin - LEMAR French stakeholders: IRD; CNRS-INSU; Université de Bretagne Occidentale - UBO.	SA - Department of Environmental Affairs - DEA Department of Agriculture, Forestry and Fisheries - DAFF Marine Research institute and University of Cape Town and MARE - Dpt. of Oceanography & Dpt. of Zoology University of Cape Town	Joint French-SA laboratory - scope: bilateral	1.200,000/year IRD	2. 5.	Focuses: marine ecosystems, resources management, physical oceanography, ocean-atmosphere exchanges, biogeochemistry three complementary goals: a research component an education component an operational component *Website:* www.icemasa.org	Francis Marsac francis.marsac@ird.fr

Change in ecosystem properties: Sugar cane and eucalyptus plantations in the province of KwaZulu-Natal **2011-2013** **leading to innovation**	Ecosystems	France - IRD	SA University of Kwazulu Natal South African Sugar Research Institute	Bilateral collaborative project -		2. 5. 6.	Identifying: advantages of soil restoration plant residue in comparison with slash and burn methods, on industrial sugar cane and eucalyptus plantations. *Website:* www.southern-africa.aird.fr/science-in-southern-africa/research-projects/change-in-ecosystem-properties-sugar-cane-and-eucalyptus-plantations-in-the-province-of-kwazulu-natal	Pascal Podwojewski pascal.podwojewski@ird.fr
GDRI Biodiversity and global change in Southern Africa **2007-2014**	biodiversity	France - Centre d'Ecologie Fonctionnelle et Evolutive (CEFE) - Institut des Sciences de l'Evolution (ISEM) - Centre d'Etudes Biologiques de Chize, - Biogéochimie et écologie des milieux continentaux - Centre de Biologie et de Gestion des Populations (CBGP) - Département Environnements et	SA - The university of Stellenbosch: Department of Botany and Zoology, Centre for Invasion Biology - The university of Cape Town : Department of Botany, Department of Zoology - The university of Witwatersrand : School of Animal, Plant and Environmental Sciences - The university of Pretoria : Department of Zoology and Entomology - The university of Kwazulu Natal : School of Biological and Conservation Sciences - The university of Venda :	international research network (French instrument - CNRS) - scope: bilateral		2. 5. 6.	Studying species diversification: understand present distribution patterns as well as genetic and phenotypic adaptations in order to infer how and when species responded to past climate changes. Exploring species interactions: how O12 predation, mutualism and pollination shape South African communities. Modeling species distribution: assess and predict the consequences of global and land use	Claudine Mongelard claudine.montgelard@cefe.cnrs.fr

		Sociétés, UR AGIRs, CIRAD Montpellier - Peuplements Végétaux et Bio-agresseurs en Milieu Tropical, CIRAD St Denis, La Réunion - Origine, structure et évolution de la biodiversité, MNHN - Conservation des espèces, suivi et restauration des populations, MNHN	School of Biology Nelson Mandela Metropolitan University : School of Biology - The National Museum in Bloemfontein : Mammal Department - The South African National Biodiversity Institute (SANBI) - The Isiko Museum : Invertebrate Department				changes on the tempo and mode of speciation and extinction. *Website:* www.afrique-australe.aird.fr/les-activites/projets-de-recherche/dynamique-de-la-biodiversite-et-changement-global-en-afrique-australe	
Evolution of vocal communication, social systems and phylogeny in African birds	Biodiversity	France - Université de Rennes 1 - UMR CNRS 6552 -Human and Animal Ethology Museum - UMR 7205: Origine, Structure and Biodiversity Evolution	South Africa - Rhodes University, Department of Zoology & Entomology -University of Limpopo, Department of BiodiversitySouth African National Parks	Bilateral collaborative project - scope: bilateral		2. 5.	Analysing vocal communication evolution under the influence of social and phylogenetic and other factors. *Website:* www.southern-africa.aird.fr/science-in-southern-africa/research-projects/evolution-of-vocal-communication-social-systems-and-phylogeny-in-african-birds	Representation CNRS/IIRD afrique-du-sud@ird.fr

DITSONG Preparation Laboratory **2011-2014 official opening: end of 2012**	Palaeontology	France - CNRS UPR 2147 - Dynamique de l'évolution humaine.	SA - Ditsong National Museum of Natural History	International associated laboratory - scope: bilateral	French Embassy in SA CNRS Ditsong National Museum of Natural History	1.	Analysing effective and less damaging acid preparation for the plio-pleistocene material from the fossiliferous breccia. *Website:* www.southern-africa.aird.fr/all-news/news-in-southern-africa/inauguration-in-pretoria-of-the-ditsong-preparation-laboratory-for-the-lia-homen-biodiversity-of-hominid-remains	Dominique Gommery dominique.gommery@evolhum.cnrs.fr
Biodiversity during Plio-Pléistocène in the Cradle of Humankind, South Africa **2011-2014**	Paleontology	France - CNRS UPR 2147: Dynamique de l'évolution humaine.	SA -Ditsong National Museum of Natural History	Bilateral collaborative project		1. 5.	Studying the evolution of hominids as well as the associated environmental conditions (cradle of humankind). *Website:* www.southern-africa.aird.fr/science-in-southern-africa/research-projects/biodiversity-during-plio-pleistocene-in-the-cradle-of-humankind-south-africa	dominique.gommery@evolhum.cnrs.fr

PROTEA - Programme Hubert Curien **Since 1994**	all thematic areas priority areas: - Nanosciences and nanotechnologies - Life sciences -Biotechnologies - Energy - SSH - Astronomy	France - Ministry of Foreign Affairs, through the French Embassy in SA Any French research institution may receive funding (including from the private sector)	SA - DST, through NRF Universities and research centers	support to international research projects: funding for - short term stays - hosting of joint scientific conferences and seminars - exchange of publications French counterpart covers perdiem for SA researchers in France (up to 110 EUR/day) and travels for French researchers in SA (up 1500 EUR/travel) - scope: bilateral	vary according to projects (mobility funding) - French Ministry of Foreign Affairs/DST	All	Aimed at facilitating cooperation between South African and French scientists on joint research projects, the programme focuses on researcher exchanges, the hosting of joint scientific conferences and seminars as well as the exchange of publications. *Website:* www.campusfrance.org/fr/protea	Pierre Lemonde pierre.lemonde@diplomatie.gouv.fr SA: skohli@nrf.ac.za
Safe Water - Programmes de Recherche en Réseaux **Since 2005**	Water research Sub thematic: hydrometeorology salinity water quality water management	France - Ministry of Foreign Affairs through French research institutions (IRD, CNRS, CIRAD, the French Office for Geological and Mining Research (BRGM))	SA DST, through the Water Research Commission SA universities and research centres such as the Universities of Pretoria, Western Cape and KwaZulu-Natal.	Bilateral research projects	up to 200,000-300,000 EUR - French Ministry of Foreign Affairs -DST	2. 5.	Setting up perennial networks in water management. *Website:* www.ambafrance-rsa.org/Safe-Water-program	pierre.lemonde@diplomatie.gouv.fr

SAFeTI **Since 2006**	ICT sub thematic: - mobile, wireless and satellite networks open source interactivity software engineering and software architecture computer interaction	France - Ministry of Foreign Affairs	SA - DST, through the Meraka Institute	programme funding joint research projects - scope: bilateral	amount not specified - funding: French Ministry of FA - DST	1. 6. 7.	Supporting the development of young scientists, to build capacity within historically disadvantaged institutions active in ICT research and to work towards an increased number of post-doctoral researchers in the ICT field. *Website:* www.ambafrance-rsa.org/SAFe-Ti	pierre.lemonde@diplomatie.gouv.fr
ARCUS programme **Since 2005**	Any	France - Ministry for Foreign and European Affairs - Ministry of Education and Research - + one local government	SA: - Rock Art Research Institute, Johannesburg (RARI) - Spatial Archaeology Research Unit/Archaeology Dept., University of Cape Town (SARU) Others…	Annual programme funding joint research projects, with emphasis on capacity building and training engineering French programme targeting - Mediterranean countries - African developing countries - BRICS	Equivalent cofounding between the French Ministry of FA and a French local government	All	L consolidating higher education and research between a French local government and one or several countries with which France wishes to develop strategic partnerships *Website:* www.diplomatie.gouv.fr/fr/politique-etrangere-de-la-france/diplomatie-scientifique/partenariats-scientifiques-20601/partenariats-scientifiques-etat/article/partenariats-scientifiques-etat	

French Institute of South Africa	SSH Sub thematic: - Archaeology, History and Memory - Democratic Transformations and Urban Dynamics - Resources	France - French Institute of South Africa (based in SA)	SA - SA Research institutions	Programme funding: - Individual research projects, master's, doctoral and post-doctoral students; - Integrated research programmes (in financial partnership with research institutions); - Result valorisation projects (e.g. publication of research and articles, posters, conferences and seminars). Scope: bilateral	Depending on resources allocated - annual call for proposals - funding: French MoFA	1. 6. 7.	I Human and Social Sciences on Southern Africa and, more generally, on the African continent. *Website:* www.ifas.org.za	Balthazar Lionnard balthazar@ifas.org.za
F'SATI - French-South African Institute of Technology	TIC and Electronics	France -Ecole Supérieure d'Ingénieurs en Electronique et Electrotechnique	SA - Cape Town University of Technology - Tshwane University of Technology	Grants for graduate programme: international Masters and Doctorates in electronic engineering. Scope: bilateral		1. 6. 7.	Focuses: domain of Electrical and Electronic Engineering, especially in the fields of telecommunication, the Enabled Environment, Power Engineering, and Satellite Engineering. Website: www.active.cput.ac.za/fsati www.tut.ac.za/Students/facultiesdepartments/ebe/citci/fsati/Pages/fsatihome.aspx	in TUT: drewH@tut.ac.za in CPUT: vanzyli@cput.ac.za

INKABA ye Africa	climate change, sustainable resources, clean water and energy, all of which are related to the dynamics of Earth Systems.	Germany - German Research Centre for Geosciences (GFZ)	The African component of Inkaba ye Africa is managed by the African Earth observation Network funded by National Research Foundation	training; capacity building - scope: bilateral	Jointly funded by the DST through the NRF University granting system and by the German Research Centre for Geosciences (GFZ)	2. 3. 4. 5.	examining natural phenomena which provide fundamental insights into the workings of planet earth, and which impact the socio-economic development of both countries'. *Website:* www.inkaba.org	Dr Achuo Enow (Programme Director for Global Change) at a.enow@nrf.ac.za
Integrated Water Resources Management-Pilot project "middle Olifants" in South Africa with technology transfer through a franchise concept **June 2012 - May 2015**	water, land and related resources	Germany - Institute of Environmental Engineering and Management (IEEM) - Center for Development Research (ZEF), University Bonn - Environmental Engineering and Ecology (U+Ö), Ruhr-University Bochum - DHI-WASY GmbH - disy Information system GmbH -HUBER SE -LAR Process Analysers AG -REMONDIS Aqua GmbH & Co. KG	SA - Department of Water Affairs (DWA) - Water Research Commission (WRC) - Council for Scientific and Industrial Research (CSIR) - University of Limpopo; University of Pretoria; DHI SADC - HUBER Technology (Pty) Ltd	Project region: "Middle Olifants (river catchment northeast of Pretoria) Scope: bilateral		2. 5.	Focuses: management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. *Website:* www.iwrm-southafrica.de	Jens Hilbig M. A. Overall Project Management hilbig@uni-wh-utm.de

BIOTA South Africa- Scientific Support for Conservation and Sustainable Use of Biodiversity in Namibia and South Africa	biodiversity and sustainability	Germany - German Federal Ministry of Education and Research (BMBF)	SA - Nature Conservation Department - Kirstenbosch Research Centre	Regional network (South Africa, Namibia and Germany)	BMBF open to fund the initiative	2. 5.	Contributing to GEOSS (Global Earth Observation System of Systems). Observing land degradation and for developing measures to combat desertification in Africa. A network for capacity development and rural development in Africa. *Website:* www.biota-africa.org/reg_south_obsmap_ba.php?Level2=1&Page_ID=L800_05	Prof Dr Norbert Jürgens norbert.juergens@t-online.de
EnerKey **2008-2013**	urban energy supply	Germany - German Ministry of Education and Research. - University of Stuttgart - TIE; IZT; IBP - City of Stuttgart - INEP gGmbH - Afrika-Verein der deutschen Wirtschaft; Deutsche Handelskammer Südliches Afrika - GIZ	SA - University of Johannesburg; - Municipal Authority of Johannesburg; - Municipality of Tshwane; - Metropolitan Municipality of Ekurhuleni; - ESKOM; SANEA SA; UCT; CSIR; - Sustainable Energy Africa – SEA - Sustainable Energy Society of Southern Africa – SESSA; PEER Africa (Pty.) Ltd	Scope: Bilateral	framework of the "Future Megacities Programme" Germany: 40 million Rand	3. 5.	Focus: sustainable and effective energy and climate protection structure in order to improve the sustainability in the urban region of Gauteng, *Website:* www.enerkey.info	Prof. Harold J. Annegarn - SA Project Coordinator han@rau.ac.za Dr. Ludger Eltrop German Project Coordinator le@ier.uni-stuttgart.de

The Southern African Science Service Centre for Climate Change and Adaptive Land Use (SASSCAL)	climate, water, forestry, agriculture and biodiversity	Germany - German Ministry of Education and Research - University: Bremen; Hamburg, Hannover (Liebniz), Jena, Trier, Marburg - Climate Service Center Hamburg and German meteorological Service -Institute for social-ecological research-Frankfurt - DLR&DFD	SA - NRF; CSIR; WRC; SANSA; - SANSA Agricultural Research Council Institute for Soil, Climate and Water (ARC-ISCW) - Applied Centre for Cliamte & Earth System Science ACCESS	Scope: multilateral (Angola, Botswana, Namibia, South Africa, Zambia and Germany)		2. 5. 6.	Focus: capacity development and regional advisory role as well as information and product service *Website: http://www.sasscal.org*	Dr. Henry Mwima Executive Directo henry.mwima@sasscal.org
Executive programme of scientific and technological cooperation between Italy and SA **2011-2013**	Astrophysics & Radio-Astronomy ICT Physics Biotechnology Nanotechnology & New Advanced Materials Medicine & Energy & Environment	Italy - Ministry of Foreign Affairs	SA - DST through NRF	Programme funding exchange of researchers for research projects. Scope: bilateral	bilateral funds	All	Submission of joint research projects by researchers of both Countries is requested, with the aim of encouraging scientific and technological cooperation between Italy and South Africa. *Website:* www.iicpretoria.esteri.it/NR/rdonlyres/DE50ADA2-7FA3-4B50-8A7E-0DC62CD1749E/75264/ScienceandTechnologyAgreement.pdf	tebogo.mokoma@nrf.ac.za

Energy and Environment Partnership Programme in Southern and East Africa, EEP-S&EA **since March 2010** **leading to innovation**	Energy and Environment	Finland - Ministry of Foreign Affairs Austria - Austrian Development Agency UK - Department for International Development	SA -Ministry : New and Renewable Energy - Department of Energy	Scope: regional	multilateral funding	3. 5. 6.	Focuses: high innovation in delivering energy services, facilitating technology transfer, encouraging cooperation and local stakeholders' participation in projects. Providing sustainable energy services to the poor and combate the climate change. *Website:* www.eepafrica.org	Ms. Nomawethu Qase, Director Department of Energy Pretoria, Noma.Qase@energy.gov.za
The Finnish Southern Africa Partnership Programme to Strengthen NEPAD / SANBio Network BioFISA **- BIOFISA I 2008-2012, currently BIOFISA II** **leading to innovation**	Biosciences	Finland - Ministry of foreign affairs	SA CSIR - Council for Scientific and Industrial Research	Scope: Tripartite Programme: Finland, South Africa and New Partnership for Africa's Development	3.9 million euros, Finland contributing 3 million euros and South Africa 9 million ZAR.	2. 5.	The objective is to develop the Southern African capacities in the area of biosciences and to bring new innovative biosciences related products in the market in order to eradicate poverty and to achieve sustainable development. *Website:* www.nepadst.org/sanbio/biofisa/index.php	Prof. Luke Mumba SANBio Network Director & Coordinator lmumba@csir.co.za

South Africa – Norway Research Co-operation on Climate, the Environment and Clean Energy (SANCOOP) **2013-2017**	Environment, Climate change and Clean energy	Norway - Ministry of foreign affairs Administered by The Research Council of Norway in close cooperation with National Research Foundation in South-Africa.	Ministry of foreign affairs in South Africa National Research Foundation in South-Africa Department of Science and Technology	joint research, post graduate and post-doctoral exchanges - scope: bilateral	The funding: 47 million - SA: R10 million -Norway: NOK 40 million	3. 5. 6.	The goal of the programme is enhanced knowledge-based policies and decisions for sustainable development in the selected areas. *Website:* http://www.forskningsradet.no/prognett-southafrica/Programme_description/1226994002831	Jan Monteverde Haakonsen, Sjha@forskningsradet.no
South Africa-Netherlands Research Programme on Alternatives in Development Sanpad 2008-2013	New approaches to Economic Development Social and Human Development Natural Resources and their Governance Politics, Governance, State and Society Identities, Culture and Societies Science and Technology for Social Development	The Netherlands - the Royal Dutch Embassy	SANPAD			1. 6 7.	Stimulate high-quality academic research and cooperation between Dutch and South African academics http://www.sanpad.org.za	SANPAD South Africa info@sanpad.org.za

Stimulating Innovation through Knowledge Life-Long Learning (SKILL) **2009-2013**	ANY	The Netherlands - the Royal Dutch Embassy -VU University Amsterdam, - Wageningen University - Research Centre - the Technical University of Delft, Maastricht University	SA - SA universities			All	Combating the skills deficit by investing in master and postgraduate courses and exchanges between Dutch and South African universities http://www.fsw.vu.nl/en/international-relations/savusa/skill-programme/junior-academic-staff/index.asp	
HIV/AIDS National & Regional Programmes **leading to Innovation**	Health	The Netherlands - the Royal Dutch Embassy	South African government	Scope: regional		1.	HIV/AIDS http://southafrica.nlembassy.org/key-topics/international-cooperation/hiv-aids-national--regional-programmes.html	Ronald Goldberg pre-os@minbuza.nl
Trenchless Technology in the Water Sector	water management and sustainable agriculture,	The Netherlands - the Royal Dutch Embassy - Dutch experts on WAVIN's innovative technology	SA SA government - eThekwini Water Services	Scope: bilateral	The Dutch higher education programmes	2. 5.	drinking water system replacement and water loss prevention www.southafrica.nlembassy.org/key-topics/international-cooperation/transition-facility-and-economic-development.html	

Piloting franchising in sanitation	Water managment	The Netherlands - the Royal Dutch Embassy	SA - Council for Scientific and Industrial Research (CSIR)	Scope: bilateral		2. 5.	generate small enterprises at municipal level through the franchising of sanitation services www.southafrica.nlembassy.org/key-topics/international-cooperation/transition-facility-and-economic-development.html	
Bilateral Programmes	Agriculture and food security, health and medicine, water and oceanography, and social sciences	Flanders	SA National Research Foundation	Scope: bilateral		1. 2. 5. 6.		
South Africa/Poland agreement on cooperation in science and technology **Leading to innovation?**	Animal Sciences, Architecture, Astronomy, Chemistry, Engineering, Mathematical Sciences, Advanced Manufacturing, and Physics.	Poland - Minister of Education and Research	SA NRF through DST	participation in: SALT Southern African Large Telescope?		1. 4. 6.		
VGI f - SDIs 2010-2012 **Leading to innovation**		Poland	Space	project - bilateral - concluded under the agreement on cooperation in Science and Technology		5. 6.	Volunteered geographical information for spatial data infrastructures & and geoportals *Website:* www.web.up.ac.za/default.asp?ipkCategoryID=16189&sub=1&parentid=16053&subid=16181&ipklookid=11	Dr Serena Coetzee serena.coetzee@up.ac.za

SSAJRP **-Phase I 2008-2012** **Phase II 2013–2016** **Leading to innovation support ot industry**	Public health &biomédecine Biotechnology & nanotechnology Energy, Social and human Sciences second phase - include: clean and green technology	Switzerland - Université de Bâle - Institut tropical et de santé publique suisse (Swiss TPH)	SA - Department of Science and Technology - Council of Scientific and Industrial Research	Joint Research Projects, JRP Faculty Exchange, FE Student Exchange, SE "Science to Market" activities. Scope: bilateral	Phase 1 : CHF 6.85 Mio was made available by SER and an according amount on the South African side by DST.	1. 3. 5.	Focuses: joint research projects. promoting knowledge transfer and innovation in both countries. *Website:* http://globalaffairs.unibas.ch/joint-programmes/swiss-south-africa-joint-research-programme-ssajrp	Université de Bâle erich.thaler@unibas.ch Pia Stalder pia.stalder@sbfi.admin.ch
NRF/Royal Society Scientific Seminar Scheme **2015**	All prefercnes for: space astronomy, health research, climate change, biosciencie	UK - Office for Science (GO-Science), - Department for Innovation, universities and Skills (DIUS)	SA - DST through the NRF (also co-administrator)	funding for international airfares, accommodation, etc. Scope: bilateral	maximum of £10,000 shared between the Royal Society and the NRF 50/50	All	The NRF/ Royal Society Scientific Seminar Scheme which provides funding for international airfares, UK travel costs, accommodation,(etc.) to share knowledge on S&T and research *Website:* www.royalsociety.org	Raven Jimmy Professional Officer raven@nrf.ac.za
UK prosperity fund 2013/2014	climate change energy security	UK: Foreign and Commonwealth Office	SA: - DST	Scope: bilateral	uk: 800 000 Pounds 100% funded by the UK	3. 6.	Tackling climate change, strengthen energy security and promote an open global economy in key emerging economies.	Vannessa Westcott (British High Commission) vannessa.westcott@fco.gov.uk
PRogramme for Improving Mental health carE (PRIME) **2011-2017**	Mental Heath	THE UK - Research and Evidence Division (Human Development Team)	SA - University of Cape Town	Scope: multilateral (Ethiopia, India, Nepal, South Africa, Uganda)	Total Cost from DFID: £6,000,000	1.	mental disorders - depression, alcohol use and schizophrenia *Website:* www.r4d.dfid.gov.uk/Project/60851/Default.aspx	Crick Lund (RPC Chief Executive) crick.lund@uct.ac.za

Tackling the Structural Drivers of the HIV Epidemic (STRIVE) **2011-2017**	Health - HIV	THE UK - Research and Evidence Division (Human Development Team)	SA - Wits Reproductive Health and HIV Research Institute	Scope: multilateral (India, South Africa, United Republic of Tanzania)	Total Cost from DFID: £6,072,139	1.	Focus: HIV - Improving methods for researching and evaluating structural interventions *Website:* www.r4d.dfid.gov.uk/Project/60850/Default.aspx	Lori Heise (RPC Chief Executive) lori.Heise@lshtm.ac.uk
African Community Access Programme (AFCAP) **2008-2015**	Transport	The UK - Research and Evidence Division (Growth Team)	SA - South African National Road Agency (SANRA)	Scope: multilateral (Ethiopia, Ghana, Kenya, Malawi, Mozambique, South Africa, United Republic of Tanzania, South Sudan)	**To**tal Cost from DFID:£14,386,330	4.	Focus: promoting improved rural physical access in sub-Saharan Africa *Website:* www.r4d.dfid.gov.uk/Project/60571/Default.aspx	Karen Harries (Programme Manager) Karen.Harries@crownagents.co.uk
Space, Markets and Employment in Agricultural Development: Case Studies from Southern Africa PROJECT Download Project to Word Print Project Record	Agriculture	the UK - Research and Evidence Division (Governance, Conflict and Social Development Team)	SA - University of the Western Cape	Scope: multilateral (Malawi, South Africa, Zimbabwe)	Grant amount £410,953.86 Joint Financiers: Economics and Social Research Council (ESRC)	2. 5.	Focus: spatial and institutional articulation of markets, human settlements and farm and non-farm livelihoods in marginalised and impoverished regions of Malawi, South Africa *Website:* www.r4d.dfid.gov.uk/Project/60972/Default.aspx	

Appendix C: Overview table from the National Research Foundation (NRF) – grants attributed by MS&ACs

	2008		2009		2010		2011		2012		Total Number of grants	Total Average value per grant
	Number of grants	Average value per grant	Number of grants	Average value per grant	Number of grants	Average value per grant	Number of grants	Average value per grant	Number of grants	Average value per grant		
Norway	**30**	**R 249 747**	**29**	**R 338 978**	**28**	**R 334 242**	**1**	**R 173 711**			**88**	**R 304 497**
Archaeology	1	R 212 759	1	R 708 292	1	R 167 359					3	R 362 803
Astronomy	1	R 166 000									1	R 166 000
Botany					1	R 9 497					1	R 9 497
Chemistry	1	R 321 085	1	R 247 896	1	R 235 560					3	R 268 180
Communication and media studies (incl. Journalism)	1	R 59 452	1	R 177 433	1	R 86 362					3	R 107 749
Development studies	2	R 160 278	2	R 270 030	2	R 369 226					6	R 266 511
Economics	1	R 66 747	1	R 178 662	1	R 347 255					3	R 197 554
Environmental health	1	R 413 000	1	R 173 750	1	R 397 312					3	R 328 021
Fisheries	1	R 426 740	1	R 187 000	1	R 790 600					3	R 468 113
Food sciences and technology	1	R 438 049	1	R 373 719	1	R 299 294					3	R 370 354
Forest science							1	R 173 711			1	R 173 711
Health promotion and disease prevention	2	R 431 489	2	R 521 697	2	R 449 050					6	R 467 412
Historical studies	1	R 70 225	1	R 355 860	1	R 203 609					3	R 209 898
Infectious diseases	1	R 35 537	1	R 436 200	1	R 287 100					3	R 252 946
Inorganic chemistry			1	R 19 921							1	R 19 921
Marine biology	2	R 405 871	2	R 370 527	2	R 495 773					6	R 409 714
Medical sciences	1	R 229 515	1	R 230 255							2	R 229 885
Medical technologies	1	R 561 521	1	R 660 116	1	R 58 762					3	R 426 800

Microbiology	1	R 156 272	1	R 322 242	1	R 399 446					3	R 292 653
Physics	2	R 223 723	2	R 358 492	2	R 237 016					6	R 273 077
Physiology	1	R 98 788	1	R 608 986	1						3	R 353 887
Psychology	1	R 224 272	1	R 934 192	1	R 480 192					3	R 546 219
Theology	1	R 377 241	1	R 294 714	1	R 338 862					3	R 336 939
Toxicology	1	R 485 558	1	R 210 811	1	R 247 008					3	R 314 459
(blank)	5	R 141 388	4	R 167 205	4	R 433 928					13	R 239 344
Switzerland	**9**	**R 56 993**	**9**	**R 73 289**	**2**	**R 61 651**	**9**	**R 168 612**	**9**		**38**	**R 93 834**
Analytical chemistry							1	R 101 018	1		2	R 101 018
Atmospheric science and meteorology	1	R 113 781									1	R 113 781
Bio-engineering			2	R 113 288							2	R 113 288
Biology	1	R 36 020									1	R 36 020
Chemistry	1	R 60 000									1	R 60 000
Genetics							2	R 145 478	2		4	R 145 478
Information systems and technologies	1		1	R 41 017							2	R 41 017
Inorganic chemistry							1	R 108 316	1		2	R 108 316
Microbiology	2	R 54 278	1	R 7 185			2	R 253 016	2		7	R 124 355
Neuroscience	1	R 32 769									1	R 32 769
Pharmacology - Pharmaceutical sciences	1	R 19 934									1	R 19 934
Physiology			1	R 65 000							1	R 65 000
Rehabilitation medicine							1	R 150 764	1		2	R 150 764
Theoretical and condensed matter physics			1	R 2 811	1	R 120 827					2	R 61 819
(blank)	1	R 84 885	3	R 119 005	1	R 2 474	2	R 168 679	2		9	R 102 176
Austria									**1**	**R 2 281 883**	**1**	**R 2 281 883**
(blank)									1	R 2 281 883	1	R 2 281 883
Belgium	**4**	**R 199 892**			**6**	**R 284 848**	**6**	**R 158 009**	**6**	**R 78 933**	**22**	**R 180 788**
Biology	1	R 47 569			1	R 150 114	1				3	R 98 841
Infectious diseases									1	R 3 427	1	R 3 427
(blank)									1	R 558	1	R 558

Epidemiology, incl. Burden of disease	1	R 332 516			1	R 667 000	1				3	R 499 758
Biochemistry	1				1	R 154 700	1				3	R 154 700
Electrical engineering	1	R 219 590			1	R 379 515	1	R 49 577			3	R 216 227
Architecture									1	R 187 931	1	R 187 931
Mathematics									1	R 7 248	1	R 7 248
Agricultural engineering					1		1	R 281 500	1	R 195 500	3	R 238 500
Electronic engineering					1	R 72 913	1	R 142 951	1		3	R 107 932
Czech Republic	**3**	**R 69 360**	**6**	**R 40 475**	**1**	**R 11 570**					**10**	**R 46 892**
Botany	1	R 72 180	2	R 48 447							3	R 56 358
(blank)			1	R 37 500							1	R 37 500
Biochemistry					1	R 11 570					1	R 11 570
Mathematics			1	R 42 900							1	R 42 900
Chemical engineering	1	R 72 000									1	R 72 000
Zoology	1	R 63 900	2	R 25 080							3	R 44 490
France	**50**	**R 72 574**	**53**	**R 61 084**	**37**	**R 45 585**	**34**	**R 52 674**	**24**	**R 68 807**	**198**	**R 60 388**
Analytical chemistry	1	R 35 719			1	R 25 773	1	R 29 700			3	R 30 397
Archaeology			1	R 200 000			1	R 84 000	1	R 96 000	3	R 126 667
Atmospheric science and meteorology	4	R 283 704	1	R 2 736					1	R 219 754	6	R 197 474
Biology	1	R 45 000	1	R 6 617	1	R 58 562	1	R 24 821			4	R 33 750
Botany			2	R 55 510	2	R 37 101	1	R 37 905	2	R 50 934	7	R 45 677
Chemistry							1	R 29 564			1	R 29 564
Food sciences and technology			1	R 16 500							1	R 16 500
Genetics	2	R 123 164			1	R 28 973	1	R 96 400	1	R 96 400	5	R 93 620
Historical studies			1	R 38 000							1	R 38 000
Infectious diseases							1	R 98 000	2	R 56 872	3	R 70 581
Marine biology							1	R 30 000			1	R 30 000
Microbiology							2	R 41 633	1	R 40 000	3	R 41 089
Physics	2	R 91 863					1	R 4 679			3	R 62 801
(blank)	20	R 54 946	15	R 54 038	12	R 43 395	11	R 64 345	6	R 51 687	64	R 54 746
Biochemistry	1	R 689	1	R 11 014	1	R 30 124	2	R 72 044	2	R 64 124	7	R 44 880

Electrical engineering			1	R 7 423	1	R 32 577			1	R 39 736	3	R 26 579
Agricultural engineering									1	R 104 100	1	R 104 100
Chemical engineering	1	R 47 485	3	R 81 141	2	R 62 474	1	R 2 635			7	R 59 336
Zoology	5	R 94 917	5	R 113 642	3	R 95 000	1	R 5 139	1	R 54 394	15	R 90 307
Soil and water sciences					1	R 40 000			1	R 40 000	2	R 40 000
Molecular and cell biology	2	R 4 388	1	R 31 224	1	R 40 000	1	R 96 990	1	R 87 990	6	R 44 163
Human geography					1	R 40 000	1	R 10 394			2	R 25 197
Material sciences and technologies	2	R 19 546	2	R 4 860	1	R 101 000					5	R 41 802
Computer science			2	R 20 142							2	R 20 142
Agriculture	1	R 50 342	1	R 24 155			1	R 44 224			3	R 39 573
Computer software			1	R 40 748							1	R 40 748
Other information and computer technologies	1		1								2	
Geology	3	R 54 193	4	R 24 387	4	R 52 019	1	R 40 000			12	R 44 152
Environmental studies			1	R 59 434	1	R 21 766					2	R 40 600
Oceanology	1		1	R 10 689							2	R 10 689
Sociology	1	R 168 000	1	R 168 000							2	R 168 000
Palaeontology			1	R 174 116			1	R 4 117			2	R 89 117
Medical virology			1	R 103 739	1	R 31 181					2	R 67 460
Veterinary science	1	R 22 489					2	R 66 432	1	R 67 136	4	R 55 622
Constitutional and administrative law									1	R 1 759	1	R 1 759
Anthropology			1	R 72 121	1	R 28 216					2	R 50 168
Computer programming	1	R 10 085			1	R 6 710					2	R 8 397
Automotive engineering			1	R 25 845							1	R 25 845
Geochemistry			1	R 100 000	1	R 100 000					2	R 100 000
Industrial engineering			1	R 50 000							1	R 50 000
Ecology and environmental science							1	R 96 000	1	R 98 000	2	R 97 000
Germany	**49**	**R 70 091**	**79**	**R 99 925**	**128**	**R 78 974**	**128**	**R 78 125**	**107**	**R 75 795**	**491**	**R 80 597**
Analytical chemistry			5	R 101 528	6	R 81 800	2	R 53 454			13	R 85 026
Archaeology	1	R 200 000									1	R 200 000

Astronomy			1	R 298 690			1	R 199 423			2	R 249 056
Atmospheric science and meteorology	2	R 100 000	1	R 28 750	2	R 139 233	1	R 84 634	1	R 22 641	7	R 85 748
Bio-engineering			1	R 100 000	1	R 80 000	1	R 79 730	1	R 83 000	4	R 85 683
Biology			1	R 95 646	1	R 75 108					2	R 85 377
Botany	1	R 9 671	1	R 101 120							2	R 55 396
Chemistry			1	R 101 345	2	R 82 906	1		2	R 100 000	6	R 93 431
Development studies			2	R 86 261	1	R 78 660	1	R 57 983			4	R 77 291
Fisheries			2	R 98 100	3	R 92 700	3	R 105 700			8	R 98 833
Food sciences and technology	1	R 89 200	1	R 89 502	1	R 72 431	1		1	R 49 045	5	R 75 044
Forest science			1	R 131 702							1	R 131 702
Genetics	1	R 200 000	1	R 400 000	1		1	R 198 000			4	R 266 000
Infectious diseases			1	R 45 081	1	R 24 194	3	R 70 419	2	R 59 481	7	R 56 669
Inorganic chemistry			1	R 5 137	2	R 81 524			1	R 41 013	4	R 52 300
Marine biology					1	R 48 361	1	R 42 742	1	R 58 644	3	R 49 915
Microbiology			3	R 149 132	5	R 40 088	1		3	R 69 037	12	R 83 650
Neuroscience			1	R 37 904							1	R 37 904
Physics	2	R 38 156	1	R 70 000	5	R 83 706	8	R 92 007	3	R 95 229	19	R 83 504
Physiology					1		1	R 43 997	1	R 54 400	3	R 49 198
Psychology							1	R 67 495	3	R 113 918	4	R 98 444
Theoretical and condensed matter physics					3	R 1 750	3	R 55 869	1	R 84 245	7	R 50 721
(blank)	18	R 74 285	21	R 117 578	35	R 73 830	29	R 63 841	22	R 61 049	125	R 77 323
Biochemistry	3	R 62 259			2	R 83 739	2	R 79 588	1	R 54 855	8	R 71 036
Electrical engineering	1		3	R 81 575	5	R 76 751	5	R 78 097	1	R 49 892	15	R 75 476
Agricultural engineering							1	R 82 110			1	R 82 110
Electronic engineering			1	R 55 518	1	R 178 149	1	R 42 161	1	R 22 961	4	R 74 697
Chemical engineering			2	R 40 634	2	R 97 703	4	R 100 116	4	R 95 759	12	R 92 183
Zoology			1	R 62 088	1	R 58 725	1	R 50 207			3	R 57 007
Soil and water sciences	1	R 97 120							3	R 61 250	4	R 70 218
Molecular and cell biology	1	R 85 000	2	R 115 352	5	R 74 665	5	R 74 512	2	R 44 774	15	R 77 262
Material sciences and	1	R 190 000			4	R 108 616	3	R 39 131	7	R 79 001	15	R 88 155

technologies												
Computer science	1	R 25 341	2	R 44 805	3	R 96 233	4	R 111 440	5	R 53 508	15	R 73 231
Agriculture			2	R 61 929	4	R 87 567	9	R 79 184	8	R 78 824	23	R 78 618
Computer software			1	R 21 118	1	R 17 739	1	R 20 411	1	R 8 235	4	R 16 876
Other information and computer technologies			1	R 120 000	1	R 69 398	1	R 80 355			3	R 89 918
Geology			4	R 67 318	5	R 38 093	5	R 70 291	5	R 101 275	19	R 71 520
Environmental studies	1	R 46 622					4	R 116 600			5	R 102 604
Oceanology			1	R 47 239					1	R 70 146	2	R 58 693
Palaeontology	1										1	
Medical virology			1	R 191 261	2	R 59 680	2	R 129 979	3	R 139 149	8	R 123 503
Veterinary science					1	R 102 970	3	R 68 970	2	R 54 974	6	R 69 971
Anthropology									1	R 198 812	1	R 198 812
Industrial engineering			1	R 100 000	1	R 100 000	1	R 100 000			3	R 100 000
Ecology and environmental science			1	R 100 000	2	R 141 000	2	R 65 901	2	R 71 741	7	R 86 047
Organic chemistry	1	R 12 082			2	R 104 339	1	R 37 821			4	R 64 645
Design studies	1	R 26 652			2	R 56 374					3	R 46 467
Applied mathematics	2	R 17 189					1				3	R 17 189
Physical chemistry	1	R 76 000							4	R 116 575	5	R 108 460
Data Unavailable					1	R 12 348					1	R 12 348
Metallurgical engineering					1	R 1 040					1	R 1 040
Plant production			3	R 59 471	3	R 97 188	4	R 60 749	2	R 100 000	12	R 76 081
Civil engineering	3	R 70 809			1	R 102 800	1	R 51 800	2	R 145 000	7	R 85 338
Polymer science	1	R 23 111	1	R 92 752	1	R 104 346					3	R 73 403
Communication technologies	1	R 46 959	1	R 85 757	1	R 35 133	1	R 111 971	2	R 52 870	6	R 66 538
Education			1								1	
Hydrology					1	R 62 361	1	R 81 137	2	R 32 938	4	R 58 812
Physical geography			1	R 35 017			3	R 114 188			4	R 94 395
Surgery					1	R 77 869	1	R 34 216	1	R 10 000	3	R 40 695
Endocrinology	1	R 75 100									1	R 75 100
Embryology and fetal	1	R 61 678									1	R 61 678

development												
Animal production			1	R 45 367							1	R 45 367
Immunology			1	R 150 000	1	R 150 000					2	R 150 000
Cultural studies					1	R 120 000	1	R 90 000	1	R 90 000	3	R 100 000
Languages and literature									2	R 10 850	2	R 10 850
Space and earth science							1	R 106 349	2	R 96 825	3	R 100 000
Biotechnology			1	R 146 000	1	R 154 000					2	R 150 000
Health informatics	1	R 21 013									1	R 21 013
Hungary	**43**	**R 112 842**	**44**	**R 394 368**	**45**	**R 63 421**	**26**	**R 58 402**	**13**	**R 76 064**	**171**	**R 153 447**
Analytical chemistry	2	R 127 914			2	R 72 203	1	R 39 768			5	R 88 000
Astronomy	1	R 166 000	1	R 102 990							2	R 134 495
Bio-engineering	1	R 89 316			1	R 14 684					2	R 52 000
Biology			1	R 75 000							1	R 75 000
Botany	1	R 79 800	1	R 27 758	3	R 71 426	3	R 98 408	1	R 36 740	9	R 72 644
Communication and media studies (incl. Journalism)			1	R 75 508							1	R 75 508
Food sciences and technology					1	R 108 358	1	R 29 783			2	R 69 070
Genetics							1	R 55 000			1	R 55 000
Information systems and technologies			1	R 4 015							1	R 4 015
Inorganic chemistry	1	R 2 039	1	R 60 787			1	R 59 000	1	R 79 000	4	R 50 207
Marine biology									1		1	
Microbiology	1	R 150 000									1	R 150 000
Pharmacology - Pharmaceutical sciences	1	R 20 000									1	R 20 000
Physics			1		2	R 97 916	2	R 29 334	2	R 83 337	7	R 70 196
Physiology	2	R 110 030									2	R 110 030
Theoretical and condensed matter physics					1	R 35 703	1	R 12 297	1	R 48 000	3	R 32 000
Toxicology	1	R 135 787	1	R 34 129	2	R 32 936	1	R 46 311			5	R 56 420
(blank)	8	R 92 919	14	R 1 089 556	18	R 43 633	9	R 69 107	6	R 81 257	55	R 297 550
Biochemistry			1	R 9 617							1	R 9 617
Mathematics	1	R 183 825			3	R 79 289					4	R 105 423

Electronic engineering			2	R 253 281							2	R 253 281
Chemical engineering					1		1	R 35 400			2	R 35 400
Zoology	1	R 80 000									1	R 80 000
Soil and water sciences			2	R 74 514	1	R 50 972					3	R 66 667
Molecular and cell biology			1	R 62 000							1	R 62 000
Material sciences and technologies	1	R 361 088			1	R 30 098	1	R 14 000			3	R 135 062
Agriculture	2	R 65 053	2	R 84 830	1	R 115 170					5	R 82 527
Computer software	1	R 19 449									1	R 19 449
Geology	1	R 14 832	1	R 82 981							2	R 48 907
Environmental studies	1				1						2	
Oceanology	1	R 33 568	2	R 44 233							3	R 38 900
Veterinary science	1	R 14 755									1	R 14 755
Automotive engineering	1	R 80 000									1	R 80 000
Applied mathematics	2	R 127 909	2	R 30 492	1	R 92 034					5	R 81 767
Plant production					2	R 72 494					2	R 72 494
Civil engineering	2	R 17									2	R 17
Polymer science	3	R 47 950	1	R 68 831							4	R 53 170
Space and earth science	1	R 55 000	2	R 24 480	1		1	R 53 000			5	R 44 160
Biotechnology			1	R 100 000	1	R 150 000	1	R 100 000	1	R 100 000	4	R 112 500
Haematology			1		1	R 115 993	1	R 39 639			3	R 77 816
Nursing science			1								1	
Biophysics	1										1	
Psychiatry	1	R 952 612	1	R 844 000							2	R 898 306
Engineering management	1	R 82 000	1	R 80 000							2	R 81 000
Mechanical engineering	1	R 94 721			1	R 82 866	1				3	R 88 794
Atomic, molecular and nuclear physics			1	R 15 235							1	R 15 235
Artificial Intelligence	1	R 110 000									1	R 110 000
Italy	**32**	**R 105 851**	**24**	**R 110 696**	**15**	**R 130 032**	**19**	**R 71 414**	**15**	**R 48 779**	**105**	**R 97 027**
Analytical chemistry	1	R 27 474							1	R 8 334	2	R 17 904
Astronomy	1	R 321 383	1		1	R 35 613					3	R 178 498

Atmospheric science and meteorology	1	R 45 520									1	R 45 520
Botany	1	R 26 439	1	R 100 362							2	R 63 400
Chemistry									1	R 19 426	1	R 19 426
Fisheries					1	R 143 240					1	R 143 240
Infectious diseases									1		1	
Inorganic chemistry							1		1	R 102 000	2	R 102 000
Microbiology	1	R 75 000			1	R 34 376	1				3	R 54 688
Physics	1	R 124 500	2	R 95 677			2	R 45 849	1		6	R 81 510
Physiology	1	R 187 842									1	R 187 842
Theoretical and condensed matter physics					1	R 55 758	1	R 94 513	1	R 17 142	3	R 55 804
(blank)	12	R 117 559	7	R 276 355	7	R 209 698	4	R 55 437	3	R 48 044	33	R 149 662
Biochemistry	2	R 66 478	1				2	R 46 048			5	R 52 858
Mathematics			3	R 44 645							3	R 44 645
Molecular and cell biology									1	R 47 200	1	R 47 200
Agriculture			2	R 66 720	1	R 11 451					3	R 48 297
Other information and computer technologies	1		1	R 80 000							2	R 80 000
Oceanology	1	R 33 244	1	R 9 004							2	R 21 124
Medical virology							1	R 130 777			1	R 130 777
Veterinary science	2	R 22 676					1	R 62 959	1	R 80 000	4	R 47 078
Industrial engineering							1				1	
Ecology and environmental science									1		1	
Organic chemistry	2	R 141 932			1	R 158 234	1	R 131 000			4	R 143 274
Physical chemistry			1	R 35 416	1	R 73 226					2	R 54 321
Polymer science							1	R 48 241	1	R 54 597	2	R 51 419
Physical geography					1						1	
Animal production							1	R 63 000	1	R 63 000	2	R 63 000
Space and earth science	2	R 92 895	1				1	R 82 611			4	R 89 467
Biotechnology	1						1	R 108 000			2	R 108 000
Engineering management									1		1	

Mechanical engineering			1	R 82 479							1	R 82 479
Artificial Intelligence	1	R 209 519									1	R 209 519
Manufacturing and process technologies	1	R 49 984									1	R 49 984
Metabolic diseases			1	R 10 420							1	R 10 420
Horticulture			1								1	
Netherlands	**1**	**R 782**							**2**	**R 5 672**	**3**	**R 3 227**
Astronomy									2	R 5 672	2	R 5 672
(blank)	1	R 782									1	R 782
Poland	**17**	**R 78 824**	**17**	**R 91 710**	**26**	**R 47 179**	**17**	**R 51 544**	**6**	**R 83 080**	**83**	**R 67 905**
Analytical chemistry					1	R 26 899					1	R 26 899
Bio-engineering					2	R 25 000	3	R 25 000			5	R 25 000
Biology					1	R 36 637	1	R 14 524	1	R 136 350	3	R 62 504
Botany			2	R 57 082	1	R 80 320	1	R 847			4	R 48 832
Food sciences and technology	1	R 100 148									1	R 100 148
Infectious diseases					1	R 84 294	1	R 77 891			2	R 81 092
Information systems and technologies			1	R 183 748	1	R 16 252					2	R 100 000
Inorganic chemistry					1		1	R 100 000	1	R 116 000	3	R 108 000
Microbiology	2	R 51 885			1	R 55 717	1	R 41 571			4	R 50 264
(blank)	6	R 126 638	5	R 111 227	10	R 53 160	5	R 44 020			26	R 84 989
Biochemistry	1	R 72 000	2	R 83 733	1	R 25 238					4	R 66 176
Mathematics			2	R 43 527	3	R 23 435	1	R 55 500	1	R 29 200	7	R 35 020
Chemical engineering					1	R 108 200	1	R 90 200			2	R 99 200
Soil and water sciences							1	R 100 000	1	R 100 000	2	R 100 000
Material sciences and technologies	1	R 5 942									1	R 5 942
Medical virology	1	R 26 485									1	R 26 485
Organic chemistry			1	R 67 500							1	R 67 500
Applied mathematics	2	R 16 515	1	R 93 000	1	R 27 499	1	R 40 000	2	R 58 465	7	R 44 351
Physical chemistry	1										1	
Education			1	R 11 708							1	R 11 708

Embryology and fetal development			1	R 108 969							1	R 108 969
Space and earth science	1	R 61 250									1	R 61 250
Haematology	1	R 98 736									1	R 98 736
Mechanical engineering			1	R 140 659	1	R 44 522					2	R 92 590
Romania	**10**	**R 50 359**	**11**	**R 105 435**	**10**	**R 78 704**	**6**	**R 71 236**	**2**	**R 94 711**	**39**	**R 77 602**
Analytical chemistry	1	R 24 661	1	R 75 339	1	R 100 000	1	R 100 000			4	R 75 000
Chemistry			1	R 136 612	1	R 87 324			1		3	R 111 968
Communication and media studies (incl. Journalism)	1	R 59 974	1	R 83 314	1	R 92 362	1	R 64 350			4	R 75 000
(blank)	6	R 54 110	5	R 105 107	5	R 52 721	3	R 70 926			19	R 69 674
Mathematics			1	R 175 000							1	R 175 000
Electronic engineering	1	R 62 579	1	R 62 727	1	R 119 718	1	R 49 976			4	R 73 750
Physical chemistry	1	R 31 714	1	R 100 936	1	R 72 064			1	R 94 711	4	R 74 856
Slovakia	**8**	**R 66 070**	**7**	**R 48 011**	**6**	**R 49 705**	**2**	**R 37 780**			**23**	**R 52 914**
Botany	1	R 65 597	1	R 62 403			1	R 64 000			3	R 64 000
Chemistry	1	R 185 627	1	R 83 668	1	R 30 705					3	R 100 000
(blank)	3	R 42 250	2	R 19 524	3	R 44 678					8	R 36 798
Biochemistry			1	R 38 440			1	R 11 560			2	R 25 000
Polymer science	2	R 30 349	1	R 64 509	1	R 33 491					4	R 39 675
Biotechnology	1		1		1	R 100 000					3	R 100 000
Spain	**24**	**R 100 169**	**31**	**R 144 412**	**17**	**R 76 165**	**8**	**R 53 445**	**2**	**R 75 000**	**82**	**R 107 488**
Analytical chemistry	1	R 329 900	1	R 14 180	1	R 121 370	1	R 14 451			4	R 119 975
Astronomy	1	R 4 113	2	R 41 051	1	R 63 785					4	R 37 500
Atmospheric science and meteorology			1								1	
Bio-engineering			1	R 2 170 776							1	R 2 170 776
Biology			1	R 105 856							1	R 105 856
Botany					1	R 10 000					1	R 10 000
Environmental health			1	R 15 000							1	R 15 000
Food sciences and technology			2	R 37 457	1	R 75 000					3	R 49 971
Genetics			1	R 7 100	1	R 67 586	1	R 11 436	1		4	R 28 707

Inorganic chemistry	1	R 5 184	1	R 151 816							2	R 78 500
Microbiology	1	R 166 000	1	R 166 000							2	R 166 000
Pharmacology - Pharmaceutical sciences			1	R 75 000	1	R 75 000					2	R 75 000
Physics			1	R 208 000							1	R 208 000
Theoretical and condensed matter physics	1										1	
Toxicology					1	R 35 000					1	R 35 000
(blank)	9	R 147 357	7	R 73 427	2	R 77 500	3	R 84 705			21	R 106 338
Biochemistry			1	R 42 769	1	R 72 000					2	R 57 384
Mathematics					1		1				2	
Chemical engineering							1				1	
Molecular and cell biology	1	R 38 750									1	R 38 750
Material sciences and technologies	1		2	R 63 856							3	R 63 856
Computer science			1		2	R 64 710			1	R 75 000	4	R 68 140
Environmental studies			1	R 37 212							1	R 37 212
Oceanology	1	R 4 756	2	R 32 469	1	R 7 968	1	R 40 669			5	R 23 666
Veterinary science	1	R 39 550									1	R 39 550
Anthropology			1	R 138 766							1	R 138 766
Organic chemistry	1	R 44 838									1	R 44 838
Applied mathematics			2	R 24 930							2	R 24 930
Physical chemistry	2	R 30 000									2	R 30 000
Polymer science	1										1	
Space and earth science					1	R 59 250					1	R 59 250
Biotechnology					1	R 286 000					1	R 286 000
Haematology					1	R 61 264					1	R 61 264
Engineering management	1	R 115 000									1	R 115 000
Particle and plasma physics	1	R 63 626									1	R 63 626
Sweden	**74**	**R 117 064**	**68**	**R 95 168**	**68**	**R 99 728**	**48**	**R 114 025**	**29**	**R 90 297**	**287**	**R 104 685**
Analytical chemistry	2	R 54 261	1	R 90 217					1	R 5 990	4	R 51 182
Archaeology	4	R 150 000	3	R 56 170	1	R 129 179	1	R 149 000	2	R 137 759	11	R 113 579

Astronomy	1	R 173 280	2	R 147 377	2	R 146 058	2	R 82 041			7	R 132 033
Atmospheric science and meteorology									1	R 19 764	1	R 19 764
Biology	2	R 150 000	3	R 64 617	2	R 100 668	1	R 200 000			8	R 106 455
Botany	1	R 37 846	1	R 2 800	3	R 123 327	1	R 58 980			6	R 78 268
Chemistry			1	R 9 234	1	R 140 766	1	R 150 000	2	R 150 000	5	R 112 500
Development studies									1	R 230 000	1	R 230 000
Fisheries	1	R 106 804									1	R 106 804
Food sciences and technology			1	R 107 344							1	R 107 344
Genetics	2	R 141 414	2	R 115 199	3	R 63 963	1	R 150 000			8	R 113 022
Health promotion and disease prevention							1	R 75 000			1	R 75 000
Infectious diseases			1	R 9 629	2	R 139 119	3	R 161 604	1	R 76 188	7	R 121 267
Inorganic chemistry					2	R 166 809	1	R 116 381	2	R 144 194	5	R 148 548
Marine biology			1	R 142 825	1	R 116 100	1	R 150 000			3	R 136 308
Microbiology	1		2	R 86 977	2	R 128 335	1	R 16 655	1	R 52 181	7	R 83 243
Pharmacology - Pharmaceutical sciences							1	R 300 000	1	R 150 000	2	R 225 000
Physics	4	R 167 088	3	R 63 665	2	R 123 563	1	R 143 800			10	R 131 845
Theoretical and condensed matter physics			1	R 36 000	1		1		1	R 91 000	4	R 63 500
(blank)	18	R 103 853	21	R 102 876	20	R 87 978	12	R 117 377	6	R 64 700	77	R 98 855
Epidemiology, incl. Burden of disease			1	R 50 524	1	R 181 212	2	R 61 329			4	R 88 599
Biochemistry							1		1	R 131 025	2	R 131 025
Mathematics	3	R 48 940	3	R 104 811	3	R 102 786	1	R 86 186			10	R 83 443
Agricultural engineering									1	R 30 707	1	R 30 707
Chemical engineering							1	R 110 000			1	R 110 000
Human geography					2	R 188 412	2	R 76 444	1	R 224 862	5	R 150 915
Material sciences and technologies	4	R 116 148	1	R 52 855	1	R 22 391					6	R 89 973
Computer science	1	R 17 193	1	R 175 794	2	R 105 841	1	R 100 881			5	R 101 110
Agriculture	2	R 150 000	1	R 150 000	1	R 150 000					4	R 150 000

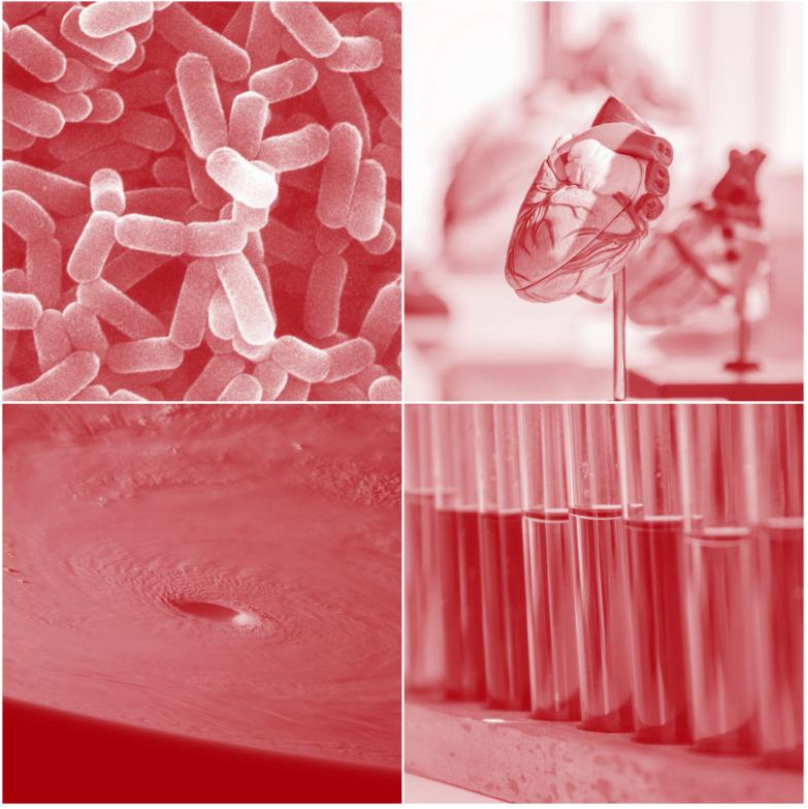
Computer software	1	R 19 804			2	R 37 500	1				4	R 31 601
Geology	4	R 117 873	2	R 160 095	1	R 89 725					7	R 125 915
Environmental studies	2	R 148 500	1	R 148 500							3	R 148 500
Palaeontology									1		1	
Veterinary science			1	R 21 896							1	R 21 896
Computer programming							1	R 75 000	1	R 75 000	2	R 75 000
Geochemistry							2	R 91 450			2	R 91 450
Organic chemistry	1	R 82 500									1	R 82 500
Applied mathematics	1	R 91 000									1	R 91 000
Physical chemistry	2	R 50 996	3	R 53 509							5	R 52 253
Civil engineering	2	R 74 553	2	R 138 710	1	R 56 435					5	R 86 062
Polymer science	1	R 110 447	1	R 64 506	1	R 80 854					3	R 85 269
Communication technologies	1	R 141 741	1	R 257 531	1	R 42 469					3	R 147 247
Education	5	R 122 099	3	R 80 732	6	R 72 852	1	R 115 870			15	R 93 132
Hydrology			1		1	R 22 814	1	R 54 969			3	R 38 891
Embryology and fetal development	1	R 54 764									1	R 54 764
Animal production							1	R 140 000			1	R 140 000
Immunology	1	R 55 715	1	R 182 952	1	R 49 333					3	R 96 000
Space and earth science			1								1	
Biophysics	1	R 824									1	R 824
Psychiatry	1	R 907 250									1	R 907 250
Aerospace and aeronautical engineering							2	R 100 000			2	R 100 000
Management					1	R 2 545	1	R 115 447	1	R 28 000	3	R 48 664
Fine arts									1	R 46 296	1	R 46 296
Chemical pathology							1	R 107 092	2	R 95 876	3	R 101 484
Linguistics	4	R 141 817	1	R 69 391							5	R 117 675
Industrial psychology and sociology									1	R 17 021	1	R 17 021
Statistics and probability					1	R 172 284					1	R 172 284
United Kingdom	**51**	**R 166 265**	**38**	**R 32 654**	**5**	**R 94 114**	**2**	**R 74 483**	**1**		**97**	**R 115 018**

Analytical chemistry			1								1	
Astronomy	1										1	
Biology	1	R 29 393									1	R 29 393
Botany	2	R 72 442	2	R 43 400							4	R 53 081
Chemistry	1	R 50 000									1	R 50 000
Infectious diseases			1	R 288	1	R 40 728					2	R 20 508
Microbiology	1	R 129 946					1	R 98 286			2	R 114 116
Physics	3	R 26 367									3	R 26 367
Physiology			1								1	
Psychology			1	R 46 028	1	R 203 265	1	R 50 680	1		4	R 99 991
Toxicology			1	R 154 213							1	R 154 213
(blank)	21	R 192 280	12	R 22 251							33	R 142 688
Epidemiology, incl. Burden of disease			2	R 18 000							2	R 18 000
Biochemistry			1	R 16 533							1	R 16 533
Electrical engineering			1	R 3 416							1	R 3 416
Mathematics	1	R 12 413	1	R 80 000							2	R 46 207
Electronic engineering	2	R 257 579	1	R 18 149							3	R 177 769
Chemical engineering	2	R 28 036									2	R 28 036
Zoology			2	R 10 500							2	R 10 500
Material sciences and technologies	2	R 34 881	1								3	R 34 881
Computer science			1	R 58 000							1	R 58 000
Agriculture	2	R 52 316									2	R 52 316
Oceanology	1	R 124 639									1	R 124 639
Medical virology			1	R 5 826							1	R 5 826
Veterinary science					1						1	
Automotive engineering	1	R 40 594									1	R 40 594
Ecology and environmental science	2	R 28 375	1								3	R 28 375
Organic chemistry	1	R 20 973	1								2	R 20 973
Physical chemistry			2	R 30 000							2	R 30 000

Data Unavailable	1	R 2 500 000									1	R 2 500 000
Civil engineering			1	R 10 500							1	R 10 500
Communication technologies					1	R 22 464					1	R 22 464
Endocrinology	1	R 15 000									1	R 15 000
Engineering management			1	R 70 500							1	R 70 500
Mechanical engineering	1	R 96 731	1	R 56 000							2	R 76 365
Artificial Intelligence	3	R 57 244	1		1	R 110 000					5	R 70 433
Particle and plasma physics	1	R 67 825									1	R 67 825
Grand Total	**405**	**R 115 858**	**416**	**R 139 770**	**394**	**R 100 316**	**306**	**R 79 992**	**217**	**R 88 354**	**1738**	**R 108 124**

Appendix D: Overview table of Beneficiary recoded (NRF) - grants attributed by MS&ACs in 2012

Beneficiary	Number of Grants
University of Cape Town	47
Stellenbosch University	27
University of Kwa-Zulu Natal	21
University of Pretoria	19
University of the Witwatersrand	14
University of Johannesburg	12
CSIR	11
North-West University	10
University of the Western Cape	6
Agricultural Research Council	4
iThemba Laboratory for Accelerator-Based Sciences	4
Rhodes University	4
Cape Peninsula University of Technology	3
Nelson Mandela Metropolitan University	3
Port Elizabeth Museum (Bayworld)	2
University of South Africa	2
University of Venda	2
Central University of Technology	1
Council for Geoscience	1
Ethekwini Municipality	1
Human Sciences Research Council (HSRC)	1
Nuclear Energy Corporation of SA (NECSA)	1
South African Astronomical Observatory	1
University of Limpopo	1
University of Zululand	1



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