COOPERATION BETWEEN THE EUROPEAN UNION AND SOUTH AFRICA

The Cooperation Council

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NOTE

Subject:	Joint Report on Space Cooperation - South Africa-EU Joint Cooperation Council, 26 November 2014

1. Introduction

The fifth meeting of the EU-South Africa Space Dialogue took place in Pretoria on 20 March 2013. Both South Africa and the EU highlighted that the space dialogue was convened for a fifth time was a sign of maturity of the process and they both shared the underlying philosophy of the joint endeavor as being user-driven and benefiting citizens. The multiplication of joint activities also calls on both sides to seek synergies and define priorities.

Policy Developments

The South African delegation reported on space policy and space science developments in South Africa, notably the progress on SANSA programmes, including the development of a comprehensive National Space Programme (NSP) and the further implementation of the South African Earth Observation Strategy (SAEOS).

South Africa also reported on progress made in implementing the Square Kilometer Array radio telescope project, which has now commenced its pre-construction phase, following the decision that the telescope would be jointly hosted by South Africa and Australia, with remote stations also located in several African countries. Whenever feasible, the European Commission will continue to assist the members of the SKA Organisation in the implementation of the project.

The European Commission informed the meeting of the outcome of the European Council of 7-8 February 2013 and its impact on EU space programmes in the next financial perspective 2014-2020. Likewise, the positive outcome of ESA Ministerial Council meeting of November 2012 was presented and the state of play of the European GALILEO and Copernicus (former GMES) programmes as well as other developments in European Space policy, including with regard to EU-ESA relations, an industrial policy for space and a space surveillance and tracking (SST) support programme.

2. Global Monitoring for Environment and Security & Africa (GMES and Africa)

On 24-25 October 2013, the GMES & Africa Consolidation-Validation Workshop was hosted by South Africa. The aim of the GMES & Africa Consolidation-Validation Workshop was to bring together representatives from a significant number of African countries to discuss three thematic areas of the GMES & Africa Action Plan (GAAP), and two cross-cutting issues. The three thematic chapters, Marine and Coastal Areas, Water Resources Management, and Natural Resources Management, and the two cross cutting issues, Governance and Infrastructure, were addressed at a workshop, with a view to furthering discussions on the implementation of the GMES & Africa process.

3. European Geostationary Navigation Overlay Service (EGNOS)

Back in 2010-12, the South African technical team consisting of representatives from DST, SANSA, the Civil Aviation Authority and the Air Traffic and Navigation Services have had a series of meetings with their EU counterparts (European Space Agency and European Commission) including a three months work in a Task Force at end of 2012 to plan for EGNOS Extension in the RSA territory. The activities identified have not been pursued to date (e.g. phase B study), but South Africa has indicated that EGNOS is a priority. South Africa is in the process of consulting with a range of stakeholders on this and greatly appreciates the support afforded by the European Commission to explore the feasibility of the deployment of EGNOS in South Africa over many years. Both sides look forward to the report on progress made at the 2015 South Africa-EU Space Dialogue meeting and remain committed to explore cooperation in this area for the mutual benefit of South Africa and the EU.

4. SANSA and Joint Research Centre (JRC)

Both sides welcomed progress made under a Collaboration Arrangement signed between the European Commission's Joint Research Centre (JRC) and SANSA on 6th December 2012. The Collaboration Arrangement seeks to better exploit remote sensing technologies for monitoring atmospheric, terrestrial and marine environments. The objective is to develop and implement pre-operational and operational systems to deliver products and services in support to national policies and thematic areas such as disaster risk reduction, environmental monitoring, and monitoring of urbanization. A work programme, established in 2013, foresees six joint actions in the fields of Global Human Settlement mapping, Multi-angle Imaging SpectroRadiometer (MISR) High Resolution system, renewable energy, droughts, soils and environmental monitoring. A JRC – SANSA meeting, held in October 2014, allowed evaluating progress of these actions. Two of them have been, in particular, outstanding: Global Human Settlement mapping and MISR.

Indeed, for the Global Human Settlement mapping, the JRC and SANSA investigated the GHSL (Global Human Settlement Layer) system on SPOT imagery over selected areas in Gauteng, Kimberly, Cape Town, Polokwane and Rustenburg. Available land cover data and textural features derived from SPOT imagery were used to detect human settlement. The results from this investigation yielded acceptable resultsand were presented at a workshop held in South Africa in April 2014 and at a following Global Human Settlement workshop, organised at the JRC site in Ispra in October 2014. r Some exchanges of scientists took place in the course of 2013 and 2014, which allowed to SANSA specialists to learn better about the GHSL system, its components and infrastructure required to run the system. SANSA is currently assessing the quality of the results and investigating possible value adding products that can be derived from this human settlement product. The final outcome of this activity should contribute to the production of the countrywide human settlement layer of South Africa.

The JRC and SANSA continued cooperation on Multi-angle Imaging SpectroRadiometer (MISR) High Resolution system. This system consists in an integrated suite of software packages to acquire and process observations from MISR instrument on NASA's Terra platform. The products of that system are useful for a broad range of applications linked to climate change, environmental monitoring, natural resources management and sustainable development. In 2013, the JRC has provided its support to SANSA in the installation, running, and distribution of geophysical products generated by the MISR High Resolution system. Then, in June 2014, the JRC installed the latest version of MISR High Resolution system at SANSA. The system is fully functional.

5. Collaboration under FP7

Achievements in projects under the Seventh Framework Programme for Research and Development (FP7) were discussed at a joint workshop entitled 'EU/RSA space cooperation workshop hosted by South Africa on 19th March 2013, and during the Space Dialogue on 20th March.

South Africa is already a strong participant in EU space research, ranking in the top 5 among all third countries, in the field of space research, with participants in the FP-7 Space Program receiving funding around 1.4 million euros, with 11 projects. Projects in which South Africa participated include the European Organisation for the Exploitation of Meteorological Satellites - EUMETSAT/SA Regional Training Centre on satellite meteorology and scientific cooperation on FP7 projects such as EAMNET and others.

FP7 projects MALAREO and WATPLAN were specifically reviewed. SANSA is also participating in the EOPOWER (earth observation for economic empowerment) Project which is a Framework Programme 7 (FP7) project.

SANSA partnered in the African Global Earth Observation System of Systems (AfriGEOSS) and the Group on Earth Observation (GEO) to host the EOPOWER-AfriGEOSS SADC workshop in May 2014 to demonstrate the value of earth observation in agriculture. The following countries participated at the workshop: Botswana, Zambia, Zimbabwe, Swaziland, Malawi, Mozambique and Lesotho.

South Africa, through the University of the Western Cape is participating in the Herschel Extragalactic Legacy Project (HELP), which is a European Commission Research Executive Agency funded project. The Herschel Extragalactic Legacy Project (HELP)'s main objective is to provide a rich new data set characterizing the physical properties of hundreds of thousands of distant galaxies. This will bring together a vast range of data from many different astronomical observatories.

6. SANSA, the European Space Agency and Eumetsat

SANSA (South African National Space Agency) and the European Space Agency (ESA) continue to pursue formal collaboration and have identified the projects they would like to engage in. The Dialogue took note of SANSA and ESA's progress in developing institutional cooperation. Both agencies are pursuing discussions in order to define concrete bilateral cooperation in different areas, with a particular focus on science and Earth observation. The Dialogue also took note of the license agreement established between SANSA and European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) for the use of EUMETSAT data and products by SANSA for research purposes.

SANSA is participating in the TIGER project and will be hosting the SADC TIGER Regional Office in 2015. The overall objective of the initiative is to assist African countries to overcome problems faced in the collection, analysis and use of water related geo-information by exploiting the advantages of EO technology. The aim is to fill existing information gaps relevant for effective and sustainable water resources management at the national to regional scale in thus helping to mitigate the wide spread water scarcity in Africa. Water products developed in TIGER include water body map, water quality products, water demand models, flood maps and land cover maps.

The EU through the European Commission, ESA, EUMETSAT together with the South African Department of Science and Technology and SANSA reaffirmed their strong commitment to continuing cooperation within multilateral frameworks such as the GEO (Group on Earth Observations) and the CEOS (Committee on Earth Observation Satellites).

The Dialogue welcomed the significant contribution of South Africa to the operational services put in place in the SADC region via the 9th European Development Fund (EDF) AMESD programme, notably the provision of a “fire service” to all SADC countries and the hosting of AMESD training in the South African Weather Service (SAWS) training center. The Fire Service provides operationally a daily fire risk indication (before the fire), continuous active fire maps (in real time during the fire season) and monthly burnt area assessments (after the fire). This service is based on the CSIR Meraka Institute’s Advanced Fire Information System (AFIS) coupled with EUMETCast. The Dialogue welcomed the planned continuation, as of mid-2013, of this contribution through the 10th EDF MESA program and its possible extension to new themes, such as climate services and marine applications. The Dialogue encourage establishment of close links between the MESA and GMES and Africa initiatives.

The Dialogue took note of the progress made towards the implementation of a Regional ATOVS (Advanced TIROS (Television and Infrared Observational Satellite) Operational Vertical Sounder) Retransmission Service (RARS) station in South Africa, including the collection of initial data from the station. The Dialogue also took note of the status of the ongoing study for an extension of the RARS coverage to the whole Africa continent in support to GMES and Africa and AfriGEOSS, and the possible role that South Africa could play in coordinating this African RARS network.

7. Skills Workshop

Building capacity and supporting skills development for space science and technology are important for South Africa and the European Union. To obtain a coherent picture of the different skills development related initiatives in the space area, the European Union and South Africa organized a workshop. on 19 and 20 November 2013 in Pretoria to determine how the DST and the EU Commission can collaborate in terms of developing scientific, technical and entrepreneurial skills for the space sector, and to strengthen the relationship between the DST and the EU Commission.

The workshop was also a timely opportunity to publicise a first overview of the forthcoming structure of Horizon 2020 and the role of Space R&D in the timeframe 2014-2020, and to examine the potential for future cooperation in this new framework.

8. Next meeting of the Space Dialogue

The date for the next EU-SA Space Dialogue is under discussion, with a possibility of it being held in February 2015. Potential areas for discussion at the next meeting could include the Pan African University and space hub, as growing the existing initiatives and new cooperation initiatives.