

**Strategic Forum for International S&T Cooperation – SFIC**  
**with the participation of the**  
**Steering Group on Human Resources and Mobility - SGHRM**

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**Workshop on improving the mobility of researchers  
between Europe and BRIC countries**

*12 June 2012, Brussels/French Permanent Representation to the European  
Union*

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## **Introduction**

### **Background and objective**

The workshop on improving the mobility of researchers between Europe and BRIC countries was organised as a joint initiative of two ERA Groups, the Strategic Forum for International Science and Technology Cooperation (SFIC) and the Steering Group on Human Resources and Mobility (SGHRM).

The SFIC is currently working on three pilot initiatives - India, China<sup>1</sup> and USA. The SFIC work programme 2011-2012 also envisages the development of initiatives on Brazil and Russia. Mobility of researchers between Europe and the targeted third countries is a key issue in all initiatives.

The SGHRM deals with researcher careers, recruitment and mobility issues. The SGHRM initiated the European charter for researchers, the code of conduct for recruitment of researchers as well as the scientific visa and also works on a pan-European supplementary pension fund for researchers.

This workshop aimed at 1) understanding the state-of-play with regards to mobility between Europe and BRIC countries; 2) identifying the existing bottlenecks and 3) defining new ways to improve the mutual attractiveness between Europe and BRIC countries to foster incoming and outgoing mobility.

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<sup>1</sup> SFIC already organised workshops and conferences for its pilot initiatives:  
[http://ec.europa.eu/research/era/areas/cooperation/international\\_cooperation\\_en.htm](http://ec.europa.eu/research/era/areas/cooperation/international_cooperation_en.htm).

## The critical role of mobility

*“Raising the attractiveness of Europe is a key point. If Europe needs one million new researchers by 2020, as stated in the Innovation Union Flagship Initiative, its ability to attract the best human resources and encourage them to stay in Europe is crucial. Europe should not only focus on intra-EU mobility for all students and researchers but also on its openness to the world.”<sup>2</sup>*

*“Mobility of human capital is crucial. Mobility programmes can be considered as seed money to prepare for broader collaboration; it can provide information on potential disciplines/themes, priority areas for collaboration.”<sup>3</sup>*

BRIC countries are increasing their STI capacities with the aim to become major scientific actors. Mobility is an important tool to rapidly improve their research capacities (returnees policies, attractiveness policies towards junior and senior foreign researchers, mobility schemes to send students and young researchers abroad).

Several models for mobility schemes are used in Europe, covering a large scale and scope, from the early-stage researcher to the recognised/established researcher and beyond<sup>4</sup>. They either cover most of the costs (including researchers’ salary) or only the mobility costs. By fostering exchange of researchers (including PhD candidates) these schemes contribute to training researchers, stimulating and supporting research partnerships and institutional cooperation beyond the world of academia. They cover the following activities:

- attract the best researchers to Europe (e.g. chairs of excellence for national or foreign junior or senior researchers, part-time positions);
- encourage European researchers to discover the research potential in the partner countries or encourage researchers from third countries to discover the research potential in Europe (including short visits);
- support the creation of networks by funding multi- and/or bi-lateral symposia or workshops, where European researchers and scientists from the partner countries meet around a specific topic and express their willingness to start cooperation;
- support new and developing research cooperation by exploratory visits;
- develop cooperation between academia, especially in doctoral level – but also in other cycles of higher education - and European industry in third countries.

The workshop gave an overview of good practices in state-to-state agreements between different countries and each BRIC country. Different kinds of international mobility were presented:

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<sup>2</sup> Approaching China: towards a more coherent EU/Member States China strategy, Summary report of the workshop, 3<sup>rd</sup> and 4<sup>th</sup> May 2011 in Brussels

<sup>3</sup> Approaching China: towards a more coherent EU/Member States China strategy, Summary report of the workshop, 3<sup>rd</sup> and 4<sup>th</sup> May 2011 in Brussels

<sup>4</sup> We refer here to the researchers’ profiles as defined in the document “Towards a European Framework for Research Careers”

- interdisciplinary mobility: mobility across research fields;
- intersectoral mobility: mobility across academia and industry, private and public sectors;
- inter-institutional mobility: physical mobility between institutions;
- virtual mobility: collaboration demonstrated by outcome parameters, e.g. co-publication;
- mobility schemes including short-term visits and combined/part-time positions.

Although several schemes have been developed both at national as well as at EU level (ERASMUS MUNDUS, STF Programme, Marie Curie Actions - IOF, IIF, IAPP, ITN, IRSES -, ERC) there is still a lack of interest towards the BRIC countries from the researchers' side.

All the efforts to promote researchers' mobility, in particular with the BRIC countries, risk falling short of their target without serious and consistent efforts to remove the well known obstacles still hindering the free movement of human resources for research: fully open recruitment, transparent and attractive working conditions (including social security), attractive career projects and equal opportunities from all points of view.

### **Next steps**

The workshop contributed to the exchange of best practices between stakeholders and brought new ideas on how to develop concrete measures to increase the mobility between Europe and the BRIC countries. The outcome will provide input to the thinking for Horizon 2020 and will contribute to SFIC's pilot initiatives towards China and India as well as to the international dimension of the SGHRM work.

All power point presentations given during the workshop can be downloaded on: <http://www.eurosfair.prd.fr/news/consulter.php?id=6953>

## Recommendations

*Mobility is not an aim in itself, but a mean to stimulate the excellence of the ERA research, higher education and innovation system. Trust and recognition of each other's qualities are a main driver for cooperation.*

*Mobility should not be considered as a risk but as an opportunity.*

1. **Stimulate mobility in higher education**
2. **Raise awareness about and promote mobility opportunities to Europe and to third countries**
  - Raise national awareness of the importance of strategic approaches also in mobility schemes
  - Promote the excellent scientific profile of European higher education and/or research institutions (international research units);
  - Make European researchers aware of the excellent research in BRIC countries (short-term visit programmes, summer schools, bilateral workshops...);
  - Use national networks and sectoral organisations to attract BRIC researchers;
  - Enhance scientific collaborations with returnees through networks (alumni...) and make the BRIC researchers to ambassadors for the European Research Area;
  - Improve the participation of researchers from BRIC countries in Marie Curie Actions and ERC by disseminating information on these programmes in the BRIC countries (e.g. NCPs, Delegation of the EU to Brazil, Russia, India, China, Science counsellors of the EU Member States in the BRIC countries);
  - Promote EU instruments (Marie Curie Actions and ERC) among European researchers cooperating with BRIC countries but who are not always aware of existing possibilities;
  - Take the opportunity of BRIC countries mobility schemes (Science without Borders in Brazil, Megagrants in Russia, 1000 Talents in China, etc.) for foreign researchers.
3. **Support different international mobility schemes:** interdisciplinary mobility; intersectoral mobility; inter-institutional mobility; virtual mobility; short-term/long-term mobility; combined/part-time positions.

*Bottlenecks are still funding, visa, accommodation as well as long-term mobility, life-cycle dependent mobility.*

4. **EU and Member States should support higher education and research institutions in improving researchers' working conditions in Europe.** They should make career paths and framework conditions in national research and innovation systems more attractive for third country researchers by e.g. :

- Implementing courses in English for students in European universities;
  - Establish bilateral or multilateral sustainable and targeted cooperation programmes and funding opportunities;
  - Combine EURAXESS services and establishment services on national level (pre-arrival survival guides, information sessions, e-mail list...) with information on social security issues, visa, accommodation, insurance, etc.);
  - Offer combined/part-time positions to excellent researchers from BRIC countries in Europe;
  - Offer knowledge and skill transfer (e.g. teaching) and career prospects in the universities or in the industry.
5. **EU and Member States should jointly contribute to improve framework conditions for European researchers in BRIC countries.** They would profit from having a joint European approach in negotiations with third countries to overcome remaining bottlenecks inhibiting outgoing mobility towards these countries.
- Use the frame of strategic partnerships, e.g. the people-to-people dialogue between EU and China on researchers;
  - Develop the recognition of European diplomas and titles in the BRIC countries;
  - Enhance the participation of European researchers to international projects, especially projects with key countries like BRIC countries;
  - Offer a welcome package (visa, accommodation, family, return perspectives);
  - Use the European presence in BRIC countries (Delegation of the EU, European Chamber of Commerce, etc.) to build cooperation;
  - Use the European-BRIC higher education establishments, joint labs and infrastructures as hubs to welcome European researchers in BRIC countries; develop and deepen the INCO-LAB projects;
  - Strengthen the ties with European companies established in BRIC countries.

## 1. State-of-play on incoming and outgoing mobility between Europe and Brazil, Russia, India and China

**EU and Member States commit in the Innovation Union (commitment 30) to put in place policies to attract and keep highly skilled scientists in Europe.** The recent consultation for the ERA framework showed that efforts are still needed in many areas: open and transparent recruitment procedures, better access to funding (restrictive nationality or residence related criteria), career prospects, gender equality, modernised researcher training and integration of scientists in non academic sectors.

### 1.1. EU schemes and actions

The **Human Resources Strategy for Researchers** supports institutions in using the European charter of researchers and the code of conduct for their recruitment. The human resources strategy for researchers is on the one hand a contribution to improving the working conditions of researchers and on the other, monitoring the implementation of its recommendations.

Two studies on mobility have been launched by the Commission:

- **MORE I:** a pilot survey of EU-US mobility (push and pull factors for mobility), comparison of EU and US research environments in terms of attractiveness;
- **MORE II:** a survey of researchers including BRIC countries launched in 2012.<sup>5</sup>

The **SGHRM** contributed to the definition of the human resources strategy for researchers and now focuses on doctoral training, social security (work together in EPSCO), research career structure (working group “skills”), open access, portability of grants and recruitment in public research institutions. The SGHRM also has a special permanent working group on monitoring and indicators and three other working groups: 1. national strategies for researchers’ training, 2. alignment of human resources policies with principles of Charter and Code in national Member States and Associated Countries organisations, 3. portability of grants and open access.

**EURAXESS** develops services for European and third country researchers:

- EURAXESS RIGHTS aims at better employment and working conditions for researchers throughout Europe, thereby helping to enhance the attractiveness of European research careers. One of the cornerstones of EURAXESS Rights is the implementation of the European charter for researchers and the code of conduct for the recruitment of researchers, guided by the Human Resources Strategy for Researchers.
- EURAXESS JOBS: publication of job advertisements for researchers in Europe, researchers CV data bank;

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<sup>5</sup> <http://www.more-2.eu/>

- EURAXESS SERVICES: more than 200 mobility centres across Europe to welcome foreign researchers (visa, social security, language course, school for children, residence issues...) and national web portals;
- EURAXESS LINKS link European researchers abroad in the USA, in Japan, China, India and Singapore (in 2013 for South-Eastern Asia).

The **Marie Curie Actions** encourage researchers' mobility. Since 1996 60 000 Marie Curie fellowships were attributed for researchers' mobility and training as well as career development.

The Marie Curie Actions include important subprogrammes:

- Individual grants for outgoing and incoming mobility for a maximum of 24 months on salary basis
  - Intra European Fellowships (IEF),
  - International Outgoing Fellowships (IOF) for researchers living in a EU Member State or an associate country and coming back after a fixed period,
  - International Incoming Fellowships (IIF) for researchers from third countries coming to the ERA,
- Career Integration Grants (CIG) to encourage experienced researchers to settle/return to Europe (long-term, up to 48 months),
- International Research Staff Exchange Scheme (IRSES) based on institutional agreements and flat-rate basis contribute to staff exchange scheme fostering collaboration between research institutions based in Europe and in third countries,
- Initial Training Networks (ITN) provide training opportunities for early-stage researchers usually provided by a network of universities, businesses and research institutes; these networks can take the form of multi-partner ITN, European Industrial Doctorates or Innovative Doctoral Programmes,
- Industry Academia Partnerships and Pathways (IAPP) promote partnership and collaboration between business and academia,
- COFUND co-funds regional, national or international programmes (40% of the costs up to 10 M€).

Marie Curie Actions are bottom-up and do not set a focus on geographic regions. Horizon 2020 should continue the actions on initial training, cross-border and cross-sectoral mobility, cross-fertilisation of knowledge and co-funding.

### *Marie Curie Actions - Figures*

More than 10 000 PhDs were supported in FP7, including 38% women (target 40%) and about 130 nationalities. 35% of the candidates are in life sciences, 13% in ICT and engineering. Fellows are going to more than 80 different countries. Main Member States destinations in Europe in Marie Curie Actions are United Kingdom by far, with Germany, France, Spain following. Most of the European researchers stay in Europe.

176 Marie Curie Actions have a Chinese partner, 114 a Brazilian one, 108 a Russian and 55 an Indian. The IRSES action is more internationalised with 16 % hosts in BRIC countries (no host institution in China). Top third countries are China (138 partners for 10,8 M€), USA, Brazil (109 for 6,3 M€), Russia (82 for 4,9 M€) and India (36 for 1,7 M€). The top five nationalities of the funded fellows in all MCAs are Indian (613), Chinese (467), American, Russian (293) and further the Brazilian (73). BRIC countries are not that popular for the international individual fellowships, particularly for the IOF (1,3%, or 2 host institutions in India, 2 in Russia, 2 in Brazil, 2 in China).

In view of the reduced funding opportunities for BRIC countries under Horizon 2020, the EU Delegations in India and China decided to work on reciprocal mobility. The EU Delegation in China organised a dedicated workshop in Peking by the end of 2011, and also supports the re-launch of the STF programme (S&T fellowship)<sup>6</sup>. The delegation will organise a new workshop in November 2012, with a significant emphasis on this matter. A new S&T fellowship scheme dedicated to China and India will be launched in 2013 by the DG DEVCO with the aim to increase the mobility of European researchers towards these two countries.

**The European Research Council (ERC)** does not have any specific mobility objective (no nationality criteria) when it selects starting and advanced grantees, but funds excellent research to take place in Europe. Advanced grantees receive up to 3,5 M€. The success rates for these grants are between 10 and 15 % and around 36 % for proof of concept. Grantees can retain their part time positions abroad. Each ERC grantee recruits around 6 people – PhD candidates and post-doctorates. Around 3000 PhD people coming from non-ERA countries (China, USA, India, Russia) have been recruited in this way. An ERC grantee can also work partially with researchers living outside the ERA. Peer reviewers also come from outside ERA.

### *ERC figures*

8% of submitted proposals are deposited by candidates with non-ERA nationality.

Candidates living in non-ERA countries (just over 6%) come from the USA, Australia, Russia and Canada, but they are mainly ERA nationals residing in non-ERA countries.

3 researchers from Russia have an ERC advanced grant, but no one from China, India or Brazil.

9 researchers from Russia received an ERC starting grant, 7 from India and 4 from China.

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<sup>6</sup> <http://www.euchinastf.eu/>

The ERC conducts promotion campaigns in non-ERA countries to make them aware of the ERC grants. In 2012 promotion campaigns are scheduled in Russia, Brazil and Chile, for 2013 in China and India. One of the reasons for the low interest in ERC grants in the BRIC countries is that they don't match with the third countries needs to develop their national R&I systems at home.

The main contribution from ERC to the ERA is a benchmark for research policies (strategies and objectives, funding instruments, administration recognition: alignments with ERC practice) to improve attractiveness of Europe and make the excellent research in Europe visible. Some countries in Europe have reformed their research system to align them to the ERC procedures. The presence of 7 ERC grantees in Poland might have a great impact on the Polish research. Mobility is not an objective for the ERC, but the selection of more and more non-ERA candidates is a sign of the ERA's attractiveness.

### 1.2. Member States and Associated Countries examples

In **France Agreenium** represents a legal entity linking higher education (engineering schools) and research institutions<sup>7</sup> in the agrosience sector. The objective is to reorganise the agrosience sector to foster international ambitions and internationalise a scientific sector where France is excellent, but not sufficient internationalised. Agreenium is mandated to create synergies between research and higher education in related fields (agriculture, food, animal health, environment) in France and to increase the capacity for innovation and knowledge transfer so that France can better face global challenges like food security and sustainable agriculture. It contributes to internationalisation and visibility of French research in agricultural sciences around the world. Agreenium represents its members at international level (present in more than 50 countries) and by pooling expertise and managing a large number of cooperation agreements. Agreenium has a great potential to be a unique gateway to enter the French system of agro related education and research.

Agreenium actively supports ingoing mobility from BRIC countries, especially Brazil and China. Outgoing mobility is mostly towards Brazil. The ingoing mobility of researchers from BRIC countries is relevant:

- 90 researchers came from Brazil in 2010 and 80 in 2011. Brazil was strong expert in agriculture country and France and Brazil have been collaborating a long time,
- 80 researchers came from China in 2010 and 75 in 2011,
- 20 researchers came from Russia in each year,
- 37 researchers came from India in 2010 and 28 in 2011.

The outgoing mobility for periods longer than two months to the BRIC countries is very low not counting Brazil where CIRAD researchers work permanently.

Agreenium has two priority programmes:

- The young researcher mobility programme "AgreenSkills" co-funded by the European Commission through the Marie Curie Action COFUND. It organises ingoing and

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<sup>7</sup> Research organisations INRA, CIRAD and four agricultural / veterinary "grandes écoles" and universities: AgroParisTech, Montpellier SupAgro, Agrocampus Ouest, National Polytechnic Institute of Toulouse.

outgoing mobility of young researchers to France from 6 to 12 months for outgoing fellows and from 12 to 24 months for fellows coming to France. It targets all countries in the world, but BRIC researchers are specifically good candidates for this programme. The research projects should tackle global challenges and each young researcher receives a salary (+ 60 % than traditional salaries in France), training, coaching for career path and integration in a young researcher network. The first call was launched on 15 June 2012 and a second one should be launched in autumn 2012.

- An International Research School with specific courses focussing on new skills (societal issues, frontier of science, internationalisation, international agricultural system and actors) to stimulate international employability and international mobility of PhD candidates: PhD candidates have to write a PhD project, to participate in two residential workshops (one of them about international research and innovation system, controversies, governmental and non governmental actors...) and to attend courses. This internationalisation of the programme contributes to attract PhD candidates from BRIC countries.

**The Norwegian « Professor 2 » scheme** is a well-established example of a combined/part-time position scheme. Typically, employees in industry, hospitals, etc. may have a +20% “professor 2” position at a university as add-on to their main position – financed by both employers. A full professor also may have a 20% position at another university, either in same or a different field, i.e. across institutions, disciplines, sectors and countries. The “professor 2” position may be permanent and linked to a main position (e.g. for consultants in hospitals, the candidates being simultaneously evaluated for both positions). It may also be personal (linked to the person regardless of change of main position), permanent or time limited (e.g. 4 years), established upon personal invitation, or by open call.

This scheme is very effective because knowledge transfer, networking, teaching and research collaboration is proven, it offers flexible time-bank-based part-time positions attract front-line researchers who want to collaborate, but don't want to leave their main position or family for a longer period. The Norwegian Centres of Excellence can in this way attract top researchers for long-term collaboration beyond single project duration. Furthermore these long-term and part-time collaborations contribute to facilitate researcher exchange and increasing cooperation between the institutions involved.

The concept of combined/part-time cross-sectoral/-disciplinary/-national researcher grants is included in the Commission's proposal for Horizon2020 (e.g. COM(2011) 809 final 2011/0401(COD) p. 37-38). It might contribute to the implementation of the Commission-proposed “ERA Chairs” (attracting excellent researchers part-time to build scientific quality in low-performing institutions).

## 2. Destination Europe: Overcome bottlenecks in Europe-China/India/Brazil/Russia researchers' mobility

Overcoming bottlenecks in BRIC–Europe researchers' mobility can be done approaching the challenge from very different angles. Creating the right eco-system for excellent research, fostering sustainable research cooperation, attracting talented students and researchers and their families are key issues.

The Westfälische Wilhelms-University (WWU) Münster in Germany and the University of Turku in Finland illustrated their strategy and how European institutions should develop and implement an attractive environment to attract foreign researchers. Each higher education and/or research institution should indeed develop a strategy to attract foreign researchers.

Since 2010 the **University of Turku in Finland** has a strategy and action plan supporting internationalisation. While the university managed well with students it became evident that there was a need to enhance the services dedicated to researchers, especially to create dedicated international welcome services. These include information, advice and assistance (pre-arrival survival guides, information sessions, e-mail list...) covering social security issues for the researchers and family members, accommodation, insurance matters, etc. For the organisers of these services it became clear that success lies in collaboration and coordination of many different services with graduate schools and different faculties but also external services such as those responsible for visas for incoming researchers. However the results are rewarding not only for the researchers and their families but also for the university. For example recruitment processes have become more transparent; cooperation with local authorities and between faculties has intensified, and integration is much smoother.

The **WWU Münster in Germany** provides an attractive environment with its strong interdisciplinary focus on research and education. It offers:

- Large funding opportunities with numerous grants, positions and new collaborative opportunities,
- Future career prospects in industry-related research and positions in industry are particularly attractive features for Asian [Chinese] researchers who expect the university to take care of their career advancement,
- Knowledge and skill transfer (e.g. teaching skill) to complement the training for PhD candidates in WWU Graduate Centre,
- Numerous successful research cooperation activities based on strong institutional links in a wide range of areas. The many different cooperation patterns from cluster cooperation to international graduate schools (e.g. Münster-Hyderabad in biology), or joint research centres where bottom-up cooperation can flourish,
- A welcome centre “Die Brücke” [Bridge].

The **Research Council of Norway** conducts specific actions related to India:

- Large scale programmes, excellent research centres, and funding opportunities are the relevant basis for international cooperation;

- Earmarked funding is available for Indian researchers, and so are scholarships, matching funds or co-funded programmes in a wide range of areas agreed by a joint working group (DST-Norwegian ministry) such as health, climate change, energy, environment and water. In order to stimulate cooperation in the area of social sciences unilateral funding was made available from Norway;
- Jointly organised workshops which provide arenas for people-to-people contact are the best way for initiating cooperative projects. Coordinated peer review is another form stimulating people-to-people contact as well as reducing the administrative burden.

The positive impact of increased Norwegian-Indian cooperation is already evident when one analyses the number of co-publications, the many new research fields which did not exist in 2005 and the many cooperative links which now exist between the centres of excellence in Norway and the top institutions in India.

A positive spin-off effect of the increased Norway-India cooperation is the opening up of the bilateral cooperation to the participation of other European researchers. Norway has, as a pilot, opened a call with India to researchers from Germany as long as Germany provides the funds. The latter is part of the SFIC EU/Member States-India Pilot Initiative.

In general the **integration of researchers** from Russia, India, China or Brazil is very important and different measures can help to overcome integration difficulties (language barriers...):

- participation to networks (alumni....) (e.g. GAIN, Humboldt Foundation, DAAD for German organisations; EUA for good practices exchanges between European universities; China-NRW alliance, WWU Centre for Brazil, International Research Universities Network);
- master classes and PhD sandwich programmes;
- international welcome centres;
- international research units (research cluster, international graduate schools) settled in BRIC countries or virtual joint labs;
- recruitment and advertisement on spot (e.g. Nature jobs...), etc.;
- training courses in BRIC universities (e.g. WWU in Russian universities);
- PhD courses for 4 years to Indian candidates (e.g. 1 year adaption + 3 years for PhD in Europe);
- specific mobility programmes (e.g. “New Passage to India”);
- combined positions (part-time positions in two countries) to build trusting relationships with foreign researchers coming to Europe and going back home.

The European countries should take the opportunity offered by **mobility programmes developed by the BRIC countries** themselves. For instance Brazil has launched the “Science without borders” programme which is above all a political recognition of the need to open a so far closed economy. The expectations are to encourage the mobility of 100.000 Brazilian undergraduate students in S&T, PhD candidates and researchers. The programme will cover

all expenses but students and researchers need to know where to go. Europe should take benefit from this and complement it by sending its researchers to Brazil to establish networks. BRIC students and researchers coming back home might be ambassadors for European research and innovation in their country.

In Brazil all cooperation happens bottom up. The Brazilian students are submitted to a very strict selection, but they are very interested in studying in and cooperating with Europe. The right strategy vis-à-vis Brazil is to establish strong institutional links to recruit the best students from there. Language issues should not be neglected: the fact that English is not a common language throughout Europe can be considered as hampering the cooperation.

Bottom up collaborations and bilateral exchanges are the best solution with Russia. The strategy for India should focus on PhDs. With China, long-term, strong and sustainable collaborations should be established in order to organise long-term student exchanges.

### **3. Destination Brazil, Russia, India and China - Overcome bottlenecks in BRIC-Europe researchers' mobility**

Europe needs to look forward and plan according to what China, India, Brazil and Russia are becoming not what they were. Each emerging country has a great potential for economic growth and also a positive dynamic in STI. Most European researchers, for instance, actually do not know China and the Chinese research and innovation excellence, therefore bottom-up contacts don't work. There is a need to make the opportunities more visible in Europe.

A driving factor for going international is the need to do research on a global scale for some themes. European researchers need to work with foreign researchers to tackle global challenges. Russia for example has excellence in space and climate R&I which is very attractive.

Small European countries often need to recruit foreign researchers to support their R&I environment.

#### **Bottlenecks in Europe for outgoing mobility of European researchers:**

- The first one might be the lack of motivation to move outside Europe. The opportunities in Europe to work in R&I are still good (facilities, funding, working conditions) and therefore the motivations to go abroad diminish. European research is often perceived as the most excellent and the opportunities offered in third countries are not truly recognised. The fact that other countries have their own agendas with their expertise which Europeans can learn from is often forgotten.
- European and BRIC countries don't have many joint infrastructures and European researchers are concerned about the possible lack of researchers in the BRIC labs and missing guarantees for a balanced share of IPR. But a clearer difference should be made between the perceived risk and the actual risk.
- European researchers often don't stay long enough in the BRIC countries to establish long lasting networks. They prefer short term mobility, especially to China.

### **Bottlenecks in the BRIC countries for incoming European researchers:**

- One of the problems with going to Brazil is the cost of a professional visa which can reach 60 000 Euros. However, when working in research with a tourist visa, the researchers have very little influence on IPR matters. A common platform might facilitate such administrative issues. Visa issues are also a concern for mobility to China;
- European diplomas and titles should be recognized by BRIC countries. In Brazil for instance, diplomas are recognised by each university and not by the Ministry of education;
- Low salaries in some BRIC countries like China;
- Cultural differences, above all with China;
- A major problem is legal instability and corruption which requires the presence of lawyers to follow bigger collaboration projects to make sure no mistakes are made. It is important to make sure the counterpart speaks reasonable English;
- Existing programmes are not adapted to all researchers, they mostly target early-stage researchers rather than advanced researchers.

Various mechanisms for mobility co-operation exist: the university consortium on research networks, the Sino-Danish Centre for Education and Research and a VTT industry centre based in Brazil. Each of them follows a strategic approach with their respective BRIC partners. The selection of research priorities was made jointly. Visibility, institutional or national level support and a collective approach were key elements. Poland intends to increase the budget of universities that develop international cooperation activities and would also like to introduce incentives for PhD candidates to go abroad.

### **4. How to improve incoming and outgoing mobility between the BRICs and Europe: concrete measures?**

The EU and Member States have to develop a common and coordinated approach to make mobility an opportunity and not a risk for European researchers going to the BRIC countries or the researchers from the BRIC countries coming to Europe.

The main challenges are still

- long-term mobility (short-term works much better);
- senior researcher mobility;
- interdependence of mobility and family life;
- a perceived gap in funding systems for mobility in applied research.

Euraxess services are established and appreciated but are still underused and relatively unknown. But the right support services can help to minimise the burdens of mobility and allow the researcher to get on with the job smoothly.

Building trust in the quality of the third country R&I systems is still a challenge to be achieved. Many Europeans still need to step above the historical context.

General solutions could be:

### **1. Joint EU and MS actions to improve the framework conditions for European researchers in BRIC countries**

- Use the frame of existing strategic partnerships, e.g. the people-to-people dialogue between EU and China on researchers.
- Create a critical mass from the European side for the dialogue on framework conditions with the BRIC countries, e.g. consortia support gives visibility (e.g. 4 Alianza Universidades in Spain). Third countries like to engage with a group of institutions in Europe – this offers more possibilities for their researchers.
- Jointly develop solutions on visa, tax, social security, pensions and funding for European researchers in third countries.

### **2. Raise the awareness about opportunities**

- Collect and disseminate the experience of Europeans in the BRIC countries for the same purpose (testimonials).
- Develop short-term visit programmes and exchanges (e.g. IRSES) to increase the knowledge about the BRIC R&I system and to share it with colleagues in Europe.
- Promote mobility to BRIC countries early on in the educational paths (higher education systems special points).
- Explore locations different from Beijing, Shanghai and Guangzhou in China.

### **3. Make better use the opportunity that the BRIC countries want to develop their own technologies at home to mobilise European researchers**

### **4. Encourage outgoing mobility**

- Identify strategic collaboration opportunities in knowledge transfer and technological development through EU Trade Office/Chamber of Commerce
- Use the joint European-BRIC higher education establishments (e.g. Sino-Danish Centre for Education and Research) and labs (around 75 in China; Norwegian research centres in Russia, India, VTT research laboratory in Brazil, etc.). The European opening of European-BRIC labs (cf. INCO-LAB<sup>8</sup>) is a model for the future.
  - as receiving hubs
    - in the frame of joint thematic long-term research programmes,

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<sup>8</sup> INDO-MARECLIM (Norway-India), EuRuCAS (Norway-Russia), Climamazon (France-Brazil), Immunocan (France-China). Other projects are funded with the USA and Japan.

- in cooperation in jointly funded research projects,
- for PhD candidates and fellowship programmes,
- in summer schools for recruitment and networking,
- with common research infrastructures, administrative support and information sharing (visa, accommodation and host);
- as partners in European networks (between joint structures and their researchers, alumni) in the BRIC countries.

Joint structures should take into account following:

- there should be an agreement with the local partner about what to do, what not to do and how to do it;
  - the joint lab should be funded;
  - the legal status of the joint lab should be secured;
  - the personal exchanges should be secured (cf. salaries differentiation);
  - incentives should be offered to European researchers for longer to stays in BRIC countries.
- Enhance the participation of European researchers in international projects, especially projects with key countries like the BRIC countries;
  - Select excellent researchers for outgoing mobility to the BRIC countries
    - Explore for instance the opportunity given with the creation of 23 technology centres in Brazil in 2012 (e.g. centre for nanotechnology).
  - Facilitate and encourage long-term visits (e.g. former STF programme at EU level);
  - Associate industry more strongly to counterbalance the situation where Brazil for instance has some strong industries associated to their programme and R&I in general
  - Implement EU targeted funding and flexible schemes for bilateral programs/projects with European and BRIC universities and institutes
    - Joint PhD programmes to be developed further at EU level;
    - Tailor Horizon 2020 to achieve the EU's overall incoming and outgoing researchers' mobility objectives through mobility schemes that are clear, transparent and simple to use, particularly with the BRIC countries.
  - Better promote EURAXESS services.

**5. Support for career development of researchers.** Difficulties of senior mobility can be overcome with the right mix of incentives (adequate funding and working conditions, adequate valorisation of the mobility experience, sabbaticals for study leave, co-publications, impact factor). Universities, research organisations, industries and potential employers have a key role to play in facilitating the maintenance of research career paths at national level when mobility takes place.

**6. The BRIC countries should be encouraged to develop “reception” instruments still to facilitate the “landing” of foreign researchers:**

- language courses,
- more transparency (e.g. Chinese programmes),
- higher salaries for instance in China.

Europe should also take advantage of new BRIC schemes for mobility which provide many opportunities for collaboration. Programmes like “Science without borders” in Brazil, “Megagrants” in Russia or “1000 talents” in China are good models.

Finally, not only Brazil, Russia, India and China should be taken into account, but also **South Africa** because it has a huge growth potential and culture and English language make relationships easier than with the other BRICS countries.

**Annex: Workshop program**

**Workshop on improving the mobility of researchers between Europe and BRIC countries**

**Co-organised by**

**Strategic Forum for International Science and Technology Cooperation (SFIC) & Steering Group on Human Resources and Mobility (SGHRM)**

**Brussels, 12 June 2012**

**Venue: French Permanent Representation to the EU, Place de Louvain 14**

**PROGRAMME**

- 8:30 - 9:00** Registration and coffee
- 9:00 – 9:10** **Welcome**  
Mr. Eric-Olivier Pallu, Science Counsellor in the French Permanent Representation to the EU
- 9:10 – 9:50** **SFIC and SGHRM Presentations**  
Mr. Hans Borchgrevink, Research Council of Norway, SGHRM delegate  
Ms. Florence Lelait, French Ministry of higher education and research, SFIC delegate

<b>SESSION 1</b>	<b>State-of-play on incoming and outgoing mobility between Europe and China, India, Brazil and Russia</b>
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*Moderator: Ms. Karen Haegemans, Department Economy, Science and Innovation (Belgium/Flanders), SGHRM delegate*

*Rapporteur: Mr. Svend Otto Remøe, Research Council of Norway, SFIC delegate*

- 9:50 – 10:05** Ms. Dagmar Meyer, Unit “Skills”, DG R&I: Attractive researcher careers for mobile minds in partnership with Member States

10:05 – 10:20	Mr. Bodo Richter, Unit “People Programme; "Marie Curie Actions”, DG EAC: The role of Marie Curie Actions in making Europe more attractive
10:20 – 10:40	Mr. Benjamin Turner, ERCEA: ERC perspective on improving Europe's attractiveness for the world's best researchers
10:40 – 11:00	Mr. Stéphane Guilbert, Agreenium: Linking high education and research to promote young researchers international mobility in agrosiences
11:00-11:20	Discussion
11:20-11:30	COFFEE BREAK

<b>SESSION 2</b>	<b>Destination Europe: Overcome bottlenecks in Europe-China/India/Brazil/Russia researchers' mobility</b>
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*Moderator: Ms. Florence Lelait, French Ministry of higher education and research, SFIC delegate*

*Rapporteur: Ms. Sieglinde Gruber, Unit « North America, Latin America and Carribean », DG R&I, SFIC delegate*

**11:30 – 13:00      Roundtable: Identifying challenges (legal, administrative, social, cultural and linguistic) and best solutions**

Mr. Hans Borchgrevink, Research Council of Norway, SGHRM delegate

Ms. Cornelia Denz, University of Münster

Ms. Eeva Schoultz, University of Turku

**13:00-14:30      LUNCH BREAK (free)**

<b>SESSION 3</b>	<b>Destination China, India, Brazil and Russia - Overcome bottlenecks in BRIC-Europe researchers' mobility</b>
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*Moderator: Are Straume, Special Adviser at the Danish Agency for Science, Technology and Innovation, SFIC delegate*

*Rapporteur: Sofie Norager, DG RTD*

**14:30 – 16:00**      **Roundtable: Identifying challenges (legal, administrative, social, cultural and linguistic) and best solutions**

Mr. Angel Landabaso Alvarez, Science counsellor in the EU Delegation in Brazil

Mr. Mateusz Gaczyński, Polish Ministry of Science and Higher Education, Department of Strategy

Ms. Jessica Mitchell, Delegation of the EU in China

Mr. Stein Sandven, Nansen Environmental and Remote Sensing Centre (NERSC)

**16:00-16:15**      COFFEE BREAK

<b>SESSION 4</b>	<b>How to improve incoming and outgoing mobility between BRIC and Europe: concrete measures</b>
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*Moderator: Mr. Hans Borchgrevink, Research Council of Norway, SGHRM delegate*

*Rapporteur: Ms. Jessica Mitchell, Delegation of the European Union to China*

**16:15 – 17:30**      **Roundtable: Identify new opportunities and involving industry, valorise mobility in the career path**

Ms. Olga Belova, 4 Alianza Universities

Ms. Christina Bording, Danish Agency for Universities and Internationalisation

Ms. Kitty Fehringer, EURAXESS Service Network, DG RTD

Mr. Frederico Miranda, DG EAC, Industry-Academia Partnerships and Pathways (IAPP) and Initial Training Networks (ITN)

Mr. Matti Siika-aho, VTT Technical Research Centre of Finland

**17:30 - 18:00**

**Concluding remarks**

Mr. Hans Borchgrevink, SGHRM delegate

Ms. Florence Lelait, SFIC delegate

## Annex: Participants of the workshop

Last name	First name	Country	Institution
Angelier	Clarisse	France	ANRT
Barrionuevo	Marta	Spain	Instituto de Salud Carlos III
Belova	Olga	Spain	Alianza 4 Universidades (consortium of four Spanish universities)
Bernal Carrera	Rosa	France	Institut de Physique du Globe de Paris
Bernarding	Claudia	Germany	International Bureau of BMBF at DLR
Bettini	Stefania	Belgium	European Commission
Borchgrevink	Hans M	Norway	The Research Council of Norway (RCN)
Bording	Christina	Denmark	Danish Ministry of Science, Innovation and Higher
Borral	Carolina		
Brabnikova	Sarka	Czech Republic	Permanent Representation of the Czech Republic to
Bruun	Christian	Denmark	Danish Agency for Science, Technology and Innovati
Burger	Susanne	Germany	Permanent Representation of Germany to the EU
Burger	Richard	European Commission	European Commission
Cambra	Michèle	France	Université Paris Descartes
Candela	Milagros	Spain	Permanent Representation of Spain to the EU
Carrero	Almudena	Spain	European Office-MINECO
Certuche	Paula	Spain	GENETRIX
Chaboud	Corentin	France	INSERM
Chicharro	Xavier	Spain	FECT
Denz	Cornelia	Germany	Westfälische Wilhelms-Universität Münster
Eeckhout	Xavier	Spain	Fundación Española para la Ciencia y la Tecnología
Fehringer	Kitty	European Commission	European Commission
Fernandez	Sébastien	France	ParisTech
Ferran Guijarro	Aimar	Belgium	Council of the EU - SFIC Secretariat
Foss	Yngve Joseph	Norway	Research Council Norway
Gaczynski	Mateusz	Poland	Ministry of Science and Higher Education
Gruber	Sieglinde	Belgium	European Commission
Guilbert	Stéphane	France	Agreenium
Haegemans	Karen	Belgium	Flemish government

Heijs	Francisca	Netherlands	Permanent Representation
Heikkinen	Erja	Finland	Ministry of Education and Culture
HUON	Jean-François	France	French Rectors' Conference
Jacopin	Tanguy	Spain	Global born
Jensen	Joost	Belgium	European Commission
Kadastik	Ene	Estonia	Permanent Representation of Estonia to the EU
Keskeš	Alan	Croatia	Agency for Mobility and EU Programmes
Kulta	Emmi	Finland	Finnish Liaison Office for EU R&D
Landabaso	Angel	EU	EU Science Counsellor in Brazil
Law	Cathryn	UK	Department for Business Innovation & Skills (BIS)
Lelait	Florence	France	Ministry of Higher Education and Research
Lopez	Javier	Spain	Universidad Politecnica de Madrid
Marin	Laura	EU	European Science Foundation
Martinez-Cebrian	Asuncion	Spain	UNIVERSIDAD AUTÓNOMA DE MADRID
Menezes de Sequeira	Maria Joao	Portugal	FOUNDATION FOR SCIENCE AND TECHNOLOGY
Merias	Célia	France	Université de Savoie
Meyer	Dagmar	Belgium	European Commission, DG RTD
Mihail	Iulia	Romania	National Authority for Scientific Research - ANCS
Mirala	Petri	Finland	Academy of Finland
Miranda	Frederico	Belgium	European Commission
Mitchell	Jessica	EU	EU Delegation Beijing
Moruzzi	Mauro	Switzerland	State Secretariat for Education and Research
Nieto	Ana	EU	European Commission
Norager	Sofie	Belgium	European Commission
Pedersen	Christina		
Remoe	Svend	Norway	Research Council of Norway
Richter	Bodo	EU	European Commission
Raim	Toivo	Estonia	Ministry of Education and Research
Sakellariou	Efthymios	Greece	Permanent Representation of Greece to the EU
Sandven	Stein	Norway	Nansen Environmental and Remote Sensing Centre
Schoultz	Eeva	Finland	University of Turku
Siika-aho	Matti	Finland	VTT

Stareva	Mina	BE	European Commission, DG RTD, Unit B1 ERA Policy
Straume	Are	Denmark	Danish Ministry of Science, Innovation and Higher
Thivolle	jean-Claude	Commission	DG RTD - Dir. International Cooperation - D1
Truco	Marta	Spain	Alianza 4 Universidades
Turner	Benjamin	UK	ERC
van der Hijden	Peter	EU	European Commission
Van Hoed	Miriam	Belgium	IDEA Consult
Vanholsbeeck	Marc	Belgium	Ministry of the Wallonia-Brussels Federation
Vercko	Radojka	Slovenia	Ministry of Education, Science, Culture, Sports
Vossen	Paul	Belgium	European Commission (Research and Innovation DG)
Wilmet	Sara	Belgium	UCL