

Joint European-Russian Research Area: Experience of Preparing and Managing European Research Projects for Russia

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Abstract—The paper describes practical experience in preparing and managing European research projects of the EU Framework Programs on research and technology development. We note that creating bifurcated networks focused on working with FP7 at the national, regional, and institutional levels would enable one to critically improve competitiveness of Russian research, and that active participation of the leading Post-Soviet scholars in the Program would give a unique chance to start the restoration process of the Post-Soviet research area taking into account the meager enthusiasm of officials at the governmental science agencies as regards integration of the former USSR science and research systems.

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The European swift integration processes have led by the beginning of the 21 century to the idea of creating a joint European Research Area (ERA). The ERA concept was first brought up to wide discussion in 2000 by the current EU Research Commissar Philippe Busquin. Since 2002, one began to implement this concept by means of launching numerous network consortia within the framework of the EU 6th Framework Program on Research and Development (FP6).

In today's interpretation of the EU Research Commissar Janez Potočnik, the ERA concept should include the three interrelated characteristics: internal market for research where researcher, technologies and knowledge can freely circulate; effective European-level coordination of national and regional research activities, programs and policies; initiatives introduced and financed at the European level [1].

However, to meet all the expectations within the framework of the formulated characteristics, the ERA concept should include six distinctive features:

- (1) adequate flow of researchers with high level of mobility between institutions, disciplines, sectors, and countries;
- (2) world-class research infrastructure accessible to all researchers;
- (3) the best research institutes involved in public-private partnerships, clusters and virtual communities, and attracting human and financial resources.
- (4) effective exchange of knowledge between the public and private sectors;
- (5) well-coordinated research programs and priorities;
- (6) openness of ERA to the whole world with specific focus on neighboring countries [1].

The above problem were discussed in detail in the report (“Green Paper”) “The European Research Area: New Perspectives” (April 4, 2007), which opened up a way for new debates on the ERA concept and its further development and introduced the concept of “a fifth freedom” within EU—the “movement of knowledge” along with free circulation of goods, services, capital, and work force [1].

The sixth distinctive feature of the ERA concept pertaining to research and technological cooperation with Russia resulted in adopting on May 10, 2005 in Moscow at the Russia–EU Summit 2005 “Road Map for the Common Space of Education and Science Including Cultural Aspects” signed by the Russian President V.V. Putin and EU governing body to achieve maximal effectiveness of the joint use of the rich intellectual heritage of Russia and EU. This is supposed to facilitate economic growth and improvement of the competitiveness of the Russian and EU economies [2]. Within the framework of the agreement on research and technology cooperation between Russia and EU, AN-RU Steering Committee was established as well as joint focus groups. It is the first time that Russia may participate in all the FP7 thematic priorities on an equal basis. The document also specifies the types of consortia where Russian participation is compulsory (for example, Specific International Cooperation Action, SICA). But it is natural that the opportunities for the Russian scholars to coordinate European projects are strongly limited.

We should point out that in forming a joint research area with EU through active participation in network European research consortia Russia will have to simultaneously overcome the fragmentation of its own research and build its own high-class research area. Without doubt, the European experience can largely

help Russian science reduce the time periods of developing its own organizational and legal frameworks of financing large-scale research projects.

But this activity is constrained by poor regional and institutional infrastructure supporting the participation of Russian researchers in FP7.

Three years ago, the Order by the Ministry of Science and Education of the Russian Federation No. 134 of December 8, 2004 point out the “need to expand the activities of National Contact Points (NCPs) in the Russian regions and develop the respective regional infrastructure.” The first regional information centers (RICs) were set up within the framework of the FP6 projects in Tomsk (RUSERA) and Nizhni Novgorod (ADMIRE-P). In 2005, Voronezh State University created a RIC, which was included in January 2006 into the information network INTAS/FP6 in the CIS (the ININ network). It is working in close cooperation with the Ministry of Education and Science of the Russian Federation, Federal Agency on Science and Innovations, General Directorate on Research of the European Commission, Moscow Office of the European Commission and on the basis of the signed agreements on cooperation with the Russian NCPs and a number of European NCPs and science centers [3].

At present, to coordinate the timeframes and thematic of the FP7 competitions and Federal Target Programs, four joint Russian-European working groups were created by priority—nanotechnologies, biotechnologies, health care and power engineering, and six Russian Technological Platforms were created to find out the area of common interest, develop Russian research principles, and work out mechanisms for integrating Russian research into the European Research Area.

In order not to act blindly while preparing project proposals, we think it is appropriate to organize regular monitoring and analysis of FP6–FP7 projects with participation of Russian partners. NCPs could do this within the framework of their priorities. As a result, the experience accumulated by the Russian teams working in European research consortia can become accessible to broad circles of Russian researchers.

In view of the EU focus on multilateral projects taken up since FP6, within whose framework large network consortia are shaped, there is demand for multilateral project management services because it is very difficult for a researcher-project coordinate to combine research and administrative coordination. The costs of project management services for the Framework Programs research projects amount to 6–7% of the project budgets (in FP6 7% was the upper limit for the management costs in the project budgets; FP7 has lifted this restriction). In Russia there is still no demand for these services because of the lack of critical mass of multilateral research projects. There is certain coherence between FP7 and the Russian FTP as to thematic priorities and timeframes (FP7: 2007–2013; FTP: 2007–

2012), and financing (FP7: 53 bln Euro; FTP: 5,51 bln Euro¹. Note that the nanoresearch priority will receive more money from Russia via various channels than FP7. Russian Government has made a decision that successful FP7-projects with Russian partners will be cofinanced within the framework of FTP (through providing proportionate cofinancing to Russian participants) and these would not require any further expert examination.

EU treats Russia as a powerful full-fledged partner possessing unique research developments, technologies and culture of scientific research, that is why EU is intending to buy via FP7 tenders the Russian research and technological potential.

When writing a proposal one should stick to three principles:

- (1) The proposal should be in line with the FP7 thematic priorities;
- (2) Importance of the project for EU (European dimension of the project);
- (3) Clear understanding that the project should be of interest to the European partners.

If the first two conditions are not met, the proposal is declined almost automatically. Therefore, before writing a proposal one should study the Work Programme carefully on the given priority and understand where you can offer your services. One should also take into account other priorities as there are many adjacent areas. One should also understand that within STREP (small and medium-scale research projects) competition is usually higher because it is easier to write a proposal (the full text of the proposal is 80 pages on average) as compared to IP (integrated projects; the full text of the proposal is over 100 pages on average). When writing the proposal one should stick to one’s own “road map”—objectives, scope of finance, timeframes. One should understand clearly what partners one needs and with what competencies. As a rule, one selects partners with the best competencies provided that met are the conditions of reliability and mutually compatibility. One should plan reasonable costs keeping in mind different labor costs in research sphere in different EU countries (for example, Swedish organizations are more expensive than Portuguese, and the latter are more expensive than Russian). Usually, during the expert examination decisive are the first ten pages of the proposal describing the objectives and expected outcomes. Writing a proposal is teamwork; the overall objective and outcomes, relevance and novelty of the project are described by the coordinator; and his/her partners—leaders of the work packages describe their sections (description of specific objectives).

Interconnection of the work packages is shown as graphical scheme of the project. The management and coordination functions are usually the essence of the first work package (WP1)). Work packages can be

¹ 190 bln rubles for the period 2007–2012.

divided into tasks. When writing a proposal, high emphasis is attached to the project abstract (up to 2000 symbols), which generally corresponds to paragraph 1.5 of the project proposal (up to 1900 symbols). The abstract and keywords are used to choose evaluators for the project. It describes what the project intends to achieve and how, what the novelty of the projects consists in and what makes it special. Since the size of the abstract is limited, one does scrupulous work on its refinement, brief and informative sentences being used. First, the overall objective is formulated and below, after a dash,—the specific objectives. The latter form, as we noted above, the basis of work packages development, every WP being a logically complete miniproject.

Start formulating objectives with a strong verb; complexity level of the objectives should be in line with the overall project complexity.

The objective should follow the SMART-principles, i.e. be specific, measurable, accurate, reliable, and time-bound. One often mixes objectives and tools for their achievement. When formulating the objectives, one should be as close as possible to the FP7 thematic priorities and use the terminology from the Work Programme. The preamble of the objectives is a description of political aspects in the context of the European dimension.

The essence of the project budget is as follows. If you are a partner of a consortium, you negotiate your share of the funds with the project coordinator or form the budget yourselves if you are the coordinator. The European Commission provides cofinancing for the project budget and requires effective use of the money of the European countries' taxpayers. The FP7 fund accumulates assignments from the EU countries, associated EU countries and countries-candidates for entering the EU. Such partners as legal persons (research institutes, universities, small and medium companies, etc.) provide cofinancing in the form of personnel and infrastructure. The partners' administration should ensure transparent financial mode by means of opening control accounts. Private non-profit organizations have the same cost declaration regime as universities. If before one had to declare the additional costs only, starting from FP7 one has to declare the full costs. For example, one has now to declare the professor's wage according to his/her main salary.

Different types of activities are paid differently. For example, research projects performed by universities, research institutes, small and medium companies, and public organizations are financed by the European Commission up to 75%, presentation activities—to 50%, management of consortium—100%, dissemination and patent acquisition—100%, and big companies participation—50%.

As regards indirect (overhead) expenses, for the first 3 years of implementing FP7 they may amount for universities, research institutes, small and medium companies to 60% of the direct expenditures. Other partici-

pants apply, as a rule, the schemes of calculating actual overhead expenses. At the same time, non-profit organizations and universities in the EU countries often get engaged into a painful transition process to analytical accounting conducted by for-profit companies. Thus, when working on the project budget one calculates the direct expenses, then adds overhead expenses (as certain percentage of the direct expenses) and declares the total budget to the European Commission. When equipment is purchased, the grant covers its depreciation costs only. For example, if you wish to buy a microscope that is fully depreciated in 5 years, you will be paid only 60% of its price given the project lasts three years. Computer equipment is depreciated in 3 years; therefore the budget covers its total price.

Note that direct costs include the personnel salaries, business trip expenses, purchasing tools, equipment and supplies, and subcontracting. Indirect costs include the costs of centralized administration, maintenance of premises, means of communications etc. All the personnel payments are calculated on the hourly basis, only overtime bonuses are eligible: $t_2 - t_1$, where t_2 is the maximal permitted work time per day, t_1 is the eight-hour work time at the main job place according to the Labor Code. Thus, one should sign an agreement for the additional working hours.

Subcontracting is used for non-research functions and it should be described in the proposal as potentially it might not undergo the competition procedure. All the costs must be calculated according to the internal accounting rules. The following costs are considered ineligible: (1) VAT; (2) giving loans; (3) losses on currency conversion; (4) "stock" in case of potential losses; (5) debts and debt-servicing payments; (6) excessive and thoughtless costs. Apart from this, one must not mix expenses under different projects.

After receiving the first installment, the coordinator distributes according to the confirmed shares intended for the consortium members. After completing the project, the European Commission will require two financial documents from each partner in two copies and a hard copy (in English): financial report according to Form C and certificate of accounts (it costs in Moscow about 500 Euro on average, in Germany—1500 Euro). All other financial documents are left with your organization's accounting department.

For the first 18 month, the first project installment is provided in the amount of 85% of the project budget; later on the annual installments are calculated on the basis of the applied costs and planned expenses for the next 18 months. The last 15 percent are paid after the approval of the final report.

We should point out that while FP7 provided for individual liability, FP6—for collective liability, in FP7 a 5% reserve fund is created to cover unpredicted expenses and losses.

According to European experience, writing a proposal is also a project with its own costs amounting to

30 thousand Euros for STREP projects (it takes up to three months to prepare a proposal).

When writing a proposal, one should understand the evaluator's work principles. They evaluate using a five-point system the science and technical quality of the projects, its implementation and expected impact. Thresholds are specified (3 to 4 points) for every priority and the overall threshold. After this, 70–80% of the projects are weeded out, and a "shortlist" is left. Disputable proposals are considered by the Program Committee consisting of representatives of different countries' NCPs. Those proposals that have overcome the thresholds but there was not enough money for them, are included on the reserve list and probability of their future support is minimal.

After successful proposal evaluation there is a negotiation stage, then—contract implementation and final reporting. During the contract negotiations, the European Commission may recommend to review the budget, request copies of the legal persons' registration certificates, may check the partner's financial status. As a result, these negotiations end up with signing a Grant Agreement (the agreement between the European Commission and the consortium, which is accessible at the CORDIS Platform (Model Grant Agreement)). Apart from that there is an internal agreement within the consortium (the Consortium Agreement), which regulate the technical implementation of the project, collective responsibility for its implementation, distribution of resources, intellectual property rights, participants structure, etc.

It is important to note that earlier the European Commission maintained direct contacts with every project participants, now—with the consortium as a single body (via the coordinator).

The European Commission requires the project outcomes be disseminated among the three target groups: (1) research community; (2) general public; (3) potential users. Therefore, one of the work packages may be fully devoted to the outcomes dissemination. Working with every target group requires different toolkits. For example, in the first case these are scientific journals and conferences, in the second—mass media, in the third—specialized professional journals, booklets, fairs, etc.

When developing the work package on dissemination, it is recommended that one introduce the following quantitative parameters: number and quality of academic publications; number and type of activities (seminars, conferences, symposia, etc.), number of subscribers for the consortium bulletin, number of the project internet-site visitors, number of disseminated booklets, number of interviews for mass media, etc.

It is also important to note that the consortium structure should be harmonically balanced (old and new EU countries, associated EU countries, and "third" countries).

The experience of "third" countries participation in the EU Framework Programs on research and development allows one to draw the following conclusions:

(1) FP7 is a research and technological strategy of EU and not the "third" countries. It is the EU who says what should be done and wishes to buy the best solutions.

(2) The competition is keen but participation in this program is highly prestigious since it gathers together all the flower of the European science. FP7 is not a means of earning money, since there are a lot of national funds and program for this end.

(3) The project should clearly show the European context yet be in line with your personal development strategy other wise it does not make sense to take part in FP7.

(4) One should not be afraid to submit project proposals to participate in FP7 since you will never be developing projects embracing 50 participants and the budget up to 50 mln Euro. For these, there will always be an experienced European coordinator.

The following barriers for the Russian researchers participation in FP7 have been singled out:

- fundamental structural problems of the Russian science;
- lack of knowledge on FP7 and skills of writing project proposals and searching for partners;
- insufficiently developed links with the colleagues from the European countries;
- poor supporting infrastructure (poor regional network of regional contact points on connection with FP7);
- lack of knowledge on the western partners psychology.

One should also understand that all the new consortia are built on the basis of the old ones, and the projects are coordinated by the experienced leaders in the research areas. One should be able to interest the potential partners and, especially, the potential coordinator of the forming consortium.

Aim at not being a subcontractor unless this is not a part of your strategy. You should inform your university or research institute administration in advance on your preparing to take part in FP7. You should understand the situation with the intellectual property rights and the project financial regime as well as know that there if a yearly time span between the proposal submission and arrival of the first money.

The main benefit from participating in FP7 projects is mutual learning and qualifications improvement, enhancement of the research and technological potential of your department and organization as a whole, acquiring new knowledge and contacts.

There are data that per Euro received from EU the South African researchers raised 5 Euros from other

sources (information by the Head of NCP on Food, Dr. Geof Meese (Republic of South Africa)).

Note that it is only the creating of bifurcated networks focused on working with FP7 at the national, regional and institutional levels would enable one to critically improve competitiveness of Post-Soviet scientific research, which is now out of all proportion to the undermined research and technological potential of the Post-Soviet countries. FP7 gives a unique chance to start the restoration process of the Post-Soviet research area from beneath taking into account the meager enthusiasm of officials at the governmental science agencies as regards integration of the former USSR science and research systems. To do this you should more often include the project proposals from your colleagues from these countries bearing in mind that your joint work in FP7 is a mark of world quality. At the same time, under the conditions of globalization and tough international competition in the research and technology sphere the officials of the governmental science agencies of Ukraine, Moldova, Georgia and other CIS countries should clearly understand that these countries will never be able to build their own competitive research area without integration with the Russian scientific core. Therefore one cannot but welcome the idea formulated in the publication [3] on the appropriateness of Russia coming up with the initiative of forming the CIS Framework research program, which would

facilitate restoration of the commonwealth states research area.

A considerable improvement of the opportunities for the Russian researchers participation in FP7 as compared to FP6 launches, in our view, a massive segregation process in the research sphere to be well matched with the digital process. And this a positive process, since the technological progress is determined by the activities of a small number of leading researchers and their teams, which should be enjoying recognition as well as material and moral support.

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