



Enhancing the bilateral S&T Partnership with the Russian Federation

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Abstract	Identifying and analyzing examples of particular good cooperation practice (case studies) including the depiction of its mutual benefit. The analysis is based on information stemming from existing information tools at Member States'/Associated Countries', Community and Russian level.
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Executive summary

The goal of the deliverable is identifying and analyzing examples of particular good cooperation practice (case studies) including the depiction of its mutual benefit. The analysis was based on information collected from participants of international and bilateral research projects – representatives of the EU Member States, Associated Countries, and Russia.

12 case studies of good cooperation practice in S&T have been collected and analytical summary report on the lessons learnt has been composed.

The deliverable has been achieved within the work package 1 “Information dissemination and awareness raising”, Task 1.1 “Information gathering on S&T and innovation activities in and with Russia”. The presented deliverable as a part of the WP1 activities contributes to the main objective focused on facilitating coherent information gathering and dissemination on S&T in Russia, on relevant S&T cooperation programmes to foster cooperation between the EU and Russia (emphasis on FP7) and on ongoing S&T projects.

Collection and analysis of existing practice and examples of cooperation is an effective tool for recognition of the state-of-the-art, advantage, obstacles and strategic trends of international research relationship. The main conclusions are:

1. The accomplished analysis showed it obviously that scientific collaboration between Russian and EU’s research teams is beneficial for the both sides. Russian scientists collaborate with their EU counterparts for a long time and are active participants both of the EU R&D framework programmes and other programmes realized at bilateral and national levels of the EU Member States (e.g. Germany, France, Austria). Among the mutual benefits for all involved parties subsequent from the collaboration are such as access to complementary competences, knowledge, equipment, software, exchange of specialists etc. Cooperation experience is strengthened via mutual learning through working meetings and sessions for all project members, exploitation of the unique equipment and laboratory facilities, exchange of best practices.
2. At the same time collaboration is hindered by usual barriers to trans-border relationship like different languages, geographical distance, bureaucracy, visa provision, legal regulations, diverse administrative and financial management, lack of financial resources, lack of information exchange and others.
The undertaken case studies outlined the concrete measures that would help to overcome the barriers. Cooperation could be improved on the one side by making optimum use of existing national, bilateral and multilateral instruments in particular by enhancing Russian participation in the EU framework programmes and on the other side by opening new channels of scientific and technological cooperation of European research organisations and enterprises with the advanced Russian universities, institutes and companies.
At the governmental level solving of problems related to national rules and regulations - among others those concerning the exchange of samples for joint experiments, which is affected by customs procedures would encourage more effective research process.

3. Commercialisation of results achieved within international research collaboration is a subject of great importance that demands a special settlement and coordination. At the beginning of collaboration partnership at whole should formally agree on terms and procedures of such results utilization taking into account regulations on intellectual property rights applied in different countries.
4. At practical level organisations should increase their capacities for international project management, focusing on legal and financial issues. More attention should be paid to intense information and experience exchange as a top priority during the collaboration process.
5. Balanced mobility of leading experts and young researchers between EU and Russia as well as exchange of laboratory staff between partner institutions has been suggested to be increased.
6. Provision of projects finance from different financial sources complementing the projects budget would become a success factor of research performing if main funding is insufficient.
7. With the aim of quality improvement of research simplification of proposals submission process would allow researchers to concentrate more efforts on the research itself.

More detailed conclusions and recommendations emphasized under the carried out survey are presented in the presented report below.

1. Introduction

International cooperation in frames of multilateral and bilateral EU-Russian research projects can be improved by raising awareness for existing good cooperation practice and by solving arising issues which can be found even within successful examples of cooperation such as presented in this report. Appeared barriers and obstacles during the project execution have negative influence on the whole process decreasing effectiveness of the consortium. That is why interviewees were asked to mention main obstacles faced during their cooperation including strategies to overcome them as well as positive aspects such as mutual benefits, lessons learnt and main strengths of cooperation experience obtained. Analyzing arising issues together with showing positive results of international cooperation should improve the cooperation practice. This is the intention of this report.

2. Methodology and activities

To collect examples of good S&T cooperation practice between EU and Russia the questionnaire has been developed by ZSI under ERA.Net RUS Project. HSE has analyzed and modified the questionnaire focusing on the task of the BILAT-RUS Project. Russian NCPs as associated partners of BILAT-RUS Project - Nano, Biotech, Energy and Health disseminated the questionnaire among the relevant representatives of Russian and European research communities – participants of joint projects in the respective research fields. 12 filled in questionnaires have been collected and analyzed (including 3 for Health, 3 – Biotech, 3 – Nano and 3 – Energy). The interviewed researchers represent both Russian and European participation in FP6 and FP7 programmes, programme of International Science and Technology Center (ISTC) and bilateral Russia-Finland, Russia-Germany and Russia-France cooperation.

List of analyzed projects

Biotech

- Global platform on emerging risks in the food and feed chain (FP6 Project: GO-GLOBAL);
- In silico rational engineering of novel enzymes (FP7 Project: IRENE);
- Oil spills bioremediation in coastal area of the Baltic Sea (Bilateral project: Russia-Finland).

Nano

- Multifunctional percolated nanostructured ceramics fabricated from hydroxylapatite (FP6 Project: PERCERAMICS);
- Intelligent release systems for anticorrosion self-healing coatings (Bilateral project: Russia – Germany);
- Some aspects of symmetry and chirality/anisotropy in the crystallography of

condense matter: defects in crystals and quasicrystals, reflections (Bilateral project: Russia – France).

Energy

- Risk of energy availability: common corridors for Europe supply security (FP7 Project: REACCESS);
- Intelligent coordination of operation and emergency control of EU and Russian power grids (FP7 Project: ICOEUR);
- Engine and turbine combustion for combined heat and power production (FP7 Project: BIOLIQUIDS-CHP).

Health

- Genomic variations underlying common behavior diseases and cognition trait in human populations (FP7 Project: ADAMS);
- Promotion and facilitation of international cooperation with Eastern European and Central Asian countries (FP7 Project: EECALINK);
- Development of the technology for cell therapy of ischemia with adipose tissue stem cells and recombinant human alpha-fetoprotein (ISTC Project: CELL THERAPY OF ISCHEMIA).

3. Conclusions and recommendations

The section “Conclusions” presents integrated results of conducted case studies of good cooperation between European and Russian researchers in the priority fields of Nanotechnology, Biotechnology, Energy and Health. On the one hand the main drivers of international cooperation as well as its impact and mutual benefits and on the other hand barriers for effective cooperation are summarized below to prepare the ground for recommendations on how to raise the full potential of EU-Russia S&T cooperation.

Main drivers of international S&T cooperation

Cooperation in frames of international S&T projects demonstrates its efficiency and effectiveness for improving the performance of S&T activities and for responding to global challenges through the project's activities. Respondents highlighted the following driving motivations for international cooperation:

- improvement of scientific expertise, project management as well as language skills;
- access to infrastructures;
- improving institutional innovation capacities in accordance with the demands for new technologies.

This assessment is based on the overarching assessment that EU-Russia S&T cooperation works well both on the level of the individual Member States and on the level of the European Community. With respect to multilateral approaches in the scope of the EU-RTD Framework Programme, as main strength of S&T cooperation the opportunity was

highlighted for exchange of information and experience with other consortium partners and related collaborative projects. It is noted that cooperation experience is strengthened via mutual learning through working meetings and sessions for all consortium members. Also workshops reflecting scientific experience of every member of consortium are in the centre of attention. Another strength of cooperation is that Russian partners of consortia can get an access to the European bundled software on a free base.

At the same time and along the line of above mentioned drivers, there is a much room for encouraging cooperation by strengthening the already existing and opening new channels of scientific and technological cooperation of European research organizations and enterprises with the advanced Russian universities, institutes and companies. Cooperation could be and should be improved, in particular by making optimum use of Russian participation in the EU framework programmes.

Mutual benefits and impact on capacities of teams, laboratories and institutes

The main benefits of the cooperation mentioned by respondents were:

- access to and exchange of expertise, experience and exclusive knowledge (background) in the field of project's activity,
- production of high quality and large amount of know-how (foreground) in terms of scientific articles, doctoral theses and patents,
- exchange of samples, reagents, unique materials needed for research as well as scientific data,
- use of the unique equipment and laboratory facilities,
- new personal scientific contacts,
- exchange of best practices.

According to the opinions of the respondents the impact of collaborative projects on capacities of teams, laboratories and institutes has been very positive:

- growth of scientific experiences, expertise and skills,
- improvement of institutional S&T infrastructure including computer base and experimental facilities,
- involvement and support of young scientists,
- development of S&T management skills, skills for preparation of proposals and for efficient communication of the impact of scientific projects,
- spill-overs for the advancement of Russian S&T structures.

Barriers for effective cooperation

Effective collaboration in frames of international projects can be slowed down because of existing barriers highlighted by respondents:

- European and Russian partners have a different view on the process of the planning and setting-up of projects including the formation of project consortia.
- For the EU RTD Framework Programme administrative rules, legal regulations and respective obligations of the partners are sometimes considered complicated.

- The complex process of visa provision as well as a lack of financial resources in smaller scale bilateral programmes complicates the participation in workshops and meetings.
- Difficulties appear during partner search and networking in the preparatory phase of a project.
- Linguistic barrier still remains since the general level of English language skills by Russian researchers as in the area of specific terminology used in the frame of certain research field that can be an issue even for excellent speaking partners.
- The differences in the European and Russian scheme of the financing leads to mistiming of contract payments where the difference in time can reach a year.

No cultural barriers were revealed during the process of the collaboration.

Recommendations

Proposals on the measures to overcome obstacles disturbing effective international collaboration have been collected and summarized in the presented recommendations. All the recommendations given by the respondents during the interviews can be divided semantically into the following groups and subgroups:

- Strategic issues
- Administrative and financial issues
- Research infrastructure issues
- Issues of commercialization of collaboration results;
- Information and communication issues;
- Researchers' mobility issues.

Strategic issues

It is considered of utmost importance that collaborative activities are of relevance to Russias' and EU S&T priorities. As for the EU both the priorities of Member States as those of the Community refelected in the EU RTD Framework Programme should be considered. As for the Russian Federation the priorities were approved in the Programme for Scientific and Technological Development and Technological Modernisation of Russian economy until 2015, which is based on the Strategy for scientific and innovative development of the Russian Federation until 2015.

Administrative and financial issues

With reference to the EU RTD Framework Programme simplification of proposal submission by decreasing its complexity would allow researchers to concentrate more efforts on the research itself.

Solving problems related to national rules and regulations – among others those concerning the exchange of samples for joint experiments, which is affected by customs procedures - should be a priority at governmental level. It is recommended to handle this issue between the European Commission and the Russian Federation, since not all EU Member States will provide bilateral umbrellas for S&T cooperation with Russia.

For increasing the success rate of the proposals organizations should increase their capacities for international project management, focusing on legal and financial issues. Staff involved in the project activities should improve their personal competence for international cooperation (intercultural communication, language skills, competence in national administrative and financial management compatible with international one).

It is suggested to pay more attention to the financial and time coordination within collaborative projects.

For projects funded in the EU RTD Framework Programme, extra-financing of projects complementing funding of the European Commission and partners themselves will become a success factor if main funding is insufficient. In some cases successful accomplishment of projects seems possible only with co-financing from national governments as well.

Research infrastructure issues

The development of joint and the sharing of each others research infrastructure would ensure the efficiency of collaborative research. This could cover the commercial use of joint research infrastructure.

Commercialization of results of international collaboration

At the beginning of collaboration consortia at whole should formally agree on terms for using the results of collaboration taking into account property rights and further utilization procedures in case of successful finishing of the project. This should avoid a situation when there is potential for commercialization and the responsible partner cannot succeed in implementing or selling it.

It is recommended to offer cooperation services for research-intensive small and medium-sized enterprises using among others capacities of technological (industrial) parks for Industry-Academia Partnership and Pathways. As a prerequisite structural and individual capacities should be raised to exploit international industry-academia collaborations for optimum transfer into commercial applications in terms of products and services.

Information and communication issues

More attention should be paid to intense information and experience exchange as top priority during the collaboration process.

In addition, it is recommended to:

- increase personal communication between project partners for discussing important issues relevant to the project and potential collaboration e.g. via telephone conferences for an update of the participants on the current status of the project and for discussing important issues quarterly,
- overcome language barriers by publishing an internal brochure (possibly electronic-viewed) contained scientific terms in the frame of the project in different languages as it may ease dialogue in sense of terminology set,

- optimize communication between partners from different time zones through good planning procedures and through new technical approaches for efficient communication,
 - foresee systematic trainings for increasing administrative efficiency of the project,
 - develop an online platform to exchange best-practices among project partners concerning project planning and implementation,
 - raise further awareness of research opportunities in Russia among others through exhibitions in EU countries and through assisting the setting-up of partnerships by opening databases with Russian organizations and with individual scientists in different areas,
 - developing a newsletter in English on the EU-Russia cooperation in R&D, disseminated to the European and Russian subscribers building on a pilot activity published within the BILAT-RUS project,
 - fostering direct contacts between Russian and European scientific and business communities (through workshops, road shows, brokerage events etc.) that would increase collaborative projects with Russian participation,
 - using of media for advertising EU-Russia S&T collaboration more actively to fill in the existing information gap,
- raise awareness of the opportunities offered by the EU RTD Framework Programme as well as of bilateral or national programmes, enhance and expand the information infrastructure (National Contact Points etc.) for enhancing Russia's participation in FP7. Apart from capacity building of National Contact Points and regional outreach, workshops in Russia on writing proposals for the EU programmes and promotion of success stories are also highly recommended measures for enhancing the international cooperation.

Mobility of researchers issues

Balanced mobility of leading experts between EU and Russia as well as exchange of laboratory staff between partner institutions should be increased.

Simplification of visa application procedure for researchers through full implementation of the EU visa facilitation agreement would also improve the framework for international collaboration.

An alternative would be to develop trans-national twinning concepts between ongoing projects where researchers would typically do most of their project work in their own country while virtually sharing results and data.

A central recommendation to remove mobility barriers is to raise individual skills for cooperation (language skills, intercultural communication, cooperation management skills, more active participation in international scientific events, invitation of foreign researchers to conferences and workshops, enlargement of publications in international scientific editions, wider usage of the existing opportunities of international mobility).

4. Annexes

4.1. Annex 1: Biotech

Project: Global platform on emerging risks in the food and feed chain (GO-GLOBAL)

Project identification data	
Name of project	Global platform on emerging risks in the food and feed chain (GO-GLOBAL)
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP6
Project brief description and objective	<p>The GO-GLOBAL Platform's mission was to establish a global sustainable Network for generation, integration and transfer of Knowledge on Emerging Risks in the Food and Feed Chain.</p> <p>The long-term objectives of the GO-GLOBAL Platform include:</p> <ul style="list-style-type: none"> • To identify and evaluate ongoing initiatives and research projects on emerging risks in the food and feed chain that are carried out worldwide; • To stimulate and facilitate a global exchange of final results and recommendations resulting from these studies; and • To develop activities to fill the gaps in knowledge identified. <p>Strategic objectives</p> <ol style="list-style-type: none"> 1. To create a sustainable global platform for sharing results, stimulating dissemination and setting the research agenda on emerging food safety risks. 2. To develop a global implementation and harmonization strategy for evaluation of research and related activities. 3. To identify shortcomings in current food safety systems regarding the identification of emerging risks. 4. To develop a strategic research agenda, and initiate joint research activities. 5. To stimulate global exchange of information and dissemination of emerging food safety issues. <p>Abstract Emerging food safety risks are internationally recognized by governments as a major concern in all food production systems. Substantial resources have been invested in national and regional initiatives (e.g. research, regulation) to improve food safety standards, with the aim of identifying emerging food safety risks and facilitate pro-active intervention (e.g. RASFF, INFOSAN-WHO). However, there is no system in place to support the global coordinated exchange of information. Information about relevant research findings and risk management activities is fragmented, and not internationally disseminated.</p>
Project type (i.e. bilateral,	Multilateral

multilateral, etc.)	
Research field (s)	Food Quality and Safety in Europe
Total number of project's participants	8 project partners + 14 platform members
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Organization name: STICHTING DLO (RIKILT)</p> <p>Contact person: Hans J.P. Marvin (Dr) Tel: +31-317475540 Fax: +31-317417717 URL: http://www.wur.nl</p> <p>Address: RIKILT-Institute of Food Safety. PO Box 9101 Costerweg 50 Wageningen Nederland Region: OOST-NEDERLAND GELDERLAND Arnhem/Nijmegen</p> <p>RIKILT, as part of Wageningen University and Research centre (Wageningen UR), is a leading Dutch institute on food safety and risk assessment. RIKILT carries out food safety research and advises the Dutch government, the Dutch Food Safety Authority (VWA) and international governments including the European Food Safety Authority (EFSA) on food safety issues. RIKILT is highly active in the international arena of food safety assessment and emerging food safety risk research. It participates in and co-ordinates many international projects in this field, among others the EU 6th FP project SAFE FOODS (IP) and SELAMAT (SSA), EMRISK (EFSA funded emerging risk project) and national projects on emerging food safety risk.</p>
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	<p>Organization name: The A.N. Bakh Institute of Biochemistry (INBI), Russia</p> <p>Contact person: Vladimir Olegovich Popov (Professor) Tel: +7-4959523441 Fax: +7-4959523441 URL: http://www.inbi.ras.ru</p> <p>Address: LABORATORY OF ENZYME ENGINEERING Leninsky prospect 33 MOSCOW Russian Federation</p> <p>The A.N. Bakh Institute of Biochemistry (INBI) is one of the oldest institutes of the Russian Academy of Science in the area of life sciences, studying molecular processes in living organisms and practical applications of fundamental biochemical concepts. In the area of environmental and food safety risks, INBI collaborates with numerous scientific centers, universities and research institutions both in the Russian Federation and over the world. On INBI the Russian National Contact Point (NCP) on FP6 Thematic Priority 5 was established for promoting integration of the Russian science into European Research Area. For the purpose of this project a Russian Consortium will be extended with key researchers and R&D organizers from the Institute of Nutrition of the Russian Academy of Medical Sciences and</p>

	the State Control Veterinary Institute.
Other EU partner organisations (Name of organisation, country, city)	<ul style="list-style-type: none"> • Wageningen University , Wageningen, The Netherlands; • Central Science Laboratory, York, United Kingdom; • TUBITAK - Ankara Test and Analysis Laboratory, Ankara, Turkey; • Ministry of Education, Secretariat of Science, Technology and Product Innovation, Buenos Aires, Argentina; • Laboratory Center for Food and Agricultural Products, Bangkok, Thailand; • New Zealand Institute for Crop and Food Research, Auckland, New Zealand.
Other Russian partner organisations (Name of organisation, city)	—
Project total value (in EUR)	800000

Main strengths of this cooperation experience	
<ol style="list-style-type: none"> 1. The project brought together a unique combination of global experience and expertise. Through the large number of networks associated through the selected organizations/persons a wide global coverage was ensured. 2. Simplicity, flexibility and transparency are key factors to the professional management of large research projects. This model had been successfully applied by the co-ordinator (RIKILT) in the EU 6th FP projects SAFE FOODS (an Integrated Project with 34 participants from 17 countries, including China and South Africa) and SELAMAT (a Strategic Support Action with United Kingdom, Portugal, China and Malaysia) and was implemented again in this project. 3. Tried- and-tested foresight methods (such as the Delphi technique) was applied to generate outputs in the form of documents which were invaluable to research sponsors (i.e. research programming bodies) globally. 	
Mutual Benefits	
Main beneficiaries	The project participants as well as platform members gained a lot during the project, including the access to the essential information, invaluable experience in international collaboration coupled with knowledge obtained during the problem focused trainings and seminars.
Scientific excellence	The GO-GLOBAL project has developed unique products and strategies that enable regional and global analysis of food safety research and related activities. More over a great number of scientific articles was produced and published.
Rating of personal learning gain	Educational Trainings and Seminars were held on Regional Level for Local Knowledge Development and Integration.
Rating of institutional learning gain	<p>A sustainable global platform for sharing results, stimulating dissemination and setting the research agenda on emerging food safety risks was created.</p> <p>The project emphasized the poor communication and lack of collaboration between different stakeholders at a global level and noted the critical importance of proper planning and design of food safety surveillance for organizations throughout the world to minimize considerable duplication in research effort internationally.</p> <p>The interaction and collaboration of GO-GLOBAL with existing national and regional initiatives and networks in the area of food safety was set up, including monitoring, surveillance and risk analysis networks.</p>

Other benefits	GO-GLOBAL established a permanent and sustainable platform on emerging risks in the food and feed chain. Therefore this platform brought together key players and Networks dealing with emerging food safety risks. Similarly, by sharing 'best practice' between countries with well developed food safety infrastructures (such as EU countries and North America), and the developing world, improvements lead to economic benefits to the food exporting countries. Financial benefits to food importing countries resulted through the need for reduced testing, and by reduced costs associated with major scares which can result in large-scale food recalls.
Barriers	
Personal factors (i.e. cultural, language, etc.)	The GO-GLOBAL project implies the participation of the people all around the world. This makes the process of team work really difficult as the team members have to cope with such problem as time lag that leads to complications in the data sharing and analysing.
Administrative factors (i.e. legal, institutional, financial, etc.)	Due to the fact that the GO-GLOBAL project unites the scientific teams from different countries a great number of international meetings are required. But this process is often complicated by the complex process of visas receiving.
Capacity of involved institutions	There was a difficulty with the searching process of the institutions to participate in the research, to fill in the questionnaire. But when they were found no more barriers appeared.

Issues causing/ creating difficulties in cooperation
The policies regarding a matter can vary from country to country. In the course of the GO-GLOBAL project the partners faced the problem of differences in maximum concentration levels of toxins among the participating countries. Therefore the members had to specify these criteria.

Concrete impact of the project on teams, laboratory and institutes
The GO-GLOBAL project has developed the following unique products <ul style="list-style-type: none"> 1. Database with funders and projects on food safety. 2. Access to opinion database to monitor future changes. 3. Methodologies for data collection. 4. Comprehensive database with food safety experts with global coverage (120 countries). 5. Design of a unique Global Food Safety Portal. 6. Network of networks.

Main lessons learnt
The project GO-GLOBAL is finished but the initiative had grown into a Global Platform with self-financing. The Platform is a legal entity with its own business plan of developing and distribution of intellectual products.

Due consideration / relevance to Russia's S&T priorities
With priority interest to new national target programs that were started during the last years additional informational sources about Russian research projects in the field of food

safety have been analyzed. The projects focused on hygienic aspects of food safety and the creation of scientific basis for the development of official regulations was specifically considered. Information for the inclusion of additional Russian projects into the GO-GLOBAL database was prepared.

Due consideration / relevance to EU MS S&T priorities

The project meets the requirements of the Food Quality and Safety Priority as the primary objective of thematic area 5 is to improve the health and well being of European citizens through higher quality food and improved control of food production and related. Go-Global also is relevant to the process of integrating and strengthening the European Research Area (ERA) by networking of national research activities/programmes on food for developing countries. Moreover, the project took advantage of the activities of the European research programming bodies in the coordinated action EU 6th FP ERA-NET projects such as SAFEFOODERA, where emerging food safety risks was one of the topics.

Recommendations on how to improve co-operation

1. Collaboration on emerging food safety risk (data sharing and research) should be stimulated at regional and global level.
2. The development of pro-active emerging risk identification systems should be stimulated.
3. To facilitate the visa application process for scientists.

Project: In silico rational engineering of novel enzymes (FP7 Project: IRENE)

Project identification data	
Name of project	In silico rational engineering of novel enzymes (IRENE).
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	Seventh Framework Programme.
Project brief description and objective	<p>The objective of the topic is to develop rational enzyme design methods based on molecular (in-silico) modeling in order to produce a next generation of highly efficient biocatalysts with an expanded range of substrates, improved enantio-selectivity and enhanced catalytic activity for industrially important conversions. Optimization of multienzyme complexes should also be considered. Research should address the development of quantitative parameters which adequately describe the efficiency of the biocatalysts under development. Improved enzymes are particularly required in certain technological areas, such as fine organic synthesis, bio-transformations, biomass conversion and the food industry.</p> <p>IRENE project aims at overcoming existing bottlenecks for a broader diffusion of biocatalysis and at accelerating the sustainable innovation of chemical industry by developing computational methods and strategies that will enable to rationally design and produce the next generation of biocatalysts for industrial applications.</p>

	<p>The consortium is funded on the combination of robust multidisciplinary expertise from EU, Russia and Uzbekistan. Due to the interaction between theoretical groups and experimentalists all computational tools used in this project will be validated by experiments. Failures and successes will be used for methods evaluation and tuning, in an iterative process that will lead to new methods but also to the definition of practical guidelines, for any specific enzyme design issue.</p> <p>The convergence of different expertise will face 4 main tasks:</p> <ul style="list-style-type: none"> • Fast rational design of efficient biocatalysts; • Fast and efficient in silico screening of available enzymes/mutants to exploit catalytic potential of existing biocatalyst and providing quantitative parameters describing enzyme s efficiency; • Fast substrate-screening and rational substrate engineering; • Understanding molecular basis of biocatalyst action and properties. <p>IRENE will pursue these objectives by taking advantage of computational strategies used in different disciplines and integrate them in a unified concept for studying enzyme catalysis. The four main families of computational methods, Quantum Mechanics, Molecular Mechanics, Quantitative Structure Activity Relationships and Bioinformatics, will used in an integrated approach.</p> <p>The project will have three major design subjects:</p> <ol style="list-style-type: none"> 1. Introduction of new activities in specific enzyme scaffolds (reaction promiscuity). 2. Improvement of catalytic activity towards specific targets (substrate promiscuity). 3. The redesign of enantioselectivity.
Project type (i.e. bilateral, multilateral, etc.)	<p>Small Collaborative Project, Coordinated Call.</p> <p>Collaborative project for specific cooperation actions dedicated to international cooperation partner countries (SICA).</p>
Research field (s)	<p>Agricultural biotechnology; Molecular modelling for rational design of industrial enzymes.</p>
Total number of project's participants	<p>11</p>
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Organization name: University of Trieste Contact person: Roberto PAOLETTI (Dr) Tel: +39-0405587943 Fax: +39-04052572 URL: http://www.units.it</p> <p>Address: Casella Postale 000 Piazzale Europa Trieste Italia</p> <p>The University of Trieste is a medium-sized university in Trieste in the Friuli-Venezia Giulia region of Italy. The university consists of 12 faculties, boasts a wide and almost complete range of university courses and currently has about 23,000 students enrolled and 1,000 professors. It is a</p>

	relatively young Institution (80 years old) compared to other Italian Universities.
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	<p>Organization name: Belozersky Institute Of Physicochemical Biology</p> <p>Contact person: Vytas Svedas (Professor) Tel.: +7-985-7662279 Address: Leninskie gory, Moscow, Russian Federation URL: http://www.belozersky.msu.ru</p> <p>Institute of Physical and Chemical Biology (Interfaculty Laboratory of Bioorganic Chemistry) was founded in 1965 by academician Andrei Nikolaevich Belozersky, Vice-President of the USSR, Head of the Department of Plant Biochemistry, Biological Faculty, Moscow State University.</p> <p>In addition to 16 research divisions, whose works cover all major areas of modern physical and chemical biology at the institute, there are 5 research and teaching departments of general use, where the most expensive equipment.</p>
Other EU partner organisations (Name of organisation, country, city)	<ol style="list-style-type: none"> 1. Novozymes A/S, Kalundborg Denmark. 2. The National University Of Uzbekistan Named After Mirzo Ulugbek National University of Uzbekistan, Tashkent, Uzbekistan. 3. University of Copenhagen, Copenhagen, Denmark. 4. KTH Royal Institute of Technology, Stockholm, Sweden. 5. Delft University of Technology, Delft, The Netherlands.
Other Russian partner organisations (Name of organisation, city)	<ol style="list-style-type: none"> 1. B.P.Konstantinov Petersburg Nuclear Physics Institute Russian Academy Of Sciences, Gatchina, Russian Federation. 2. Molecular Technologies, Moscow, Russian Federation. 3. Bio/ Technologies, Innovations, Researches Ltd, Moscow, Russian Federation. 4. Shemyakin And Ovchinnikov Institute Of Bioorganic Chemistry - Russian Academy Of Science, Moscow Russian Federation.
Project total value (in EUR)	5 190 000 €

Main strengths of this cooperation experience	
<p>Objectives are pursued by a consortium that was funded on the combination of multidisciplinary expertise from EU and Russia. The consortium Beneficiaries have leading experience in enzyme design and production at industrial level (NZ), in the rational re-design of enzyme structure (KTH), in the development of different in silico methods (UCPH, MSU, MLT) and their application/adaptation to specific problems of biocatalysis (NZ, UNITS, KTH, MSU, PNPI, IBCH). Moreover the Beneficiaries have a long term experience in biocatalytic process design and application (MSU, UNITS, TUD, NUU, BIOTIR) and molecular biology (TUD, MSU, IBCH, PNPI, NUU, NZ).</p> <p>Software simulating enzymes during catalysis is currently so complex, that it is used almost solely by the self same scientists who developed it. But that's about to change. The international research programme was charged with maturing the technology, so that it</p>	

becomes usable for researchers and developers in the enzyme-industry.	
Mutual Benefits	
Main beneficiaries	All partners of the project made profit out of this cooperation experience. But the main beneficiaries are young scientists, students and postgraduates as they had a chance to run their scientific work under the highest international standards at the beginning of their career. Moreover regarding the interest shown to the project by the industry and small enterprises one can be sure about the benefits they get out of the project.
Scientific excellence	In the course of the project the team has found a solution to one of the main problems in the field of biocatalysis. Furthermore a lot of scientific works are being prepared to publishing currently.
Rating of personal learning gain	The participants were able to forge relationships that could be beneficial in their future work under different projects. Concerning the small enterprises they got acquainted with international business system and had a chance to penetrate into the international market.
Rating of institutional learning gain	The institutions participating in the project have the opportunity to learn and analyze the different scientific techniques of the Institutes involved. The Russian partners as well studied the modern European models of projects' financing and planning.
Other benefits	As it was already mentioned all the participants of the project, including Institutes, small enterprises and industry members got involved in the joint work that made possible to establish fruitful contacts at most diverse levels.
Barriers	
Personal factors (i.e. cultural, language, etc.)	No barriers were faced as the core members already had a history of joint work.
Administrative factors (i.e. legal, institutional, financial, etc.)	The European and Russian partners have a different view on the process of the conclusion of contract, for example the process of consortium setting is still considered to be complicated. The partners have diverse policies they function under.
Capacity of involved institutions	The only barrier to be emphasized is the lack of the participants' knowledge about each other. That resulted in a slowdown.

Issues causing/ creating difficulties in cooperation
<ol style="list-style-type: none"> 1. The differences in the European and Russian scheme of the financing (the difference in time is about one year). 2. Moreover for the European participants the project was only scientific while the Russian partners have to deal with the problem of implementation of the developed techniques. 3. Lack of financing for the scientific meetings and workshops.

Concrete impact of the project on teams, laboratory and institutes
<p>The possibility for the team to engage in the discussion with their colleagues from different countries and industry results in better understanding of the current need of the science in a particular field.</p> <p>The institutes' administration had a chance to learn a new system of data reporting.</p>

Main lessons learnt
<ol style="list-style-type: none"> 1. Priceless experience in international collaboration; 2. Experience of cooperation with biotechnology industry; 3. Possibility to learn and analyze different laboratories and assessments.
Due consideration / relevance to Russia's S&T priorities
Biocatalysis is listed beyond the critical technologies for the Russian Federation.
Due consideration / relevance to EU MS S&T priorities
IRENE project is aimed at the development of computational methods and strategies that will enable to rationally design and produce the next generation of efficient biocatalysts for industrial applications. This will foster the diffusion of sustainable biocatalytic processes in industry. This will contribute to build on Europe's strong position in enzyme manufacturing and utilization to attain leadership in industrial biotechnology.
Recommendations on how to improve co-operation
<ol style="list-style-type: none"> 1. To facilitate to the scientists communication; 2. To pay higher attention to the financial and time coordination; 3. Possibly develop a scheme of international collaboration in the field of research after the end of the project; 4. To facilitate the visa receiving process for the scientists.

Project: Oil spills bioremediation in coastal area of the Baltic Sea

Project identification data	
Name of project	Oil Spills Bioremediation in Coastal Area of the Baltic Sea.
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	Bilateral Cooperation Project: RFBR – Academy of Finland.
Project brief description and objective	The main goal of this project is to develop the most effective approaches to make in situ bioremediation of oil-contaminated soil and water more efficient, predictable and suitable for cleaning up the environments in the Baltic Sea cold climate. To solve this problem we will develop combining physical, chemical (petroleum sorption, electro-osmosis) and biological (bioremediation) approaches. The scientific objectives of the project are to build a basic understanding for how bacteria perform processes of oil hydrocarbons degradation and how degrader microorganisms can be used in a reliable and reproducible fashion in bioremediation technologies or determine why desirable results were not achieved before.
Project type (i.e. bilateral, multilateral, etc.)	Bilateral.
Research field (s)	Environmental biotechnology, microbiology.
Total number of project's participants	2

Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>University of Helsinki, Department of Ecological and Environmental Sciences.</p> <p>Contact person: Martin Romantschuk, professor.</p> <p>Address: Niemenkatu 73, FIN-15140, Lahti, Finland. Tel. 358-3-892 20334; Fax: 358-3-892 20331; e-mail: martin.romantschuk@helsinki.fi.</p> <p>The University of Helsinki is one of the best multidisciplinary research universities in the world. The high-quality research carried out by the university creates new knowledge for educating diverse specialists in various fields, and for utilisation in social decision-making and the business sector. The university, with almost 4,000 researchers and teachers, operates on four campuses in Helsinki and at 17 other locations. There are 35,000 students, and a further 30,000 participate in adult education. Founded in 1640, the University of Helsinki wants to strengthen its position among the world's leading multidisciplinary research universities and to actively promote the well-being of humanity and a fair society.</p>
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	<p>Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Science.</p> <p>Contact person: Alexander Boronin, professor.</p> <p>Address: 5 Nauki Avenue, Puschino, Moscow region, Russian Federation. Tel./fax: +7 495 9563370; e-mail: boronin@ibpm.pushchino.ru; Web: www.ibpm.ru.</p> <p>IBPM Sciences was founded in 1965. The main fields of research in the Institute are microbial diversity and its resources, physiological and biochemical potential of microorganisms in the interaction with the environment, molecular mechanisms of genetic systems of organisms and application of microorganisms in biotechnology. The Institute team counts 560 people, including about 200 scientists, 108 candidates and 17 doctors, 3 Corresponding Members of RAS. The Institute includes 4 departments and 22 laboratories.</p>
Other EU partner organisations (Name of organisation, country, city)	-
Other Russian partner organisations (Name of organisation, city)	-
Project total value (in EUR)	~50000

Main strengths of this cooperation experience
<p>The project funded by the Academy of Finland programme BIREME (2004-2006) and by RFBR, was a collaborative effort by the two groups lead by Martin Romantschuk at the University of Helsinki and Alexander Boronin at the Russian Academy of Science in Pushchino, Russia. We developed methods to remove oil slicks from the surface of (Baltic Sea) water by immobilising it into cotton grass fibres, and/or to degrade the fibre-bound oil in situ. An important finding was that the immobilised oil did not impair the viability of mussels</p>

and other water organisms. This fruitful collaboration continues in the form of writing of publications and theses. So far one PhD thesis and two master's theses and several publications have been finished in Lahti. One joint publication with the Russian partner is published, and two joint papers are in preparation.	
Mutual Benefits	
Main beneficiaries	Both partners: University of Helsinki, Department of Ecological and Environmental Sciences and Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Science.
Scientific excellence	During the project 15 scientific articles connected with the subject of investigation was produced, which includes 4 published in peer-reviewed journals.
Rating of personal learning gain	Within the project Russian and Finnish students underwent internship programmes in the University of Helsinki that allowed Russian participants to conduct research with the help of state-of-the-art equipment. While Finnish participants gained access to the leading Russian scientists.
Rating of institutional learning gain	
Other benefits	Furthermore the project can be regarded as a substantial base for the future research programme on PAH-degradation due to the analyses of the genetic structure of bio degradation that was conducted under the current project.
Barriers	
Personal factors (i.e. cultural, language, etc.)	No cultural or linguistic barriers were revealed during the process of the collaboration.
Administrative factors (i.e. legal, institutional, financial, etc.)	The system of financing provides that Russia cover funding for Russian participants and Finland for the Finnish participants. That makes impossible for the Russian laboratory to act as a host for the Finnish participants. Evidently the project funding did not involve enough amount of the money for infrastructure side of collaboration.
Capacity of involved institutions	Both parties were satisfied with the capacity of their partner.

Issues causing/ creating difficulties in cooperation
The main difficulty that participants faced during the project was insufficient funding. It must be emphasized that successful accomplishment of this sort of projects seems possible with co-financing from national government only.

Concrete impact of the project on teams, laboratory and institutes
The most important results the lab has already got in investigation of the problem Russian research team from Plasmid Biology Laboratory headed by Prof. Boronin in Institute of Biochemistry and Physiology of Microorganisms (IBPM) of Russian Academy of Sciences has long time expertise in isolation, characterization and genetic analysis of plasmid from different microorganisms. Diversity and organization of plasmids for PAH biodegradation are of special interest. A large collection of microorganisms degrading heavy oil, PAH, phenol, and other xenobiotics have been created. The capability of microorganisms to transform or degrade black oil is well documented and allows them to be used for the bioremediation of polluted environments. The model systems and methods to determine the efficiency of PAH degradation have been elaborated. The approaches to quantitative estimation of biodegradation of oil, oil products and PAH in laboratory systems and open environments have been developed. Methods for estimation of the oil and oil product

compositional changes during biodegradation have been proposed. Mathematical models of naphthalene and phenanthrene biodegradation in soil model systems have been elaborated. The genetic control of PAH biodegradation and the physiological features of most active degrader strains is currently under study. IBPM in collaboration with Pushchino State University have already started testing the efficiency of indigenous degrader strains under field conditions in Western Siberia regions polluted by heavy oil. Enhanced microbial degraders primarily isolated from very geographically different regions and capable of utilizing heavy oil under extreme conditions could contribute greatly to the potential for in situ bioremediation.

Proposed project would enable joined forces Russian and Finnish research teams for elaboration of new original approaches for clean up of environments contaminated with oil and oil products in cold climates. Both groups share the common general research objective of developing new bioremediation technologies through improved understanding of metabolism and ecology of microbial communities in bioremediation systems. Russian and Finnish research teams have distinct and complementary areas of expertise and methodologies, which span a range of disciplines from Environmental Engineering to Molecular Genetics.

Main lessons learnt

International collaboration is mandatory in the area of scientific research. Successful international team-work can be described firstly as working with highly qualified scientific staff. And secondly, working in a highly organized environment.

Due consideration / relevance to Russia's S&T priorities

Bioremediation processes research is one of the priorities of the Russian Russian Technology Platform «Industrial Biotechnology and Biofuels». Moreover the topic of the preservation of the environment is ranked among 5 main trends in the political program of the President Dmitriy Medvedev. Natural complex of the Baltic Sea suffers from huge environmental pressure and thereby needs protection of all the countries of the Baltic region.

Due consideration / relevance to EU MS S&T priorities

The Baltic Sea is one of the most polluted seas in the world. At the same time the Baltic Sea is almost internal to the EU, with the exception of Kaliningrad and the Eastern end of the Gulf of Finland which belong to Russia. Thereby bioremediation is one the priorities of the European Technology Platform "Industrial Biotechnology". Many of the environmental problems can mainly be solved by the actions of the EU and the Member States. But there are also areas where co-operation with Russia is needed.

Recommendations on how to improve co-operation

1. To increase volume of financing.
2. To facilitate the visa application process for scientists.
3. To strengthen an infrastructure part of the cooperation process.

4.2. Annex 2: Nano

Project: Multifunctional percolated nanostructured ceramics fabricated from hydroxylapatite (PERCERAMICS)

Interview 1 of 2

Project identification data	
Name of project	<p>"Multifunctional percolated nanostructured ceramics fabricated from hydroxylapatite" Acronym: PERCERAMICS Action Line: NMP-2002-3.4.2.3-1 New materials by design Project details: Project Reference: NMP3-CT-2003- 504937 Contract Type: Specific Targeted Research Project Start Date: 2004-02-01 End Date: 2007-01-31 Duration: 36 months</p>
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP6 (FP6-NMP thematic priority). Nanotechnologies and Nanosciences, knowledge-based Multifunctional Materials, and new Production Processes and devices (NMP).
Project brief description and objective	The goal of the project is to develop novel hydroxyl-lapatite - based ceramic material with physically modified surface. Such a material will find applications as biomaterial for bone replacement and bone implants, like joint prostheses, as a substrate for cell immobilisation in bioreactors, used in food industry (beer, wine production), pharmacy (production of biologically active compounds) purification of environment.
Project type (i.e. bilateral, multilateral, etc.)	Multilateral.
Research field (s)	Nanosciences, Nanomedicine, Nanotechnology.
Total number of project's participants	13 partners (at final stage of project – 14 partners) from 9 countries.
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Prof. Yuri Dekhtyar, Coordinator of the project 1. Riga Technical University (RTU), Institute of Biomedical Engineering and Nanotechnologies, Latvia Fabrication of PERCERAMICS.</p> <p>RTU is an internationally recognized European level university offering high-class academic and professional study programmes. The University provides high quality studies and up-to-date facilities for research work. The research priorities - engineering sciences, material science and chemistry, architecture and engineering economics are closely linked with the development of different industries of national economy of Latvia. RTU scientists are involved in many international projects, including participation in the EU project development and implementation. RTU has been an active participant of the FP5 and FP6. In 2003/2004, 70 project applications were submitted for FP6, 16 of them were implemented.</p> <p>Contact details of co-ordinator: Address: Riga Technical University, Institute of Biomedical Engineering and Nanotechnologies (BINI); Kalku str. 1, Riga, LV – 1658, Latvia. Phone: +371 7089422; Fax: +371 7089383; E-mail: dekhtyar@latnet.lv; www-page: www.bimi.vip.lv.</p>
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	
Other EU partner	2. EROTHITAN Titanium Implants AG, SME, Germany,

organisations (Name of organisation, country, city)	Suhl. 3. Centre National de la Recherche Scientifique DR6, France, Nancy. 4. Tel Aviv University, Israel, Tel Aviv. 5. Technical University of Lodz, Lodz, Poland. 6. Institute of Microbiology and Biotechnology of the University of Latvia, Riga, Latvia. 7. Waste Management Association of Latvia, SME, Riga, Latvia. 8. University of Abertay Dundee, Dundee, UK. 9. Budapest University of Economic Sciences and Public Administration, Budapest, Hungary. 10. VIRECO Producing Developing Trading and Services Co. Ltd., Budapest, Hungary. 11. Zhytomir State Technical University, Zhytomir, Ukraine.
Russian partner organisations (Name of organisation, city)	12. Institute of Mathematical Problems of Biology of the Russian Academy of Sciences, Pushchino, Moscow region, Russia. 13. Centre for Orthopaedy and Medical Material Sciences of the Tomsk Scientific Centre of the Siberian Branch of the Russian Academy of Medical Sciences, Tomsk, Russia. 14. Concern scientific production Association BIOTECHNIKA LTD, Tomsk, Russia.
Project total value (in EUR)	Project Cost: 2.45 million Euro. Project Funding: 1.8 million Euro.

Main strengths of this cooperation experience	
<p>Project prospective target</p> <p>Ceramic biomaterials are widely used in medicine and biotechnologies. They form a coating for bone and dental implants, serve as substrates for cells working in bioreactors. For such applications, interaction between cell and ceramic surface is crucial. If the surface will be attractive for cells, stimulates cell adhesion and further functioning, performance of the device, either implant or bioreactor active element, covered by such a material, will increase. The target of the project is to develop such a material – “Perceramics” (named so from <u>per</u>colated (porous) <u>cer</u>amics).</p> <p>Key issues</p> <p>Nowadays, hidroxyapatite (HAP) is one of the most frequently and successfully used in medicine and biology materials. This material is analogue to bone mineral and is highly biocompatible. Due to this, HAP was selected as a prototype of Perceramics.</p> <p>The project focuses on two major factors, affecting cell adhesion to the surface: porosity of the surface and charge of the surface. The first – porosity – should provide sites of appropriate sizes, suitable for cell receptors. Additionally, pores assemble web of canals that facilitates exchange of metabolites in vicinity of adhered cell. Surface charge provides additional stimulus for cells to adhere by affecting cell receptors and membrane with electric field.</p> <p>The project foresees development of the material for a wide field of applications – medicine, food industry, bioremediation etc. That is why adaptation of the material parameters to the particular type of cells is required. For this, biological experiments comprise an important part of the project.</p> <p>To achieve the project goal, professionals from computational and material physics, chemistry, engineering of materials and their characterization, microbiology, biotechnology, wastewater treatment, orthopaedics and industries are involved to reach the critical mass of the project.</p>	
Mutual Benefits	
Main beneficiaries	For all teams

Scientific excellence	Very high
Rating of personal learning gain	Very high
Rating of institutional learning gain	Very high
Other benefits	The results of the project open ways to manufacture biologically active compounds that promises rising of productivity of bioreactors in food industry, pharmacy, environmental purification etc. Application of Perceramics in medicine for implant coating is thought to improve implant performance and reduce complication rate.
Barriers	
Personal factors (i.e. cultural, language, etc.)	No
Administrative factors (i.e. legal, institutional, financial, etc.)	Yes - usual limitations from Russian bookkeeping system of the state budget organizations.
Capacity of involved institutions	High

Issues causing/ creating difficulties in cooperation
No. But is only one - to find good business partner, or industry partner And – it is very much papers for preparations.

Concrete impact of the project on teams, laboratory and institutes
Very positive in all directions – rise of own experiences and expertise, improve the institute computer and others base etc., involve and support young scientists etc.

Main lessons learnt
Improve own expertise.

Due consideration / relevance to Russia's S&T priorities
N/A

Due consideration / relevance to EU MS S&T priorities
High relevance to EU MS S&T priorities.

Recommendations on how to improve co-operation
<ul style="list-style-type: none"> • Must be most easy applications systems, not so much papers; • Improve communications with industry partners; • Improve the salary levels for our scientists; • Cover the travel expenses on conferences and cooperative exchange visits.

Project: Multifunctional percolated nanostructured ceramics fabricated from hydroxylapatite (PERCERAMICS)

Interview 2 of 2

Project identification data	
Name of project	<p>“MULTIFUNCTIONAL PERCOLATED NANOSTRUCTURED CERAMICS FABRICATED FROM HYDROXYLAPATYTE”</p> <p>Acronym: PERCERAMICS.</p> <p>Action Line: NMP-2002-3.4.2.3-1 New materials by design Project details; Project Reference: NMP3-CT-2003- 504937; Contract Type: Specific Targeted Research Project; Start Date: 2004-02-01; End Date: 2007-01-31; Duration: 36 months.</p>
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	<p>FP6 (FP6-NMP thematic priority). Nanotechnologies and Nanosciences, knowledge-based Multifunctional Materials, and new Production Processes and devices (NMP).</p>
Project brief description and objective	<p>The goal of the project is to develop novel hydroxyl-lapatite - based ceramic material with physically modified surface. Such a material will find applications as biomaterial for bone replacement and bone implants, like joint prostheses, as a substrate for cell immobilisation in bioreactors, used in food industry (beer, wine production), pharmacy (production of biologically active compounds) purification of environment.</p>
Project type (i.e. bilateral, multilateral, etc.)	Multilateral.
Research field (s)	Nanosciences, Nanomedicine, Nanotechnology.
Total number of project's participants	13 partners (at final stage of project – 14 partners) from 9 countries.
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Prof. Yuri Dekhtyar, Coordinator of the project 1. Riga Technical University (RTU), Institute of Biomedical Engineering and Nanotechnologies, Latvia Fabrication of PERCERAMICS RTU is an internationally recognized European level university offering high-class academic and professional study programmes. The University provides high quality studies and up-to-date facilities for research work. The research priorities - engineering sciences, material science and chemistry, architecture and engineering economics are closely linked with the development of different industries of national economy of Latvia. RTU scientists are involved in many international projects, including participation in the EU project development and implementation. RTU has been an active participant of the FP5 and FP6. In 2003/2004, 70 project applications were submitted for FP6, 16 of them were implemented.</p> <p>Contact details of co-ordinator:</p> <p>Address: Riga Technical University, Institute of Biomedical Engineering and Nanotechnologies (BINI). Kalku str. 1, LV – 1658, Riga, Latvia. Phone: +371 7089422; Fax: +371 7089383;</p>

	E-mail: dekhtyar@latnet.lv ; www-page: www.bimi.vip.lv .
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	2. Institute of Mathematical Problems of Biology of the Russian Academy of Sciences, Russia. Institutskaya str.,4, Pushchino, 142290, Moscow region The Institute of Mathematical Problems of Biology of the Russian Academy of Sciences (IMPB RAS) was established in 1972. The main goal of IMPB RAS has been developing mathematical and computing methods for biological investigations. The other goal was to provide computer support to the Institutes of Pushchino Research Center (PRC). Computational simulation of HAP nanoparticles, their charging properties and cohesion/adhesion behaviour; Contact details: Vladimir Bystrov. Postal address: IMPB RAS, 4, Institutskaja str., 142290, Pushchino, Moscow Region, Russia. Phone: +(7) (4967) 73-24-08; Fax: +(7) (4967) 33-05-70; E-mail: com@impb.psn.ru ; WWW: vsbys@mail.ru .
Other EU partner organisations (Name of organisation, country, city)	3. EROTHITAN Titanium Implants AG, SME, Germany, Suhl: Application of PERCERAMICS for bioimplants. 4. Centre National de la Recherche Scietifique DR6, France: Immobilization of bacteria on PERCERAMICS. 5. Tel Aviv University, Israel: Electrical charge of PERCERAMICS; immobilization of bacteria on PERCERAMICS. 6. Technical University of Lodz, Poland: Immobilisation of yeasts and lactic acid bacteria on PERCERAMICS. 7. Institute of Microbiology and Biotechnology of the University of Latvia, Latvia: Immobilization of yeasts on PERCERAMICS; manage the "Microbiology" module. 8. Waste Management Association of Latvia, Latvia (SME): Application to the bioremediation of environment. 9. Zhytomir State Technical University, Ukraine: Fabrication of PERCERAMICS by percolation technology. 10. University of Abertau Dundee, UK: Research on biological properties of PERCERAMICS. 11. VIRECO Ltd, Hungary (SME): Application of immobilized yeasts as bio-filters for heavy metal biosorption. 12. Budapest University of Economic Sciences and Public Administration, Hungary: Immobilization of yeasts on PERCERAMICS.
Other Russian partner organisations (Name of organisation, city)	13. Autonomous non-commercial organization Centre for Orthopaedy and Medical material sciences, Tomsk Scientific Centre of the Siberian Branch of the Russian Academy of Medical Sciences, Russia: Manufacturing of hydroxylapatite, pre-clinical trials on bioimplants. 14. Concern scientific production Association BIOTECHNIKA Co., Ltd., Tomsk, Russia.
Project total value (in EUR)	Project Cost: 2.45 million Euro; Project Funding: 1.8 million Euro.

Main strengths of this cooperation experience
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Project prospective target	
<p>Ceramic biomaterials are widely used in medicine and biotechnologies. They form a coating for bone and dental implants, serve as substrates for cells working in bioreactors. For such applications, interaction between cell and ceramic surface is crucial. If the surface will be attractive for cells, stimulates cell adhesion and further functioning, performance of the device, either implant or bioreactor active element, covered by such a material, will increase. The target of the project is to develop such a material – “Perceramics” (named so from <u>per</u>colated (porous) <u>cer</u>amics)</p>	
Key issues	
<p>Nowadays, hidroxyapatite (HAP) is one of the most frequently and successfully used in medicine and biology materials. This material is analogue to bone mineral and is highly biocompatible. Due to this, HAP was selected as a prototype of Perceramics. The project focuses on two major factors, affecting cell adhesion to the surface: porosity of the surface and charge of the surface. The first – porosity – should provide sites of appropriate sizes, suitable for cell receptors. Additionally, pores assemble web of canals that facilitates exchange of metabolites in vicinity of adhered cell. Surface charge provides additional stimulus for cells to adhere by affecting cell receptors and membrane with electric field.</p> <p>The project foresees development of the material for a wide field of applications – medicine, food industry, bioremediation etc. That is why adaptation of the material parameters to the particular type of cells is required. For this, biological experiments comprise an important part of the project.</p> <p>To achieve the project goal, professionals from computational and material physics, chemistry, engineering of materials and their characterization, microbiology, biotechnology, wastewater treatment, orthopaedics and industries are involved to reach the critical mass of the project.</p>	
Mutual Benefits	
Main beneficiaries	For all teams.
Scientific excellence	Very high
Rating of personal learning gain	Very high
Rating of institutional learning gain	Very high
Other benefits	The results of the project open ways to manufacture biologically active compounds that promises rising of productivity of bioreactors in food industry, pharmacy, environmental purification etc. Application of Perceramics in medicine for implant coating is thought to improve implant performance and reduce complication rate.
Barriers	
Personal factors (i.e. cultural, language, etc.)	No
Administrative factors (i.e. legal, institutional, financial, etc.)	Yes - usual limitations from our laws for salary, overheads, etc.
Capacity of involved institutions	High
Issues causing/ creating difficulties in cooperation	

No. But is only one - to find good business partner, or industry partner
And – it is very much papers for preparations.

Concrete impact of the project on teams, laboratory and institutes
Very positive in all directions – rise of own experiences and expertise, improve the institute computer and others base etc., involve and support young scientists etc.

Main lessons learnt

- Improve own expertise
- Improve the salary levels for our scientists;
- Improve Russian laws and infrastructures.

Due consideration / relevance to Russia's S&T priorities
High relevance.

Due consideration / relevance to EU MS S&T priorities
High relevance to EU MS S&T priorities.

Recommendations on how to improve co-operation

- Improve communications with industry partners;
- Cover the travel expenses on conferences and cooperative exchange visits;
- **Simplification of proposal submission system (not so much papers!).**

Project: Intelligent release systems for anticorrosion self-healing coatings

Interview 1 of 2

Project identification data	
Name of project	Intelligent release systems for anticorrosion self-healing coatings.
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	Bilateral – Russian Foundation for Basic Research and Deutsche Forschungsgemeinschaft.
Project brief description and objective	The main goal of the project is to develop technology for fabrication of micro- and nano-reservoirs for incorporation into coating matrix containing organic and inorganic active agents. These could be released under action of external triggers such as local pH changes or electromagnetic irradiation revealing higher corrosion protection and self-healing ability of anticorrosion coating. The self-assembled and layer-by-layer assembled polyelectrolyte capsules, polyelectrolyte multilayers, mesostructured inorganic natural or artificial nanoparticles will be enrolled as main candidates

	to produce the sensitive inhibitor-loaded nanocontainers.
Project type (i.e. bilateral, multilateral, etc.)	Bilateral.
Research field (s)	Chemistry and Physical Chemistry of Colloids.
Total number of project's participants	14
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Department of Interfaces, Max-Planck Institute of Colloids and Interfaces Wissenschaftspark Golm D-14424 Potsdam, Germany Tel: +49-(0)331-5679201 Fax: +49-(0)331-5679202 kressler@mpikg.mpg.de</p> <p>Max-Planck Institute of Colloids and Interfaces is a leading institute in Europe studying colloidal and interfacial phenomena, encapsulation and release of the active materials from containers of various types and is well-equipped with modern instruments and devices.</p>
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	<p>Tatiana Bukreeva Shubnikov Institute of Crystallography of Russian Academy of Sciences. Leninskii prospekt 59,119333 Moscow, Russia. Tel.: +7(499)-1356541; Fax: +7(499)-1351011. E-mail: secr@crys.ras.ru</p> <p>The A.V. Shubnikov Institute of Crystallography (IC RAS) is well-known for its studies in Condensed Matter Physics, Crystallography and Materials Science. Special attention is paid to the area of Nanotechnologies and Nanosciences, including studies of thin epitaxial layers and films, membrane structures, whiskers, different kinds of the organic materials, such as Langmuir-Blodgett films and liquid crystals. IC RAS is developing new atomic diagnostic methods which are adequate to the new technologies and allow controlling the structures of created materials. The institute is also engaged in instrument engineering, innovation activity, and in teaching and preparation of scientific stuff for modern crystallography. IC RAS cooperates with more than twenty foreign scientific organizations. The institute is interested in the further development of joint research, educational, industrial and commercial activities with national and international educational and scientific enterprises, institutions and companies, in partnership within the framework of international programs.</p>
Other EU partner organisations (Name of organisation, country, city)	-
Other Russian partner organisations (Name of organisation, city)	-
Project total value (in EUR)	DFG 2009-2011: 10000 euro + payment for visits; RFBR 2009: 7875 euro

Main strengths of this cooperation experience
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<ul style="list-style-type: none"> • New prospective experimental results in the encapsulation of active materials; • Mutual exchange of scientific ideas and approaches; • Very expensive accommodation for German partners in Moscow. 	
Mutual Benefits	
Main beneficiaries	All members involved in the project.
Scientific excellence	Exchange of the experimental expertise; use of the unique equipment.
Rating of personal learning gain	New personal scientific contacts.
Rating of institutional learning gain	Mutual exchange of scientific ideas and approaches.
Other benefits	<ul style="list-style-type: none"> • Involvement of all members in the project; • Involvement of University students in the international research cooperation; • Exchange of the experimental expertise; use of the unique equipment; • New personal scientific contacts; • Mutual exchange of scientific ideas and approaches • New prospective experimental results in the encapsulation of active materials • Mutual exchange of scientific ideas and approaches • Publication of the "Nanoparticles on Polyelectrolytes at Low Concentration: Controlling Concentration and Size" in Journal of Physical Chemistry.
Barriers	
Personal factors (i.e. cultural, language, etc.)	
Administrative factors (i.e. legal, institutional, financial, etc.)	For Russian side: a small amount of personal money For German side: expensive accommodation in Moscow, bureaucratic problems to get personal money for foreigners in Russia.
Capacity of involved institutions	Very high

Issues causing/ creating difficulties in cooperation
<ul style="list-style-type: none"> • Complicated visa application procedure; • Problems concerning the exchange of samples for joint experiments.

Concrete impact of the project on teams, laboratory and institutes
Manuscript "Nanoparticles on Polyelectrolytes at Low Concentration: Controlling Concentration and Size" is accepted for publication in Journal of Physical Chemistry. Including university students for international research cooperation.

Main lessons learnt
After one year of the three-years project: great hopes to solve an interesting problem both for fundamental and applied science; Possibility to publish results in high ranking international journals.

Due consideration / relevance to Russia's S&T priorities
High relevance.
Due consideration / relevance to EU MS S&T priorities
High relevance to both EU S&T priorities and national priorities of Germany.
Recommendations on how to improve co-operation
Recommendations are generally given below (for Nano projects).

Project: Intelligent release systems for anticorrosion self-healing coatings

Interview 2 of 2

Project identification data	
Name of project	Intelligent release systems for anticorrosion self-healing coatings
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	Bilateral – Russian Foundation for Basic Research and Deutsche Forschungsgemeinschaft
Project brief description and objective	The main goal of the project is to develop technology for fabrication of submicron- and nano-reservoirs involving to organic matrix and containing organic and inorganic active inhibitors released under local pH changes or external electromagnetic irradiation in order to achieve higher corrosion protection and self-healing of anticorrosion coating. The self-assembled and layer-by-layer assembled polyelectrolyte capsules, polyelectrolyte multilayers, mesostructured inorganic nanoparticles and natural halloysites will be enrolled as main candidates to produce the sensitive inhibitor-loaded nanocontainers.
Project type (i.e. bilateral, multilateral, etc.)	bilateral
Research field (s)	Chemistry and Physical Chemistry of Colloids
Total number of project's participants	14
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Dr. Kressler Department of Interfaces, Max-Planck Institute of Colloids and Interfaces; Wissenschaftspark Golm; D-14424 Potsdam, Germany; Tel.: +49-(0)331-5679201; Fax: +49-(0)331-5679202. E-mail: kressler@mpikg.mpg.de.</p> <p>Max-Planck Institute of Colloids and Interfaces is a leading institute in Europe in studying colloidal and interfacial phenomena, encapsulation and release of the active materials from containers of various types and well-equipped with modern instruments and devices.</p>

Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	Shubnikov Institute of Crystallography of Russian Academy of Sciences. Leninskii prospect, 59, 119333, Moscow, Russia. Tel.: +7(499)-1356541; Fax: +7(499)-1351011; E-mail: secr@crys.ras.ru . The A.V. Shubnikov Institute of Crystallography (IC RAS) is well-known for its studies in Condensed Matter Physics, Crystallography and Materials Science. Special attention is given to the area of Nanotechnologies and Nanosciences, including studies of thin epitaxial layers and films, membrane structures, whiskers, different kinds of the organic materials, such as Langmuir-Blodgett films and liquid crystals. IC RAS is developing new atomic diagnostics methods which are adequate to the new technologies and allow controlling the structures of created materials. The institute is also engaged in instrument engineering, innovation activity, and in teaching and preparation of scientific stuff for modern crystallography. IC RAS cooperates with more than twenty foreign scientific organizations. The institute is interested in the further development of joint research, educational, industrial and commercial activities with national and international educational and scientific enterprises, institutions and companies for partnership within the framework of international programs.
Other EU partner organisations (Name of organisation, country, city)	-
Other Russian partner organisations (Name of organisation, city)	-
Project total value (in EUR)	DFG 2009-2011: 10000 euro + payment for visits; RFBR 2009: 7875 euro.

Main strengths of this cooperation experience	
	<ul style="list-style-type: none"> • New prospective experimental results in the encapsulation of active materials; • Mutual exchange of scientific ideas and approaches; • Very expensive accommodation for German partners in Moscow.
Mutual Benefits	
Main beneficiaries	All members involved in the project.
Scientific excellence	Exchange of the experimental expertise; use of the unique equipment.
Rating of personal learning gain	New personal scientific contacts.
Rating of institutional learning gain	Mutual exchange of scientific ideas and approaches.
Other benefits	<ul style="list-style-type: none"> • Involvement of all members in the project; • Involvement of University students in the international research cooperation; • Exchange of the experimental expertise; use of the unique equipment; • New personal scientific contacts; • Mutual exchange of scientific ideas and approaches

	<ul style="list-style-type: none"> • New prospective experimental results in the encapsulation of active materials • Mutual exchange of scientific ideas and approaches • Publication of the “Nanoparticles on Polyelectrolytes at Low Concentration: Controlling Concentration and Size” in Journal of Physical Chemistry.
Barriers	
Personal factors (i.e. cultural, language, etc.)	
Administrative factors (i.e. legal, institutional, financial, etc.)	For Russian side: a small amount of personal money. For German side: expensive accommodation in Moscow, bureaucratic problems to get personal money for foreigners in Russia.
Capacity of involved institutions	Very high

Issues causing/ creating difficulties in cooperation
Complicated visa application procedure; problems concerning the exchange of samples for joint experiments.

Concrete impact of the project on teams, laboratory and institutes
Manuscript “Nanoparticles on Polyelectrolytes at Low Concentration: Controlling Concentration and Size” is accepted for publication in Journal of Physical Chemistry. Including university students for international research cooperation.

Main lessons learnt
<ul style="list-style-type: none"> • After a year of the three-years project: great hopes to solve an interesting problem both for fundamental and applied science; • Possibility to publish results in high ranking international journals.

Due consideration / relevance to Russia's S&T priorities
High relevance.

Due consideration / relevance to EU MS S&T priorities
High relevance to both EU S&T priorities and national priorities of Germany.

Recommendations on how to improve co-operation
<ul style="list-style-type: none"> • Simplification of visa application procedure for scientists; • Addressing the problems concerning the exchange of samples for joint experiments.

Project: Some aspects of symmetry and chirality/anisotropy in the crystallography of condense matter: defects in crystals and quasicrystals, reflections.

Interview 1 of 2

Project identification data	
Name of project	Some aspects of symmetry and chirality/anisotropy in the crystallography of condense matter: defects in crystals and quasicrystals, reflections.
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	Part of bilateral programme: Russian Academy of Sciences – CNRS, France.
Project brief description and objective	Ab initio calculations of the structure, energy, and elasticity of crystalline approximants of icosahedral quasicrystals. Forbidden resonant reflections in crystals: symmetrical approach and ab initio calculations. This study is based on a)- the local anisotropy of the electric susceptibility in the X-ray range (linear and circular dichroism, in relation with chirality) b)- resonant diffraction in crystals observed with synchrotron radiation.
Project type (i.e. bilateral, multilateral, etc.)	Bilateral.
Research field (s)	Physics of condensed matter.
Total number of project's participants	7
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Dr. Maurice Kleman Institut de minéralogie et de physique des milieux condensés (IMPMC) 140 rue de Lourmel, IMPMC, 75015 PARIS France.</p> <p>The Institute of Mineralogy and Condensed Matter Physics is a joint research unit of CNRS, University Pierre and Marie Curie - Paris 6 and Paris Diderot-Paris 7, Institut de Physique du Globe de Paris and the Institute of Development Research.</p> <p>The main feature of the IMPMC is its multidisciplinary approach. Most of the themes addressed at the institute involve actors from different areas: physics, earth sciences or biology. About 70 researchers and professors and a permanent thirty engineers, technicians and administrative work there.</p> <p>Some of research topics treated in the IMPMC are:</p> <ul style="list-style-type: none"> • Magnetic nanoparticles synthetic or natural; • Prediction of physical properties of real materials with ab initio electronic structure determination; • Synthesis and study of structural and dynamic properties of complex materials; • Physical properties of condensed matter under extreme conditions; • Understanding and modeling of reactions involving minerals during key stages of the cycles (bio); • Structural studies of macromolecular assemblies. <p>Contact details:</p>

	Dr. Maurice Kleman, Institut de minéralogie et de physique des milieux condensés (IMPMC), 140 rue de Lourmel, IMPMC, 75015, Paris, France. e-mail : maurice.kleman@mines.org
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	Dr. Vladimir Dmitrienko Institute of Crystallography RAS, 59 Leninsky prospect, 119333, Moscow, Russia. The A.V. Shubnikov Institute of Crystallography (IC RAS) is well-known for its studies in Condensed Matter Physics, Crystallography and Materials Science. Special attention is paid to the area of Nanotechnologies and Nanosciences, including studies of thin epitaxial layers and films, membrane structures, whiskers, different kinds of the organic materials, such as Langmuir-Blodgett films and liquid crystals. IC RAS is developing new atomic diagnostic methods which are adequate to the new technologies and allow controlling the structures of created materials. The institute is also engaged in instrument engineering, innovation activity, and in teaching and preparation of scientific stuff for modern crystallography. IC RAS cooperates with more than twenty foreign scientific organizations. The institute is interested in the further development of joint research, educational, industrial and commercial activities with national and international educational and scientific enterprises, institutions and companies, in partnership within the framework of international programs. Contact details: Phone: +7 499 135 6240; +7 499 1350581 Fax: +7 499 1351011 E-mail: dmitrien@ns.crys.ras.ru
Other EU partner organisations (Name of organisation, country, city)	no
Other Russian partner organisations (Name of organisation, city)	no
Project total value (in EUR)	Mutual visits, about 3000 EUR/per year from both sides.

Main strengths of this cooperation experience	
Mutual exchange of scientific ideas and approaches.	
Mutual Benefits	
Main beneficiaries	All participants of the project.
Scientific excellence	Very high
Rating of personal learning gain	Very high
Rating of institutional learning gain	Very high
Other benefits	High practical significance of joint results. We were awarded by B.K.Vainshtein prize for this work.

Barriers	
Personal factors (i.e. cultural, language, etc.)	no
Administrative factors (i.e. legal, institutional, financial, etc.)	no
Capacity of involved institutions	no

Issues causing/ creating difficulties in cooperation
No difficulties.

Concrete impact of the project on teams, laboratory and institutes
We have published 8 joint papers; one book was translated and published in Russian.

Main lessons learnt
We have learnt how to improve collaboration or how to improve the personal (and not only personal) competence through the international contacts.

Due consideration / relevance to Russia's S&T priorities
Our project corresponds to Russia's S&T priorities.

Due consideration / relevance to EU MS S&T priorities
Our project corresponds to EU MS S&T priorities.

Recommendations on how to improve co-operation
There should be less formalities for Russian and EU visas for scientific visits.

Project: Some aspects of symmetry and chirality/anisotropy in the crystallography of condense matter: defects in crystals and quasicrystals, reflections.

Interview 2 of 2

Project identification data	
Name of project	Some aspects of symmetry and chirality/anisotropy in the crystallography of condense matter: defects in crystals and

	quasicrystals, reflections.
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	Part of bilateral programme: Russian Academy of Sciences – CNRS, France.
Project brief description and objective	Ab initio calculations of the structure, energy, and elasticity of crystalline approximants of icosahedral quasicrystals. Forbidden resonant reflections in crystals: symmetrical approach and ab initio calculations. This study is based on a)- the local anisotropy of the electric susceptibility in the X-ray range (linear and circular dichroism, in relation with chirality) b)- resonant diffraction in crystals observed with synchrotron radiation.
Project type (i.e. bilateral, multilateral, etc.)	Bilateral.
Research field (s)	Physics of condensed matter.
Total number of project's participants	7
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Dr. Maurice Kleman</p> <p>Institut de minéralogie et de physique des milieux condensés (IMPMC).</p> <p>140 rue de Lourmel, IMPMC, 75015, Paris, France.</p> <p>The Institute of Mineralogy and Condensed Matter Physics is a joint research unit of CNRS, University Pierre and Marie Curie - Paris 6 and Paris Diderot-Paris 7, Institut de Physique du Globe de Paris and the Institute of Development Research.</p> <p>The main feature of the IMPMC is its multidisciplinary approach. Most of the themes addressed at the institute involve actors from different areas: physics, earth sciences or biology. About 70 researchers and professors and a permanent thirty engineers, technicians and administrative work there.</p> <p>Some of research topics treated in the IMPMC:</p> <ul style="list-style-type: none"> • Magnetic nanoparticles synthetic or natural; • Prediction of physical properties of real materials with ab initio electronic structure determination; • Synthesis and study of structural and dynamic properties of complex materials; • Physical properties of condensed matter under extreme conditions; • Understanding and modeling of reactions involving minerals during key stages of the cycles (bio); • Structural studies of macromolecular assemblies. <p>Contact details: Dr. Maurice Kleman, Institut de minéralogie et de physique des milieux condensés (IMPMC), 140 rue de Lourmel, IMPMC, 75015, Paris, France. E-mail : maurice.kleman@mines.org</p>
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	<p>Dr. Vladimir Dmitrienko</p> <p>Institute of Crystallography RAS, 59 Leninsky prospect, 119333, Moscow, Russia.</p> <p>The A.V. Shubnikov Institute of Crystallography (IC RAS) is</p>

	<p>well-known for its studies in Condensed Matter Physics, Crystallography and Materials Science. Special attention is paid to the area of Nanotechnologies and Nanosciences, including studies of thin epitaxial layers and films, membrane structures, whiskers, different kinds of the organic materials, such as Langmuir-Blodgett films and liquid crystals. IC RAS is developing new atomic diagnostic methods which are adequate to the new technologies and allow controlling the structures of created materials. The institute is also engaged in instrument engineering, innovation activity, and in teaching and preparation of scientific staff for modern crystallography.</p> <p>IC RAS cooperates with more than twenty foreign scientific organizations. The institute is interested in the further development of joint research, educational, industrial and commercial activities with national and international educational and scientific enterprises, institutions and companies, in partnership within the framework of international programs.</p> <p>Contact details: Phone: +7 499 135 6240; +7 499 1350581; Fax: +7 499 1351011; e-mail: dmritien@ns.crys.ras.ru.</p>
Other EU partner organisations (Name of organisation, country, city)	no
Other Russian partner organisations (Name of organisation, city)	no
Project total value (in EUR)	Mutual visits, about 3000 EUR/per year from both sides.

Main strengths of this cooperation experience	
Mutual exchange of scientific ideas and approaches.	
Mutual Benefits	
Main beneficiaries	All participants of the project.
Scientific excellence	Very high
Rating of personal learning gain	Very high
Rating of institutional learning gain	Very high
Other benefits	High practical significance of joint results. We were awarded by B.K. Vainshtein prize for this work.
Barriers	
Personal factors (i.e. cultural, language, etc.)	no
Administrative factors (i.e. legal, institutional, financial, etc.)	no

Capacity of involved institutions	no
Issues causing/ creating difficulties in cooperation	
No difficulties.	
Concrete impact of the project on teams, laboratory and institutes	
We have published 8 joint papers; one book was translated and published in Russian.	
Main lessons learnt	
We have learnt how to improve collaboration or how to improve the personal (and not only personal) competence through the international contacts.	
Due consideration / relevance to Russia's S&T priorities	
Our project corresponds to Russia's S&T priorities.	
Due consideration / relevance to EU MS S&T priorities	
Our project corresponds to EU MS S&T priorities.	
Recommendations on how to improve co-operation	
There should be less formalities for Russian and EU visas for scientific visits.	

4.3. Annex 3: Energy

Project: Risk of energy availability: common corridors for Europe supply security (REACCESS)

Interview 1 of 2

Project identification data	
Name of project	Risk of energy availability: common corridors for Europe supply security (REACCESS).
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP7
Project brief description and objective	Objective: The implementation of the present Project aims at: Analysing present policies concerning EU MS and Community targets for energy import. Evaluating technical, economical and environmental characteristics of present and future energy corridors within Europe and among Europe

	<p>and the supplying regions of the World, taking into account the different typology of infrastructures and technologies (railways, pipelines, cables, terminals, ships and other carriers, ..), the flows and the distances involved for oil, natural gas, coal, electricity, uranium, biomass and hydrogen (reference to the work done within the ENCOURAGED Project and other research activities).</p> <p>Introducing suitable parameters and indicators (including technical and socio-economical reliability) and cost components (investment, O&M, externalities) incorporating the above mentioned information, which may help a global evaluation of supply options (energy vectors, infrastructures, origins of the sources) and their impacts on economy, society, energy and environment toward sustainability. Identifying main corridors for primary and secondary energy carriers to EU27+ Implementing these energy corridors into an adapted version of the pan-EU TIMES model (PEM) built in the framework of the NEEDS IP or into other modelling tools.</p> <p>Analysing scenarios, in which for the fulfilment of the EU27+ energy needs, the import strategies of primary (and secondary) energy carriers compete with the evolution of energy efficiency policies (i.e. white certificates for the energy saving), the introduction of new energy schemes and the development of renewables, in the framework of the EU environmental targets for 2030-2050. Some hypotheses related to the energy supply and demand strategies of regions outside of Europe will be also assumed, given their potential impacts on the international energy prices (e.g. China, India, OPEC, Russia etc.)</p>
Project type (i.e. bilateral, multilateral, etc.)	Multilateral.
Research field (s)	ENERGY
Total number of project's participants	14
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Politecnico di Torino Corso Duca degli Abruzzi 24, Torino, 10129, Italy. Contact person: Evasio Lavagno. Tel.: +39-011-0904401; Fax: +39-011-0904499; URL: http://www.polito.it/.</p> <p>Profile: Politecnico di Torino is a Polytechnic University. It is founded in 1859 year and is the oldest technical university of Italy. They are in 7th place in Europe for engineering studies, and come first in Italy for internationalization and for technical studies according to league tables compiled by Vision and Censis. The Business Research Center inside the cittadella produces cutting-edge research for international corporations while the Venture Capital Section gives research the backing it needs to develop. Over the last ten years more than 100 business start-ups have been launched with the support of the I3P Incubator, which is also in the cittadella area. Politecnico di Torino is a research university, where training and research work together to meet the needs of the local area and economy and above all of the students. Technology in context The Politecnico di Torino offers excellence in technology and</p>

	<p>acknowledges its historical context. It promotes the ability to carry out theoretical or applied research, and also the capacity to achieve concrete and reliable productive processes or organise services and facilities. Attention is paid to practicality without forgetting design, and striving for quality while keeping costs under control. At the Politecnico, today's needs are analysed to design a sustainable tomorrow. By the end of his or her degree, a Politecnico di Torino graduate has gained a vast, many-sided range of skills and knowledge. Education here goes beyond a technical knowledge of engineering and architecture. Students acquire competence in the interdisciplinary nature of the various fields of the contemporary scientific world, while still aware of the needs of people and society.</p>
<p>Russian Partner Name of organisation, full contact details, brief description of organisation's profile)</p>	<p>Institute for the Economy in Transition Gazetny lane, Moscow, Russia. Contact person: Pavel Kadochnikov (Dr). Tel.:+7-4956291504; Fax:+7-4952913594; URL:http://www.iet.ru.</p> <p>Profile: The Institute for the Economy in Transition /IET/ is an independent non-commercial research organization, founded in 1990. Among the institutional founders of the IET are the Academy for the National Economy under the Government of the Russian Federation, the CASE /Center for Socio-Economic Studies/ (Warsaw, Poland), and the OFCE /French Institute for Economic Situation Studies/ (Paris, France).</p> <p>The Institute conducts both theoretical and applied studies in the field of economics, consults the agencies of state power of the Russian Federation on issues concerning the problems of economic growth in economies in transition, public finance, monetary and currency exchange policies, privatization policies, corporate finances, restructuring and institutional reform. The Institute is implementing various projects for the World Bank, the IMF, and the OECD, and provides consulting services to Russian biggest private companies.</p> <p>The IET consists of 10 research divisions, which are grouped according to four areas of research: macroeconomics, socio-economic studies, real economics and political economy. Among the Institute's staff there is one Full Member of the Russian Academy of Sciences, 11 Doctors of Sciences, and 20 Candidates of Economic Sciences.</p>
<p>Other EU partner organisations (Name of organisation, country, city)</p>	<p>1) Universitaet Stuttgart Keplerstrasse 7, Stuttgart, Deutschland. Contact person:Wolfgang Bott (Dr) Tel:+49-71168587818; Fax:+49-71168587883; URL:http://www.uni-stuttgart.de.</p> <p>2) Institutt for Energiteknikk Instituttveien 18 Kjeller Norge Contact person: Knut Michaelsen (Mr) Tel.:+47-63806020;</p>

	<p>Fax:+47-63816356; URL:http://www.ife.no. Organization 3) Deutsches Zentrum fur Luft und Raumfahrt E.V. Linder Hoehe, Koeln, Deutschland. Contact person: Melanie Knittel (Ms.) Tel.:+49-0711-6862312; Fax:+49-0711-6862747; URL:http://www.dlr.de. 4) Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas-Ciemat Avenida Complutense 22, Madrid, España. Contact person :Angel Goya (Dr). Tel.:+34-913466473; Fax:+34-913466480; URL:http://www.ciemat.es. 5) Austrian Research Centers GMBH - ARC Donau-City-Strasse 1, 1220, Wien, Österreich. Contact person: Peter Euringer (Dr). Tel:+43-50550-0; Fax:+43-50550-2010. 6) Kanlo Consultants S.A.R.L. Espace DMCI - 4 quai des Etroits, Lyon, France. Contact person : Richard Loulou (Dr). Tel:+33-475222054; Fax:+33-475222054; URL:http://www.kanlo.net. 7) Asatrem SRL - Applied Systems Analyses, Technology and Research, Energy Models Genova Italia Contact person: Giancarlo Tosato, (Dr) Tel:+39-3355377675 Fax:+39-0110904499 URL:http://www.asatrem.com 8) Climate Change Coordination Center Abai Street, Room 102 Astana Kazakhstan Contact person: Kanat Baigarin, (Professor) Tel:+7-7172717170 Fax:+7-7172324738 9) National Technical University of Athens Iroon Polytechniou 9 - Zografou Campus Zografou Hellas Contact person: Yannis Polyzos, (Professor) Tel:+30-210-7722050 Fax:+30-210-7721960 URL:http://www.ntua.gr 10) Fundacion General de la Universidad Nacional de Educacion a Distancia - F-Uned Calle Francisco de Rojas 2 - 2º dcha</p>
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	Madrid España Contact person: Pilar Muñoz Martínez (Ms.) Tel:+34-913863319 Fax:+34-913867279 11) Technical Research Centre of Finland Vuorimiehentie 3 Espoo Suomi/Finland Contact person: Esa Pursiheimo, (Mr) Tel:+358-20-7225086 Fax:+358-20-7227026 URL: http://www.vtt.fi/
Other Russian partner organisations (Name of organisation, city)	—
Project total value (in EUR)	Project cost:4085261 EURO; Project Funding:3021898 EURO.

Main strengths of this cooperation experience	
<p>The main strength of REACCESS is its connection with other energy projects initiated by EC:</p> <ul style="list-style-type: none"> • NEEDS (New Energy Externalities for Developments in Sustainability): under considerations are externals appearing when different fuel kinds are used; • RES2020 (Resources 2020): Renewable energy sources detailed description and its future prospective; • TIAM (Times Integrated Assessment Model): It is a multiregional energy system model, that includes 15 regions worldwide, the model is based on a model "TIMES"; • ENCOURAGED (Energy corridor optimization for European markets of gas, electricity and hydrogen): under the project assessment of commercially optimal transporting infrastructures for electricity, gas, hydrogen in Europe is conducted. <p>Project implementation helps to coordinate analyzing instruments, discuss outcomes by participants.</p>	
Mutual Benefits	
Main beneficiaries	Institute for the Economy in Transition's specialization is theoretical and applied economy researches. There is a strong need (in the frameworks of the project) to cooperate with European colleagues on the one hand, and to implement advance research approaches to energy flow modelling in Russia. Other participants have an opportunity to use input data from the Russian side for conducting analysis, scenario elaboration and outcomes' analysis in accordance to contemporary peculiarities of economic policy of the Russian Federation.
Scientific excellence	Scientific excellence consists of opportunity to form a contemporary tools for analyzing energy resource flows in different regions and also consists of an opportunity for using the tools for solving theoretical and applied issues in the field of Russian and World energy sectors' economics.
Rating of personal learning gain	Personal learning gain consists of participants' professional development in the field of European and world advanced approaches to analyzing and modelling energy flows. The mathematical multiregional model of general equilibrium helps to develop professional skills and to use them for quantitative assessment of different effects and for energy policy making in a long-term prospective.

Rating of institutional learning gain	Institute for the Economy in Transition rates institutional learning gain rather highly. For example: experience exchange, in the frameworks of TIMES-models using, helps to start works on advanced analysis's directions. General educational workshops held by Institute for the Economy in Transition helps to promote world advanced modelling tools among Russian scientific community.
Other benefits	There was a rather useful and cognitive cooperation of research organisations in the frameworks of the consortium.
Barriers	
Personal factors (i.e. cultural, language, etc.)	There was practically no barrier.
Administrative factors (i.e. legal, institutional, financial, etc.)	There was no administrative barrier. Help was provided for any case by EC. Russian Legislation is not completely adapted to foreign grant's receiving, especially for the multi-participants projects.
Capacity of involved institutions	All foreign companies participating in the Project are highly qualified in the targeted area. It gets an opportunity to make cooperation highly effective. Capacity of involved institutions is not a stumbling block for project's successful implementation. The team is good skilled and rather prospective.

Issues causing/ creating difficulties in cooperation
<ul style="list-style-type: none"> • There was no difficulties in cooperation; • There is just a wish: to inform participants about other projects, their participants and outcomes.

Concrete impact of the project on teams, laboratory and institutes
As a result of project active development of TIMES models has been started for Russian power market. As a result there is an opportunity to apply contemporary tools for quantitative analysis of energy resources supply and its risk; to solve issues of economy policy's readiness in the field of ecology and competitiveness of Russian economy. This will help in long term prospective to assess quantitatively different effects and develop proposals for energy policy conducting.

Main lessons learnt
<p>Main lessons learnt belong to two directions:</p> <ol style="list-style-type: none"> 1. International cooperation experience is got: cooperation among several foreign organisations in a big international team; experience of negotiations and collaborative objectives' solving is got. 2. Professional experience is got, under consideration is an experience in construction, analysis and application of TIMES models in the worldwide practice.

Due consideration / relevance to Russia's S&T priorities
Project's aims are in line with Russian R&D priorities, which are approved in the Programme for Scientific and Technological Development and Technological Modernisation of Russian economy until 2015. Also it is in line with a Strategy for scientific and innovational development of the Russian Federation until 2015.

Due consideration / relevance to EU MS S&T priorities
Project's outcomes correspond to EU MS S&T priorities because under project's consideration lay risk issues connected with energy infrastructure availability for supply European countries with energy resources. Also structure of energy corridors for sustainable development of European countries is under consideration. As a result of a project special tools were developed. They help to analyse effect of energy policy and its different scenario for European Union.

Recommendations on how to improve co-operation
<ul style="list-style-type: none"> • to hold more coordination event for participants of such projects according to their regional distribution; • to make information about other relevant projects available: participants, aims, outcomes; • to form a development map for a medium term prospective.

Project: Risk of energy availability: common corridors for Europe supply security (REACCESS)

Interview 2 of 2

Project identification data	
Name of project	Risk of Energy Availability: Common Corridors for Europe Supply Security (REACCESS).
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP7
Project brief description and objective	<p>REACCESS: Risk of Energy Availability: Common Corridors for Europe Supply Security.</p> <p>The project is carried out under the 7th Framework Programme (FP7) of the European Commission (Theme - Energy-2007-9. 1-01: Knowledge tools for energy-related policy making, Grant agreement no.: 212011).</p> <p>The REACCESS project aims to build tools suitable for EU27+ energy import scenario analyses, able to take into account at the same time the technical, economic and environmental aspects of the main energy corridors, for all energy commodities and infrastructures.</p> <p>The principle objectives of the REACCESS project are:</p> <ul style="list-style-type: none"> Analysing present policies concerning EU MS and Community targets for energy import. Evaluating technical, economical and environmental features of present and future energy corridors within Europe and among Europe and the supplying regions of the World. Introducing suitable parameters and indicators (including technical and socio-economical reliability) and cost components (investment, O&M, externalities) incorporating the above mentioned information, which may help a global evaluation of supply options (energy vectors, infrastructures, origins of the sources) and their impacts on economy, society, energy and environment toward sustainability. Identifying main energy corridors to EU27+ for

	<p>primary/secondary energy commodities and electricity. Implementing these energy corridors into an adapted version of the pan-EU TIMES model (PEM) built in the framework of the NEEDS IP or into other modelling tools</p> <p>Analysing scenarios, in which for the fulfillment of the EU27+ energy needs, the import strategies of primary (and secondary) energy carriers compete with the evolution of energy efficiency policies, the introduction of new energy schemes and the development of renewables, in the framework of the EU environmental targets for 2030-2050.</p> <p>Training target groups of EU DGs to familiarize with the modelling tool.</p> <p>Developing interactions with commercial and industrial entities through an ad hoc Advisory Board.</p> <p>Disseminating the project work and discussing the results of the analysed scenarios.</p>
Project type (i.e. bilateral, multilateral, etc.)	Multilateral.
Research field (s)	Cooperation: Energy
Total number of project's participants	14
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Politecnico di Torino Corso Duca degli Abruzzi 24, Torino, 10129, Italy; Contact person: Evasio Lavagno; Tel.:+39-011-5644429; e-mail: evasio.lavagno@polite.it URL: http://www.polito.it/</p> <p><u>Profile:</u> The Politecnico di Torino is a Polytechnic University. It is founded in 1859 year and is the oldest technical university of Italy.</p> <p>The Politecnico di Torino offers excellence in technology and acknowledges its historical context. It promotes the ability to carry out theoretical or applied research, and also the capacity to achieve concrete and reliable productive processes or organise services and facilities. Attention is paid to practicality without forgetting design, and striving for quality while keeping costs under control. At the Politecnico, today's needs are analysed to design a sustainable tomorrow.</p> <p>Engineers and Architects are the main professional figures at the Politecnico di Torino. Both have strategic planning and a common interdisciplinary approach. The range of studies is broad and ever-widening: it spans space, environment and land, telecommunications, information, energy, mechanics, electronics, chemistry, automation, electrical engineering, industrial design, architecture and building, restoration. They are very different subjects requiring different study methods. Both theory and technical planning are needed: method as well as inventiveness.</p> <p>New technologies are constantly emerging so research, planning, production and management require enhanced capabilities to deal with changing situations.</p> <p>Complexity can lead to uncertainty - uncertainty that must be dealt with.</p> <p>The Politecnico does not only provide knowledge: students acquire a critical approach to work which will be valid throughout their professional lives and help them deal with changing situations.</p>

<p>Russian Partner Name of organisation, full contact details, brief description of organisation's profile)</p>	<p>Institute for the Economy in Transition Gazetny lane, Moscow, Russia. Contact person: Pavel Kadochnikov (Dr). Tel:+7-4956291504; Fax:+7-4952913594; URL:http://www.iet.ru.</p> <p>Profile: The Institute for the Economy in Transition /IET/ is an independent non-commercial research organization, founded in 1990. Among the institutional founders of the IET are the Academy for the National Economy under the Government of the Russian Federation, the CASE /Center for Socio-Economic Studies/ (Warsaw, Poland), and the OFCE /French Institute for Economic Situation Studies/ (Paris, France). The Institute conducts both theoretical and applied studies in the field of economics, consults the agencies of state power of the Russian Federation on issues concerning the problems of economic growth in economies in transition, public finance, monetary and currency exchange policies, privatization policies, corporate finances, restructuring and institutional reform. The Institute is implementing various projects for the World Bank, the IMF, and the OECD, and provides consulting services to Russian biggest private companies. The IET consists of 10 research divisions, which are grouped according to four areas of research: macroeconomics, socio-economic studies, real economics and political economy. Among the Institute's staff there is one Full Member of the Russian Academy of Sciences, 11 Doctors of Sciences, and 20 Candidates of Economic Sciences.</p>
<p>Other EU partner organisations (Name of organisation, country, city)</p>	<p>1) Applied Systems Analyses, Technology And Research, Energy Models, Genova, Italy. Contact person: Giancarlo Tosato, (Dr); Tel:+39-3355377675; Fax:+39-0110904499; URL:http://www.asatrem.com.</p> <p>2) Climate Change Coordination Center Kazakhstan; Abai Street, Room 102, Astana, Kazakhstan. Contact person: Kanat Baigarin, (Professor); Tel:+7-7172717170; Fax:+7-7172324738;</p> <p>3) Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas Avenida Complutense 22, Madrid, Spain. Contact person :Angel Goya (Dr). Tel:+34-913466473 Fax:+34-913466480 URL:http://www.ciemat.es</p> <p>4) Deutsches Zentrum für Luft und Raumfahrt, German Aerospace Center Germany Koeln Deutschland Contact person: Melanie Knittel (Ms.)</p>

	<p>Tel:+49-0711-6862312 Fax:+49-0711-6862747 URL:http://www.dlr.de 5) Kanlo Consultants France Espace DMCI - 4 quai des Etroits Lyon Contact person : Richard Loulou (Dr) Tel:+33-475222054 Fax:+33-475222054 URL:http://www.kanlo.net 6) Institute of Energy Technology Norway Instituttveien 18 Kjeller Contact person: Knut Michaelsen (Mr) Tel:+47-63806020 Fax:+47-63816356 URL:http://www.ife.no 7) National Technical University of Athens Greece Iroon Polytechniou 9 - Zografou Campus Zografou Hellas Contact person: Yannis Polyzos, (Professor) Tel:+30-210-7722050 Fax:+30-210-7721960 URL:http://www.ntua.gr 8) Austrian Research Centres – Research Studios Austria Austria Donau-City-Strasse 1 1220 Wien Contact person: Peter Euringer (Dr) Tel:+43-50550-0 Fax:+43-50550-2010 9) Fundacion General de la Universidad Nacional de Educaci3n a Distancia Spain Calle Francisco de Rojas 2 - 2º dcha Madrid Contact person: Pilar Mu1oz Mart3nez (Ms.) Tel:+34-913863319 Fax:+34-913867279 10) Valtion Teknillinen Tutkimuskeskus , Technical Research Centre of Finland Finland Vuorimiehentie 3 Espoo Contact person: Esa Pursiheimo, (Mr) Tel:+358-20-7225086 Fax:+358-20-7227026 URL:http://www.vtt.fi/</p>
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	<p>11) University of Stuttgart Germany Keplerstrasse 7 Stuttgart Contact person: Wolfgang Bott (Dr) Tel: +49-71168587818 Fax: +49-71168587883 URL: http://www.uni-stuttgart.de</p> <p>12) Institute of Methodologies For Environmental Analysis Italy. Piazzale Aldo Moro, 7 - 00185, Roma, Italy. Tel.: +39 06 49931; Fax: +39 06 4461954.</p>
Other Russian partner organisations (Name of organisation, city)	-
Project total value (in EUR)	Project cost: 4085261 EURO; Project Funding: 3021898 EURO.

Main strengths of this cooperation experience	
Clear channels of communications between the project partners themselves as well as with the wider community play a crucial role in the success of the project. In this respect, the REACCESS project is working through various focused groups and committees through formal and informal mechanisms so as to achieve its aims.	
Mutual Benefits	
Main beneficiaries	REACCESS project is envisaged to be beneficial for various target groups that are defined not only by their direct interest for the project results but also by their institutional, scientific and educational status. REACCESS project is working through various focused groups and committees through formal and informal mechanisms so as to achieve its aims.
Scientific excellence	World energy sector is in the center of attention. Import increasingly contributes to energy consumption of EU27. According to the commonly accepted energy outlooks in 2030 about 70% of the European energy needs will be met by primary sources originating from foreign areas, some of which are very remote and geopolitically unstable. A relevant issue involves the reliability of the infrastructures, as far as likely accidents and terrorist attacks are concerned. In addition, the import of electricity will be relevant as many new interconnections are at several stages of design and implementation. Scientific excellence consists of ability to build tools suitable for EU27 energy import scenario analyses, able to take into account at the same time the technical, economical and environmental aspects of the main energy corridors, for all energy commodities and infrastructures.
Rating of personal learning gain	Rating of personal learning gain is rather high. First and foremost work in a multicultural environment caused forming a multicultural competence. Constant interaction among consortium's members replenished professional skills and allowed to use them for quantitative assessment of different effects.

Rating of institutional learning gain	Rating of institutional learning gain is rather high. One the one hand, the mathematical multiregional model of general equilibrium helps to develop professional skills and to use them for energy policy making in a long-term prospective. One the other hand it is incredibly impossible to elicit an institutional learning gain for a specific organisation as aims of the project are devoted to global energy security issues.
Other benefits	Mutual experience exchange. Development of further partnerships.
Barriers	
Personal factors (i.e. cultural, language, etc.)	There was neither cultural nor language barrier while project implementation.
Administrative factors (i.e. legal, institutional, financial, etc.)	Legal and financial barriers.
Capacity of involved institutions	Capacity of involved institutions is enough for successful realization of the Project.

Issues causing/ creating difficulties in cooperation
There were some difficulties in local financial institutions for using timely and correctly the EU financing.

Concrete impact of the project on teams, laboratory and institutes
Improved mutual knowledge for developing further cooperation.

Main lessons learnt
Need and utility of establishing multilateral cooperation in Projects involving international issues, like those involving energy and environment.

Due consideration / relevance to Russia's S&T priorities
Project's aims are in line with Russian R&D priorities, which are approved in the Programme for Scientific and Technological Development and Technological Modernisation of Russian economy until 2015.

Due consideration / relevance to EU MS S&T priorities
Relevant role of bilateral commodities' exchange, mainly in the energy sector. Project's outcomes correspond to EU MS S&T priorities because under project's consideration lay risk issues connected with energy infrastructure availability for supply European countries with energy resources. Also structure of energy corridors for sustainable development of European countries is under consideration. As a result of a project special tools were developed. They help to analyse effect of energy policy and its different scenario for European Union.

Recommendations on how to improve co-operation
Cooperation can be improved via establishing a closer and wider relationship framework.

Project: Intelligent coordination of operation and emergency control of EU and Russian power grids (ICOEUR)

Interview 1 of 2

Project identification data	
Name of project	Intelligent Coordination of Operation and Emergency Control of EU and Russian Power Grids (ICOEUR).
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP7 under the call named “FP7-ENERGY.2008.7.2.1 Innovative operational and monitoring tools for large power systems”.
Project brief description and objective	<p>The interstate integration of power grids provides multiple advantages concerning operation security, integration of renewable energy as well as energy trading. Due to this fact the UCTE interconnection expands continually since its establishment. Consideration is given to different scenarios of joint operation of UCTE and NORDEL with power grids on the territory of the former USSR. Due to the fact that such an interconnection is second to none in the World in terms of the scale and distance of the interconnection and number of countries involved, strong R&D and innovations are urgently required along with the recent development of technologies.</p> <p>Bulk power grids may encounter major blackouts, which originate in increasing complication in monitoring, operation and control of interconnected power grids as well as in limited knowledge of the total system state. Therefore the possible future interconnection between the European and Russian electricity transmission systems requires elaborating methods for monitoring, control and protection of large scale systems and especially for the support of their interconnections. The development and prototypically implementation of these new methods and tools is the major goal of the ICOEUR project. New technologies like Wide Area Monitoring, Control and Protection as well as advanced network controllers (FACTS) and HVDC systems will be considered.</p> <p>Envisioned ICOEUR goals can be achieved only in close cooperative work of experts, with extensive knowledge of EU and Russian power systems as well as manufacturers and network operators. The ICOEUR consortium involves leading experts in all these domains and guarantees efficient collaboration and knowledge required for testing the methodologies developed. The joint development of innovative monitoring, simulation and control concepts, tools and equipment through international diversified ICOEUR consortium and their prototype implementation will promote their adoptions.</p>
Project type (i.e. bilateral, multilateral, etc.)	Multilateral.
Research field (s)	ENERGY
Total number of project's participants	21
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	Technische Universitaet Dortmund Emil-Figge-Str. 70 D-44227 Dortmund, Germany Contact Person: Mr. Niehage Dettlef.

	<p>Tel.: +49-2317552448; Fax: +49-2317552756; Contact Person: Christian Rehtanz; Phone +49 231 75 52 39 6; Fax: +49 231 75 52 69 4; christian.rehtanz@tu-dortmund.de.</p> <p>Profile:</p> <p>TU Dortmund University has been researching and teaching at the global intersection between man, nature and technology since its establishment in 1968. It has developed a unique profile with a special combination of faculties in the natural sciences and engineering, the social sciences and the humanities.</p> <p>Modern research is interdisciplinary – a principle to which all TU Dortmund faculties subscribe. This is especially visible in four profile areas. In Production and Logistics, TU Dortmund researchers develop innovative ideas for processing materials and shape the management of goods flows and production processes together with experts at the Fraunhofer Institute for Material Flow and Logistics. The second profile area - Chemical Biology and Biotechnology In the third profile area, Modeling, Simulation and Optimization of Complex Processes and Systems, computer scientists, mathematicians, statisticians, engineers and economists work together to model technical processes and economic developments. A fourth key area is Youth, School and Education Research, providing significant impulses for national and international educational policies.</p>
<p>Russian Partner Name of organisation, full contact details, brief description of organisation's profile)</p>	<p>Institute of Power Systems Lermontov Str., 130, 664033, Irkutsk, Russia. Nickolay Voropay; +7 3952 42 47 00; +7 3952 42 44 44; E-mail: voropai@isem.sei.irk.ru</p> <p>Profile:</p> <p>The Siberian Energy Institute (SEI) was established in August, 1960 within the Siberian Branch of the USSR Academy of Sciences. The key task of the Institute is comprehensive studies on energy in its broad sense and the objects of studies and applications are energy and physico-technical systems: fuel and energy complexes of areas, regions, country and world comprising electric power, heat-, oil- and gas-supply systems, coal industry, nuclear energy as well as perspective energy technologies and equipment.</p> <p>The scientific activity of ESI includes:</p> <ul style="list-style-type: none"> • the theory of creating energy systems, complexes, plants and their management, • scientific foundations and mechanisms for realization of the energy policy of Russia and its regions
<p>Other EU partner organisations (Name of organisation, country, city)</p>	<p>1) Cesi ricerca S.P.A. Milano Italy Contact Person: Carlo Legramandi, (Dr)</p> <p>2) Turkiye Elektrik Iletim Anonim Sirketi Bahcelievler - Ankara Turkey</p>

	<p>Contact Person: Doruk Ozkok, (Mr) 3) Fizikalas Energetikas Instituts Riga Latvia Contact Person: Anna Mutule, (Dr) 4) Elektro-Slovenija DOO Ljubljana Slovenia Contact Person: Jan Kostevc, (Mr) 5) Elpros Elektronski in Programski Sistemi DOO Ljubljana Slovenia Contact Person: Tadeja Babnik, (Dr) 6) Terna - Rete Elettrica Nazionale SPA Roma Italy Contact Person: Alessandro Cireddu, (Dr) 7) ABB AB Vasteras Sweden Contact Person: Ambra Sannino, (Dr) 8) Tallinna Tehnikaulikool Tallinn Estonia Contact Person: Heiki Tammoja, (Professor) 9) Suez-Tractebel SA Brussels Belgium Contact Person: Catherine Bouckaert, (Ms.) 10) Politecnico di Torino Italy Contact Person: Ettore Bompard, (Professor) 11) Rigas Tehniska Universitate Riga Latvia Contact Person: Antans Sauhats, (Professor) 12) The University of Birmingham Birmingham United Kingdom Contact Person: Xiao-Ping Zhang, (Dr) 13) Ecole Polytechnique Federale de Lausanne Lausanne Switzerland Contact Person: Alain Germond, (Professor)</p>
Other Russian partner organisations (Name of organisation, city)	<p>1) Melentiev Energy Systems Institute of Siberian Branch of the Russian Academy of Sciences Irkutsk Russian Federation Contact Person: Dr. Dmitry Efimov 2) Power System Emergency Control Laboratory Novosibirsk Russian Federation Contact Person: Andrey Grobovoy</p>

	<p>3) OAO Nauchno-Technicheskiy Centr Electroenergetika Moscow Russian Federation Contact Person: Dr. Alexander Ivanovsky</p> <p>4) All-Russian Electrotechnical Institute Named After V.L. Lenin Moscow Russian Federation Contact Person: Anatoly Zaitsev</p> <p>5) High Voltage Direct Current Power Transmission Research Institute St. Petersburg Russian Federation Contact Person: Maria Gurevich</p> <p>6) Institute of Control Sciences of the Russian Academy of Sciences Moscow Russian Federation Contact Person: Pr. Igor Yadykin</p>
Project total value (in EUR)	Project Cost: 4.78 million euro Project Funding: 1.92 million euro

Main strengths of this cooperation experience	
<p>There is an opportunity to use (while project implementing period) the bundled software EUROSTAG given to Russian consortium's members on a free base by the European partners. Similar Russian program complexes are inferior to the European ones in different aspects. The thing of paramount importance here is that it is possible to concentrate our attention on estimating efficiency of applying new means of distributed generation in large energy systems instead of elaborating mathematical models for these means, because they have already been created, tested and universally recognized thanks to international cooperation in this field.</p>	
Mutual Benefits	
Main beneficiaries	Russian-European collaborative overcoming barriers, caused by lack of reliable information about UCTE schemes' parameters and UCTE regimes and the same items for CIS energy systems; and reluctance of both interconnected power utilities to cooperate with consortium.
Scientific excellence	Availability of common platform for modelling normal and emergency of interconnected power utilities — EUROSTAG bundled software.
Rating of personal learning gain	There is an opportunity for consulting EUROSTAG bundled software developers. Rating of personal learning gain is 5 (according to 5-scored scale).
Rating of institutional learning gain	There is an opportunity for young experts training in Federal Technical University in Lausanne in the frameworks of the Scientific & Technological Cooperation Programme Switzerland-Russia. Rating of institutional learning gain is 5 (according to 5-scored scale).
Other benefits	There is an incentive for young experts to learn English, opportunity for foreign language practice, opportunity for taking part in international conferences.
Barriers	
Personal factors (i.e. cultural, language, etc.)	—

Administrative factors (i.e. legal, institutional, financial, etc.)	Energy Security issues prevent consortium members from exchanging information about UCTE schemes' parameters and UCTE regimes and the same items for CIS energy systems, equipment data, which are necessary for appropriate modelling of (taking place) transition processes.
Capacity of involved institutions	Capacity of involved institutions is enough for problem solving. However quality of ways out depends on interaction with system operators of UCTE and CIS's energy systems. It is possible to achieve the essential interaction just in case of having an access to government. In order to achieve the goals of consortium, fruitful cooperation of Russian and European Union's governments is needed.

Issues causing/ creating difficulties in cooperation

Impossibility to get information about equipment data from the system operator Union Energy System of Russia and, respectively, of UCTE and CIS for transition processes' analysis.

Concrete impact of the project on teams, laboratory and institutes

Training course approval for a young specialist has been got in the frameworks of Scientific & Technological Cooperation Programme Switzerland-Russia under the direction of a consortium member. The training course will have been taken place since November 2010 till January 2011 in Federal Technical University in Lausanne (EPFL).

Main lessons learnt

The project expiration date is December 2011. We think it is not the proper time for weighting learnt lessons.

Due consideration / relevance to Russia's S&T priorities

This project's goals and objectives are completely in line with Russia's S&T priorities and priorities expressed in 7th FP EU, notably the so-called "Smart Grid Technologies". UCTE-energy systems represent a "Super Smart Grid" structure and it should become a subject for domestic surveys in the recent 10 years.

Due consideration / relevance to EU MS S&T priorities

This project's goals and objectives are completely in line with 7th FP EU's S&T priorities. European Commission has already elaborated document about advanced Smart Grid & Super Smart Grid Technologies' development. This direction will be the basic one for electricity generation, transmission and distribution until 2020. New technologies will be based on using information technics, heavy-current semiconductors and distributed generation, including alternative electricity generation. The Project includes all the above mentioned technologies.

Recommendations on how to improve co-operation

Efficiency of two coordinators interaction is a very important point. On the one hand, big quantity of project members demands coordination of their activities by two coordinators, who are vested to make decisions without other partners' participation. On the other hand such devices as e-mail, Internet, video conferences etc. makes interaction easier. However, it would be much more useful, if Directions Heads have a right to make decisions about international conferences meetings or collaborative surveys. Such a situation from the Russian side leads to an extreme responsibility of Coordinator and

participants' initiative is rather limited. We think that centralized management methods are unproductive and they should be rejected as often as it is possible.

Project: Intelligent coordination of operation and emergency control of EU and Russian power grids (ICOEUR)

Interview 2 of 2

Project identification data	
Name of project	Intelligent Coordination of Operation and Emergency Control of EU and Russian Power Grids (ICOEUR).
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP7, FASI
Project brief description and objective	<p>The interstate integration of power grids provides multiple advantages concerning operation security, integration of renewable energy as well as energy trading. Due to this fact the UCTE interconnection expands continually since its establishment. Consideration is given to different scenarios of joint operation of UCTE and NORDEL with power grids on the territory of the former USSR. Due to the fact that such an interconnection is second to none in the World in terms of the scale and distance of the interconnection and number of countries involved, strong R&D and innovations are urgently required along with the recent development of technologies.</p> <p>Bulk power grids may encounter major blackouts, which originate in increasing complication in monitoring, operation and control of interconnected power grids as well as in limited knowledge of the total system state. Therefore the possible future interconnection between the European and Russian electricity transmission systems requires elaborating methods for monitoring, control and protection of large scale systems and especially for the support of their interconnections. The development and prototypically implementation of these new methods and tools is the major goal of the ICOEUR project. New technologies like Wide Area Monitoring, Control and Protection as well as advanced network controllers (FACTS) and HVDC systems will be considered.</p> <p>Envisioned ICOEUR goals can be achieved only in close cooperative work of experts, with extensive knowledge of EU and Russian power systems as well as manufacturers and network operators. The ICOEUR consortium involves leading experts in all these domains and guarantees efficient collaboration and knowledge required for testing the methodologies developed. The joint development of innovative monitoring, simulation and control concepts, tools and equipment through international diversified ICOEUR consortium and their prototype implementation will promote their adoptions.</p>
Project type (i.e. bilateral, multilateral, etc.)	Multilateral
Research field (s)	Energy

Total number of project's participants	21
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>Technische Universitaet Dortmund Emil-Figge-Str. 70, D-44227, Dortmund, Germany. Contact Person: Christian Rehtanz; Phone +49 231 75 52 39 6; Fax: +49 231 75 52 69 4; christian.rehtanz@tu-dortmund.de</p> <p>Profile:</p> <p>TU Dortmund University has been researching and teaching at the global intersection between man, nature and technology since its establishment in 1968. It has developed a unique profile with a special combination of faculties in the natural sciences and engineering, the social sciences and the humanities.</p> <p>Modern research is interdisciplinary – a principle to which all TU Dortmund faculties subscribe. This is especially visible in four profile areas. In Production and Logistics, TU Dortmund researchers develop innovative ideas for processing materials and shape the management of goods flows and production processes together with experts at the Fraunhofer Institute for Material Flow and Logistics. The second profile area - Chemical Biology and Biotechnology In the third profile area, Modeling, Simulation and Optimization of Complex Processes and Systems, computer scientists, mathematicians, statisticians, engineers and economists work together to model technical processes and economic developments. A fourth key area is Youth, School and Education Research, providing significant impulses for national and international educational policies.</p>
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	<p>Institute of Power Systems Lermontov Str., 130, 664033, Irkutsk, Russia. Nickolay Voropay +7 3952 42 47 00; +7 3952 42 44 44; voropai@isem.sei.irk.ru</p> <p>Profile:</p> <p>The Siberian Energy Institute (SEI) was established in August, 1960 within the Siberian Branch of the USSR Academy of Sciences. The key task of the Institute is comprehensive studies on energy in its broad sense and the objects of studies and applications are energy and physico-technical systems: fuel and energy complexes of areas, regions, country and world comprising electric power, heat-, oil- and gas-supply systems, coal industry, nuclear energy as well as perspective energy technologies and equipment. The scientific activity of ESI includes:</p> <ul style="list-style-type: none"> • the theory of creating energy systems, complexes, plants and their management; • scientific foundations and mechanisms for realization of the energy policy of Russia and its regions.
Other EU partner organisations (Name of organisation, country, city)	- Cesi ricerca S.P.A. Milano Italy

	<p>Contact Person: Carlo Legramandi, (Dr) - Turkiye Elektrik Iletim Anonim Sirketi Bahcelievler - Ankara Turkey</p> <p>Contact Person: Doruk Ozkok, (Mr) - Fizikalas Energetikas Instituts Riga Latvia</p> <p>Contact Person: Anna Mutule, (Dr) - Elektro-Slovenija DOO Ljubljana Slovenia</p> <p>Contact Person: Jan Kostevc, (Mr) - Elpros Elektronski in Programski Sistemi DOO Ljubljana Slovenia</p> <p>Contact Person: Tadeja Babnik, (Dr) - Terna - Rete Elettrica Nazionale SPA Roma Italy</p> <p>Contact Person: Alessandro Cireddu, (Dr) - ABB AB Vasteras Sweden</p> <p>Contact Person: Ambra Sannino, (Dr) - Tallinna Tehnikaulikool Tallinn Estonia</p> <p>Contact Person: Heiki Tammoja, (Professor) - Suez-Tractebel SA Brussels Belgium</p> <p>Contact Person: Catherine Bouckaert, (Ms.) - Politecnico di Torino Italy</p> <p>Contact Person: Ettore Bompard, (Professor) - Rigas Tehniska Universitate Riga Latvia</p> <p>Contact Person: Antans Sauhats, (Professor) - The University of Birmingham Birmingham United Kingdom</p> <p>Contact Person: Xiao-Ping Zhang, (Dr) - Ecole Polytechnique Federale de Lausanne Lausanne Switzerland</p> <p>Contact Person: Alain Germond, (Professor)</p>
Other Russian partner organisations (Name of organisation, city)	<p>- Melentiev Energy Systems Institute of Siberian Branch of the Russian Academy of Sciences Irkutsk Russian Federation</p> <p>Contact Person: Dr. Dmitry Efimov</p>

	<p>- Power System Emergency Control Laboratory Novosibirsk Russian Federation Contact Person: Andrey Grobovoy</p> <p>- OAO Nauchno-Technicheskiy Centr Electroenergetika Moscow (Scientific and Technological Center "Electrical Power Engineering") Russian Federation Contact Person: Dr. Alexander Ivanovsky</p> <p>- All-Russian Electrotechnical Institute Named After V.L. Lenin Moscow Russian Federation Contact Person: Anatoly Zaitsev</p> <p>- High Voltage Direct Current Power Transmission Research Institute St. Petersburg Russian Federation Contact Person: Maria Gurevich</p> <p>- Institute of Control Sciences of the Russian Academy of Sciences Moscow Russian Federation Contact Person: Pr. Igor Yadykin</p>
Project total value (in EUR)	Project Cost: 4.78 million euro; Project Funding: 1.92 million euro.

Main strengths of this cooperation experience	
The main strength of this cooperation is that experts from Russia and EU work together. Due to the significant differences between these regions and to historical reasons, these experts are used to different operation philosophies for electrical power systems. Nowadays, as these systems grow more and more together, it is important to exchange and combine this knowledge in order to develop new advanced methods.	
Mutual Benefits	
Main beneficiaries	Both EU partners and Russian partners benefit by the cooperation.
Scientific excellence	Mutual benefits are achieved by EU partners bringing scientific excellence in market liberalization and decentralized operation, while the Russian partners contribute with scientific excellence in protection systems and centralized operation methods.
Rating of personal learning gain	Very positive. Personal learning has been achieved on technological aspects and on international project management.
Rating of institutional learning gain	Intensive cooperation with Russian researchers has led to a better knowledge about Russian system operation, especially in the field of system protection.
Other benefits	Mutual cultural exchange.
Barriers	
Personal factors (i.e. cultural, language, etc.)	In a few examples we have seen that language is a problem. But for most partners the communication in English causes no problems.

Administrative factors (i.e. legal, institutional, financial, etc.)	Problematic was the non synchronized signature of the Grant Agreement by EC and FASI. The date of signature by the EC was in March 2009 while FASI already signed in July 2008. This causes problems in the synchronization of the Tasks and Deliverables of the project.
Capacity of involved institutions	All companies participating in the projects are highly qualified in the target area.

Issues causing/ creating difficulties in cooperation
<ul style="list-style-type: none"> • Different start/end date of the project on Russian and EU side; • Principles of project work of EU and Russian scientist differ (especially in the beginning of the project). Now we are converging to a joint way of cooperative working.

Concrete impact of the project on teams, laboratory and institutes
The project has a significant impact on our team and laboratory. Often research is being done on a local level without intensive exchange with other scientists. Such an exchange happens in the ICOEUR project, where multi-national experience can be obtained. One example is the establishment of a wide area measurement system, collecting PMU data from several partners of the project being located in the control area of ENTSO-E, as well as IPS/UPS.

Main lessons learnt
Cooperation in such a big project, with partners located within a distance of eight different time zones is very challenging. Planning procedures must be carried out well in advance and often it is difficult to find a common solution taking into account all conditions.

Due consideration / relevance to Russia's S&T priorities
Project's objectives are relevant to Russia's S&T priorities.

Due consideration / relevance to EU MS S&T priorities
Project's objectives are relevant to EU MS' S&T priorities.

Recommendations on how to improve co-operation
We would recommend further flexibility by FASI and the EC in order to allow a better synchronization of the Russian and EU projects (compare issues above on the non synchronous starting/end date of the project).

Project: Engine and turbine combustion for combined heat and power production (BIOLIQUIDS-CHP)

Interview 1 of 2

Project identification data

Name of project	Engine and turbine combustion of bioliquids for combined heat and power production (BIOLIQUIDS-CHP).
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP7-ENERGY.2008.2.2.1 Enhancing strategic international cooperation with Russia in the field of power generation from biomass.
Project brief description and objective	<p>The combustion of plant oils in diesel engines, whether or not after esterification to biodiesel, is possible but for the less desirable future because they are derived from food crops (first generation biofuels). Fast pyrolysis liquids derived from ligno-cellulosic materials (second generation biofuels type) are more sustainable but their combustion in prime movers like turbines or engines presents technical problems.</p> <p>The aim of the Bioliquids-CHP project (Engine and turbine combustion for combined heat and power production) is to adapt a diesel engine and a micro gas turbine to enable the combustion of various bio-liquids including pyrolysis oils and blends. The project also aims at upgrading such oils to make them easier to use in engines and at developing catalysts and a system for NOx removal from diesel engine exhaust gases.</p> <p>The Bioliquids-CHP project is coordinated by BTG Biomass Technology Group B.V. (the Netherlands) and will be carried out by a consortium of seven complementary partners, including two SMEs, two industrial companies, two universities and a research center. Coordination tasks are split between technical coordination and overall coordination.</p>
Project type (i.e. bilateral, multilateral, etc.)	Multilateral
Research field (s)	ENERGY
Total number of project's participants	7
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>B.T.G. Biomass Technology Group BV Colosseum 11 Postbus 217, Netherlands. Contact Person: Mr. John Vos; Tel.: +31-534861191; Fax: +31-53-4861180.</p> <p>Profile: BTG Biomass Technology Group BV (BTG) is an independent, private group of companies, which for the past 22 years has specialized in the process of conversion of biomass into useful fuels and energy. BTG has structured its know-how activities in two business units with three main activities: Consultancy, Project Development & Research and Technology Development (RTD)</p> <p>This unique combination of business units is the base for providing highly innovative and commercially attractive services. Due diligence is carried out for both small and large investors that are interested in investing in bioenergy or biofuel technologies.</p>
Russian Partner	<p>The Likhachev Plant (AMO ZIL) Moscow, Russia. Contact Person: Nickolay Khripach</p> <p>Profile: AMO ZIL (the trademark "ZIL") is the oldest Russian automobile plant. It was established in 1916.</p>

	Nowadays, the company develops dynamically. Together with other companies, ZIL now produces a great range of trucks, vans, buses and limousines on the basis of ZIL chassis. The company also manufactures a variety of specialised vehicles and equipment, such as: municipal ambulances, fire-fighting vehicles, combined road sweeping vehicles, emergency-repair vehicles, tank trucks, car lifts, dump and cross-country 4x4 and 6x6 trucks etc. ZIL recognizes the importance of quality improvement of its vehicles. Improvements and ndevices are constantly being made, and as they become available are installed on a number of models.
Other EU partner organisations (Name of organisation, country, city)	1) Aston University United Kingdom Birmingham 2) Universita Degli Studi di Firenze Italy Florence 3) ENCONTECH B.V. Netherlands Enschede
Other Russian partner organisations (Name of organisation, city)	1) Federal State Unitary Enterprise "Central, Order of the Red Banner, Scientific Research Automobile and Engine Institute Moscow Russian Federation 2) Boreskov Institute of Catalysis - Siberian Branch of Russian Academy of Sciences Novosibirsk Russian Federation
Project total value (in EUR)	Project Cost: 4.31 million euro Project Funding: 1.6 million euro

Main strengths of this cooperation experience	
During the project implementation the following main strong points of cooperation were found out: <ul style="list-style-type: none"> • contacting colleagues, including foreign partners, via e-mail, file hosting, joint web-site that contains non-public information about goals, objectives; • holding conferences and exhibitions related to the international project's theme; • holding working meetings and sessions for all consortium members, including participation of representatives from ROSNAUKA and EC. The events are hold at the territory as of Russian organisations, so of foreign ones; • disseminating posters, brochures, project visit cards, which describe project goals, objectives, outputs, outcomes and every participant's role; • holding workshops reflecting scientific experience of every member of consortium. 	
Mutual Benefits	
Main beneficiaries	Beneficiary is every consortium member. Main profit is a created international partnership and experience exchange in R&D and experimental and constructing activities.
Scientific excellence	The opportunity to use, in the frameworks of the project, technologies developed by every member of the consortium, results of R&D and experimental and constructing activities. The above mentioned facts make the project successful.
Rating of personal learning gain	Rating of personal gain is rather high because there is an opportunity to get an experience in holding international

	meetings and negotiations. Visiting foreign laboratories and organisations, getting acquainted with foreign technological processes is very important for scientific development of organisation's subdivisions.
Rating of institutional learning gain	Rating of institutional gain is very high because of opportunity for international partnership and experience exchange. This can lead to complementary investments in future collaborative activities. Comparative analysis of positive sides of foreign organisations' laboratories and subdivisions was conducted.
Other benefits	—
Barriers	
Personal factors (i.e. cultural, language, etc.)	Language barrier.
Administrative factors (i.e. legal, institutional, financial, etc.)	Project starting date in Europe was 6 months later than in the Russian Federation.
Capacity of involved institutions	Scientific capacity of participants is rather high.

Issues causing/ creating difficulties in cooperation
The main reason for language barrier is different level of foreign language skills. The reason for an administrative barrier is difference in contract closing procedures in Europe and Russia.

Concrete impact of the project on teams, laboratory and institutes
During project implementation a close contact with foreign scientific organisations was established that helped to implement positive aspects of European consortium in Russian activities. Russian part of the consortium got a high reputation in European scientific society. Language barrier prevents from perceiving specific scientific terms and more close cooperation.

Main lessons learnt
During project implementation there is a mutual experience exchange, mutual use of technologies developed by every consortium's member, outcomes of R&D and experimental and constructing activities. There is opportunity to get an experience in holding international meetings and negotiations, visit foreign laboratories and organisations, getting acquainted with foreign technological processes is very important for scientific development of organisation's subdivisions, get complementary investments in future collaborative activities.

Due consideration / relevance to Russia's S&T priorities
Project goals are completely correspond to Russia S&T priorities.

Due consideration / relevance to EU MS S&T priorities
Project goals are completely correspond to EU MS S&T priorities.

Recommendations on how to improve co-operation

International cooperation can be improved via feedback improving, improving informational exchange, foreign language learning. Also the cooperation can be improved in case there is a brochure contained scientific terms for the project.

Project: Engine and turbine combustion for combined heat and power production (BIOLIQUIDS-CHP)

Interview 2 of 2

Project identification data	
Name of project:	Engine and turbine combustion for combined heat and power production (BIOLIQUIDS-CHP).
Funding programme:	<ul style="list-style-type: none"> • FP7 (EU MS Partners); • FASI (Russian Partners).
Project brief description and objective:	<p>The combustion of plant oils in diesel engines, whether or not after esterification to biodiesel, is possible but for the less desirable future because they are derived from food crops (first generation biofuels). Fast pyrolysis liquids derived from ligno-cellulosic materials (second generation biofuels type) are more sustainable but their combustion in prime movers like turbines or engines presents technical problems.</p> <p>The aim of the Bioliquids-CHP project is to adapt a diesel engine and a micro gas turbine to enable the combustion of various bio-liquids including pyrolysis oils and blends. The project also aims at upgrading such oils to make them easier to use in engines and at developing catalysts and a system for NO_x removal from diesel engine exhaust gases. More info at: www.bioliquids-chp.eu</p>
Project type:	Collaborative RTD project.
Research field:	Energy
Total number of project's participants:	7
Project Coordinator: (Name of organisation, full contact details, brief description of organisation's profile)	<p>BTG Biomass Technology Group BV. Josink Esweg 34 7545 PN Enschede, The Netherlands</p> <p>Main contact:</p> <p>John Vos Tel: +31 53 486 1191;</p>

<p>Other EU partner organisations:</p> <ul style="list-style-type: none"> • Encontech BV, Enschede, The Netherlands; • University of Florence, Florence, Italy; • Aston University, Birmingham, UK 	<p>Fax: +31 53 486 1180; Email: vos@btgworld.com</p> <p>Profile:</p> <p>BTG Biomass Technology Group BV is a SME, specialised in the conversion of biomass into biofuels and bio-energy. BTG's two business units, Consultancy and RTD, work in synergy and ensure innovative and commercially feasible activities. BTG started its fast pyrolysis developments in the 90's with a new reactor concept, which has been continuously optimised in its dedicated research lab where several test facilities are available. BTG fast pyrolysis developments have resulted in several patents, which are now commercially exploited by its daughter company BTG-BTL (www.btg-btl.com).</p> <p>BTG has extensive experience and is deeply involved in European bio-energy R&D programmes.</p>
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Russian Lead Partner: Name of organisation, full contact details, brief description of organisation's profile)	<p>Federal State Unitary Enterprise «Central Scientific Research Automobile and Automotive Engines Institute» FSUE NAMI 125438, Avtomotornaya street, bld. 2, Moscow, Russia.</p> <p>Main contact</p> <p>Dr. Khripach Nikolay; Tel.: + 7 495 456 40 01; Fax: + 7 495 454 70 03; Email: khripachna@nami.ru</p> <p>FSUE "NAMI" has all necessary contemporary technical, technological and computer means to provide fundamental, theoretical and applied testing, construction, manufacture, comprehensive testing of automobile equipment, internal combustion engines, its units and assemblies, as well as traditional and alternative fuels and power generators. Concentration of research basis capabilities and highly skilled scientific construction and manufacture specialists inside FSUE "NAMI" allows for the institute to take leading place in the area of oriented fundamental theoretical developments, innovative decisions while creating samples, certification of home-made and foreign automobile equipment against Russian and International standards for passive, active and environmental security.</p> <p>Based on its experience FSUE "NAMI" meets objectives which guarantee successful project execution:</p> <ul style="list-style-type: none"> • Theoretical and experimental researches to create highly efficient and low toxic working processes of automobile engines with internal and external mixing; • Development of scientific basis for vehicles and engines, working on alternative and renewable fuels (hydrogen, synthetic fuels, and etc.); • Theoretical and experimental researches to create feeding systems of diesel engines providing work on alternative fuels; • Analysis of alternative fuels energetic and economic efficiency based on modeling of power plant working processes; • Creation of multi-purpose power plants, working on alternative fuels.
Other Russian partner organisations:	<ul style="list-style-type: none"> • Boreskov Institute of Catalysis of the Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia; • The Likhachev Plant, Moscow, Russia.
Project total value:	€4,309,696

Main strengths of this cooperation experience
<p>EU expertise on fast pyrolysis oils and other bioliquids research is combined with engine and catalysis expertise in Russia. It is generally recognized that Russian engines, though a bit less efficient, are more flexible towards fuel quality: it may be very beneficial to start from such a, potentially more reliable, engine. The involvement of NAMI and ZIL is thus crucial, as they have access and tremendous know how of to the Russian engines and the market.</p> <p>Furthermore, Russian partners are strongly committed to force a breakthrough in the development of the combustion of bio-liquids and especially fast pyrolysis oils in engines, and have the resources and facilities for this. Earlier European projects in this field had only</p>

limited success, because of a lack of participation by real engine developers and a lack of interest by engine manufacturers. Collaboration with Russia offers a solution there.	
Mutual Benefits	
Main beneficiaries	Direct beneficiaries are the 7 consortium partners, 4 from the EU and 3 from Russia.
Scientific excellence	<p>The project consortium gathers all the complementary expertises to reach the project objectives without redundancy:</p> <ul style="list-style-type: none"> • Two SME enterprises, one specialised in developing thermo-chemical biomass conversion processes (BTG) and one specialised in the field of heat engine (ECT); • Two academic universities, one specialised in the developments of bioliquid emulsions and their testing in engines (UFL) and one specialised in the assessment of bioenergy projects (UAS); • One Russian research centre highly skilled in development/testing of catalysts for emission control (BIC); and • Two Russian industrial companies, one specialised in engine testing / development (NAMI) and one manufacturer of diesel engines and vehicles (ZIL).
Rating of personal learning gain	At the current stage of the project (month 15 of a total of 36 months) it is considered too early to adequately assesses personal learning gains. Positive rating in principle.
Rating of institutional learning gain	At the current stage of the project (month 15 of a total of 36 months) it is considered too early to adequately assesses institutional learning gains. Positive rating in principle.
Other benefits	
Barriers	
Personal factors (i.e. cultural, language, etc.)	<p>Apart from the obvious (misunderstanding due to limited language capacities; more and sometimes lengthy hierarchical procedures) personal factors have not been a major barrier to the implementation/ progress of the project.</p> <p>It is sometimes difficult to grasp the latest RTD developments at our Russian partners. When a problem is persistent and seems hard to solve, it is sometimes difficult to get concrete information.</p> <p>Most of initial communication problems were overcome by adding two staff members with good English-language skills to the Russian coordinator's team.</p>
Administrative factors (i.e. legal, institutional, financial, etc.)	<p>Soon after the start it turned out that the scope of the EU and FASI funded parts of the project were not identical, and had slightly different timetables. Different understanding of what the joint research would be about, and bridging the differences that were identified during the first project year, has required some time and efforts.</p> <p>The unfamiliarity with the funding conditions and rules of the respective funding organizations has required both the EU and the Russian coordinator to spent considerable time and resources to ensure the smooth operation of the project.</p>

	Shipping uncommon materials (e.g. small batches of pyrolysis oils) has proven to be both time-consuming and expensive, due to unfamiliarity of transporters and Russian custom authorities with this product.
Capacity of involved institutions	Research on bioliquids, in particular pyrolysis oils, is new to most of the Russian partners. In some research areas this unfamiliarity has led to misunderstandings, delays and unfulfilled expectations regarding the work that would and could be done.

Issues causing/ creating difficulties in cooperation

Challenges include:

1. BTG and its EU research partners have extended an invitation to its Russian partners (e.g. BIC) to send one or more researchers to spent several months working on common research topics. Thus far such **exchange of researchers** could not be effectuated by lack of suitable Russian candidates (technically knowledgeable AND able to speak English sufficiently well).
2. There has been limited room to work on a common product stream (pyrolysis oil) due to unexpected **shipping difficulties** (limited number of shipping options, excessive shipping costs, customs clearance requirements, etc).

Concrete impact of the project on teams, laboratory and institutes

In the case of NAMI and ZIL, it is too early to judge fully the impact of science and technology (S&T) co-operation. In the case of BIC, such co-operation has already yielded positive impact. Concrete examples include:

1. Joint patent application in the field of catalytic hydrogenation of biomass pyrolysis oil, with BTG bringing in the bioenergy conversion process and BIC bringing in the catalysts.
2. Short-term exchange of researchers: a Dutch PhD student based at BTG spent a week carrying out research at BIC in Novosibirsk (Siberia).
3. Perspective on a commercial (industry funded) research project between a Dutch biofuel manufacturer, BTG and BIC. During a recent trilateral meeting in Novosibirsk (Siberia) potential areas of co-operation were defined.

Main lessons learnt

It takes a period of several years of co-operation to sufficiently understand and appreciate each other's skills, expertise and experience, and to determine how best to shape possible mutual research co-operation. In the case of research co-operation between BTG and BIC it has been very valuable that the two partners work on several (European) research projects running in parallel, as a result of which they have the chance to meet relatively frequently. Regular personal meetings are considered indispensable as part of the process of building trust and developing joint research activities.

Due consideration / relevance to Russia's S&T priorities

In the rural areas of Russia there are abundant resources of (non-food) biomass that could potentially be used for power generation. To date there has been very little experience in Russia researching the application and implementation of liquid biofuels for power, or combined heat and power, generation at small-scale (50 to 1000 kWe).

Due consideration / relevance to EU MS S&T priorities

The EC has set a target to increase the share of CHP in the European energy supply from the current 10% to 18% in 2010. One of the objectives is to develop energy systems for remote regions with a special emphasis on the integration of renewable energy. So

far, the implementation of small-scale (50 to 1000 kWe), direct biomass-to-electricity CHP-systems has been rather limited.

The main reasons are:

- Relatively high investment costs for small-scale systems;
- High running costs;
- Poor reliability and availability;
- Low acceptance by end-users.

The reasons causing these intrinsic problems are manifold, but main causes are:

- The presence of contaminants in the biomass (apart from ash, oxygen and water can also be considered this way);
- The limited availability of uniform types of biomass;
- The non-uniform appearance of biomass;
- Its general low energetic density (especially in terms of GJ/m³), requiring huge volumes of biomass stocks to be stored near the electricity production unit.

Converting biomass into bioliquids increases its acceptance by end-users, as they are uniform and easier to use. The Bioliquids-CHP project was set up to break down the technical barriers preventing the use of bioliquids in engines and turbines by following a double approach. On the one hand, the project will develop and modify engines and turbines so that these can run efficiently on bioliquids such as biodiesel, vegetable oil and pyrolysis oil. On the other hand, in the project bioliquids will be upgraded and blended in order to facilitate their use in engines and turbines. Thus, the most economic and reliable engine/turbine-bioliquids combinations will be developed in order to make the system attractive.

Recommendations on how to improve co-operation

Bridging the different understanding of what research would be included in the joint project (and what not), as well as the differences in the respective timetables, required a substantial amount of efforts and resources from all partners involved, in particular the European Commission, FASI, the European coordinator and the Russian coordinator.

It is therefore recommended that for projects that are funded jointly by the EU and FASI (like ours) due consideration be given to harmonise the scope of work and the timetable at the European and Russian side, the latest at the contract negotiation stage.

4.4. Annex 4: Health

Project: Genomic variations underlying common behavior diseases and cognition trait in human populations (ADAMS)

Project identification data	
Name of project	<p>“Genomic variations underlying common behavior diseases and cognition trait in human populations” Acronym: ADAMS Action Line: HEALTH-2009-4.3.3-1 Comparative population genetic studies on multifactorial diseases (SICA) Project details: Project Reference: 242257 Contract Type: No contract type</p>

	Start Date: 2009-10-01 End Date: 2012-09-30 Duration: 36 months
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP7
Project brief description and objective	<p>The aim of the project is research and analysis of genomic variations underlying Alzheimer's Disease (AD), alcoholism and schizophrenia – widespread diseases in human populations. Schizophrenia and alcoholism are common forms of behavior pathology and disability in adult life. AD is the most common form of dementia in human populations. Though the genomic variations presumably associated with AD, alcoholism and schizophrenia were described in preliminary studies for European populations, the significance of the putatively associated alleles, genetic background as well as the role of environmental factors in the disease progression is still poorly understood. Within the framework of this project we plan to extend the studies of genomic variations underlying these diseases by performing genome-wide association analysis in cohorts of patients and normal individuals from several ethnic populations of Europe and Russia. The genetic factors for cognition endophenotype will also be studied. Candidate regions, both newly found and reported previously for these diseases will be additionally analyzed by sequencing. Such large scale population studies combined with deep analysis of particular genes and genomic regions will allow us to reveal genetic reasons for susceptibility to these diseases. On the basis of this research we will contribute to the development of a diagnostic instrument for the analysis of genetic risk factors for AD, alcoholism and schizophrenia. Consortium includes 6 groups from EU/AC and 7 groups from Russia. The participants are leading specialists in their fields and have joint publications.</p>
Project type (i.e. bilateral, multilateral, etc.)	Multilateral
Research field (s)	Medicine, Biology, Genetics
Total number of project's participants	12 partners from 5 countries
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>GERLACH Joachim 1. Max-Planck-Gesellschaft zur Förderung der Wissenschaften e. V., Germany Tel: +49 (89) 2108 - 0 Fax: +49 (89) 2108 – 1111</p> <p>The research institutes of the Max Planck Society perform basic research in the interest of the general public in the natural sciences, life sciences, social sciences, and the humanities. In particular, the Max Planck Society takes up new and innovative research areas that German universities are not in a position to accommodate or deal with adequately. These interdisciplinary research areas often do not fit into the university organization, or they require more funds for personnel and equipment than those available at universities. The variety of topics in the natural sciences and the humanities at Max Planck Institutes complement the work done at universities and other research facilities in</p>

	<p>important research fields. In certain areas, the institutes occupy key positions, while other institutes complement ongoing research. Moreover, some institutes perform service functions for research performed at universities by providing equipment and facilities to a wide range of scientists, such as telescopes, large-scale equipment, specialized libraries, and documentary resources.</p> <p>Contact details of coordinator: Address: Max-Planck-Gesellschaft zur Förderung der Wissenschaften e. V. Hofgartenstr. 8 80539 München, Germany Tel: +49-3084131423 Fax: +49-3084131129 e-mail: post@gv.mpg.de</p>
<p>Russian Partner Name of organisation, full contact details, brief description of organisation's profile)</p>	<p>SAMOKHODSKAYA Larisa 2. University Medicine LTD Russian Federation, Moscow, 31, building 5, Lomonosovsky Pr., 119192 +7(495)9329904 "University Medicine" is a small innovative company, associated with the Moscow State University. The company was created in 2004 by Moscow State University staff with support of The Foundation for Assistance to Small Innovative Enterprises (FASIE). The company's activity is centered on the fields of scientific research and applied medicine. "University Medicine" possesses license for exercising clinical and diagnostic activity. Field of the company's scientific interest covers genetic factors' research in diseases of social importance among Russian population.</p>
<p>Other EU partner organisations (Name of organisation, country, city)</p>	<p>3. Universitaetsklinikum Bonn, Bonn, Germany 4. Universitaet Basel, Basel, Switzerland 5. Erasmus Universitair Medisch Centrum Rotterdam, Rotterdam, The Neitherlands 6. Zentralinstitut Fuer Seelische Gesundheit, Mannheim, Germany 7. King's College London, London, England</p>
<p>Other Russian partner organisations (Name of organisation, city)</p>	<p>8. Vavilov Institute of General Genetics – Russian Academy of Science, Moscow, Russia 9. Research Institute of Medical Genetics -Tomsk Scientific Center of Russian Academy of Medical Sciences, Tomsk, Russia 10. National Research Center of Mental Health - Russian Academy of Medical Science, Moscow, Russia 11. V.A. Engelhardt Institute of Molecular Biology - Russian Academy of Science, Moscow, Russia 12. Institute of Biochemistry and Genetics - Ufa Scientific Centre of Russian Academy of Sciences, Ufa, Russia</p>
<p>Project total value (in EUR)</p>	<p>Project Cost: 5.68 million euro Project Funding: 3 million euro</p>

Main strengths of this cooperation experience	
<p>ADAMS project emphasizes the specific need to focus on population genomics studies in genetically complex and multifactorial diseases in populations from the European Union and Associated Countries (EU/AC) and Russia. Profound knowledge of physiological neuronal processes and functions of project partners is a prerequisite for understanding neuronal dysfunction and is a key to the development of better diagnostic means and treatments for neuropsychiatric diseases.</p>	

This study could not be performed on local or national level alone. Involvement of several groups with unique expertise and resources contributes to a successful implementation of the project. Project allows for the enlargement of the collection of the samples that will make substantial impact on detection of the genes with modest effect, in particular, for multifactorial diseases. Only very large collections of samples may have sufficient power to reveal alleles with synergistic or additive effects. Also, the project brings together specialists in psychiatric diseases and researchers who develop new high-throughput genomic technologies.

Mutual Benefits	
Main beneficiaries	University Medicine LTD specializes in genetics research. The company's mission is to offer genotyping services to hospitals and scientific organizations. "University Medicine" possesses license for exercising clinical and diagnostic activity. Field of the company's scientific interest covers genetic factors research in diseases of social importance among Russian population. The company is excellently equipped for conduction of DNA diagnostic research and high-throughput DNA extraction from biological specimens.
Scientific excellence	Opportunity to conduct parallel genetic studies of behavioral diseases in Western and Eastern Europe and in Russia, which are enriched by ethnically and genetically diverse populations, can significantly contribute to understanding of interaction between the genetic and environmental risk factors.
Rating of personal learning gain	Rating of personal learning gain is high. The staff is introduced to the new laboratory techniques associated with this project. Personal training occurs on a regular basis and includes the basics of clinical characterization and collection of DNA samples from middle age and elderly healthy individuals from Russian populations as well as high-throughput DNA extraction procedures.
Rating of institutional learning gain	Rating of company's learning gain is high. Combination of professional cultures in the project helps achieve success in Research and Development policy of the company.
Other benefits	Together the leading European and Russian scientists integrated in ADAMS combine a broad spectrum of neuropsychiatric and technological know-how within various areas of knowledge ranging from molecular and cell biology, neuroscience, biochemistry, physiology and pharmacology to genetics, genomics, bioinformatics, biotechnology, and clinical sciences.
Barriers	
Personal factors (i.e. cultural, language, etc.)	No
Administrative factors (i.e. legal, institutional, financial, etc.)	At the beginning of the project there were some problems with submission of documents for identification of the company as an SME (legal translation of annual Balance sheet and Profit and Loss accounts) All administrative issues are usually discussed and clarified at the consortium meetings.
Capacity of involved institutions	Capacity of involved institutions is very high. All institutions possess expensive equipment and infrastructure needed for the project.

Issues causing/ creating difficulties in cooperation
From the administrative side, sometimes it is not easy to understand the tasks and requirements. Terminology and regulations of FP7 are rather new for Russian researchers.

Concrete impact of the project on teams, laboratory and institutes
<p>Team members have an access to large amount of state-of-the-art expertise and exclusive intellectual property in the field of neuropsychiatry.</p> <p>Another main impact is the production of high quality and large amount of know-how (scientific articles, thesis, patents)</p> <p>Last but not least, formation of a network of international researchers with complementary backgrounds and network of infrastructures equipped in relevant fields is an imperative impact of this project on its members.</p>

Main lessons learnt
<p>Working on international project is extremely stimulating.</p> <p>Project staff should improve scientific expertise, project management skills, as well as language skills.</p> <p>It is important to improve company's innovation capacities in accordance with the needs for new technologies</p>

Due consideration / relevance to Russia's S&T priorities
<p>Relevance to Russia's S&T priorities is very high. The research field of the project represents the joint EU-Russia scientific interest and was identified on the EU-Russia Working Group meeting. Genetics research is of high priority of the Federal Targeted Programme "Research and development of priority directions of scientific and technological complex development in 2007-2012"</p>

Due consideration / relevance to EU MS S&T priorities
<p>Relevance to EU MS S&T priorities is high. The research field of the project represents the joint EU-Russia scientific interest and was identified on the EU-Russia Working Group meeting.</p> <p>Inclusion of 'high-tech' SMEs in FP projects is a priority of the European Health Research.</p>

Recommendations on how to improve cooperation
<p>Recommendation 1: To hold more joint events with personal communication between partners to discuss important issues relevant to the project and potential collaboration within FP7 Health research.</p> <p>Recommendation 2: Participation in FP7 project teaches how to best exploit international industry-academia collaborations and broaden the scientific network.</p> <p>Recommendation 3: Establishment of business cooperation services for research-intensive small and medium-sized enterprises.</p>

Project: Promotion and facilitation of international cooperation with Eastern European and Central Asian countries (EECALINK)

Project identification data	
Name of project	<p>"Promotion and facilitation of international cooperation with Eastern European and Central Asian countries"</p> <p>Acronym: EECALINK</p> <p>Action Line: HEALTH-2007-4.1-8 Promotion and facilitation of international cooperation in areas relevant to the objectives of this Theme</p> <p>Project details:</p>

	<p>Project Reference: 223359 Contract Type: Coordination (or networking) actions Start Date: 2009-06-01 End Date: 2011-11-30 Duration: 30 months</p>
Funding programme (i.e. FP6, FP7, INTAS, Bilateral – foundations or programmes etc.)	FP7
Project brief description and objective	<p>The EECALink is a coordination action aimed at identification of joint research priorities of the EU and EECA countries and strengthening scientific collaboration among them. International Cooperation Partner Countries targeted by the project are: Armenia, Belarus, Georgia, Kazakhstan, Moldova, Russia, Ukraine and Uzbekistan. General objective of the project is to promote and facilitate the cooperation among EU and selected EECA countries, with specific focus on topics related to those of FP7-TP Health. EECALink represents a measure of active encouragement of the international Health research related cooperation and allows strengthening of the existing bi-lateral scientific collaboration of all participating university/academia partners. Project consortium was balanced to be able to act as a pipeline for communication of the research priorities of EECA countries to relevant EU policy makers and vice versa, help coordinate future joint calls relevant to the Health Theme.</p>
Project type (i.e. bilateral, multilateral, etc.)	multilateral
Research field (s)	Coordination action
Total number of project's participants	12 partners from 5 countries
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	<p>STIPEK Stanislav 1. Charles University in Prague Tel: (+420) 224 491 850 Fax: (+420) 224 491 895 The university is dedicated to international cooperation with prestigious educational and research institutions. CU has signed a total of 450 bilateral agreements and 190 international partnership agreements with foreign universities. Charles University ranks among the world's top universities, a fact that has been confirmed repeatedly by the international university rankings. Contact details of coordinator: Address: Charles University in Prague Celetná 13 116 36, Praha 1 Tel: +420-2-24964283 Fax: +420-2-24964280 e-mail: ipc@ruk.cuni.cz</p>
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	<p>ARKHIPENKO Yuriy 2. M.V. Lomonosov Moscow State University Russian Federation, Moscow, 119991, Leninskie Gory Telephone: 932-88-14 Fax: 147-1533 Web: http://www.fbm.msu.ru/ E-mail: info@fbm.msu.ru Moscow State University is a major educational institution in Russia, which offers training in almost all branches of</p>

	modern sciences and humanities. Its undergraduate students may choose one of 128 qualifications in 39 faculties, while post-graduate students may specialize in 18 branches of sciences and humanities and in 168 different areas. The total number of MSU students exceeds 40,000. The University is recognized as a great research centre worldwide. Moscow State University includes a number of scientific research institutes that specialize in the most significant areas of modern sciences such as Mechanics, Nuclear Physics, Astronomy, Lasers, Molecular Biology, Bio-Organic Chemistry, Anthropology, Materials Sciences, Ecology etc. The staff includes more than 8.500 professors, associate professors and research associates.
Other EU partner organisations (Name of organisation, country, city)	<p>3. Indo-Uzbek Centre for Promotion of Science and Technology Cooperation, Uzbekistan</p> <p>4. Independent Expert Consulting Board to Promote Scientific Research Activity in Kazakhstan, Almaty, Kazakhstan</p> <p>5. Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia</p> <p>6. Grant Garant, s r.o, Prague Czech Republic</p> <p>7. Università degli Studi di Roma Tor Vergata, Rome, Italy</p> <p>8. Universitatea de Stat de Medicină și Farmacie "Nicolae Testemițanu" din Republica Moldova, Chisinau, Moldova</p> <p>9. Institute of Biophysics and Cell Engineering, National Academy of Sciences of Belarus, Minsk, Belarus</p> <p>10. Instytut Biologii Doświadczalnej im. M. Nenckiego PAN, Warsaw, Poland</p> <p>11. I.I. Mechnikov Odessa National University, Odessa, Ukraine</p> <p>12. Politechnika Krakowska, Krakow, Poland</p> <p>13. Technologické Centrum Akademie Věd České Republiky, Prague, Czech Republic</p> <p>14. Agenzia per la Promozione della Ricerca Europea, Rome, Italy</p> <p>15. Debreceni Egyetem, Debrecen, Hungary</p> <p>16. Tudományos és Technológiai Alapítvány, Budapest, Hungary</p> <p>17. Centre of Ideas and Technologies, Yerevan, Armenia</p>
Other Russian partner organisations (Name of organisation, city)	
Project total value (in EUR)	Project Cost: 679125.00 euro Project Funding: 600000.00 euro

Main strengths of this cooperation experience	
Cooperation within EECALink project establishes an active dialog between research institutions of EECA countries and EU Member states aimed at strengthening collaboration in the field of Health Research. For the first time policy sessions will be carried out in the EECA partner countries and will bring together an expert group of five national representatives and the EC officer, to discuss thematic gaps and overlaps in the area of Health research. These discussions will help identify possible joint research topics for future collaboration under FP8, that will target the countries external to the EU, including Russia.	
Mutual Benefits	
Main beneficiaries	Faculty of Basic Medicine, M.V. Lomonosov Moscow State University is the officially nominated Russian National Coordinator for FP7 Health. Participation in this project

	allows partners to use the capacities of NCP network including NCP's dissemination channels, data bases, and collaboration with all important RTD performers. Project partners have an opportunity to use the benefits of professional connections between the NCP and national SME players.
Scientific excellence	Scientific excellence of the University provides an opportunity to analyze national research priorities relevant to the field of health, identify national stakeholders, engage individual national experts and key scientists as well as organize policy-briefs.
Rating of personal learning gain	Rating of personal learning gain is high. Project participants improved the expertise in proposal writing and developed project management skills.
Rating of institutional learning gain	Rating of institutional learning gain is high. New educational and scientific contacts were established. Experience exchange and participation in training sessions improved the overall level of institution's expertise.
Other benefits	Successful cooperation with project partners may lead to future FP7 projects in relevant thematic or potential bilateral projects.
Main beneficiaries	Nencki Institute of Experimental Biology Polish Academy of Sciences specializes in neurobiology and biochemistry research. Nencki Institute has a profound experience in FP7 project management. It works in connection with National Contact Points.
Scientific excellence	Institute maintains the highest quality of scientific output in terms of created and disseminated knowledge.
Rating of personal learning gain	Rating of personal learning gain is high. Networking within the project stimulated the creation of research consortia and the identification of priorities of common interest in health research.
Rating of institutional learning gain	Rating of institutional learning gain is high. Project activities improved the dissemination channels of the institution used to inform the scientists of existing funding possibilities within EU and other international programmes
Other benefits	Mutual exchange of experience in promoting FP7 among research audiences – SME's, universities, research institutes
Barriers	
Personal factors (i.e. cultural, language, etc.)	No
Administrative factors (i.e. legal, institutional, financial, etc.)	Yes - difficulties during the preparation of huge amount of requested documents from the European Commission (legal and financial forms).
Capacity of involved institutions	All project partners are highly experienced and possess high level of capacity, especially scientific capacity, dissemination capacity, capacity in terms of networking actions

Issues causing/ creating difficulties in cooperation

No. Regular meetings with project partners facilitate the process of fruitful cooperation.

Concrete impact of the project on teams, laboratory and institutes

Training and exchange of best practices improve the expertise of the team members, develop skills for preparation of proposals and efficient presentation of scientific projects on the EU level.

Main lessons learnt
<p>Main lessons learnt are the following:</p> <ol style="list-style-type: none"> 1. To increase the participation of institution in international projects it should stretch scientific collaboration across the EU. 2. To increase the success rate of the proposals the institution should improve the level of international project management, focusing on legal and financial issues. 3. To make the project management more professional the institution should establish or develop the already existing activity of management office for the non-scientific parts of the project. 4. To make investment in ICT, such as videoconferencing centre to facilitate the communication with project partners.
Due consideration / relevance to Russia's S&T priorities
<p>EECALink project's outcome is the development of joint EU-Russia S&T priorities, mainly by the involvement of EU and EECA authorities in the formulation of the joint research interests. International cooperation in the field of Life Sciences is highly appreciated within the Federal Targeted Programme "Research and development of priority directions of scientific and technological complex development in 2007-2012"</p>
Due consideration / relevance to EU MS S&T priorities
<p>EECALink project's outcome is the development of joint EU-Russia S&T priorities, mainly by the involvement of EU and EECA authorities in the formulation of the joint research interests. International cooperation is an important aspect of EU RTD policy and an integral part of Health research.</p>
Recommendations on how to improve cooperation
<p>Recommendation 1: Introduce telephone conference to update the participants on the current status of the project and discuss the most important issues quarterly. Recommendation 2: To hold regular meetings with project partners to discuss the possibility of new projects for FP7 in the relevant thematic area and/or to develop further the idea of the present project. Recommendation 3: To develop online platform to exchange best-practices among the project partners concerning proposal development and project management.</p>

Project: Development of the technology for cell therapy of ischemia with adipose tissue stem cells and recombinant human alpha-fetoprotein (CELL THERAPY OF ISCHEMIA)

Project identification data	
Name of project	<p>"Development of the technology for cell therapy of ischemia with adipose tissue stem cells and recombinant human alpha-fetoprotein" Acronym: CELL THERAPY OF ISCHEMIA Project Reference: #3808 Start Date: 2008-05-01 End Date: 2011-04-30 Duration: 36 months</p>
Funding programme (i.e. FP6, FP7, INTAS, Bilateral –	ISTC

foundations or programmes etc.)	
Project brief description and objective	Fast developing medical biotechnology considers principles of stem cell therapy as a research tool. Modern biotechnology pays great attention to the research of protein and peptide factors that potentially may increase viability of tissue and cellular materials before, during and after the process of transplantation including <i>in vitro</i> cell culture and cell survival <i>in vivo</i> . Present project is designed to develop a new technology for adipose tissue-derived stem cell propagation with the usage of recombinant and peptide analogues of embryonic growth stimulator, immunoregulator and differentiating factor - human alpha-fetoprotein (rhAFP), which is isolated from the culture liquid of recombinant yeast producer strain <i>Sacharomyces cerevisiae</i> .
Project type (i.e. bilateral, multilateral, etc.)	Multilateral
Research field (s)	Medicine / Drug Discovery
Total number of project's participants	4 partners from 3 countries
Project Coordinator (Name of organisation, full contact details, brief description of organisation's profile)	SEMENKOVA Lidiya 1. Institute of Immunological Engineering Lyubuchany, Chekhov district, Moscow reg., 142380, Russia Phone: 7(495)9961555 Fax: 7(495)9961555 The formation of a new research area in applied immunology, immunological engineering, served as the conceptual foundation of the Institute of Immunological Engineering (IIE). The staff of IIE involves about 150 employees including 5 Professors, 9 Doctors of Science, and about 40 PhDs. The Institute's research results are implemented in about 80 products (15 of them are patented) designed for laboratory investigations, medicine and veterinary medicine. Fundamental investigations are described in more than 250 scientific papers published in the leading international journals. The following principal departments function at the Institute: Department of Molecular and Immunological Engineering; Department of Immunobiotechnology and Department of Bioproduct Control and Evaluation. Contact details of co-ordinator: Address: Lyubuchany, Chekhov district, Moscow reg., 142380, Russia e-mail: imeng@tdn.ru
Russian Partner Name of organisation, full contact details, brief description of organisation's profile)	2. M.V. Lomonosov Moscow State University/ Faculty of Basic Medicine Russian Federation, Moscow, 31, building 5, Lomonosovsky Pr., 119192 Telephone: 932-88-14 Fax: 147-1533 Web: http://www.fbm.msu.ru/ E-mail: info@fbm.msu.ru Faculty of Basic Medicine represents a renowned scientific center, which is actively involved in the development of new medical treatments, based on genetic and cell therapy technologies. Scientific staff of the faculty successfully developed effective isolation and cultivation methods for stem and progenitor cells from different adult tissues. On the

	basis of these technologies we developed medications on the basis of the patient's autologous cells, which can be applied for treatment and stimulation of regeneration. We conducted a pre-clinical assessment of safety and effectiveness of developed medications. Within the frames of development of methods and approaches of individual medicine, the Faculty developed test-systems based on multifactor genetic analysis that allows detection of susceptibility to a cardio-vascular disease, liver fibrosis and miscarriage. Research results within the area of intercellular interactions and intracellular signaling allowed our researchers together with mathematicians that widely use supercomputer technologies to develop novel medications.
Other EU partner organisations (Name of organisation, country, city)	3. IDI Farmaceutici S.p.A., Pomezia, Italy 4. University of Turku / Finnish-Russian Joint Biotechnology Laboratory, Turku, Finland
Other Russian partner organisations (Name of organisation, city)	
Project total value (in EUR)	

Main strengths of this cooperation experience	
Successful work of the project partners allows them to elaborate a clinically applicable technique of the <i>in vitro</i> adipose stem cell culturing in the presence of rhAFP and/or AFP-peptides aimed at an increase of stem cell viability, proliferation activity, and differentiation potential. It also helps develop experimental protocols for the combined administration of stem cells with rhAFP and AFP-peptides into the ischemic myocardium and skeletal muscles in order to improve cell survival and functional efficacy of transplanted cells.	
Mutual Benefits	
Main beneficiaries	Scientific staff of the Faculty of Basic Medicine , Lomonosov Moscow State University consists of a highly-competitive, competent specialists, Ph.D. and post-doctoral students in the fields of medicine, cell biology, biochemistry and technical analytical methods. The team possesses a vast knowledge and experience in working with the human adipose tissue derived stem cells (hASC).
Scientific excellence	Faculty specializes in the area of cardiovascular biology. The laboratory was the first to provide theoretical and practical exploitation of protocols for extraction of pericyte subpopulations, mesenchymal and endothelial precursors from hASCs and their further differentiation towards osteogenic, adipogenous and chondrogenic lineages. The staff uses methods of flow cytometry, fluorescence and confocal microscopy methods for the phenotype analysis and subpopulation extraction.
Rating of personal learning gain	Rating of personal learning gain is very high. Staff members regularly improve their skills in the areas of <i>in vitro</i> cell culturing and cell growth monitoring. They constantly work on developing better techniques for maintaining comfortable conditions for the cells within and outside of an experiment. The collaboration within the project also stimulates staff members to keep up with the new findings of their foreign colleagues and search beyond the curriculum.
Rating of institutional learning gain	Rating of institutional learning gain is very high. The international collaboration has a positive effect on the overall work of the organization. It provided a stimulus for new findings, contacts and ideas that were discussed and mostly implemented in the project. We constantly train our

	professionals according to the international standards of work, allowing them to develop their own research techniques, that might go for patents and world recognition.
Other benefits	Joint laboratory research, especially use of lab equipment of the University of Turku for the synthesis of peptides from the rhAFP; cooperation in the investigation of their biological activity
Barriers	
Personal factors (i.e. cultural, language, etc.)	No
Administrative factors (i.e. legal, institutional, financial, etc.)	No, all the administrative issues are clarified within the consortium or by consulting with ISTC staff.
Capacity of involved institutions	All the project partners possess great experience in the field of fundamental and applied study of cardiovascular pathology and molecular mechanisms of apoptosis. The project team includes the authors of a number of inventions in the field of modern biotechnology.

Issues causing/ creating difficulties in cooperation
Yes, mainly visa procedures. It takes a lot of time to receive visa. There is no possibility to discuss urgent issues personally with project partners.

Concrete impact of the project on teams, laboratory and institutes
Development of high technology commercial products on the base of rhAFP and AFP-derived peptides for medical purposes and protocols for <i>in vivo</i> implantation of adipose-derived stem cells in combination with rhAFP and/or AFP-derived peptides to increase the tissue-protecting effects of ATSCs. Exchange of research results, preparation of joint publications, exchange of samples and reagents needed for research, sharing experience between partner laboratories.

Main lessons learnt
Should broaden international scientific collaboration in order to develop new technical approaches and methodology.

Due consideration / relevance to Russia's S&T priorities
Very high relevance to Russia's S&T priorities. Medical Biotechnology is included in the Federal Targeted Programme "Research and development of priority directions of scientific and technological complex development in 2007-2012"

Due consideration / relevance to EU MS S&T priorities
Very high relevance to EU MS S&T priorities.

Recommendations on how to improve co-operation
Recommendation 1. More time within the project for exchange of laboratory staff between the partner institutions Recommendation 2. Protect IPR to avoid possible difficulties with project partners