

Introduction

Welcome to the 3rd edition of the PAERIP e-Newsletter!

PAERIP (Promoting African European Research Infrastructure Partnerships) is a project funded under the EU's FP7 Capacities Programme (INFRA-2010-3.2) with the aim of promoting and strengthening research infrastructure partnerships between Europe and Africa. The new year has provided us with opportunities to continue strengthening our friendship and collaborative spirit needed to build a better future for the world through scientific and technological endeavours.

This 3rd edition of the PAERIP quarterly e-Newsletter will highlight some of the key outcomes of the project activities over the period "December 2011 to February 2012". The prevailing global financial crisis is not favourable to the expansion of research infrastructures and to the development of access opportunities which often are costly. As a result, we need to continuously reinforce the message about the potential benefits of research infrastructures through their contributions to addressing major challenges such as climate change, energy, food and water security, sanitation and health for all.

We hope that you will enjoy reading this third update on the PAERIP project and find it a useful source of information. To submit your feedback, comments or for any further information, please contact us at info@paerip.org.

Enjoy your reading! Yours sincerely,

Takalani Nemaungani

Director Global Projects, DST, South Africa
& Project Coordinator, PAERIP

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PAERIP findings

Second PAERIP report on research infrastructures (RI)



By Dr Anthon Botha
Founder & CEO
TechnoScene (Pty) Ltd, South Africa

The second PAERIP report on Research Infrastructure (RI) was released in January 2012. It contains a summary of the first (October 2011) unpublished report with information on the initial identification of European and African RI identified for the inventory, as well as a preliminary study of various access schemes to both European and African RI. The first task was to compile an inventory of European RI relevant to the implementation of continental African S&T plans and to compile an inventory of African RI of specific interest to European researchers. A common definition was developed to describe European and Pan-African RI in such a way that they are compatible and could be recognised as Global Research Infrastructure. RI was broken down into facilities and equipment, repositories of knowledge and cyber-infrastructure. The associated data and human resources and networks of expertise were also included.

A methodology was followed whereby ESFRI and other European projects/initiatives were identified, their status noted and short summaries of the project intent and the associated RI were provided. On the African side the project and programmes of relevance to the Consolidated Plan of Action and the Book of Lighthouse projects that rely heavily on RI were identified, together with the RI that could potentially contribute to these focus areas. Mapping of the 64 European against the 99 Pan-African projects indicates overlap in interest or gaps where potential interest exists. This landscape of synergies and gaps was then used to redefine a common environment for PAERIP to concentrate on. These areas are: Astronomy; Biodiversity and Environment; Biology; Climate Change and Natural Hazards; Energy; Health; ICT; Materials and Manufacturing; Physics; Social Sciences and Humanities; Space; and Water.

The details are to be taken up in a database that will be developed by the National Documentation Centre / National Hellenic Research Foundation (EKT/NHRF) and the inventory will be published on-line through the PAERIP website. This database should become a dynamic tool that can be updated by stakeholders and users.

Regarding the first investigation into access mechanisms, it has emerged that in the majority of cases access by individual scientists from Africa to the European RI is very difficult, except for those RI that have an open access policies to data. The latter pertains primarily to environmental observational and global change sciences. Access to other RI is either provided:

- by virtue of agreements between the RI management and the responsible funding agency/ministry of the home country of the researcher concerned, which has substantive cost implications mostly beyond the capabilities of the individual concerned, or
- through the national correspondent of regional/global networks affiliated with the European RI.

The indirect access of African scientists to RI, i.e. by collaborating with a European scientist who is entitled access by virtue of his/her institution/country being a member of the RI concerned, will recognise the African researcher as a team member of the European scientist and his/her institutional affiliation, but it will not recognise the African researcher's affiliation by institution or country.

On the other hand, access by European scientists to pan-African RI seems, according to this preliminary assessment, not so complicated, as in most instances the RI concerned has been established in collaboration with European scientists or funding from European funding agencies. This will be however interrogated further in the next phases of the study.

The complete report is available here.

Highlights

Horizon 2020 and its impact on European Research Infrastructures

'Horizon 2020' is the new, integrated funding system that will cover all research and innovation funding currently provided through the Framework Programme for Research and Technical Development, the Competitiveness and Innovation Framework Programme (CIP) and the European Institute of Innovation and Technology (EIT), bringing together these different types of funding in a coherent and flexible manner. This €80 billion package for research and innovation funding will enter into force on 1st of January 2014, after the end of FP7 on 31st of December 2013. For the first time, the Framework Programme will provide a set of common objectives based on the Europe 2020 strategy and the related Digital Agenda for Europe and Innovation Union initiatives across funding for research and innovation. It will be based on three main themes: excellence in science, tackling societal challenges and creating industrial leadership and competitive frameworks.

"Excellence in Science" is the theme relevant to the operation, development and cooperation of research infrastructures. With a budget of €24.6 billion, which includes a funding of €2.4 billion available for supporting access to and networking of priority research infrastructures across Europe, it will have great influence on research facilities. Such funding will help to ensure that Europe has world-class research infrastructures (including e-infrastructures) accessible to all researchers in Europe and beyond, and make Europe an attractive location for the world's best researchers, at the same time advancing the state of science on the continent.

One of the most relevant features of Horizon 2020 is the objective of strengthening international cooperation with third countries. Horizon 2020 sets the goal of increasing the Union's excellence and attractiveness in research to tackle global challenges jointly, support the Union's external policies and contribute to the achievement of the Millennium Development Goals. The emphasis on international cooperation with third countries will certainly create many new opportunities for European-African research infrastructure cooperation.

Report on European Union development cooperation instruments

This report, prepared by ISC Intelligence in Science (member of the PAERIP consortium) in September 2011, describes and analyses the major EU development cooperation instruments with a view to potential development of African-European research infrastructures partnerships. The report analyses the structure, functioning and objectives of four instruments, which are the EU's primary mechanism for funding and implementing infrastructure projects in Africa:

- Development Cooperation Instrument (DCI)
- European Neighborhood and Partnership Instrument (ENPI)
- European Development Fund (EDF)
- EU-Africa Infrastructure Trust Fund

This forth instrument is described with particular emphasis, because it is the EU's primary mechanism for funding and implementing infrastructure projects in Africa having a regional dimension. The EU-Africa Infrastructure Trust Fund was created in 2007 as an instrument of the EU-Africa Partnership on Infrastructure. To read the full report, [click here](#).



Expert in the Spotlight...

Prof. Maged Al-Sherbiny



By Prof. Maged Al-Sherbiny

Assistant Minister for Scientific Research,
Egypt & Chair of the AMCOST (African
Ministerial Council on S&T)

Q1. How well is the broader concept of research infrastructure entrenched in science policy thinking?

Research infrastructures are indeed a critical element for scientific policy where you can build human resources and you can adjust your facility to be able to perform state-of-the-art technology like for example Micro-electromechanical Systems (MEMS) and Nanotechnology where we are investing at the moment in two research centers in these two fields to equip them with the state-of-the-art infrastructures to be able to perform world-class research and increase our competitiveness.

Q2. What are the crucial success factors for transcontinental research infrastructure sharing?

Mobility of researchers is the most crucial success factor for transcontinental sharing of Research Infrastructure. Not only short term mobility but rather all types of mobility including long-term exchanges. One of the major issues hampering transcontinental and transnational mobility of researchers is the visa issuing, availability of funds and in some areas technology transfer. Funding for the reintegration phase of researchers in their home country after a mobility action should be available and considered as part of the mobility programme.

Q3. Should research infrastructure roadmaps be planned top-down or bottom-up?

Basically it should be in both directions. The selection of priorities should follow a top-down approach, while the execution of the roadmaps should be bottom-up.

Q4. How much does a shrinking networked world affect the traditional view of own infrastructures?

With the availability of cloud computing and virtual labs, there is a new dimension of non-traditional research infrastructures that would definitely affect the traditional concept of research infrastructures. Also the availability of huge research facilities such as CERN and SESAME will affect research infrastructures in developing countries, but in a positive way.

Q5. Is it time for a pan-African research infrastructure roadmap and strategy?

Yes, definitely and we hope that the PAERIP project will widely promote the idea since research infrastructures are needed and a lot of sharing is required in the current phase to reach our goal of building research capacities.

Q6. What global partnerships can grow from an African-European partnership on research infrastructures?

Regions are expanding giving the example of the Global Ring Network for Advanced Application Development (GLORIAD) and the African Network for Drugs and Diagnostics Innovation (ANDI) networks where research infrastructures are shared with European and American partners. Currently there are clear initiatives to make other two ANDI, one in South-east Asia and one in South-America. These partnerships in different regions will thus have a significant impact on EU-African partnerships. Also with the coming EU Framework Programme (Horizon 2020), RI hopefully will be greatly enhanced and/or considered in the African continent.



Expert in the Spotlight...

Dr Elena Righi-Steele

By Dr Elena Righi-Steele

Research Programme Officer,
Research Infrastructure Unit,
European Commission
PAERIP Project Officer

Q1. What are the expected dynamics of a European RI roadmap over the next 10 years?

This question could lead to several answers. The Roadmap per se is expected to be revised periodically, every few years, as facilities on it become a reality and can therefore be ticked off as 'done' or others are not expected to be realized as originally envisaged (for whatever reasons, political, financial, no agreement or no partners, or because the proposed facility does not really answer any longer the needs of one community). How you get to tick off the RI on the roadmap is a slow process that needs consensus amongst a group of interested countries. It usually works best if one country takes the lead.

Q2. How well is the broader concept of research infrastructures entrenched in science policy thinking?

It is an interesting question. I believe it depends on how active the funding agencies responsible for developing and running RI are with their ministries. I think since the publication of the first ESFRI roadmap the profile of research infrastructures has been raised somewhat, and it seems to be at least on the horizon of policy making, although with the current financial crisis things are increasingly difficult.

Q3. What are the crucial success factors for transcontinental RI sharing?

It is not easy to answer... Transparent and open dialogue, mutual understanding of culture and attitudes, clear management, clear financial commitments are some of the key factors. It may be useful to consult the European Expert Group report on cost control and management of global Research Infrastructures, started to analyze this matter.

Q4. Should RI roadmaps be planned top down or bottom up?

Facilities should in my opinion, respond to genuine needs of a mature and responsible scientific community. In this respect, I think that usually bottom-up roadmaps are usually thematic, i.e. lay out the needs of the community, while top-down roadmaps are strategic instruments of governments, who however must consult their communities to include meaningful facilities in areas that are genuinely needed and are commensurable to the budgets of the countries.

Q5. How much does the current global economic climate affect the development of Research Infrastructures?

There are two trends: in principle governments recognize the importance of investing in S&T in order to maintain skills, high-tech industry and in general sustain the knowledge-based society. In practice - this in my personal opinion - it is very difficult to achieve. Budgets are squeezed at all levels: experts I have spoken to (even in Greece) tell me that they try to keep at least a minimum level of activities going and to sustain their students not to lose their capacity, but sometimes this is all they can do. Many of the facilities of the ESFRI Roadmap have the advantage of being distributed RI which need only a modest investment to make the final push to become one legal entity, since the laboratories and hubs making up the facility already exist. For large single sited physics RI this is more difficult to achieve and sound financial practice coupled with staged planning might be wise.

Important note - The content of this interview reflects Dr Elena Righi-Steele personal opinion and cannot be used as the official views of the European Union.

News & Events

International Conference on Research Infrastructures - ICRI 2012 (Denmark, March 21-23, 2012)



Co-organized by the Danish Ministry of Science, Innovation and Higher Education and the European Commission, the forthcoming International Conference on Research Infrastructures (ICRI 2012) will take place in Copenhagen, Denmark from 21- 23 March 2012. The conference will address an international audience on how global research infrastructures can respond to the Grand Challenges, providing important input to the European strategy and to the implementation of the next EU Framework Programme "Horizon 2020". More...

Tanzania National Workshop and All African Seminar on Innovation and Development (Tanzania, March 21-23, 2012)



The Workshop, taking place in Dar es Salaam on March 21-23, 2012, is anticipated to facilitate a common understanding of innovation as far as least developed countries such as Tanzania are concerned, laying a foundation for further national studies and debates on specific policy issues and strategic planning on innovation in different sectors of the economy. A roundtable discussion on Research Infrastructure in Africa is planned on the third day of the workshop. More...

2nd CAAST-Net stakeholder conference (Senegal, April 24-25, 2012)



The event is taking place in Dakar, Senegal, on April 24-25, 2012, and it will be co-located with the CAAST-Net internal Workshop for Coordination & Support Actions (CSA), taking place on April 27, 2012. Hosted by the Ministry of Higher Education and Regional Academic Centres and Scientific Research of Senegal, the conference will focus on the role of scientific innovation (as a driver for socio-economic development) in the context of adding value and enhancing the bi-regional African-Europe S&T cooperation process. More...

TERENA Networking Conference (Iceland, May 21-24, 2012)



The TNC2012 will be hosted by the Icelandic National Research and Education Network (RHnet) and the University of Iceland and held in the picturesque city of Reykjavik in Iceland from 21-24 May 2012. This year's conference theme is "Networking to Services" and will focus on network technologies, infrastructures and services that support research and education, examining the following areas: bits & wires, supporting collaboration, infrastructure & services, social & secure, and using the stuff. More...

ERF Workshop "The Socio-Economic Relevance of Research Infrastructures" (Germany, May 31 – June 1, 2012)



This ERF Workshop, taking place in Hamburg from May 31 to June 1, 2012, will bring together experts from research infrastructures, science, policy makers and industry to discuss the many dimensions of socio-economic relevance of Research Infrastructures. It is the main purpose of this workshop to record experiences and real cases, refining to best practices, and to formulate proposals for the broader European community. More...

Report on the PAERIP Information Session (Egypt, January 19, 2012)



In collaboration with the FP7 ERANET for Africa project 'ERAfrica', the Ministry of Scientific Research in Egypt with the support of the Department of Science and Technology of South Africa and Sigma Orionis (France) jointly organized a PAERIP information session in Alexandria, Egypt, on the 19th of January 2012. The PAERIP project was presented by DST to over 40 participants representing 30 organizations from 10 European and 6 African countries. More...

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