



EUROPEAN UNION
DELEGATION TO THE REPUBLIC OF SOUTH AFRICA

'SA-EU Cooperation in the area of Science and Technology Perspective'

by Ambassador Marcus Cornaro
(19 April 2016 Cape Town)

The role of STI in the EU

Science, technology and innovation are an important element of the EU development policy. The Europe 2020 Strategy advocates "smart, sustainable and inclusive growth".

Innovation has proved to be a really good option to deal with and overcome the economic crisis and help get the European economy back on track - it is widely accepted that investment in research and innovation drives long-term growth. A recent OECD study estimated that the economic impacts in the EU of past research and innovation programmes - the 6th and 7th Framework Programmes to have been that for each euro spent in those programmes, the value-add in the business sector has been €13. The data also shows that countries that invested in R&D recovered faster from the crisis.

Therefore, Member States are encouraged to invest 3% of their GDP in R&D by 2020 (1% in terms of public funding, 2% through private-sector investment) - this is expected to create 3.7 million jobs and increase the EU's annual GDP by nearly €800 billion. Present levels of R&D investments in the European Union stand at 2.02% ... so, still some way to go despite being on track.

The data also demonstrates that if European companies are to remain competitive in the global economy, EU public policies need to focus on creating an environment that promotes innovation.

This is addressed through our Innovation Union initiative. It places renewed emphasis on using public sector interventions to stimulate the private sector and remove bottlenecks which prevent ideas from reaching the market – including lack of finance, fragmented research systems and markets, under-use of public procurement for innovation and slow standard-setting.

But the Innovation Union goes beyond this. There is a specific focus on driving innovation to address societal challenges such as climate change and clean energy, security, and active and healthy ageing. This, in turn, is fully in line with the new Sustainable Development Agenda 2030, which we both South Africa and the EU pursue at the global level.

Notably, it contains a specific action point on expanding international scientific cooperation. Although we focus our efforts on delivering and developing the European Research Area – equivalent, I guess, to South Africa's National System of Innovation - our Commissioner for Research and Innovation, Carlos Moedas, has the ambition to see the realisation of a Global Research Area.

EU Science Diplomacy

Com Moedas, in line with this ambition, has increasingly placed emphasis on science diplomacy. It played an important role in post-war Europe some 70 years ago, helping to re-establish Europe's research capacity and rebuilding its leadership in scientific excellence and economic competitiveness.

It began in 1954 with the establishment of CERN, the European Organisation for Nuclear Research, formed by twelve European countries. By 2008 CERN had grown into an organisation of close to ten thousand people originating from a hundred countries, including South Africa. It saw the design and construction of the Large Hadron Collider (LHC), the world's largest and most powerful particle collider and arguably the most complex experimental facility ever built. Today CERN attracts the world's top scientists and delivers frontier research in particle physics.

It is important to be 'open to science' and 'open to the world'.

These are then also two key defining priorities of Com Moedas' mandate ... and they have been integrated into the EU's seven-year research and innovation Horizon 2020 programme with a budget of almost €80 billion.

Let me be clear - we want to have international partnerships to make sure that we get the best scientists working on key challenges – both European and global . These include, as I am sure you are aware, climate change, migration and energy security. We want to have the best possible multi-national research consortiums to work towards the already mentioned Sustainable Development

Goals (SDGs). I am delighted to share with you that it is foreseen that some 60% of Horizon 2020 programming will be invested in sustainable development.

In addition, the language of science is universal and often helps to maintain open channels of communication even when other foreign policy approaches are exhausted or fail.

Overview of SA-EU relations

The EU and South Africa have a strategic partnership – one of only ten the EU has with leading nations around the world. And as part of this partnership I am proud to report that science and technology has grown into a flagship area of cooperation with South Africa. In addition our cooperation in this sector is underpinned by our long-standing bilateral Science and Technology Cooperation Agreement, concluded in 1996, as well as the broader Trade, Development and Cooperation Agreement which came into force in 2004.

We share a conviction about the importance of science, technology and innovation in development. We have witnessed how South Africa is gradually but consistently moving ahead with its transformation towards a knowledge-based economy, an objective underpinned by the National Development Plan (NDP).

Both partners are committed to jointly advancing the science and technology agenda on the African continent through the EU-Africa high-level policy dialogue and a specific partnership on food and nutrition security and sustainable agriculture (FNSSA). The Roadmap for this partnership was adopted earlier this month in Addis Ababa with the European Commission committing €47.5 million for a four-year period. This includes €17.5 million from the African Union Research Grants Programme. We welcome the financial commitment from South Africa - and foresee further support from several other African and European countries later this year.

Let me underline that we share Minister Pandor's concerns about the gender imbalance in the practicing of science, technology and innovation. In the EU we have a well-established regulatory framework on gender equality, including binding Directives that apply to the research sector. And although we have achieved some progress, nonetheless, only around 20% of full professors in Europe are women.

South Africa and the EU have a regular annual dialogue at the level of Directors General to take stock to determine priorities for our cooperation. Our cooperation has been strengthened by the

presence of South Africa's Science and Technology Counsellor in Brussels for a good number of years.

What have been the concrete results?

Let's first consider the results of the predecessor of Horizon 2020 programme – the 7th Framework Programme (FP7). By the end of 2013, South Africa had established itself as the EU's fifth most important international cooperation partner in FP7 directly after Russia, the US, China and India. South African institutions participate in over 200 grant projects and benefit from just over €37 million in EU funding. The focus of this cooperation has been on food, agriculture, biotechnology; health; environment and ICT.

According to preliminary results of Horizon 2020, South African researchers are again doing very well. To date 48 research institutions have participated in 33 projects receiving €11 million in EU funds. This includes South Africa's share of a recently announced grant of €4.95 million to help support the detailed design of the infrastructure required at the two Square Kilometer Array (SKA) telescope co-host sites – the Murchison region of Western Australia and the Karoo region of South Africa. We are very pleased to be part of this unique scientific project that is open to the world and is of the scale that potentially is even greater than that of the Large Hadron Collider.

Allow me to now zoom in on specific examples of our cooperation which cover multiple sectors and address some key developmental challenges in South Africa.

Examples of EU-SA RDI Cooperation

Sector-budget support

We provided €30 million in sector budget support to the Department of Science and Technology for the "Innovation for Poverty Alleviation Programme" between 2008 and 2013. The programme piloted/tested certain innovations and notably how they improved livelihoods. One of the projects, the Wireless Mesh Network, saw technology successfully used to connect multiple rural facilities to the Internet. 174 schools were connected as well as a number of rural clinics. In addition, this technology was used to support small businesses in remote areas of the Mpumalanga and Limpopo provinces through the establishment of Internet cafes. It was great to subsequently see the inclusion of the Wireless Mesh Network in the ICT Research, Development and Innovation Roadmap approved by Cabinet in 2013.

Health

Consider the burden of disease associated with HIV/Aids, TB, malaria and other tropical diseases on the continent.

Here South African research institutions, collaborating with European partners, have made great strides under, for example the European and Developing Countries Clinical Trials Partnership (EDCTP) Programme. The second phase of this programme was launched by Minister Pandor and Commissioner Moedas in December 2014 in Cape Town. The overall amount pledged by the European Commission exceeds €800 million. Under the first phase of the programme 88 clinical trials were conducted in sub-Saharan Africa. One of the key breakthrough developments was the testing for TB diagnostic tool called GeneExpert. This was endorsed by the World Health Organisation in 2010. This tool is now widely used in South Africa and has become a standard practice for testing for TB in both adults and children in all hospitals across the country. This 'diagnostic' can be run by a nurse in primary-care clinics, resulting in more patients starting the treatment sooner and at lower cost.

Higher Education - Mobility

We have also had great success with our higher education mobility programme. Since 2011, the Erasmus Mundus programme has supported close to 800 South African beneficiaries through scholarships to study, research or teach in Europe. These include the so-called "Post-docs", Doctoral students, Masters' students and university staff. This mobility programme continues under the Erasmus Plus programme, which has added a new capacity-building element to support higher education institutions in areas such as curriculum development, governance, internationalisation, and links with society, labour market and private sector. These are all in line with the South African government's priorities. The benefits of such international exposure is captured by the many testimonies received - one South African beneficiary who spent 10 months at a European university, lauded the fact that the scholarship opened many doors for her, including to her current job. She teaches fashion design at the University of Johannesburg.

Another EU-funded mobility support programme - Marie Skłodowska Curie actions – focuses on international and inter-sectoral mobility to leading labs and institutes in Europe and around the world. So traffic of researchers is permitted in both ways: from Europe to South Africa as well as from South Africa to Europe.

Human Settlements

Within the framework of our bilateral space dialogue, we have been doing some important joint work in the area of human settlements. The Joint Research Centre of the European Commission, which supports the EU in evidence-based policy-making, in collaboration with South Africa's National Space Agency, recently published a report of a pilot-study on mapping and monitoring of formal and informal settlements in South Africa. This is a flagship project for South Africa's National Informal Settlement Upgrade Programme. And there has been a follow-up: last week we had one of the scientists from the Joint Research Centre visiting SANSA to install European software for doing actual mapping of informal settlements, rondavels and RDP houses using Earth Observations data.

Micro-entrepreneurs

We have supported an innovative technology experiment that has turned 14 micro entrepreneurs in Mpumalanga into mobile cinema operators and has provided rural communities with access to most recent Hollywood films. How did it work? 14 enthusiastic and business-oriented men and women were trained and provided with 'cinema-in-a-backpack' equipment. The PUTCO bus company then came on board - buses were installed with the so-called info-stations to carry the content. The Walt Disney Company partnered with the project to provide access to many recent movies. The buses would leave info-stations with the films at rural bus depots. From there cinema operators would then upload the movies onto their tablets using the available Wi-Fi network. They would then arrange the most exciting part – the "movie show" at night ... and wherever possible, with popcorn. Just the way it should be!

I believe that this project has even more potential. 'Cinema-in-a-backpack' could be used to promote science in the rural communities by showing educational movies on science.

Budget vote theme of innovation for service delivery and youth development

Minister Pandor will later talk specifically about innovation for service delivery and youth development. I am happy to report that we have done some good bilateral work in these areas as well!

Service Delivery

DST's 'Innovation Partnership for Rural Development' Programme is receiving support from the EU's General Budget Support Programme to South Africa. The programme supports the demonstration of seven technologies within 23 targeted rural District Municipalities.

One of the projects is Corrective Action Request and Reporting System that has been developed by Council for Scientific and Industrial Research (CSIR). It is an ICT-based Incident Management System that allows communities to report problems in the delivery of water services, including leakages, broken pipes, loss in pressure etc. The reports are routed electronically to municipal officials who are then able to respond to incidents within shorter timeframes saving water and making communities happier.

Youth Development

Let me cite an example of our joint Universe Awareness project. The project uses astronomy to spark scientific curiosity in thousands of young children aged four to ten primarily from under-privileged communities in South Africa and Europe. From the age of four, children can appreciate the beauty of astronomical observations and can learn to develop a 'feeling' for the vastness of the universe. Exposing very young kids to basic scientific ideas contributes to early childhood development.

In one of the project's activities, primary school students in Buffalo City (South Africa) and Leiden (the Netherlands) were tasked to observe the Moon for a full month, from 21 May through to 21 June, to learn about the seasons and the lunar phases. By comparing their observations, the children discovered some important difference between the northern and southern hemispheres. For example, they noticed the Moon appears 'upside down' to the other half of the world, and learned that the seasons appear at different times in different countries. Perhaps some of these children will grow up to become space scientists working on the SKA project.

What does the Future Hold?

Our cooperation is growing stronger and it is fascinating to see how many different angles there are to it. They continue to increase and cover an ever-broadening scope of our bilateral cooperation.

Roadmap for S&T Cooperation

We have a Roadmap for Science & Technology Cooperation with South Africa, which identifies two promising areas for cooperation.

Atlantic Ocean research cooperation is one of the main developing areas of joint interest, which is in line with South Africa's Operation Phakisa on Blue Economy.

The second area is raw materials. Let me highlight that we have already made some advancements here. MINTEK is now one of the leading participants from South African in Horizon 2020 projects. One of the projects focuses on recovery and recycling strategies of the secondary raw materials in metropolitan areas in Africa.

Private Sector

Another new exciting angle to our cooperation is the private sector. Jerzy Buzek, chair of the European Parliament's committee responsible for research issues, has been saying that "helping innovation flourish requires 'networking' rather than additional money or new institutions". Academia and business, however, are not easy to combine. Our 7th Framework Programme has been criticised for its inability to sufficiently attract the private sector. I know that reaching out to business has also been a priority for the Department of Science and Technology ... we are both trying to rectify the situation.

At bilateral level, we are now working on a project where we seek to establish dialogue with and among the South African and European Business Chambers to understand how we as governments can facilitate R&D investments from their side.

In June 2014 South Africa also became an associated member of the EUREKA Network, the network of over 40 European governments serving as a platform for the development of joint R&D projects.

South Africa has also signed an agreement with our Eurostars Programme that supports research-performing small and medium enterprises to boost their competitive advantage.

We also hope to soon see the establishment of the South African node of Enterprise Europe Network. The Network is operated by the European Commission. It helps SMEs with developing business in new markets, source or license new technologies, or access EU finance and EU funding. And let me say that South Africa is seen as an attractive market for the European companies to develop new businesses.

Pan-African Level

We should also consider opportunities for strengthening our cooperation at pan-African level, possibly with the support of the new EU Pan African Programme. One specific opportunity that immediately comes to mind is the Pan African University Institute for Space Sciences, which will be based in South Africa.

Research Infrastructure

I am also looking forward to come back to Cape Town in October this year for the 3rd International Conference on Research Infrastructures, which will discuss the potential of research infrastructures at national and global levels to address key developmental challenges. This is not the first time we are teaming up on this subject matter. European and South African experts have actually worked together back in 2014 to develop Research Infrastructure Road Map for South Africa which was presented to SA Minister at the end of 2014 and included 17 potential research infrastructure projects. More recently, in November last year, Minister Pandor and Commissioner Moedas were together at the Summit of Group on Earth Observations where it was agreed to share and or release Earth Observation data that help meet SDGs.

Member States

I have tried to give you an overview of our extensive cooperation with South Africa. But this is just the tip of an iceberg. A number of our Member States, such as Finland, France and Germany, also have well-established scientific cooperation with South Africa at bilateral level. And more Member States, as well as the European Investment Bank, continue to reach out. Cooperation agreements were recently signed with Austria and Portugal. And I know that negotiations are ongoing with the Czech Republic, Lithuania, and the Netherlands.

