

Foreword

Welcome to the 5th edition of the PAERIP e-Newsletter!

Dear Readers,

I am grateful that through PAERIP we had been offered the opportunity to make a fulfilling contribution to the bigger efforts of strengthening science and technology partnerships between Africa and Europe.

The two continents have a lot in common to share and exploit for mutual benefit. Our common time zone makes communication and mobility easier while our diverse cultural diversity makes it interesting to work together.

PAERIP is not only raising public understanding and awareness on the importance of investing in research infrastructures, but more importantly gathering evidence that could be used for influencing policy making through case studies, surveys, interviews and stakeholder workshops.

In this edition, you will learn more about the recent stakeholder workshop held in the beautiful city of London, where latest findings were shared with the audience to solicit opinions and mutual learning on enhancing the value of bi-regional cooperation through research infrastructure partnerships.

Enjoy the reading and please feel free to provide us with feedback on the newsletter.

Regards,

Takalani Nemaungani
PAERIP Project Coordinator



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PAERIP partnership



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Highlights

3rd PAERIP Workshop: event outputs

By Andy Cherry

Association of Commonwealth Universities, UK



The third one-day PAERIP workshop on Africa-Europe research infrastructure partnerships took place on 17th October at the offices of the Association of Commonwealth Universities in London. Over 55 participants attended the meeting, representing between them eight African and seven European countries.

With a full day's programme of presentations, discussions and debates the workshop provided an informal yet high quality forum for raising awareness and for exchanging ideas and opinions on aspects of actual and potential cooperation between Africa and Europe around RI, and at the same time giving the PAERIP project a stage to present the results of some of its studies in this area.

Complementary presentations in the morning session from five invited experts gave us insight into the emerging imperatives of addressing societal challenges and the features of global science: Professor John Wood, Secretary General of the ACU and former chair of ESFRI described a future landscape in which interconnectivity, the data deluge, open access, the virtual environment and the breakdown of traditional disciplines will revolutionise the conduct of research and education. Dr Elena Righi-Steele, EC programme officer for infrastructures and ESFRI executive secretary, explained both the ESFRI roadmap and the investment being made by the EU in new and existing pan-European research infrastructures to meet the needs of European research communities in the next 10-20 years, as well as the commitment of the EU to the roll out of global RI.

In the next three presentations, representatives of major research organisations and specific RI ([EIROForum](#), [CLARIN ERIC](#) and [African Laser Centre](#)) gave their perspectives on bi-regional cooperation.

Members of the PAERIP consortium presented the findings of studies into the socio-economic benefits of RI cooperation, and into the scope for cooperation between African and European RI. These studies remain work in progress but valuable feedback from the workshop will be incorporated as final reports are prepared.

In the final presentation of session two the consortium presented a short summary of some of the programmes and financial instruments being used to support Africa-Europe STI cooperation and research infrastructure partnerships.

In the final session of the day five distinguished guests, Prof John Wood, Dr Elena Righi-Steele, Prof Daniel Adams, Dr Ndumiso Congo, Dr Renata Witsch and agreed to sit as an expert panel to respond to questions and comments from the floor.

The dialogue around the drivers and the benefits of international cooperation is well-rehearsed. As PAERIP experience of bi-regional cooperation extends, so the understanding of the components of good practice in international cooperation is improving. The same will one-day be said for international RI cooperation, but what the consortium studies suggest, and what this and previous PAERIP workshops support is that exemplars and accumulated experience remain relatively limited at present but it is already clear that there are many parallels.

The PAERIP workshop on Africa-Europe RI cooperation was timely. With the revision of Africa's science and technology Consolidated Plan of Action, with negotiations on-going about the new European framework programme Horizon 2020 and the next European Development Fund, and with plans afoot for the next revision of the action plan of the Joint Africa Europe Strategy in each of which international cooperation and research infrastructures will occupy a significant place, the forum provided by PAERIP is a valuable contribution to the exchange of informed opinion, to awareness raising and to gathering evidence of the benefits of RI and international cooperation.

The full report is available [here](#).

PAERIP findings

Considerations for African-European partnerships in Research Infrastructure

A P Botha, G von Gruenewaldt and T C Botha

TechnoScene (Pty) Ltd, South Africa

& P Gomez and K Krzastek

ISC Intelligence in Science, Belgium

During the PAERIP workshop in London on October 17 2012, research infrastructure partnership formation between Africa and Europe was discussed. Two views were considered: the potential Africa has to contribute to the implementation of the ESFRI roadmap and the potential Africa has to host European RI, also as part of global partnerships.

A wide spectrum of involvement between different entities with research infrastructure takes place. Following an awareness of existence and capabilities of research infrastructure, collaboration and cooperation takes place if the need is there and eventually partnerships are formed. The degree of commitment increases and with a partnership all parties are heavily committed in some form or another, but mainly financially. Research infrastructure partnerships are influenced by the choices nations make to establish these facilities. These choices are based on the identification of priority areas for research infrastructure investment, the opportunity to get involved on global or intercontinental scale addressing joint challenges and are facilitated by better communication, connectivity and data sharing. It is recognised that different parties play a role in the planning, establishment and use of research infrastructure.

A research infrastructure partnership is thus an agreement between governments, research societies, research institutions, higher education institutions or individual researchers or groups of researchers to jointly plan, invest, develop, construct, manage, use and phase out RI that holds mutual benefit in terms of advancing the frontiers of knowledge, enables research on intercontinental or global challenges, provides access to science that holds geographic or regional knowledge advantage and contributes directly or indirectly to national competitiveness.

It is critically important that the policy framework in countries must be supporting the formation of such partnerships. In the EU there are framework program-

mes such as the FP7 research infrastructure capacities programme and potentially the future Horizon 2020 where the objective to strengthen international cooperation with third countries. The support by member states and the potential of using structural and regional funds will largely contribute to the formation of partnerships. ERIC as European research infrastructure consortium demonstrates the importance of a legal entity to support such partnerships on a multinational basis. In Africa, the Consolidated Plan of Action (CPA) provides a guideline for continental research priorities which clearly require access to advanced research infrastructure. The New Partnership for Africa's Development (NEPAD) is the agency for implementing projects to address these priorities. Existing agreements between African countries and the European Union also present an enabling environment for facilitating research infrastructure partnerships.

In order to investigate the potential of RI partnerships between Africa and Europe, PAERIP has relied on its [inventory](#) of European and African Research Infrastructure and feedback by hosting organisations to extract several case studies where such partnership could potentially grow, based on either a recognition of mutual benefits or on cases where collaboration already exists. These case studies highlight special circumstances where potential or existing collaboration could contribute towards better implementation of the ESFRI roadmap and assist in gaining an understanding of the state of collaboration or cooperation between Africa and Europe and how they can be firmed up into partnerships.

The role of PAERIP in promoting partnerships was clarified as creating an awareness of the potential of research infrastructure partnerships and the benefits they can bring to the science, technology and innovation community; to state observed criteria for successful partnering; to play an advocating role, influencing entities that can initiate and fund these partnerships; to point out the added value that partnerships can bring and in developing guiding questions for consideration for future research infrastructure partnerships.

The full report is available [here](#).

PAERIP findings

The socio - economic impact of African-EU RI cooperation - Analysis

By P Gomez and K Krzastek

ISC Intelligence in Science, Belgium

Recent findings highlight the benefits of Africa-Europe research infrastructure (RI) cooperation.

PAERIP project undertook an analysis of the socio-economic impact of African-European RI cooperation. The first results of this study were presented to the European Commission and wider public at the Brussels PAERIP workshop on 16 May 2012. Following recommendations and conclusions from the workshop, the study has been updated and expanded. New evidence was presented at the PAERIP workshop on 17 October in London. Recent findings include new case studies that aim to unveil both the existing and potential socio-economic impact of research infrastructure cooperation.

Evidence of existing socio-economic impact

The case studies of Southern African Large Telescope ([SALT](#)) in Sutherland, South Africa, and the Global Earth Observation System of Systems ([GEOSS](#)) were used to evaluate the existing impact of African-European RI cooperation. These RI, international in scope (with both African and European partners), illustrate that RI have concrete and demonstrable socio-economic benefits. SALT contributes to increased economic activity in the region through capital inflow and encouragement of other infrastructure projects, and improves employment opportunities. It also contributes to the creation of human and social capital and capacity building, amongst others. GEOSS, in turn, demonstrates that social benefits of RI can be realized globally by a broad range of communities. GEOSS will simultaneously address nine areas of critical importance, including, inter alia reducing loss of life and property from natural and human-induced disasters, understanding the environmental sources of health hazards, supporting sustainable agriculture, improving the management and protection of terrestrial, coastal and marine resources, and facilitating the development and provision of common products.

Evidence of potential socio-economic impact

Potential collaboration impact was demonstrated by using as case studies European RI such as [ELETTRA](#)

Laboratory of Sincrotrone Trieste; Extreme Large Infrastructure, a high laser research facility implemented as a distributed infrastructure in the Czech Republic, Hungary and Romania as well as the European Spallation Source, located in Lund, Sweden.

These examples confirm that various tangible socio-economic returns from the construction and operation of RI are possible. This presupposes that corresponding socio-economic impact can be expected from other new RI constructed and operated jointly by European and African partners in the African region.

Expected economic returns

Expected economic returns from such collaboration include returns to the contributing regions and institutions during design, construction and operation, through the involvement of related industries/providers; expenditure on operations (personnel, provisions, utilities, etc.) and indirectly through improvements in the surrounding areas. Returns can also occur as a result of industrial and commercial exploitation of research and technological developments. RI can bring educational benefits, in terms of training of researchers and technical/managerial staff and staff exchanges between academia and industry and vice versa. They can contribute to improving the reputation of the knowledge infrastructure and supporting Foreign Direct Investment (FDI).

Expected social returns

Social returns, on the other hand, refer to nurturing a new generation of researchers and addressing skills shortages/promoting skills development; catalyzing science diplomacy; attracting the best and most talented researchers and technical staff and providing them with high quality training (creation of human capital). RI also contribute to sustainability of local infrastructure, serve as a foundation for collaborative research and play an important role in public engagement in science. They also have the potential to strengthen national identity/pride and encourage members of the diaspora to invest in infrastructure or other projects in their home country.

In conclusion, this report is intended to provide evidence of the socio-economic impact of Africa-Europe RI cooperation, promote the benefits of such collaboration, and provide an argument for policymakers to secure sustainable funding for the development of new Africa-Europe RI. The full report is available [here](#).

Expert in the Spotlight...

Ms. Lindsey Crosswell



*By Ms Lindsey Crosswell
Head of External Relations, European
Molecular Biology Laboratory,
European Bioinformatics Institute*

Q1. What is the EIROforum and which are its main objectives?

[EIROforum](#) is a partnership between eight of Europe's largest inter-governmental scientific research organisations that are responsible for infrastructures and laboratories: [CERN](#), [EFDA-JET](#), [EMBL](#), [ESA](#), [ESO](#), [ESRF](#), European [XFEL](#) and [ILL](#). It is the mission of EIROforum to combine the resources, facilities and expertise of its member organisations to support European science in reaching its full potential. The EIROforum partner organisations constitute an essential pillar of the European Research Area. Within their respective scientific disciplines, the partner organisations play a decisive role, both with respect to enabling world-class science to be undertaken, but also as a central and structuring element for organising the research activities at a European level. While firmly based in Europe, the partner organisations have numerous links and relations to institutions and countries outside of Europe: they thus represent an "Open Europe" in science.

Q2. Is EIROForum implementing research projects involving Africa? In which field?

EIROforum, being an alliance between organisations which have their respective and very diverse science programmes and policies, does not implement research projects. However, many of the partner organisations have active collaborations with African institutions in several fields as varied as cultural heritage studies/palaeontology (synchrotron radiation - ESRF), molecular biology (EMBL, ESRF and ILL, all partners in the Partnership for Structural Biology) and water resource monitoring (earth observation - ESA). A number of the EIROs also offer the possibility for African scientists to train at their facilities, for example, through PhD programmes and summer schools (CERN, EMBL, ESRF, European XFEL, ILL). For others, access to the data collected by their user communities is made freely accessible to all, usually after a proprietary period has been respected (EMBL, ESA, ESO).

Q3. Which one of the many scientific disciplines covered by EIROForum partner organisations do you think is the most promising for EU-Africa cooperation on RI?

The EIROs carry out research in a huge range of scientific disciplines. Many of the programmes of the EIROs are highly relevant with respect to the grand societal challenges, such as health, climate change and environmental studies, energy, etc. These are areas which are global in nature and each has its own merits. One could therefore say that there is not one scientific discipline which has more importance in EU-Africa cooperation in research infrastructures than others. Each has its place depending on the priorities of the stakeholders involved in the research infrastructure in question.

Q4. What are the crucial success factors for transcontinental RI sharing, for example, African researchers sharing European RI, or vice versa?

The main drivers for successful partnerships in the frame of research infrastructures are the scientific needs of the parties involved. Research infrastructures are created in view of performing excellent, world-class science in their respective domains and, as such, the parties concerned must retain this objective as their main criteria in collaborating. For such partnerships to be successful, all parties need to put into the balance what value they can contribute to success of the RI and not only what can be reaped as benefits (the immediate and long-term) as a result of participation. This is not specific to Africa-Europe, but is true to all involvement in RIs worldwide.

Q5. From your experience, which are the main factors hindering the development of African-European research infrastructure partnerships?

As stated above, all parties to RI partnerships need to find themselves in a win-win situation. A country which wishes to invest in such collaboration first needs a certain critical mass in terms of its scientific community. An important pre-requisite is a trained scientific community which will then become part of the user community of the RI in question. With respect to the EIROs, there are organisations which currently have no collaboration with African countries simply because there is little or no involvement in the scientific field in question on the African continent (e.g. fusion research). In order for successful partnerships to be kindled, building and strengthening capacity in African countries is essential.

News & Events

PAERIP represented at the JEG8 meeting (Nov. 6-8, 2012 – Cape Town, South Africa)



The meeting of the Joint Expert Group (JEG) of the Africa-EU Partnership 8 (JEG8) was held in Cape Town (South Africa) on November 6-8, 2012. The JEG8 is an informal non executive consultative forum of African and European Member states experts involved in the 8th EU-AU partnership on Science, Information Society and Space. The JEG8 meets periodically to discuss the challenges and evaluate the implementation of the 8th partnership and it may recommend, where necessary, corrective actions and propose the inclusion of new initiatives required to maintain, improve and add the momentum of the partnership action plan implementation process. The findings of the PAERIP project were presented at the JEG8 meeting by Takalani Nemaungani (DST South Africa), the Project Coordinator, highlighting the need for Research Infrastructures to be identified as a concrete theme for dialogue and funding under the 8th Africa-EU Strategic Partnership.

PAERIP LinkedIn Group just launched!



The PAERIP consortium is pleased to announce that it has just launched its LinkedIn group, that you are kindly invited to join to take advantage of the opportunities the PAERIP LinkedIn community offers you: updates on the RI activities taking place in Africa, updates on the activities developed by the PAERIP partnership, opportunity of promoting your project/initiative to the EU and African RI community, access to interesting discussions on current RI topics, opportunity to meet partners from EU and Africa. Join the group [here!](#)

PAERIP workshop (Oct. 17, 2012 – London, UK) successfully organised



Attended by over 50 African and European delegates from academic institutions, private sectors, research institutions and governments, the 3rd PAERIP Seminar on Africa-Europe research infrastructure cooperation took place in London on Oct 17, 2012. Proceedings, event report and pictures are available on the PAERIP website. [More...](#)

4th PAERIP workshop and CAAST-Net stakeholder conference (Dec. 3-4, 2012 – Accra, Ghana)



The PAERIP and CAAST-Net projects are pleased to announce a joint Africa-Europe stakeholder conference on the roles played by research infrastructures in advancing and facilitating bi-regional cooperation in scientific and technological research and innovation, that will be organised on Dec. 3-4, 2012 in Accra, Ghana. Registrations are now open: register [here!](#)

2012 Africa-EU Cooperation Forum on ICT



Organised by the EuroAfrica-P8 consortium in the framework of the Africa-EU Strategic Partnership (JAES) and hosted by the Government of Portugal through the Ministry of Education and Science (MEC), this year edition of the 'Africa-EU Cooperation Forum on ICT' (an event designed to anyone with an interest in Euro-African collaborative project on ICT) will be held on November 28-29, 2012, at the Centro Cultural de Belém (CCB) in Lisbon, Portugal. [More...](#)

[More news/events...](#)