

EXECUTIVE SUMMARY

The European Union (EU) and the Republic of South Africa (RSA) have long been committed to strategic cooperation in science and technology, dating back to their 1996 Cooperation Agreement, which facilitated cooperation under the Framework Programmes. South Africa has also concluded several bilateral cooperation agreements with EU Member States, and is aiming to create a robust national system of innovation (NSI) to enable its transition to a knowledge economy, achieving sustained growth and development. The experience made in the EU concerning international cooperation in Research and Innovation (R&I) is a tangible example of how collaborative international R&I frameworks can promote coordinated efforts opening up opportunities for new strategies via dedicated bilateral programmes. South Africa (SA) and the EU, thus, share similar objectives and there is rich potential for cooperation in innovation to complement their substantial trade, innovation and development cooperation.

In the context of the SA NSI and international cooperation, the EU National and Regional Innovation policy and programmes are increasingly considered an appealing framework to explore opportunities for collaboration, new partnerships and instruments for coordination mechanisms. This is particularly relevant considering the current scenario of economic crisis where scarce resources and fragmentation of actions poses serious challenges.

This Report aims to discuss and make recommendations in relation to Innovation Framework Conditions in SA-EU. This requires investigating framework conditions in a comparative and forward-looking perspective: complementarities, barriers, market potentials intellectual property rights (IPR), trade and innovation including new perspectives which might better support Innovation policy and programmes in the context of international cooperation. Within this context the Report is structured as follows:

Section I: National System of Innovation (NSI)

Section II: Innovation Stakeholders

Section III: SA Legislative environment

Section IV: State of Innovation in SA

Section V: SA-EU innovation Cooperation

Section VI: Recommendations

I National System of Innovation (NSI)

The South African science landscape has evolved dramatically since the dawn of democracy through

government's commitment to transforming the inward-looking and embattled sector into a system that is innovative, flexible and responsive to the needs of its society.

For more than a decade South Africa's democratic government has been developing the National System of Innovation (NSI). The NSI comprises of a multiplicity of innovation stakeholders, institutional structures and relationships, advanced facilities and equipment, modern laboratories, research support, expanded international cooperation that are integral to South Africa's progress and contributing towards an enabling framework for science and technology. The NSI is central to the country's prospects for continued economic growth and socio-economic development.

The Department of Science and Technology (DST) and the Cabinet laid the foundations for the NSI with a series of strategic documents, beginning with the 1996 White Paper on Science and Technology, and followed by the National Research and Technology Foresight (1999) and the National Research and Development Strategy (2002).

Yet for South Africa to rise to the global challenge, the NSI must become more focused on long-term objectives. In particular, the government must urgently confront the failure of the NSI to commercialise the results of scientific research. The DST's conclusions in this regard are mirrored in a peer review conducted by the Organisation for Economic Cooperation and Development (OECD)¹.

Section I of the Report analyses the NSI.

The European Union (EU) and Member States have fully recognized that innovation, together with science and technology, is essential to create a leading knowledge-based society, and they have dedicated uncountable efforts to turn the EU into the 'most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth'. To this end, several strategies and instruments for the development and the integration of innovation, research and education of the highest standards in the EU have been implemented by Europe 2020 strategy, Horizon 2020, the Innovation Union and the Open Innovation. The pragmatic approach of the "Open Innovation" is of particular interest as the concept aims to boost the innovation process involving all active players in a circular flow for sharing knowledge and transform it into products and services that create new markets, fostering a stronger culture of entrepreneurship (3 pillars). In the section all strategies and the Open Innovation framework are reported.

Beyond the general policies dedicated to innovation and growth in Europe, actors and instruments involved have been highlighted in order to provide evidence of this process. In particular, the European investment bank (EIB), the European Investment Fund (EIF) and InnovFin are conceived to boost and support innovation in Europe. A summary of main findings in analyzing critical dimensions in relation to innovation Framework Conditions in SA and EU is also reported in the section.

II Innovation Stakeholders

¹ OECD Review Report on South Africa (2006)

Innovation Stakeholders in South Africa include Government Departments or Agencies, private companies, research institutes, universities and NGOs that provide funding, support or services to the innovation community in South Africa. Section II of this Report provides general information on all the identified stakeholders. For ease of reference throughout the document a table is inserted at the right top corner of each paragraph, indicating the respective stakeholders' enabling role as potential funder, supporter or intellectual property creator. Furthermore, Section XIII, Resources, contain the contact information of all the Innovation Stakeholders.

III SA Legislative environment

South Africa has been a world trade organisation (WTO) member since 1995 and is a signatory to the TRIPS Agreement that resulted in expanded commitments to internationally binding guarantees of corporate 'intellectual property rights' over science and technology, production processes and products, such as pharmaceutical drugs². South Africa, like many developing countries, significantly responded to the TRIPS Agreement by tightening IPR protection regimes³. The empirical evidence (notably changes to the Trade Mark Act) suggests that the Agreement on trade related intellectual property Rights (TRIPS) has been successful in coercing South Africa and WTO member countries to strengthen domestic protection of IPR.

Furthermore, there are more than 30 pieces of legislation in South Africa that directly impact on the NSI, the Report only elaborate on the most recent legislation in South Africa in respect of the innovation landscape, i.e.:

- Biodiversity Act (§ 3.1.1)
- Intellectual Property Rights from Publicly Financed R&D Act (§ 3.1.3)
- R&D Tax Incentives (§ 3.1.

Intellectual Property Rights from Publicly Financed R&D Act (§ 3.1.3) (IPR Act)

The specific object of this legislation is that intellectual property emanating from publicly financed research and development should be identified, protected (where appropriate), utilised and commercialised for the benefit of all South Africans

Because the IPR Act impacts on all future EU collaboration agreements, a recommendation is made to develop guidelines for the interpretation of this Act by EU partners.

Biodiversity Act

The National Environmental Management: Biodiversity Act builds on the White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity, which was published in 1997. The Biodiversity Act

² Dot Keet, South Africa's official position and role in promoting the WTO

³ Ryan Cardwell, The Effects of the TRIPS Agreement on International Protection of Intellectual Property Rights, ITJ

is of particular importance to the EU because many collaboration partnerships are based on the transfer of sensitive biological material from South Africa to EU partners by means of Material Transfer Agreements (MTA).

Among other the Act provides for bioprospecting, access and benefit sharing, the establishment of a Bioprospecting Trust Fund into which all moneys arising from material transfer and benefit-sharing agreements must be paid.

A recommendation to harmonise Material Transfer Agreements is made.

Pharmaceuticals and the Patent Act

There is currently a fierce, on-going debate in South Africa on the alleged impact that the Patent Act has on access to free medicine for the poor. This Report does not contain any reference to any formal or informal position of Government, stakeholders or lobby groups on the subject matter, mainly because the debate is at a very early stage. It is, however, one of the recommendations that the envisaged workshop will provide for a session on "Access to medicine, the Patent Act and Innovation in south Africa". This topic will be of interest to may EU partners who sponsor clinical trials at South African Institutions.

R&D Tax Incentives

The tax incentive (up to 150% of R&D expenditure) is aimed at encouraging businesses to undertake and invest in R&D in South Africa. The objective is to help companies build capabilities to create new products, processes, devices and techniques, and /or significantly improve existing ones. This incentive is part of a package of measures that the government of South Africa has introduced to support R&D led innovation, industrial development and competitiveness.

A recommendation is made to investigate how this incentive can directly or indirectly benefit EU-collaborators on SA research projects.

IV State of Innovation in SA

EASASTAP 2020 used the WIPO Global Innovation Index 2016⁴ as one of many reports generated by stakeholders around the world on the state of innovation in countries such as South Africa. According to this Report SA ranks 54 of 128 countries.

A recommendation is made to review the available reports in depth with the aim to present a short paper at the envisaged workshop.

V SA-EU innovation cooperation

4 http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf

The Trade, development and cooperation agreement (TDCA) constitutes the legal basis for the overall relations between South Africa and the EU. The TDCA covers political dialogue, the establishment of a free trade area over an asymmetrical twelve-year period, development co-operation, economic cooperation, and cooperation in a whole series of other areas. The agreement was signed in October 1999 and it entered into force in 2000. In addition the Science and Technology Cooperation Agreement was concluded in 1996 and entered into force in November 1997. In terms of the latter agreement Scientific collaboration between South Africa and the EU is monitored and facilitated by the Joint Science and Technology Cooperation Committee (JSTCC), established under the Agreement. The EU and South Africa have also established a Strategic Partnership, and adopted an Action Plan for its implementation in May 2007. The Action Plan has two strands:

- enhanced political dialogue and cooperation on regional, African and world issues, and
- stronger cooperation in a number of economic, social and other areas.

The recent G20 innovation report elaborated by OECD in 2016, highlighted how South Africa is progressively opening up to international trade thanks to the participation in international knowledge networks, R&D programmes, bilateral and multilateral agreements and in parallel, building also capacity in some knowledge-intensive industries (ex. biotechnology sector).

In the section an update of South African participation during different EU funding instruments on research and innovation (from FP4 to H2020) have been reported highlighting the highest rate of successful participation within the FP7 program (122 projects). Also, data about SA participation in H2020 have been reported (53 projects between January 2015 and March 2017). Major details about the main topics and successful organizations are reported in the section.

Section VI of this report contains a list of recommendations for consideration by the stakeholders. The main recommendation for Esastap 2020 to facilitate a stakeholder workshop during which the contents of this report will be debated, recommendations considered and suggestions for the improvements to the report in general be made. The Report should then be converted into a useful tool which shall at least include the dissemination of the content of the report on a suitable website.