



## Enhancing the bilateral S&T Partnership with the Russian Federation

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## Abstract

The goal of the deliverable is to develop a potential joint EU-Russian agenda for enhancing scientific mobility including in close interaction with the recently established EU-Russian Working Group on Researcher Mobility to be presented as analytical report to the relevant stakeholders in the Member States, the European Commission and Russia. This includes the identification of links and synergies between the international dimension of the FP7 Specific Programme 'People' and respective Russian instruments.

A short version of the draft report was disseminated and discussed on occasion of an international workshop with participation of EU and Russian stakeholders from government, academic, industry, and funding institutions that took place on 25 October 2011 in Moscow.

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## Executive Summary

The deliverable focuses on the analysis of existing instruments of inward and outward mobility programmes between Russia and the EU (offered by Member States, the Community and Russia). It also takes into account the present state of activities and the development of proposals for enhanced future EU-Russia cooperation in researcher mobility.

The present analytical report (D2.3) contains recommendations for a potential joint EU-Russian agenda for enhancing scientific mobility prepared in interaction with the recently established (in June 2011) EU-Russia Working Group on Researcher Mobility. The report includes the identification of links and synergies between the international dimension of the FP7 Specific Programme ‘People’ and respective Russian instruments. Key elements of the report have been introduced to the EU and Russian stakeholders from scientific organisations, industry, policy and funding institutions at the **Workshop “Russia-EU Cooperation in Academic Mobility”** on 25 October 2011 in the framework of International Conference “International Cooperation in Education and Science” that took place on 25-26 October, 2011 at the National Research University “Higher School of Economics” (HSE), Moscow, Russia. The workshop was organised by the HSE and the Ministry of Education and Science of the Russian Federation under support of 7FP BILAT-RUS project, sponsored by the European Commission.

The mobility **Workshop** was organised in close cooperation with the EC Directorate for Education and Culture and with the Russian co-chair of the EU-Russia Researcher Mobility Working Group. The aim of the workshop was to discuss and analyse the present state of activities, problems and prospect for cooperation in the field of academic exchange, and to make suggestions for a potential joint EU-Russian agenda for enhancing scientific mobility. The programme and brief presentations made by the workshop’s speakers are posted on the following web-sites:

<http://www.bilat-rus.eu/en/163.php>; <http://fp7.hse.ru/mobility/news/37376410.html>.

The second day of the Conference “Academic Mobility in Russian Universities” has been devoted to the exchange of experience by leading Russian universities (National Research Universities and Federal Universities) on the practical realisation of instruments existing in Russia to support international academic mobility (Mega-grants, etc.)

The deliverable has been achieved within the BILAT-RUS Task 2.2 “Knowledge base on Mobility” of the Work package 2 “Optimizing the framework and instruments for enhanced future cooperation in S&T and innovation”. The presented deliverable contributes to the main objective of the Work package 2 focused on analysis of existing instruments and – if appropriate – the development of proposals for optimizing instruments for enhanced future EU-Russian cooperation across all S&T related themes.

## Abbreviations and Definitions

AC	Associated to FP7 Country - a state which is a party of an international agreement with the European Community, under the terms or on the basis of which it makes a financial contribution to all or part of an EU framework programme for research and technological development (Albania, Bosnia & Herzegovina, Croatia, Faroe Islands, Former Yugoslav Republic of Macedonia, Iceland, Israel, Liechtenstein, Republic of Moldova, Montenegro, Norway, Serbia, Switzerland, Turkey)
C&C	Charter and Code. The European Charter for Researchers. The Code of Conduct for the Recruitment of Researchers
CIS	Commonwealth of Independent States
CNRS	National Research Center of France
COST	European Cooperation in Science and Technology
CREST	Scientific and Technical Research Committee - an advisory body whose function is to assist the European Commission
DAAD	German Academic Exchange Service
DFG	German Research Foundation
EC	The European Commission
EECA	Eastern European and Central Asian Countries (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation, Turkmenistan, Tajikistan, Ukraine and Uzbekistan)
ERA	The European Research Area
EU	The European Union
EU MS	The European Union Member States
EURAXESS	Researchers' Mobility Portal
FTP	Federal Targeted Programmes (Russia)
FP7	The Seventh Framework Programme of the European Community for Research, Technological Development and Demonstration Activities (2007-2013)
FU	Federal Universities
JCSTC	Joint Russia-EU Committee on Science and Technology Cooperation
JTI	Joint Technology Initiative
HEI	Higher Education Institutions
HQS	Highly Qualified Specialist

HSE	National Research University “Higher School of Economics” (Russia)
IAPP	Industry – Academia Pathways and Partnerships (FP7 “People” action)
ICPC	International Cooperation Partnership Country. Countries covered by the European Neighbourhood policy and Countries with S&T Agreements
IIF	International Incoming Fellowships (FP7 “People” action)
IncoNet EECA	FP7 project “S&T International Cooperation Network for Eastern European and Central Asian Countries” funded by the European Commission
IOF	International Outgoing Fellowships for Career Development (FP7 “People” action)
IRSES	International Research Staff Exchange Scheme (FP7 “People” action)
ISTC	International Science and Technology Center
MCA	Marie Curie Actions of FP7 “People” programme
NATO	The North Atlantic Treaty Organisation
NRU	National Research University
PCA	Partnership and Cooperation Agreement
PPC	Permanent Partnership Council
RAS	Russian Academy of Sciences
R&D	Research and Development
RFBR	Russian Foundation for Basic Research
RFH	Russian Foundation for Humanities
RTDI	Research, Technology Development and Innovation
S&T	Science and Technology
SME	Small and Medium Enterprise
TEMPUS	The programme to support modernisation of higher education in EU neighbours
TU	Technische Universität
Third country	A state that is neither a Member State nor an Associated Country

## Introduction

The present time is characterized by a high mobility of researchers that is rooted in the specificity and dynamism of research. Science is boundless and scientific mobility is an important factor for the mutual cultural and professional enrichment of scientific communities. The existence of multinational scientific and teaching teams is relevant for European and North-American universities. According to the ERAWATCH country report on Switzerland, ‘well-paid researcher positions and a good scientific infrastructure in both the private and the public domain attract highly qualified researchers from other countries that are needed in order to cover the demand for researchers which could not be covered by domestic scientists.’<sup>1</sup>

The globalisation of the economy calls for greater mobility of researchers was recognised and so the Sixth Framework Programme of the European Community was established; it even opened up its programmes to researchers from outside the European Union.

In 2008, around 2,250,000 researchers (head count) were engaged in the EU. Compared to the US, Japan and some other countries, the number of researchers in Europe as a share of the population and labour force is much lower. Moreover, many researchers will retire over the next decade. To reach the EU R&D target quota of 3% GDP by 2020, much more research jobs need to be created. This target is to be met through a series of interlocking measures, such as making scientific careers more attractive to young people, promoting women’s involvement in research, extending the opportunities for training and mobility in research, improving career prospects for researchers in the community and opening up the community to third-country nationals who might be admitted for the purpose of research. To facilitate researchers’ mobility, the EC published the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers determining general principles and requirements which specify the roles and responsibilities of researchers, employers and/or sponsors of researchers and which should be followed by employers and/or sponsors when appointing or recruiting researchers. The EC member states direct their efforts at national level in the following key areas: recruitment, social security & supplementary pension rights, working conditions (provision of better job opportunities and more rewarding careers for researchers), training.

The Lisbon strategy, the Barcelona goals and the concept of the European Research Area (ERA) and most recently the Europe 2020 strategy have dictated a series of policy actions and measures both at the EU Commission’s and member states’ level.

The Europe 2020 Strategy has identified three engines to boost growth and jobs through seven flagship initiatives: Digital Agenda for Europe, Innovation Union, Youth on the Move, Resource Efficient Europe, an Industrial Policy for a Globalization Era, an Agenda for New skills and Jobs, European platform against poverty.<sup>2</sup>

With regard to the academic mobility, two out of the above seven flagship initiatives should be mentioned: the Youth on the Move initiative<sup>3</sup> aiming at boosting the mobility and employment of the youth throughout Europe and the Innovation Union<sup>4</sup> aiming at improving conditions and access to finance for research and innovation in Europe. The new Framework Programme for Research and Innovation Horizon 2020 is the financial instrument implementing the Innovation

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<sup>1</sup> ERAWATCH Country Report 2008 — An assessment of research system and policies — Switzerland URL: <http://cordis.europa.eu/erawatch/index.cfm?fuseaction=ri.content&topicID=4&countryCode=CH>

<sup>2</sup> Europe 2020 Flagship Initiatives. URL: [http://ec.europa.eu/europe2020/tools/flagship-initiatives/index\\_en.htm](http://ec.europa.eu/europe2020/tools/flagship-initiatives/index_en.htm)

<sup>3</sup> Youth on the Move. URL: <http://europa.eu/youthonthemove/>

<sup>4</sup> Innovation Union. URL: [http://ec.europa.eu/research/innovation-union/index\\_en.cfm](http://ec.europa.eu/research/innovation-union/index_en.cfm)

Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. Running from 2014 to 2020 with an €80 billion budget, the EU's new programme for research and innovation is part of the drive to create new growth and jobs in Europe. The Horizon 2020's priority "Excellent Science" mission is to raise the level of excellence in Europe's science base and ensure a steady stream of world-class research to secure Europe's long-term competitiveness. It will support the best ideas, develop talents within Europe, provide researchers with access to priority research infrastructure, and make Europe an attractive location for the world's best researchers. It will support the most talented and creative individuals and their teams to carry out frontier research of the highest quality by building on the success of the European Research Council; provide researchers with excellent training and career development opportunities through the Marie Skłodowska-Curie actions.

Human resources are a very important issue for the Russian Federation. The Russian R&D personnel have declined by approximately 50% since the disintegration of the Soviet Union. Ageing of the R&D and educational personnel is also problem of nowadays and the future. The internal migration (from R&D to other, e.g. business sectors of the economy) and migration abroad during the post-Soviet transformation phase have cut down the personnel of middle age. It is an important challenge for the Russian policy makers to ensure adequate training and preparation of younger R&D labour force for senior scientific and educational positions.

Another challenge concerns a certain division between education and research. Several support measures have been undertaken to integrate research and education in the university sector in Russia. Such measures are the recent nomination of special groups of leading universities, namely National Research universities and Federal universities.

The Concept for Long-term Social and Economic Development of the Russian Federation until 2020<sup>5</sup> defined four main transition directions towards innovation and social oriented type of economic growth:

Upgrading of human potential.

Encouragement of entrepreneurial activity and attracting investments to economy.

Innovation and technology modernization, including integration of R&D and education systems.

Enlargement of global competitive advantages of Russia in its traditional economic sectors such as energy, transport, agriculture, nature resources processing.

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<sup>5</sup> Approved by the decree of the Government of the Russian Federation 17 November 2008 № 1662-p



The Ministry on Economic Development of the Russian Federation elaborated the Strategy of Innovation Development of the Russian Federation until 2020, the “Innovation Russia 2020”<sup>6</sup> which defines aims, priorities and instruments of the state policy in innovation development of the country. The strategy “Innovation Russia 2020” focuses on the creation of an effective economic and moral impetus to attract the most qualified specialists, active entrepreneurs and creative youth to education and science which are the economic sectors forming innovation progress. The Strategy specifies long-term milestones for innovation parties as well as objectives to finance basic and applied research and results commercialization. The restructuring in higher education focuses on promotion of R&D in universities, enlargement of communication between universities and industries, universities and research centres, as well as integration of Russian universities into education and research communities world-wide, inter alia by means of academic mobility enhancement, Russian personnel training in the leading universities abroad and engaging of highly qualified specialists including foreign nationals to Russia.

The new approach focused on integrating science, business and education can be accomplished through developing the environment with laboratories and world level competence centers; establishing a competitive market of the specialists trained in Russia and abroad; the graduates of the universities have to respond to the needs of the corporate environment and the needs of the civil service; foreign partners also should be interested in the skills gained by the graduates of the Russian universities.

On the one hand, mobility of researchers significantly contributes to knowledge sharing and international cooperation, key aspects in research and innovation. On the other hand, mobility is crucial to diversify researchers’ skills and improve their career opportunities. The EU-Russia cooperation in the field of academic mobility in light of the EU supranational regulation of academic mobility could make scientific cooperation mutually beneficial and stimulate finding new methods to advance European and Russian science.

The recent activities, undertaken by the Government of the Russian Federation in the field of research and education development have significantly contributed to boosting the academic mobility, particularly between the EU and Russia. However, a wide range of measures has to be undertaken in order to provide key conditions for academic mobility development.

## **Methodology**

Due to the growing interdependency of activities and programmes related to academic mobility at bilateral (Member States and Russia) and Community (EU and Russia) level both was considered and their relation in terms of coherence, complementarities and linkage was analysed. The analysis helped to design new proposals for an optimisation of instruments for enhanced future outward and inward academic mobility between the EU and the Russian Federation.

The presented report was prepared on the basis of deliberations, presentations ([HTTP://WWW.BILAT-RUS.EU/EN/163.PHP](http://www.bilat-rus.eu/en/163.php); [HTTP://FP7.HSE.RU/MOBILITY/NEWS/37376410.HTML](http://fp7.hse.ru/mobility/news/37376410.html)) and recommendations, produced by the international Workshop “Russia-EU Cooperation in Academic Mobility” that took place on 25 October 2011 in Moscow. The draft report was designed on the eve of the workshop and distributed for discussion among participants. The workshop programme, invitation and information letters have been produced by the workshop organisers and disseminated among about 150 potential participants from the research community and policy stakeholders. The report covers an overview of the current practices of EU-Russia cooperation in the field academic mobility. It is finalized by the list of recommendations on the measures needed to be

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<sup>6</sup> Approved by the decree of the Government of the Russian Federation 8 December 2011 № 2227-p

undertaken at the practical and policy level to increase the level of academic mobility between Russia and EU countries. The report is also complemented by an inventory of inward and outward mobility programmes that exist in Russia and the EU [Annex 1].

## **EU-Russia Cooperation in Mobility of Researchers**

The EU-Russia legal framework for S&T cooperation including scientific mobility is based on the following legal documents:

Partnership and Cooperation Agreement (PCA) came into force on 1 December 1997. Renewed annually since 2007, remains the legal basis for EU-Russia relations until replaced by a new agreement (chapter on science & technology - article 62)

Agreement on scientific & technological cooperation between the European Community and the Russian Federation (concluded in 2000 and renewed in 2003 and in 2009)

Road-map for the Common EU-Russia Space in Research, Education & Culture (2005)

Permanent Partnership Council (first meeting in May 2008)

The joint EC-Russia S&T Cooperation Committee (under the S&T cooperation agreement)

Several joint EC-Russia Thematic Research Working Groups including Research Mobility (2010)

EU-Russia Visa Facilitation Agreement (2007)

EU-Russia Partnership for Modernisation (2010)

## **The EU Instruments to Support Cooperation with Russia in Academic Mobility**

### *Specific Programme “People” of the 7-th Framework Programme*

The EU has always emphasized research mobility as one of the main factors of knowledge circulation, which contributes to more robust economic growth and social development.

The Specific Programme “People” aims to strengthen, quantitatively and qualitatively, the human potential in research and technology in Europe, by stimulating people to take up the profession of a researcher, encouraging European researchers to stay in Europe, and attracting to Europe the best researchers from the entire world. It is implemented by systematic investments in people, mainly through a coherent set of Marie Curie Actions, particularly taking into account the European added value in terms of their structuring effect on the European Research Area.

The actions under the “People” Programme focus on training, skills, and mobility of researchers towards development of their scientific careers. The programme is open to all domains of scientific and technological research and contains schemes for world-wide international mobility. For cooperation with third countries individual researchers as well as research organisations the programme assumes such actions as<sup>7</sup>: Initial Training Networks (ITN) for initial and doctoral training of researchers of any nationality; Industry-Academia Partnerships and Pathways (IAPP) for research collaboration between non-commercial (public) research organisations &

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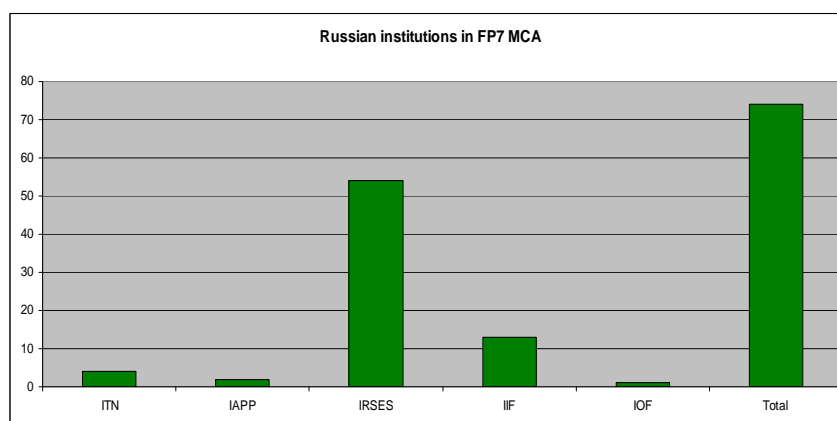
<sup>7</sup> FP7 Marie Curie actions URL:

[http://ec.europa.eu/research/fp7/understanding/marie-curieinbrief/home\\_en.html](http://ec.europa.eu/research/fp7/understanding/marie-curieinbrief/home_en.html)

commercial enterprises; Career Integration Grants (CIG) for researchers of any nationality to establish themselves in a Member State of an Associated Country; International Incoming Fellowships (IIF) for individual mobility from third countries to Europe with possible for ICPC return grant of €15,000 for one year; International Outgoing Fellowships for Career Development (IOF) for initial outgoing phase outside Europe; International Research Staff Exchange Scheme (IRSES) for exchange of researchers/management, technical staff between MS/AC and third countries; Intra-European Fellowships (IEF) for career development or restart through trans-national mobility within EU MS or AC; Co-funding of regional / national / international programmes (COFUND).

According to the data of the European Commission for the period of 2007-2011 74 Russian research organisations are involved into the cooperative projects of the Marie Curie actions (Graph 1).<sup>8</sup>

**Graph 1.** Russian institutions participation in FP7 MCA.

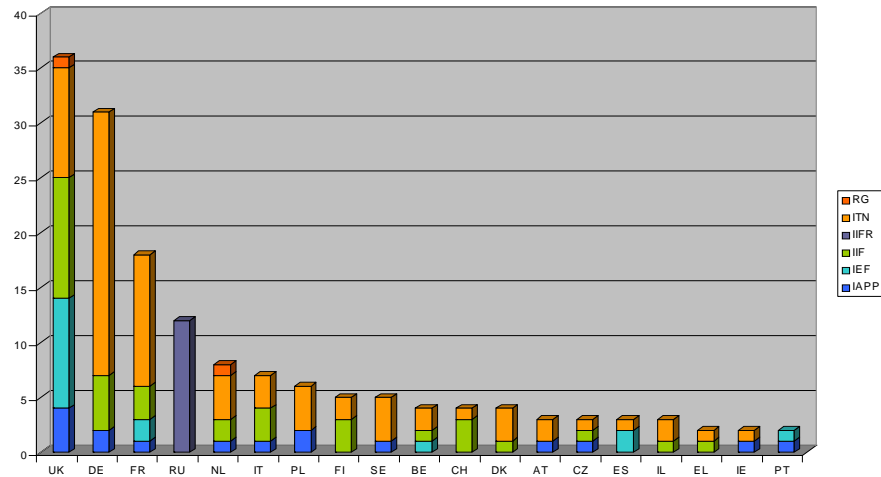


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<sup>8</sup> Presentation "Opportunities for the Russian Federation in the FP7 Marie Curie actions" prepared by People Programme – Marie Curie Actions Unit, European Commission - DG EAC

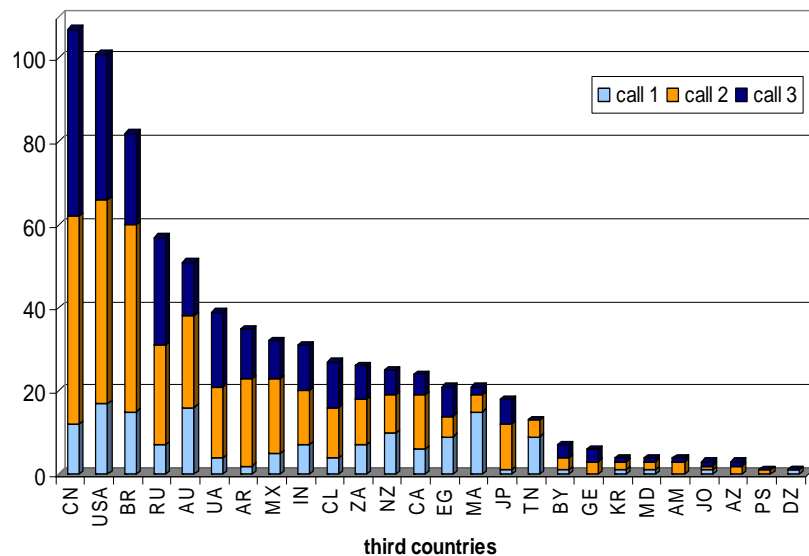
154 Russian fellows are benefiting from MCA grants.<sup>9</sup> In the Graph 2 fellows are grouped by country of their destination. The most popular countries of destination for Russian researchers are the United Kingdom, Germany and France. About 8% of the total amount of Russian fellows used the return grant after the IIF period at host organisation in MS/AC.

**Graph 2.** Russian fellows benefiting from MCA grants grouped by country of their destination.



The next Graph 3 shows Russian institutions successful participation in 3 IRSES calls for proposals in comparison with other third countries (Russia occupies the 4<sup>th</sup> place follows China, USA and Brasil).<sup>10</sup>

**Graph 3.** Russia’s participation in IRSES scheme in comparison with other third countries.



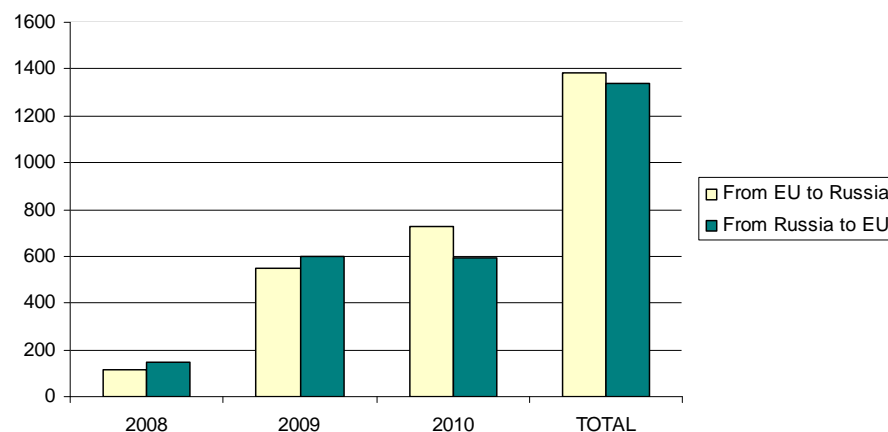
The next Graph 4 shows the rather balanced exchange between the EU and Russian organisations staff exchange in IRSES projects.<sup>11</sup>

<sup>9</sup> In the same presentation

<sup>10</sup> In the same presentation

<sup>11</sup> In the same presentation.

**Graph 4.** Months of mobility funded under IRSES (2007-2011).



At the Community level Russia is also involved into **Erasmus Mundus and Tempus** programmes.

### *Erasmus Mundus*

Erasmus Mundus (2009-2013) is a cooperation and mobility programme in the field of higher education that aims to enhance the quality of European higher education and to promote dialogue and understanding between people and cultures through cooperation with third countries.<sup>12</sup> In addition, it contributes to the development of human resources and the international cooperation capacity of higher education institutions in third countries by increasing mobility between the European Union and these countries. For the period of 2009-2013 Erasmus Mundus includes three main directions for co-operation:

Erasmus Mundus Joint Programmes (Action 1) are operated by consortia of universities from the EU and elsewhere in the world. They provide an integrated course and joint or multiple diplomas following study or research at two or more HEIs. Masters Courses and Joint Doctorates are selected each year following a Call for Proposals. There are currently 123 Masters and 24 Doctorates offering EU-funded scholarships or fellowships to students and scholars. Currently low participation of Russian institutions is registered which are involved as full partners in only in 2 ongoing programmes. 409 Russians have been selected for scholarships to Masters and Doctorates over the 7 annual selections up to 2011. 80 Russian scholars have been invited to teach or research under Erasmus Mundus Masters Courses. The first 2 selections of doctoral candidates to start research included 7 Russian nationals.<sup>13</sup>

Erasmus Mundus Partnerships between European and third country higher education institutions including scholarships and fellowships for mobility at all academic levels (Action 2): BA, specialists, MA, PhD, post PhD, academic staff. 1 partnership with Russia was chosen in 2007, 3 in 2008, 2 in 2009 and 3 in 2010. The 3 partnerships selected in 2010 are coordinated by the universities of Dresden (DE), Hohenheim (DE) and Turku (FI).

Promotion of European higher education through projects to enhance the attractiveness of Europe as an educational destination and a centre of excellence at world level (Action 3). Under Action 3 one project exists with Russia.

<sup>12</sup> EU Erasmus Mundus - Scholarships and Academic Cooperation. URL: [http://eacea.ec.europa.eu/erasmus\\_mundus/](http://eacea.ec.europa.eu/erasmus_mundus/)

<sup>13</sup> Presentation of DG Education and Culture, International cooperation, European Commission at EU-Russia Working Group on Researcher Mobility, 28/06/2011

## *Tempus*

Tempus is the European Union's programme which supports the modernization of higher education in the Partner Countries of Eastern Europe, Central Asia, the Western Balkans and the Mediterranean region, mainly through university cooperation projects. Individuals such as students, academic staff and university administrators can participate in the framework of a project on limited and short term mobility, but only if it achieves the project's objectives.<sup>14</sup>

Tempus exists in Russia since 1994. Since 2008 (launching of Tempus IV), there are 42 on-going Tempus projects (36 Joint projects, 6 structural measures), representing around 30 M€ in funding (without 2011). In Tempus IV, Russian HEIs have been involved in almost one third (27%) of all of projects. 11 projects started in September 2011.<sup>15</sup>

The following activities are implemented with Russia under Tempus IV programme:

**Joint Projects:** multilateral partnerships between HEI in the EU and the Partner Countries, implemented at institutional level, curriculum development, university governance and reinforcement of links between HEI and society/labour market.

**Structural Measures:** reform of educational institutions and systems at national level; governance reform (qualification systems, quality assurance, etc.); the role of higher education in society (links with the advanced vocational education and training system, world of work, capacity building for public administration, etc.) The participation of the Ministry responsible for higher education is mandatory in Structural Measures.

The national Tempus Office is established in Russia to disseminate information on Tempus and other EU programmes, providing advice to applicants and project participants and participate in project monitoring. It maintains communication with universities and ministry officials. Since the end of 2006, teams of Higher Education Reform Experts accompany the reform process: pool of expertise in certain areas (quality assurance, curricular reform, recognition, etc.), promote and enhance progress towards the Bologna objectives.

The 5 most active Tempus institutions in Russia are Tyumen, Nizhni Novgorod, St. Petersburg, Tomsk and Moscow M.V. Lomonosov State Universities. The core partners in the EU are located in Germany, Italy and France followed by Poland, the UK and Spain. One Tempus project in Russia leads to an average of 40 staff mobilities (of more than 2 weeks).

Russian national priorities for Tempus IV are modernisation of curricula, the European Credit Transfer System (ECTS) and recognition of degrees, development of lifelong learning in society at large, and qualification frameworks. Recently a growing interest for double degrees and joint programmes (that is a key indicator of the creation of a common space in Higher Education) has been noticed. Problematic issues that hinder the creation of such programmes are inappropriate financing and legislation. It is needed to consider adapting the law to permit the delivery of double/multiple degree programmes.

## *Bilateral Cooperation in the Researchers Mobility Sphere between EU MS/AC and Russia*

Currently the Russian Federation is involved into a wide range of academic mobility cooperation programmes, implemented at the national levels of the EU Member States. Typically the international mobility between Russia and EU is implemented through bilateral agreements between EU MS and Russia, their research organisations, including those that belong to

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<sup>14</sup> European Commission, EACEA, Tempus. URL: <http://eacea.ec.europa.eu/tempus/>

<sup>15</sup> Presentation of DG Education and Culture, International cooperation, European Commission at EU-Russia Working Group on Researcher Mobility, 28/06/2011

academies of sciences and universities, research foundations (e.g. Russian Foundation of Basic Research and DFG<sup>16</sup>, CNRS<sup>17</sup>), national programmes of the EU MS research centres and associations (DAAD<sup>18</sup>, Helmholtz Association<sup>19</sup> and Alexander von Humboldt Stiftung<sup>20</sup>, Academy of Finland<sup>21</sup>, CNRS, ect.). Moreover, Russia participates in international programmes (COST,<sup>22</sup> ISTC,<sup>23</sup> NATO<sup>24</sup>).

Mobility is also a part of some international research projects implemented in collaboration with the EU partners. The EU and Russian researchers travel abroad mainly with the purposes of participation in conferences, carrying out of joint research projects, education and training, scientific work in foreign organisations, delivering of lectures and consulting.

Under the ongoing ERA-Net project for Russia (ERA.Net RUS),<sup>25</sup> which is funded by the FP7 INCO programme information and data on the bilateral S&T cooperation programmes were gathered by means of a survey. Around 140 Programme Owners (PO) in Russia and in nearly all EU MS/AC were contacted in the summer and autumn of 2009 and invited to respond to a questionnaire covering a broad range of aspects of their cooperation programmes, such as S&T agreements, programme management, funding instruments, evaluation procedures, the budget, thematic priorities, funded projects, mobility activities, etc. The ERA.Net RUS report includes the survey data of a solid sample of 40 Programme Owners from EU MS/AC and the data of 10 Russian Programme Owners. The survey data were further enhanced by in-depth interviews with 8 Russian and 13 EU MS/AC Programme Owners.<sup>26</sup>

The bilateral S&T agreements provide a formal framework, within which efficient cooperation programmes can be implemented. The Russian Academy of Sciences has the most agreements in place with partners in 28 EU MS/AC, followed by the Ministry of Education and Science, which has concluded bilateral agreements with 21 EU MS/AC, and third comes the Russian Foundation for Basic Research, which has agreements with organisations in 12 EU MS/AC in place.

According to the results of the survey the most popular instruments of international S&T cooperation that the POs have used so far are: Mobility of researchers: 30 references; joint implementation of RTDI 21 projects: 23 references; and the joint funding of programmes: 21 references; the dissemination of RTDI results: 21 references.

The mobility of researchers is an easy way of networking and can be a preliminary stage of using other instruments. It provides for substantial S&T cooperation requiring only limited expenses, which is the reason for its popularity. The vast majority of the programme owners (POs) implement “two-way” mobility whereby their cooperation programmes support the exchange of EU MS/AC scientists as well as of Russian scientists (22 replies for two-way and only 3 for one way mobility, the rest of the POs did not clarify the nature of the mobility). The joint implementation of RTDI projects is also quite frequently used. It is in fact difficult to draw an

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<sup>16</sup> Deutsche Forschungsgemeinschaft. URL: <http://www.dfg.de/index.jsp>

<sup>17</sup> National Research Centre of France. URL: <http://www.cnrs.fr/index.php>

<sup>18</sup> German Academic Exchange Service. URL: <http://www.daad.ru/>

<sup>19</sup> Helmholtz Association. URL: <http://www.helmholtz.de/en>

<sup>20</sup> Alexander von Humboldt Foundation. URL: <http://www.humboldt-foundation.de/web/start.html>

<sup>21</sup> Academy of Finland. URL: <http://www.aka.fi/eng>

<sup>22</sup> European Cooperation in Science and Technology. URL: <http://www.cost.esf.org/>

<sup>23</sup> International Science and Technology Center. URL: <http://www.istc.ru/>

<sup>24</sup> North Atlantic Treaty Organization. URL: <http://www.nato.int/cps/en/natolive/index.htm>

<sup>25</sup> For more detailed information on ERA.Net RUS project see <http://www.eranet-rus.eu/>

<sup>26</sup> ERA.Net RUS Analytical report 3: State of the art and perspectives of bilateral S&T programmes between EU MS/AC and Russia and of activities of S&T Programme Owners in EU MS/AC towards Russia and in Russia towards EU MS/AC accompanying/complementing bilateral S&T agreements. URL: [http://www.eranet-rus.eu/media/D\\_1.3\\_Analytical\\_Report\\_3.pdf](http://www.eranet-rus.eu/media/D_1.3_Analytical_Report_3.pdf)



exact line between mobility and RTDI projects, as mobility projects are in most cases based on research projects, or the mobility is supported within a research project.

In some cases, the funding of mobility projects serves the purpose of investigating the prospects for joint research projects.

A variety of obstacles, such as legal problems, budgetary limitations, problems with the transfer of funds and material, visa procedures, cultural and language barriers, have been mentioned by funding organisations, which do hamper the bilateral cooperation. But there is also a distinct lack of information on bilateral cooperation programmes and on the funding procedures applied by POs.

The visa requirements for EU/AC scientists travelling to Russia and vice versa for Russian scientists travelling to the EU/AC region is a question of reciprocal treatment between countries. It needs to be considered by the competent authorities of the EU, EU Member States, Associated Countries of FP7 and Russia. Several measures for facilitating visa procedures have been taken already (e.g. cost-free scientific visa) but clearly further measures such as a visa-free travel policy for scientists should be considered as a solution to this problem, which is consistently mentioned as a most pressing problematic issue by scientists as well as S&T funding bodies.

Examples of good practice mentioned by POs concern support for research and networking activities among scientists, such as workshops, joint laboratories, research training groups, and science days.

### *Examples EU Member States National Programmes*

The key Russia's EU bilateral partners in academic mobility programmes implementation are Germany, UK and France. As example the report highlights such European programme, as the German Academic Exchange Service (DAAD), the Humboldt Foundation, National Research Center of France (CNRS) and German Research Foundation (DFG).

#### *German Academic Exchange Service (DAAD)*

The DAAD unites all higher education institutions of Germany and contributes to development of international academic relationships and scientific cooperation through academic mobility of the students and scientists. It is also one of the most active partners of the Russian Federation in academic mobility programmes.

According to the DAAD's Annual report 2010,<sup>27</sup> DAAD financed 1,288 German students and graduates coming to Russia and 3,141 Russian students and graduates coming to Germany. Under the programmes for academics, scientists, higher education lectures and administrators 472 Germans were funded to come to Russia and 759 Russians – to come to Germany. Totally DAAD financed 5,660 scholars in both directions Germany-Russia and vice versa.

In financial cooperation with or on demand of Russia-Partners DAAD supports the following activities: "Michail Lomonosov" in engineering sciences and "Immanuel Kant" in humanities in cooperation with the Ministry of Education and Science of the Russian Federation for PhD candidates, young teachers; "Nikolaj Lobachevskij" in all subjects in cooperation with the Republic of Tatarstan for MA-courses; for BA/MA-studies (full-time) in cooperation with the Republic of Chechnya; DAAD / Open Society Foundation (OSF) Programme for PhD graduates.

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<sup>27</sup> <http://www.daad.de/portrait/service/publikationen/08978.en.html>



### Humboldt Foundation

Humboldt Foundation Programmes propose research fellowships and research awards for highly qualified scientists and scholars from all countries and disciplines. The research fellowships and awards allow researchers to come to Germany to work on a research project. The Foundation's programmes support research fellowships for postdoctoral researchers (completed their doctorate fewer than 4 years ago) and for experienced researchers (completed their doctorate fewer than 12 years ago). As an intermediary organisation for German foreign cultural and educational policy the Foundation promotes international cultural dialogue and academic exchange.<sup>28</sup>

The Foundation has four main programmes for the scientists specialized in all fields of research from Europe and other foreign countries. They are post-doctoral grants, grants for experienced scientists working in their own research area, grants for outstanding researchers and grants for potential leaders from Russia, China and USA. Annually the Foundation awards over 800 scholarships to experienced foreign researchers and 30 scholarships of the Federal Chancellor of Germany to potential leaders from the Russian Federation, USA and others.

In 2010 Russian researchers were awarded 27 grants. Recently a low success of Russian applicants has been observed. That might be connected with reduction of interest from the side of Russian researchers and at the same time with decreasing scientific skills of present-day researchers in Russia.

### National Research Center of France (CNRS)

The CNRS, the largest fundamental research organisation in Europe, covers all scientific disciplines and carries out research in all fields of knowledge through 10 thematic institutes in such fields as mathematics, physics, information technologies, nuclear and particles physics, earth sciences and astronomy, chemistry, biology, human and social sciences, ecology and environment, engineering.

The CNRS has 85 exchange agreements with 60 countries and 5,000 foreign visiting scientists (PhD students, post-docs and visiting researchers). International cooperation and international academic mobility is regulated by 343 International Programs for Scientific Cooperation (PICS). The main mechanisms for international cooperation are international research networks, international associated laboratories, international joint units.

Several kinds of agreements for scientific cooperation are signed between CNRS and Russian research organisations (RAS, RFBR, RFH, Universities...) which cover, always within the framework of joint research projects, from basic mobility expenses to joint laboratories, also supporting the exchange of researchers, organisation of events, as well as international networking. The selection of projects is based on their Excellence and Novelty. Priority is given to projects involving young researchers. Within CNRS' 3-year non-renewable International Programme for Scientific Cooperation (PICS) 57 ongoing collaborative relationships exist with Russia. Financial support addresses also mobility: visits, meetings, and small equipment. Another scheme, International Research Network (GDRI), brings together several laboratories from two or more countries to coordinate research on a specific topic funding. 21 Networks are functioning with Russia. Networks are used mainly for mobility, seminars and workshops. International Associated Laboratory (LIA) brings together two partner institutions which contribute human and material resources to a jointly-defined project (18 are with Russia). A virtual structure is created in which the laboratories retain their independence and legal status, as well their directors and separate locations. Two co-directors are appointed to head the LIA. The LIA is coordinated by a scientific management committee, which submits a research programme to the steering committee composed of representatives of the two institutions possibly as well as

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<sup>28</sup> The official web site of the Humboldt Foundation. URL: <http://www.humboldt-foundation.de/web/about-us.html>

established scientists from outside the LIA. Agreement runs for 4 years, renewable once. Joint funding is available for mobility, staff assigned and small equipment. International Joint Unit (UMI) brings together researchers, engineers, and technicians from CNRS and from other country's institutions (1 with Russia) with a location either in France or in another country staffed by personnel from both the CNRS and the partner country. UMI is headed by a Director, jointly named by CNRS and the foreign partner institution. The Director is responsible for the management of all resources made available to the laboratory.

#### German Research Foundation (DFG)

Germany's scientific relations with Russia are part of a lively, centuries-old tradition. Russia is particularly significant for the German scientific system and is a priority country in the DFG's international funding programmes. The DFG has maintained an intensive scientific dialogue with Russia for decades and, since 2003, has supported the development of bilateral cooperation through its own representative office in Moscow.

The systematic expansion of institutional collaboration with Russian partner organisations facilitates the joint promotion of cooperation in all areas of basic research. Framework agreements on the co-funding of research projects and researcher mobility exist with the following partners: Russian Academy of Sciences (RAS); Russian Foundation for Basic Research (RFBR); Russian Foundation for the Humanities (RFH).

The DFG uses a variety of different instruments to support cooperation with its Russian partners in all their funding programmes. The close cooperative ties with Russia are impressively attested to by the approximately 400 proposals funded between 2007 and 2009 and reflect widespread participation in all the DFG's processes. In addition to initiating German-Russian cooperation projects, the DFG funds primarily long-term, bilateral projects. It does so increasingly within the framework of coordinated programmes, like two International Research Training Groups providing early career support.

## **Instruments to Support International Academic Mobility in the Russian Federation**

### **The Russian Legal Environment for Academic Mobility**

The issue of the legal status of foreign workers including foreign researchers has always been essential. National legal environment for labour migration in Russia encompasses a set of several federal laws.

The Federal Law #115-FZ (25 July 2007) defines the legal status of foreign citizens in the Russian Federation, and governs relations between foreign citizens and the bodies of state authority, bodies of local self-government and the officials thereof arising out of the stay (residence) of foreign citizens in the Russian Federation and exercise of labor, entrepreneurial or other activities in the Russian Federation by them. Amendments to the Law were continuously introduced from 2003 to 2011.

The Federal Law #86 from 19 May 2010 has introduced the status of Highly Qualified Specialist (HQS) for foreign citizens. According to the law, the obtainment of the HQS status is a notification (rather than request) procedure and the only threshold is the proven level of annual income. The main benefits of HQS are unrestricted work permit, regular 13% income tax (versus special inc. tax of 30% for non-residents), up to 90 days free from registration as a migrant, guaranteed medical insurance, benefits for family members. Some derogations were introduced with amendments of the Federal Law #385 from 23 December, 2010. This decreased the HQS proven annual income from RUB2 million down to RUB1 million (for HQS employed at HEIs

only). All international academic staff employed by HEIs “for teaching and for research activity” were released from obtainment of quotas and work permits.

To get a work permit for a highly-skilled foreign specialist, Russian employers need to submit just four documents to the Federal Migration Service: a request for a work permit, a copy of the labor agreement, a written obligation to pay expenses if the worker is expelled from the country, and copies of documents proving that the employer has the right to invite members of the privileged workforce. Employers no longer have to ask the Federal Migration Service whether they can invite a highly qualified foreign worker. Before, employers had to send their requests to the Migration Service in advance, specifying the position, salary and reasons why a foreigner should earn more than his or her Russian colleagues. The privileged foreigners have also been exempted from Russia’s work permit quota system, which is an important advantage. In the past, employers had to request the right to hire a certain number of foreign workers every spring and if the quota was met, a company would have to wait until the following year to make any new hires. Now this is no longer the case.

The Russian migration regime was also simplified during the last year. The Federal Law #42 from 20 March, 2011 liberalized the registration regime. The period for which a foreigner should be registered has been increased from 3 up to 7 working days. The registration can be made by the employing (inviting) organisation. The Federal Law #80 from 21 April 2011 allows teaching for holders of visa types different from “teacher”, i.e. “business” or “humanitarian cooperation”.

The issue of recognition of degrees is another essential point for academic mobility. In order to simplify this procedure the President of the Russian Federation, Dmitriy Medvedev, signed in December, 2011 a law, which allows to recognize foreign education and qualification certificates affected under the appropriate international agreement on mutual recognition and equivalence without any additional procedures “automatically”. A list of the top ranking 200-300 HEIs abroad, the diplomas of which will be recognized “automatically”, will be defined by the Cabinet of Ministers of Russia in the nearest future.

The Russian Government uses a wide range of instruments to support the mobility of researchers and students. Currently it focuses mainly on the following areas: measures to attract leading scientists to Russian institutions of higher education (Mega-grants), state support for development of innovation infrastructure in leading universities (with participation of foreign experts to transfer experience and knowledge), establishment of the National Research Universities (NRU) and Federal Universities (FU), implementation of the Federal Targeted Programme “Scientific & Scientific-Pedagogical Human Resources for Innovative Russia in 2009-2013” and Scholarships of the President of the Russian Federation for students and PhD students training abroad.

Under the instruction of the President and the Government of the Russian Federation new programmes and instruments to support i) education and training (including in magistracy and postgraduate studentship) of Russian students and young specialists in leading universities and research centres abroad; ii) attraction of experienced foreign specialists to work in Russian universities and research institutions, including as supervisors and administrators in NRU and FU should be elaborated and initiated in Russia in the nearest future.

In particular the Memorandum of Understanding between the Department of State of the United States of America and the Ministry of Education and Science of the Russian Federation on Educational Cooperation was signed on 10 February 2012. The goal of the Memorandum is to promote academic mobility between Russia and US and joint projects and programmes in education. Joint projects on education of Russian students, PhD fellows and young scientists in US and vice versa US scholars in Russia will be supported. The first tender on fellowships in US will be announced this year. The memorandum has become a result of a fruitful cooperation

within the joint working group on education in the framework of the bilateral Russian-American Presidential Commission.

### *Attracting Leading Scientists to Russian Universities*

On April 9th, 2010 Russian Prime Minister Vladimir Putin signed the decree No. 220 on “Measures to Attract Leading Scientists to Russian Educational Institutions” (Mega-grants), through which RUB 3 billion have been approved from the federal budget in 2010, with an additional RUB 5 billion allocated in 2011, and another RUB4 billion in 2012.<sup>29</sup>

Programme funds were available through a competitive grant process. The first call of proposals to participate in the contest was held in June, 2010. 507 applications were received from researchers and 179 higher education institutions. The proposals evaluation has been accomplished by 971 independent experts (335 Russian and 636 international) through the panels by priority scientific fields. On 29 September, 2010 the Grants Council of the Government of the Russian Federation has identified the names of 40 researchers, who have won the open public contest. The majority of the winners is represented by Russians (20), Germans (7) and US-citizens (10).

The winners of the second call 2011 are 39 researchers, among them are 19 Russians (including 13 double citizenships), 10 US-citizens, 6 French and 4 Germans. 517 applications were received from researchers with 176 Russian universities.

Grant stipends were offered in amounts of up to RUB 150 million for each research project in 2010-2012 and 2011-2013, with opportunities to extend the research period for 1-2 years. Funding for the program comes not from the current educational budget, but is planned as additional federal appropriations. Calculation and specification of science grants was determined by the host institutions where successful applicants were planned to conduct research. The call for proposals is open, with any Russian university eligible to apply through a joint proposal with the scientist applicant. Scientists of all nationalities and countries of residence are eligible to apply.

Research projects are implemented by university research teams under the supervision of leading scientists in the following research areas determined by the Grants Council of the Government of the Russian Federation for support of scientific research activities implemented under the supervision of leading scientists at Russian institutions of higher education (hereinafter referred to as “Grants Council”): astronomy and astrophysics, nuclear power and nuclear technologies, biology, biotechnologies, information technologies and computing systems, space research and technologies, mathematics, engineering, health sciences and technologies, mechanics and management processes, nanotechnologies, Earth sciences, material sciences and technologies, psychology, cognitive research, construction and architecture, physics, chemistry, ecology, economics, international research, sociology, power production, energy efficiency and energy saving.

Scientists are free in determining their research area, limited only by the general guidelines set by the Council. The number of projects undertaken by each institution of higher education is unlimited, but only one research project is allowed per applying scientist.

Upon approval of project funding, scientists collect their research team, composed of students and employees of the host university. Each research team should consist of no fewer than two PhD candidates, three graduate students, and three undergraduate students. Salaries and compensation for the visiting scientist and members of the research team can not exceed 60% of

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<sup>29</sup> Decree No. 220 on “Measures to Attract Leading Scientists to Russian Educational Institutions”, the official web site of the Government of the Russian Federation. URL: <http://eng.mon.gov.ru/pro/ved/uch/>

the total grant allotment. All requirements to project proposals are subject to special agreements between visiting scientists and their host universities. In accordance with that agreement, visiting scientists will assume responsibility for organizing and managing their work.

### *Federal Targeted Programme*

#### **«Scientific & Scientific-Pedagogical Human Resources for Innovative Russia in 2009-2013»**

Federal Targeted Programmes (FTP) have been put in place over the past years in Russia as financing tools for specific economic and social fields and for supporting urgent reforms. Several FTPs are specifically designed for support of R&D. An important programme, which is relevant for the human resources in the field of research is the FTP “Scientific and Scientific-Pedagogical Human Resources for Innovative Russia in 2009-2013”. It is running within the period of 2009-2013 and invests an approximate amount of 90 bln Rub (80 bln Rub at the federal budget + 10 bln Rub extra-budgetary funds) in efforts to attract and retain talented people, especially the young, in science, education and high-tech. The programme is designed to tackle the problem of the Russian ageing scientific personnel. More than 50% of funds shall be invested in research projects, which need to involve a certain quantity of young scientists and students or which are performed by young scientists. Another important part of the programme budget is intended to upgrade housing infrastructure for students and scientists. For international cooperation the following measures are supported:

Invitation of the Russian researchers resident abroad to chair research projects in Russia;

Organisation of international scientific conferences and schools with engaging of leading foreign scientists;

Organisation of international competition for Russian young talented researchers.

A special 2009 call was devoted to research undertaken under the leadership of Russian scientists living abroad. The call attracted 400 applications and resulted in 110 grants to Russian scientists working in educational and research centers in the USA, Germany, France, Japan, other countries. 60% of grantees come from Europe with a fairly equal distribution across different European countries. RUB 2 million per year is provided to researchers and a half of this sum may be used for salary. In 2011 other 84 projects were selected for financial support.

### *National Research Universities*

On 7 August, 2008 the President of the Russian Federation has signed the order on the establishment of the pilot project on National Research Universities (NRU). The Universities which were awarded the status of “*National Research University*” were selected on competitive basis in 2008 and in 2009 by an independent expert group set up by the Ministry for Education and Science. 27 leading universities were awarded status of NRU in 2009-2010. The status “*National Research University*” is awarded to a university for the period of 10 years. These are the best field-specific universities performing world-class basic and applied research, which provide training to high quality human resources for priority S&T areas, economy and social sector. The state funding allows for modernization of facilities and infrastructure, retraining of specialists and integration into the international research and education area.

Two pilot universities National Research Nuclear University - Moscow Engineering Physics Institute (State University) and National Research Technological University - State Technological University “Moscow Institute of Steel and Alloys” were identified by the Decree of President D. Medvedev in 2008.

Later in 2008 12 more universities were identified through competition (thus bringing a total to 14 universities), which will obtain an amount of RUB 1.8 billion (approximately EUR 40.5 million)

each for the years 2009-2018. In 2009 another 15 universities were identified through competition, which will obtain RUB 49.8 billion from the federal budget for the years 2009-2014. Co-funding of their development programmes from extra-budgetary funds shall amount to RUB45 billion.

National Research Universities implement their own mobility programmes, which fit national priorities, universities' development programmes, performance indicators set by the Ministry and available funding. Mobility programmes, especially incoming mobility (invitation of foreign professors and researchers to Russia) is an important requirement for National Research Universities.

The substantial amount of resources (RUB 226.3 million) was allocated by the NRUs in 2010 to train academics abroad. The researchers were trained in 58 countries. The priority regions become countries of the Western Europe, such as France, Germany and UK, and North America, where about 66% of academics participated in study programmes.

### *Federal Universities*

Among the goals of the Russian National Priority Project "Education" are training of high quality professionals for macro-regions and integration of education and research. The Priority Project also previews support to mobility of students, teachers and researchers, which shall contribute to Russia's integration into the global education area. Activities within the Priority Project are aimed at international recognition of the educational programmes; provision of support to basic and applied research in national priority areas.

A programme to establish top level university centres has been introduced with the *Federal Universities* (FU) programme. Two university centers, the Siberian and Southern Federal Universities have been created in Krasnoyarsk and Rostov-on-Don, with the support of this programme. The ambition is to upgrade the performance of selected universities to allow them to reach a position within the top 100 universities worldwide by 2015-2020. Other 5 FUs were created in 2010 namely Arctic (Arkhangelsk), Volga (Kazan in Tatarstan), Urals (Ekaterinburg) and Far-Eastern (Vladivostok) and North-Eastern (Yakutsk). Implementation of basic and applied research in national priority areas, creating conditions for academic mobility of students, teachers and researchers, enhancement of international cooperation with universities of Europe, Asia and US, achievement of international recognition of realized educational programmes and integration of university into the worldwide education and research areas are envisaged within the FU's directions of growth. In July, 2011 the President of the Russian Federation has signed a Federal Law, which establishes the 8-th Federal university, North-Caucasus Federal University.

Federal Universities obtained substantial financial resources from the state budget: 2007: 6 bln. RUB; 2007-2009: 13,4 bln. RUB; as well as co-financing by businesses and regional administrations. These resources may be used, *inter alia*, for attraction of leading professors and researchers.

The difference between Federal and National Research Universities is that the first group will focus on the particular region where they are located, while the latter will train highly-qualified specialists for different sectors nationwide. National Research Universities will be characterized by a high percentage of university funds earmarked for research and science, effective systems for the commercialization of scientific research and development activities, and their affiliation with innovation companies. Federal universities aim at optimizing regional educational structures and strengthening links with economics and social sphere of the federal districts. One of the directions of the development of the FUs is the creation of conditions for academic mobility of students, teachers and scientific workers. In this respect, they contribute to the internationalization of higher education in Russia.

### *State Support for Development of Innovation Infrastructure in Federal Institutions of Higher Education*

In 2010 56 Russian universities were awarded (via completion) to create and develop innovation infrastructure facilities in universities such as business-incubators, technological parks, centers for technology transfer. The financial support for these activities amounts 3 bln Rub (2010), 2 bln Rub (2011), 3 bln Rub (2012) at federal budget and up to 50 Mio Rub per year per university up to 3 years. Among other activities the universities are allowed to spend their budget for advanced training of university's staff in the fields of innovation entrepreneurship and technology transfer abroad and invitation of foreign experts for knowledge transfer and consulting.

### *Scholarships of the President of the Russian Federation for Students and PhD Students Training Abroad*

An open public competition of the Ministry for Education and Science of the Russian Federation is carried out for the fellowships of the President of the Russian Federation annually. The stipends are awarded in fields of basic and applied research of higher priority for economic modernisation and technological development such as: energy efficiency; nuclear technologies and software; medical equipment and pharmaceuticals; space and telecommunications; culture and art. The scholarships envisage a secondment in host organisation up to 10 months. The amount of such fellowships are 40 for students and 60 PhD students.

### *Other Mechanisms to Support Academic Mobility*

Academic mobility is also supported by Russian Academy of Sciences (RAS), Russian Foundation for Basic Research (RFBR), Russian Foundation for Humanities (RFH).

The Russian Academy of Sciences (RAS) is the main basic research organisation in Russia. It maintains relations with almost all leading countries of Europe, America and Asia. The main forms of cooperation include:

- joint research within the framework of interagency cooperation agreements,
- implementation of intergovernmental agreements,
- participation in international organisations (more than 50),
- activities of international centres and laboratories.

It currently has agreements with organisations in 19 EU Member States and 9 Associated Countries of FP7. RAS has a long tradition of researcher exchanges with a broad range of the EU MS and AC. RAS is the leading Russian research organisation which, similar to other academies of sciences in EU MS/AC, uses a small portion of its funds for the mobility of its researchers, mainly with partner academies. RAS usually concludes a framework agreement with foreign partners, which is then filled with projects, mostly with mobility projects. RAS scientists cooperate with their colleagues from other countries under agreements concluded at different levels: agency – agency, institute – institute, laboratory – laboratory. In 2006, RAS cooperated with foreign partners under 105 interacademy agreements on scientific cooperation and 6 intergovernmental agreements on S&T and cooperation.

According to representatives of RAS, over the years only few foreign scientists have come for scientific working visits to Russia. The reason for this development is their view that equipment and other facilities are not up-to-date. But in recent years the equipment and infrastructure of several institutes have drastically improved. It would therefore be important for Western scientists to re-discover Russian R&D institutions to work with their Russian colleagues, and for

bilateral and multilateral cooperation programmes (e.g. mobility programmes) to be put in place for furthering these necessary exchanges. However, grants of Western European organisations are often too low, given the high living costs and expensive housing in Russian cities, especially in Moscow and St. Petersburg.

### *Russian Foundation for Basic Research*

The Russian Foundation for Basic Research (RFBR) is the focal point of bilateral funding cooperation in basic research. It has bilateral agreements and funding programmes with partners in 9 EU Member States and 3 Associated Countries. It is de-facto implementing a large part of the practical side of intergovernmental agreements concluded by the Ministry of Education and Research.

RFBR provides support to cover expenses related to the implementation of research projects, organisation of workshops, publication costs, and travel expenses. In its activity the Foundation adheres to bottom-up principle and allows scientists great latitude in choosing research subjects and methods. The Foundation provides financial resources for mobility. It assists researchers but not organisations by awarding grants on competitive base. The EU area is a key area and priority of the RFBR activities. 40% of the Foundation's resources dedicated for international cooperation are allocated for implementation of the joint projects with the EU counterparts. Two types of grants for research mobility are available: for scholars irrespective of age and for young researchers. There are grants for Russian researchers to attend EU scientific conferences. Annually the Foundation provides approximately 1000 grants to researchers from the Russian Federation to participate in EU events. Approximately every third application is a grant recipient between the amount of USD1000 - EUR1000 for travel and accommodation abroad.

Another area of RFBR activity is support of international scientific events in Russia and provision support for foreign experts to attend such events. In 2009 about 200 of such events were supported. The support is provided by RFBR through grant agreements. Such grant programmes are implemented on an annual basis within the bilateral agreements. Every year about 1500 Russian researchers go abroad to participate in scientific events with the support of the Foundation.

In March, 2011 the RFBR announced a call for proposals under “the mobility of young researchers” programme in such fields as: mathematics, physics and astronomy, chemistry and science on materials, biology and medicine, science on Earth, information technologies, engineering.<sup>30</sup>

The RFBR together with Russian Academy of Science (RAS), RFH and the Foundation for Assistance to Small Innovative Enterprises has taken part in the joint initiative with European countries, such as Germany, Greece, Spain, Norway, Poland, France and Switzerland under the auspices of the 7 EU Framework Programme ERA.Net RUS project on establishing new multilateral cooperation system in the field of natural and social studies and innovations. In March 2011 the first call on multilateral research projects has been declared. The purpose of the call was to form new mechanisms for long term cooperation of scientific communities in the Russian Federation and in European countries.<sup>31</sup>

### *Russian Foundation for Humanities (RFH)*

On a much smaller scale, RFH implements bilateral cooperation in the Humanities and Social Sciences and has concluded agreements with partner organisations in 4 EU member states. In

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<sup>30</sup> The programmes of RFBR. URL: [http://www.rfbr.ru/rffi/ru/contest/n\\_499](http://www.rfbr.ru/rffi/ru/contest/n_499)

<sup>31</sup> Linking Russia to the ERA, ERA.NET RUS. URL: <http://www.era.net-rus.eu/>



2006, cooperation agreements were signed with two French organisations: Maison des Sciences de l'Homme (to support mobility) and CNRS (to support joint research projects).

The main RFH instruments to support international cooperation are:

- research projects;
- projects on organisation of scientific events (conferences, seminars, etc.);
- projects of expeditions.

RFH supports mobility of Russian researchers within its target areas of responsibility. From 1994-2008, RFH funded 29061 scientific projects, among which 1949 projects on the organisation of scientific conferences, seminars, etc.; 1035 projects on mobility; 1922 projects on participation of Russian scholars in scientific actions abroad.

## Barriers and Recommendations to Enhance the EU-Russia Scientific Mobility

The desired perfect procedure of scientific mobility process management was presented by Mr. Michel Tararine, Director of the Moscow Office French National Center for Research (CNRS) – speaker of the Workshop “Russia-EU Cooperation in Academic Mobility” on 25 October 2011:

*«As you know, I have had that project of scientific mobility for a long time. I went on the information site [www.information-for-scientists-wishing-to-take-part-in-a-mobility-program.org](http://www.information-for-scientists-wishing-to-take-part-in-a-mobility-program.org) where I found the optimal solution quite easily. I simply submitted my file online in a couple of hours. The **recognition of my diplomas** was validated automatically and I received a positive answer in the following week from the monthly examination commission. I received the funds by **bank transfer** a couple of days later. I bought my ticket on the same day and I left on the following Monday. As I **did not need any visa**, I went through **passport control without even waiting in the line** and they hardly checked my documents. **At customs, people were very courteous**. I had filled the declaration for **imports of scientific materials and samples** on the plane, they immediately put the right stamp at the right place and I could walk on to the taxi driver who was waiting for me at the airport. He took me to the **residence for scientists**, where I was given a **nice apartment**. My wife and children will like it for sure when they arrive in a few days. Thanks to the **special Family Service, my kids were registered at the local international school**, they will even have music and sport lessons every week, and **my wife has already found a job** here. As a whole, **life is like at home**, everything is conveniently located within 10 minute walk from the nearest metro station. As far as work is concerned, I have already met all my future colleagues (they are all **fluent in English**) and **I am starting at the lab next week...** »<sup>32</sup>*

The Russian Government, the supranational and national Governments of the EU and AC have undertaken and are in the process of elaborating a wide range of measures to reduce the barriers for international mobility between Russia and the EU. However, there are still some obstacles, which hamper the mobility of researchers between the parties. These barriers can be classified by the following categories.

### *Administrative and legislative barriers*

There is still a wide range of differences in national legislations and administrative regulations which make the implementation of trans-national activities difficult. All these gaps lead to consequences, such as:

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<sup>32</sup> Presentation “CNRS S&T cooperation with Russia. A brief overview” made by Mr. Michel Tararine, Director of the Moscow CNRS Office. URL: <http://fp7.hse.ru/mobility/news/37376410.html>

- Lack of effective system and up-to-date mechanisms to support sustainable international cooperation in academic mobility (at least in Russia);
- Comprehensive visa requirements;
- Bureaucracy: in-migration rules; work legislation for foreigners;
- Complicated proposal submission procedures and participation rules; different competition rules and deadlines; different evaluation criteria, review and reporting process;
- Difference in education systems, which complicates the process of diploma recognition and equivalences (Master and PhD degree);
- Incompatibility of funding schemes, legal and social welfare systems;
- Unsettled social and medical insurance, pension funds for scientists working abroad;
- Custom duties and taxes on shipping of materials and equipment complicate scientific work and as consequence influence on attractiveness of one or another country for research;
- Protection and utilization of intellectual property.

### *Information barriers*

The information barrier is one of the most predominant barriers for mobility between Russian and EU researchers. There is still a lack of information and initial contacts between EU MS, AC and Russian researchers that negatively effect the international communication culture. Very often the EU research organisations do not have enough information about R&D potential of Russian research organisations and universities. The Russian researchers do not always publish the articles and results of their investigations in international journals, and EU researchers do not read non-English editions. Internet helps, but does not give complex and consistent information about research in Russia. There is no unified English-language Internet portal on programmes and organisations suggesting job or studying opportunities in Russia. At the same time Russian researchers have not enough information about the current opportunities for international mobility.

### *Organisational barriers*

Organisational barriers to academic mobility usually relate to such issues as fear of losing the job in the country of origin. Mainly young Russian researchers find difficulties in going abroad fearing of losing the primary employment that is not guaranteed in any case after a long stay away. A Russian contract of employment usually doesn't allow researchers to move abroad for a long term without breaking a domestic contract. Therefore, when a researcher is back, he or she does not have a guarantee of employment neither in the same research organisation he/she worked before nor in any other domestic organisations relevant to his skills – his knowledge may be simply non-applicable in the country.

### *Mobility barriers associated with lack of motivation*

The main reasons for inadequate motivation is a lack of knowledge about the existence of relevant partners and programmes; over-estimation of difficulties to enter these programmes; risk-reward ratio; over-estimation of difficulties to develop co-operation within existing programmes.

### *Financial barriers*

There is a lack of national state budget to support international mobility of researchers. Also, there remain changing standards and incompatibility of different funding schemes. Difficulties

also occur in finance management and accounting of international research projects and grand contracts, affecting mobility.

### *Other barriers*

The most obvious barriers to movement of scientists are personal barriers to movement of people generally among which are: different culture, language, school for children, job for spouse. Differences in standard of living and working, e.g. infrastructure, everyday life hinder easy migration of people. Lack of skills in proposal writing and project management.

## **Recommendations for Potential Joint EU-Russia Agenda on Enhancing Scientific Mobility**

From the policy perspective, present and possible future global challenges require cooperation of individuals, whose joint efforts are directed to find scenarios to deal with them. Internationalization of S&T aims at close networking between institutions and individuals in order to exchange knowledge and skills, gain academic experience for career development, share resources and infrastructures and facilitate open innovation process. This process is accelerated by growing trans-disciplinary research, which requires the collaboration of the best brains across various scientific fields.

The high qualified human potential is acknowledged as one of the crucial factors for competitive economic growth in a knowledge-based society. The international mobility of researchers is not only a key to the career development but also vital to the sharing and transfer of ideas, knowledge and skills between countries and sectors.

However, there are some negative consequences associated with academic mobility. From an economic perspective the international market of academic workforces puts pressure on public and private institutions to recruit experts on global scale in an open competition. This leads to the negative effect of brain drain, when mobility becomes the first step into permanent emigration. Researchers leave their countries of origin if they find higher salary, broader opportunities for personal creative fulfillment, up-to-date laboratory engineering, more comfortable living conditions, better observations of civil rights and democratic liberties in another country. Thus, the national governments of EU member states and the Russian government have to overcome these negative consequences and to insert stimulus to attract researchers back to their countries of origin. The problem of brain drain should be addressed at the national level through elaboration of the adequate policy on academic mobility both in Europe and Russia.

The enhanced dialogue and *joint development of scenarios to overcome these barriers* will contribute to the gradual establishment of policies, mechanisms and actions aimed at creating closer and more coordinated EU and Russia mobility programmes in the field of research and higher education.

In order to exchange good experience and comprehensive information on state-of-the-art, political decisions, operated programmes and instruments, mutual interests in academic mobility sphere, obstacles and possible ways for facilitation of 'brain circulation' it is necessary to launch a *regular political and experts dialogue* (through functioning of the joint EU-Russia Working Group on Researcher Mobility, workshops and symposia) with involvement of representatives of all levels of stakeholders (relevant executive bodies and decision makers, administrators of foundations, academies, research organisations and universities, individual scientists, teachers and students); to create *instruments for regular monitoring and measuring of the mobility flows* between the EU and Russia are needed (statistical and social surveys and studies).

For a better understanding of the roots of the more- or less-developed mobility status and in order to elaborate strategic directions and concrete activities for enhancing cooperation in the

field of scientific mobility it could be also useful *to compare the results of undertaking studies with experience of cooperation of the EU and Russia with other countries in the sphere of academic mobility*. The experience of other countries could be studied as well (exchange of good practices, benchmarking, etc.).

At the present stage the next activities within EU-Russian cooperation in strengthening academic mobility should focus on such areas as *better use of existing opportunities and programmes*: joint laboratories; staff and students exchange; engaging of different financial sources complementing the projects budget; balancing mobility of leading experts and young researchers and at the same time on *development of new initiatives* (programmes, agreements, financial instruments, joint projects, educational programmes resulting in double / joint diplomas and degrees, etc.) for academic exchange.

More precise recommendations to address the challenges for mobility of researchers between EU countries, AC and Russia are presented in the following:

### **The administrative and legislative challenge**

1. The international academic mobility should be conceived and recognised as an added value for development of domestic science, research institutions, researchers' careers and human resources, international cooperation, and, as a consequence, for economic growth and joint response on global challenges. Countries should aim at benefiting from the process of "brain circulation" through creating optimum environment for incoming and outgoing mobility. It should be realised that investments into academic mobility will be returned profitably. *Strengthening the international mobility of researchers and students should be one of the priorities of S&T collaboration and education.*
2. In order to strengthen international cooperation a *regular policy and expert dialogue, including identification of fields of specific mutual interest to enhance mobility, financial tools and strategic directions*, should be set up. The EU-Russian Working Group on Researcher Mobility, established within the Joint Russia-EU Committee on Science and Technology Cooperation (JCSTC) meeting on 8 July 2010 became a discussion platform and a practical instrument of holding expert consultation in this sphere under the umbrella of the JCSTC.
3. Participation of Russian researchers in the EU FP7 "People" programme and others, and the EU researchers in the corresponding Russian researcher mobility programmes should be enhanced.
4. Under the up-to-date policy umbrella incoming mobility to Russia should be established through development of *instruments to improve the visibility of Russia's S&T capacities to host EU experienced researchers* such as methodical analysis and removal of obstacles in national legislation (residence permit, registration of stay, work permit); recognition of diplomas and scientific degrees; openness of S&T infrastructures as an instrument for mobility; adaptation of joint evaluation criteria, deadlines, monitoring and assessment process.
5. The national priorities *to create an attractive, competitive and sustainable area for researchers* from all around the world should be set up. This implies creation of optimum environment for incoming and outgoing mobility, which prevent brain drain and makes beneficial process of brain circulation.
6. The relevant *twining arrangements for training of young researchers* seem to be useful as complementing other cooperative activities in S&T.
7. The *alignment with the Bologna process* through practical activities, which support international scientific education schemes and balanced students and researchers

mobility, should be enhanced. The activities will contribute to establishing joint degree programmes, including programmes for master and doctoral studies.

8. The conditions of receiving *scientific visa* should be simplified both for Russian and European researchers. The national policy stakeholders in cooperation with relevant authorities should work to further simplify the process of issuing scientific visa both in legal and practical terms.
9. ***The list of Russian S&T programmes open for participation and easily accessible for foreign researchers including European ones should be substantially extended.*** Recently the most realistic and the easiest way for European researchers to access the Russian programmes is participation in the actions addressed to bring top class scientists to Russian universities (Federal and National Research Universities).
10. ***Joint mechanisms for elaborating systemic scenarios to overcome the barriers of academic mobility*** should be introduced. The scenarios should address the issues in different sectors related to academic mobility and how academic mobility correlates with other aspects of S&T national priorities and international cooperation objectives.
11. The mechanism ***to keep connections with domestic researchers working abroad*** should be applied more widely in order to benefit from their advanced experience and scientific networks established in other countries.

Examples: The Marie Curie Fellows Association of scientists (Marie Curie Fellows) who were awarded a mobility research training grant by the European Community. The MCFA helps unite the European scientific élite by providing a platform for networking, career development, and mutual support; and it helps to deliver their ideas and concerns to the highest level of the European decision-making.

Grants for research in Russian organisations under the leadership of Russian scientists living abroad within the Federal Targeted Programme «Scientific & Scientific - Pedagogical Human Resources for Innovative Russia in 2009-2013».

#### **The financial challenge**

12. The joint participation in projects should be enhanced through ***bilateral instruments and co-financial schemes***. For instance in case of Russia, the development of national schemes complementary to FP7 Marie Curie International Research Staff Exchange Scheme (IRSES) could be an appropriate tool to support the national teams which are the members of successful IRSES consortia funded by the FP7. Participation of Russian research foundations and financing bodies (RFBR, RFH, and other) in the COFUND scheme could be considered.

With respect to the realization of joint pilot calls on collaborative research projects and innovative projects with participation of EU MS, AC and Russian foundations (RFBR, RFH, RAS, FASIE) the first positive experience has been obtained within the implementation of the FP7 ERA.Net RUS project.

13. For co-financial support such forms of collaborative activities as ***joint laboratories, staff exchanges, twinnings, combination of various financial sources*** to complement accepted projects budget could be discussed.

#### **The lack of motivation challenge**

14. ***The social and economic status of researcher*** should be kept at high level. The social and economic circumstances of the academic staff are to be adapted to the standard which has become common in other competitive spheres of the country's economy.

Academic staff needs adequate salaries, working environment, opportunities for career development and social security according to their socio-economic status.

### **The lack of information challenge**

15. The *information exchange and coverage is also essential* for boosting academic mobility in Russia and European countries. The *mutual information flows should be considerably improved* to enable researchers to learn more about each other, their institutions and countries. The information can be promoted through such activities as information days, workshops, media, web-sites and information and advice portals<sup>33</sup>, which allow to find required data and take advantage of personal counselling.
16. The means of *information dissemination about funding opportunities* both at multilateral (the EU and Russia) and bilateral levels (EU MS, AC and Russia) should be upgraded. The general information platform, formulated on the basis of existing information portals could be extended to the access of European and Russian researchers to programmes, implemented in Europe and Russia.
17. The sustainable functioning of *regional information multipliers and consultancy centres* across Russia on the issues of inward and outward mobility is desirable.
18. For researchers and research institutions the participation in international conferences and joint projects with the aim of *presentation of own research potential and development of new contacts* is very advantageous.
19. In order to improve the exchange of information flows it is recommended that *the link of Russia to the EURAXESS portal* is considered.

### **Other barriers**

20. The *linguistic barriers should be reduced* through promotion of more knowledge of foreign languages, also through modules and disciplines taught in a foreign language in universities.
21. In order to raise mobility the advantage of *networking of the Russian, EU MS and AC NCPs* could be used more actively (e.g. under joint activities of FP7 PeopleNetwork+ project). The existing *searching tools for partners* for joint projects and host organisations for individual fellowships demand to be improved at the level of NCPs both in Russia and the EU.

## **Conclusion**

To increase the level of academic mobility a systemic approach has to be elaborated by EU and Russian authorities, which would consider a wide range of issues related to academic mobility. The upgrading of research potential and the improvement of social conditions for internationally mobile researchers would contribute significantly to facilitation of brain circulation and solve the problem of brain drain. The challenges related to academic mobility could be met through harmonization of national legislation, simplifications of administrative arrangements, creation and extension of financial schemes, raising the motivation, and the improvement of information flows between EU MS, AC and Russian programmes, foundations, consulting units and researchers.

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<sup>33</sup> For example, the web portals incrEAST (<http://www.increast.eu>), S&T Gate RUS.EU (<http://www.st-gaterus.eu/index.php>) and EURAXESS (<http://ec.europa.eu/euraxess/>).

## Annexes

Annex 1. Inventory of the inward and outward mobility programmes exist in Russia and the EU

Annex 2. Pictures



The Workshop participants



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