



Evaluation of the Relevance of the Objectives of Operational Programme Research and Development in Terms of their Achievement

December 2011

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Summary

The evaluation of the relevance of the objectives of Operational Programme Research and Development focuses primarily on the correct setting of the objectives and measurable indicators and their attainment. The evaluator focused as well on the identification of factors which have influenced or are influencing smooth implementation of the operational programme and thereby the meeting of its objectives and indicators.

Chapter Two presents an analysis of the status of research and development in the Slovak Republic, a comparison with other countries (especially neighbouring or similar countries) in order to evaluate the progress achieved in this area since the program was established on the basis of structural indicators. Chapter Two also includes an evaluation of the current status in implementation of OP Research and Development in terms of its contracting rate and drawing of financial aid.

Chapter Three presents the evaluator's analysis of questionnaire surveys and evaluation interviews with representatives of the managing authority and the Agency of the Ministry of Education, Science, Research and Sport SR for EU structural Funds. These aimed at understanding the views of beneficiaries and employees of the provider concerning issues related to the evaluation.

Chapter Four includes an analysis of the implementation of OP Research and Development, especially in terms of the number of projects, proposal submission success rate, amount of contracted financial aid and its drawing, and evaluation of achievement of the measurable indicators.

Chapter Five focuses on evaluating the meeting of the global objective of OP Research and Development and the measurable indicators at the programme level and on identification of the essential internal and external factors which have/had an impact on the current level of implementation.

Chapter Six summarises all analyses and partial evaluations, compiling them into concise units, including the levels of their implementation.

Chapter Seven includes recommendations and specific proposals for improvement and acceleration of implementation of OP Research and Development so as to accomplish the set objectives and, above all, to better reflect the needs of beneficiaries in project development/implementation.

Annexes to the analysis present a detailed evaluation of the questionnaire survey of beneficiaries of demand-oriented projects, a detailed evaluation of the questionnaire survey of MA and IB/MA employees and essential information about Horizon 2020.

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List of abbreviations/acronyms

FP7	The 7th EU Framework Programme for Research, Technological Development and Demonstration Activities
	AUS - Australia; AUT – Austria; BEL – Belgium; BGR – Bulgaria; CAN - Canada; CYP – Cyprus; CZE – Czech Republic; DEU – Germany; DNK – Denmark; ESP – Spain; EST – Estonia; FIN – Finland; GBR – Great Britain; GRC – Greece; HUN – Hungary; IRL – Ireland; ISL - Iceland; ITA – Italy; JAP - Japan; KOR – South Korea; LTU – Latvia; LUX – Luxembourg; LVA – Lithuania; MEX - Mexico; MLT – Malta; NLD – The Netherlands; NOR - Norway; NZL – New Zealand; POL – Poland; PRT – Portugal; ROU – Rumania; SVK – Slovakia; SVN – Slovenia; SWE – Sweden; TUR - Turkey
Acronyms of states	
APVV	Agency for Promotion of Research and Development
ASFEU	Agency of MoESRS for EU Structural Funds
CCA	Central Coordination Authority
CVTI SR	Centre for Scientific and Technological Information SR
EC	European Commission
EPO	European Patent Office
ERDF	European Regional Development Fund
EU	European Union
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
ICT	Information and Communication Technologies
ITMS	IT Monitoring System
KEGA	Cultural and Educational Grant Agency of MoESRS
SME	Small and medium enterprise
MoESRS	Ministry of Education, Science, Research and Sport SR
OECD	Organization for Economic Cooperation and Development
OP BK	Operational Programme Bratislava Region
OP D	Operational Programme Transport
OP IS	Operational Programme Informatization of Society
OP C&EG	Operational Programme Competitiveness and Economic Growth
OP TA	Operational Programme Technical Assistance
OP E	Operational Programme Education
OP R&D	Operational Programme Research and Development
OP HC	Operational Programme Health Care
OP E&SI	Operational Programme Employment and Social Inclusion
OP E	Operational Programme Environment
PISA	Programme for International Student Assessment
PA	Priority axis
MA	Managing authority
ROP	Regional operational programme
SII	Summary Innovation Index
SAV	Slovak Academy of Sciences
IB/MA	Intermediate body under the managing authority
SOVVA	Slovak Organization for Research and Development Activities, o.z.

SR	Slovak Republic
SAS	State Aid Scheme
SF	Structural funds
USPTO	US Patent and Trademark Office
ÚOŠS	Central state administration authority
S&T	Science and Technology
R&D	Research & Development
VEGA	Science Grant Agency MoESRS
HEI	Higher education institution
RfP	Request for payment

1. Introduction

1.1 Evaluation baselines

The study Evaluation of the Relevance of the Objectives of Operational Programme Research and Development (hereinafter only as “OP R&D” or “the OP”) was commissioned by the Ministry of Education, Science, Research and Sport of the Slovak Republic (hereinafter only as “MoESRS”). The document was prepared by the Slovak Organization for Research and Development Activities, hereinafter only as “SOVVA”). The Contractor was selected in a public procurement. The agreement between the Contractor and the Principal was signed on 30 September 2011 and published in the Central Register of Contracts on 7 October 2011.

The Evaluation was made under Art. 48 (3) of the Council Regulation (EC) No 1083/2006 of 11 July 2006, laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999 (hereinafter only as “Council Regulation (EC) No 1083/2006”): *“During the programming period, Member States shall carry out evaluations linked to the monitoring of operational programmes in particular where that monitoring reveals a significant departure from the goals initially set or where proposals are made for the revision of operational programmes, as referred to in Article 33. The results shall be sent to the monitoring committee for the operational programme and to the Commission.”*

1.2 Aims of the Evaluation

The Evaluation of the Relevance of the Objectives of Operational Programme Research and Development in terms of their achievement (hereinafter only as “Evaluation”) was drafted in line with the Evaluation Plan for OP Research and Development for Programming Period 2007–2013 and the Evaluation Plan for OP Research and Development for 2011. The aim was to evaluate the setting and relevance of objectives of OP Research and Development in how they reflect the needs of beneficiaries, to evaluate whether there is need to update OP objectives to bring them in line with the structure of priority axes, respective measures of OP Research and Development, and to evaluate the achievement of objectives at the level of OP Research and Development and respective measures. The Evaluation focused on achievement of the objectives in the period from 28 November 2007 to 30 June 2011. The Evaluation of the Relevance of the Objectives of OP Research and Development focused on the following tasks:

1. Evaluating whether objectives and measurable indicators were established in line with actual needs of beneficiaries and whether the set objectives and measurable indicators are still relevant;
2. Evaluating whether the established objectives and measurable indicators for OP, priority axes and measures are being achieved and whether the structure of OP priority axes and respective measures need to be updated;
3. Evaluating whether the objective of measure 1.1 Modernisation and Improvement of Quality of Technological Infrastructure of R&D is being achieved and through what activities;
4. Evaluating whether the objective of measure 2.1 Supporting Networks of R&D Centres of Excellence as Pillars for Regional Development and Supporting Multiregional Cooperation is being achieved and through what activities;

5. Evaluating whether the objective of measure 2.2 Transfer of R&D Knowledge and Technologies to Practical Use is being achieved and through what activities;
6. Evaluating whether the objective of measure 3.1 Modernization and Improvement of Quality of Technological Infrastructure for R&D in Bratislava Region is being achieved and through what activities;
7. Evaluating whether the objective of measure 4.1 Supporting Networks of R&D Centres of Excellence as Pillars for Regional Development and Supporting Multiregional Cooperation in Bratislava Region is being achieved and through what activities;
8. Evaluating whether the objective of measure 4.2 Transfer of R&D Knowledge and Technologies to Practical Use in Bratislava Region is being achieved and through what activities;
9. Evaluating whether the objective of measure 5.1 Building Infrastructure of Higher Education Institutions and Modernising their Equipment to Improve Educational Facilities is being achieved and through what activities;
10. Evaluating whether the global objective of OP Research and Development is being achieved;
11. Evaluating whether all seven specific objectives of OP Research and Development are being achieved.

1.3 Methods

The evaluator focused on evaluating how the OP Research and Development was set both in its integrity and its separate measures. The next step was evaluating the implementation of OP, whether its objectives and specific objectives under its measures are being achieved, whether measurable indicators are being attained and whether they were set adequately.

The evaluator based the analysis on data from MoESRS, Eurostat, the European Commission (hereinafter only as "EC") and the OECD. Subsequently the evaluator drew from an analysis of essential strategic documents (desk research) – OP Research and Development, Manual for Grant Applicants, Manual for Grant Beneficiaries, calls, annual reports on implementation of OP R&D, and Management System of Structural Funds and Cohesion Fund. In order to elicit opinions from persons involved in the implementation of OP R&D, questionnaire surveys were administered with:

- Beneficiaries of grants under demand-oriented projects (n=73),
- Employees of the Managing Authority (hereinafter only as "MA") involved in management and implementation of OP Research and Development (project and financial managers) and employees of the Agency of MoESRS for EU Structural Funds who were involved in implementation of OP R&D (hereinafter only as "ASFEU") (n=86).

In order to verify the outcomes of the questionnaire surveys, thirteen evaluation interviews were conducted with leading representatives of MA and ASFEU. The purpose of the interviews was to obtain a verified and more profound understanding of data obtained from statistics, the questionnaire surveys and official documents.

Data acquired from official statistics, documents, questionnaire surveys, data from other sources and evaluation interviews provided solid foundations for analysis and conclusions.

1.4 List of members of the evaluation team

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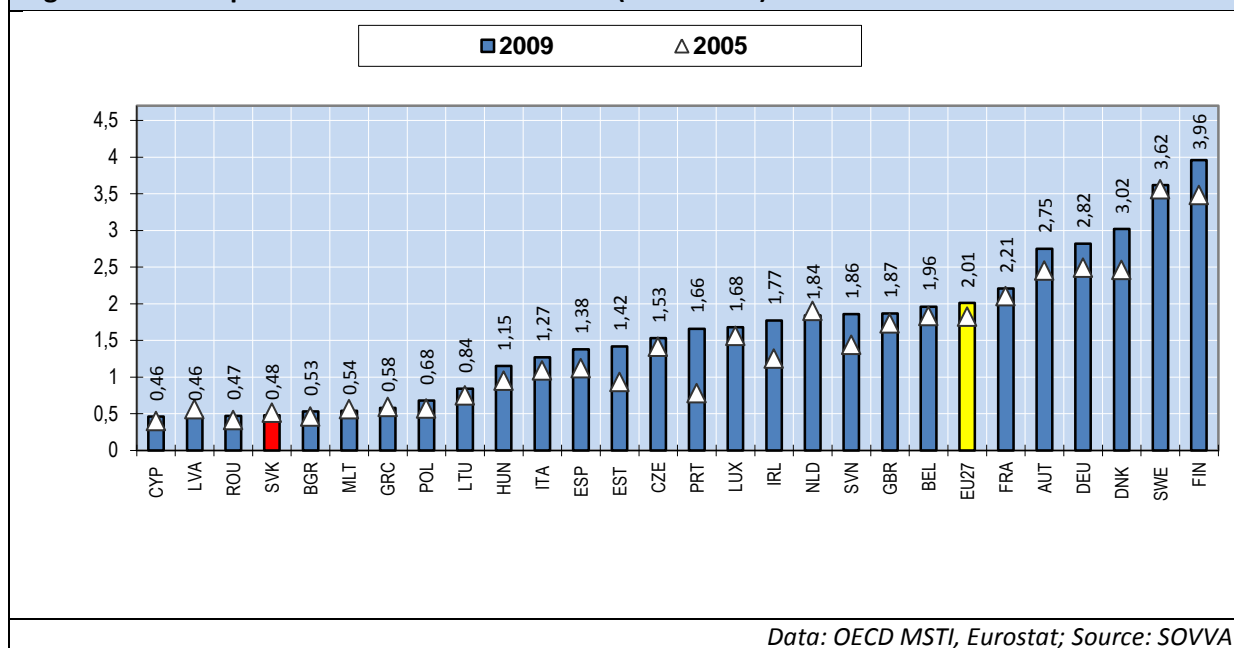
2. Research and development in the Slovak Republic

This chapter presents a comparison of the current R&D situation in SR with its status prior to implementation of OP Research and Development. Most selected indicators use 2005 as the reference year but there are certain indicators using 2004, 2003 or 2000. Structural indicators were mostly used for evaluation purposes and their values were compared with not only reference values defined in the OP Research and Development but also with other countries (EU and OECD countries above all). The aim was to evaluate how OP Research and Development improved the quality of Slovak research and development. It is true that the benefit derived from the operational programme does not fully show through indicators yet, but certain trends can already be seen. This chapter seeks to compile a comparative basis for evaluation of achievement of the objectives of OP Research and Development rather than presenting a comprehensive assessment of R&D status.

2.1 Research and development funding

Research and development funding in the Slovak Republic is low. In the long term Slovakia has been one of the lowest countries in R&D spending (rank 24 among EU countries). Figure 1 indicates that spending in terms of percentage of GDP went down (by 0.03% of GDP) since 2005. That ranked SR among 5 countries with a drop in spending over the monitored period. All neighbouring countries, however, have had a strong increase in R&D spending (Poland by 0.11% of GDP, Czech Republic by 0.12% of GDP, Hungary by 0.2% of GDP and Austria by 0.3% of GDP). The share of spending in GDP went up to 0.63% in 2010,¹ but the figure cannot be compared with other countries.

Figure 1 Gross expenditure on R&D as % of GDP (2005–2009)



There are two essential ways of funding R&D in SR, namely institutional support and purpose-based (grant) support. When it comes to institutional support, research organizations get financial resources for their operation from the state budget and through VEGA and KEGA grants. The purpose-based support includes two principal instruments in SR, namely grants from the Slovak Research and Development Agency (hereinafter only as “SRDA”) and OP Research and Development.

¹ SLOVSTAT.

Financial resources from EU structural funds were supposed to be complementary funding of science to national funding and were not intended to substitute for national funding, but Table 1 shows that OP Research and Development has been the leading instrument for R&D funding in Slovakia after 2008. The existence of the operational programme was, albeit, frequently used as a reason for not increasing funding for science from the state budget.

Table 1 Budget of Slovak Research and Development Agency and OP R&D (Thousands of €)					
	2007	2008	2009	2010	2011
SRDA	25 824	31 251	36 907	32 643	20 514
OP R&D – payments received from the EC	24 188	36 282	51 775	81 404	
OP R&D planned budget	172 009	167 379	161 076	148 600	160 010

Source: SRDA Annual Reports 2007–2010; State budget of the SR; OP R&D; Annual Reports on the Implementation of OP R&D 2007-2010.

2.2 Human resources for research and development

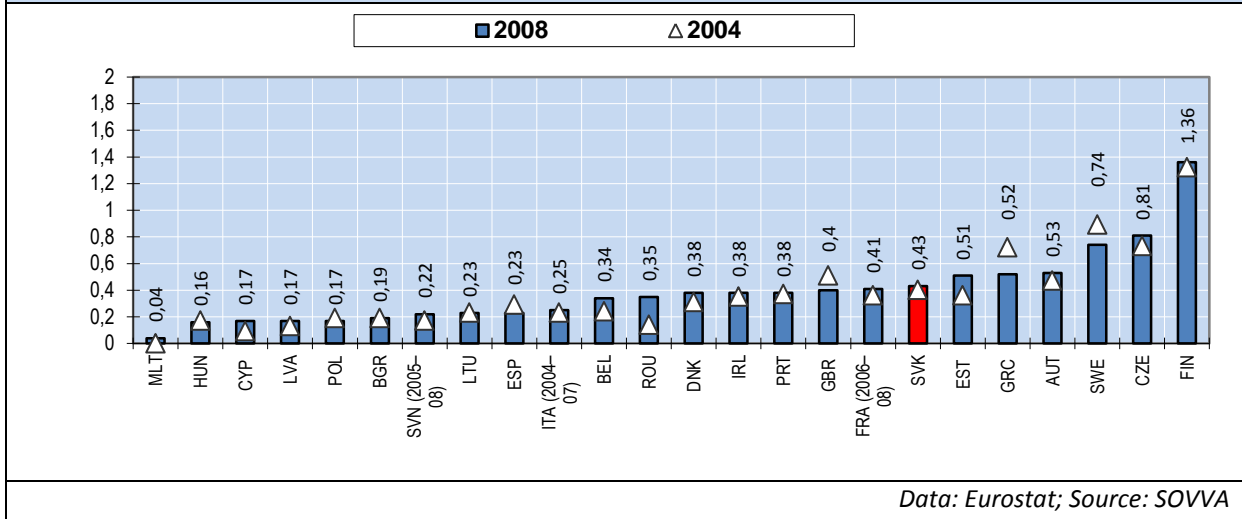
Investing in education and human potential is one of the fundamental elements of a knowledge-based economy, knowledge dissemination, innovation and economic growth. Fostering that kind of investment should be an integral part of all research and development policies. Scientists as well as students at all levels should be key elements of the system of research and development promotion. Training, retaining and recruiting a critical number of competent researchers is the essential factor of innovation-based sustainable economic growth. The system of R&D promotion needs an adequate number of quality and competent employees available at all levels, including at universities, research organizations and in industry. Developing and especially retaining human resources for R&D is a long-term and complex process which should be in the focus of support from the public sector, beginning with elementary education. OECD pointed out a strong correlation between outcomes from the PISA survey and the number of scientists in respective countries.² A shortage of skilled labour is one of the challenges for the Slovak economy, as indicated also by the report of the World Economic Forum. The Forum's surveys indicate that the business sector in Slovakia has been experiencing a growing shortage of skilled scientists and technicians (its index went down from 5.7 in 2005 to 3.98 in 2011).³

Completion of a doctoral program is an essential prerequisite for a career in science. Figures covering the period from 2004 to 2008 indicate no major shift in the share of doctoral candidates in science and technology among the 20-29 years' old students with the exception of Greece (a significant decrease), the Czech Republic and Romania (a large increase). The Slovak Republic had a slight increase by 0.03%, ranking the country in the first half. The number of students in doctoral programs has been continuously growing since 1998, namely from 0.28% in that year to 0.46% in 2006. But that year was a turning point, with the percentage going down slightly to 0.43% in 2008.

² OECD Science, Technology and Industry Outlook 2008.

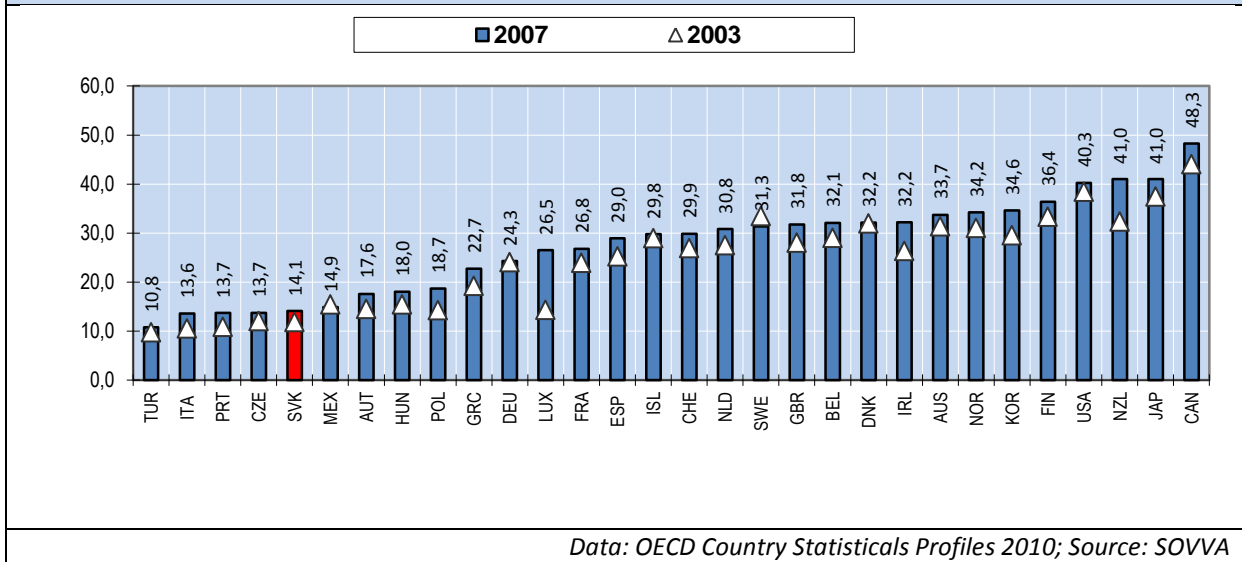
³ The Global Competitiveness Report 2011–2012. World Economic Forum. Geneva 2011, p. 319.

Figure 2 Share of post-graduates in science and technology within the population aged 20-29 (2004–2008)



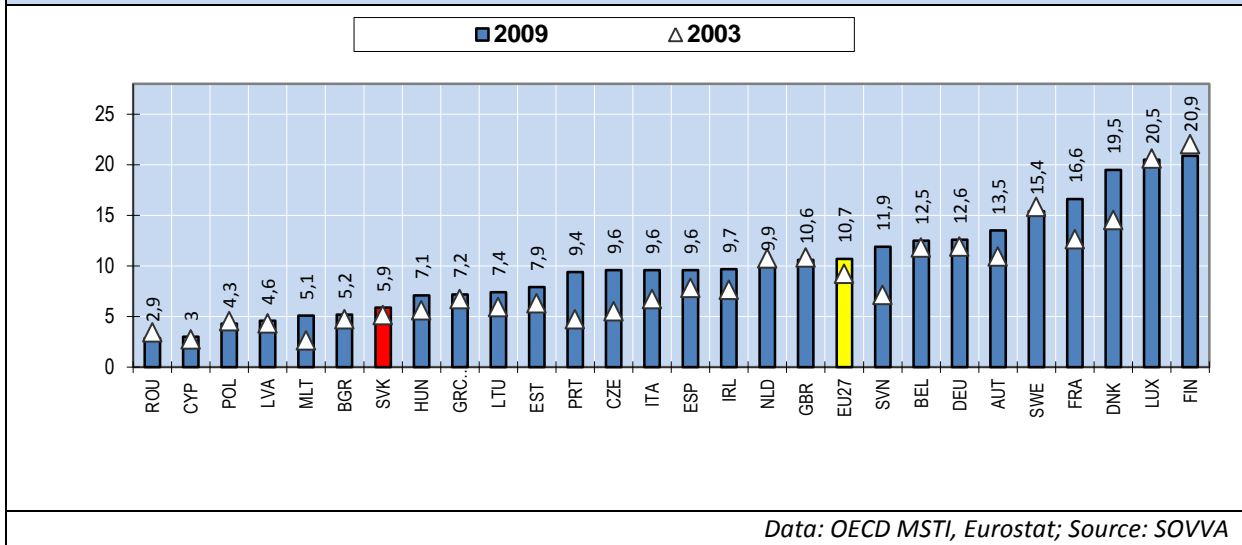
The percentage of population with completed tertiary education in Slovakia has been going up, namely from 11.8% in 2003 to 14.1% in 2007. Strategy Europe 2020 aims at a minimum of 40% of people aged 30-34 with having completed tertiary education. In Slovakia 17.5% of the 25-34 age group had a tertiary education diploma in 2007. Regardless of the increasing trend in the share of population with tertiary education, Slovakia ranks among the worst of the OECD countries.

Figure 3 Percentage of population aged 25-64 with completed higher education (2003–2007)



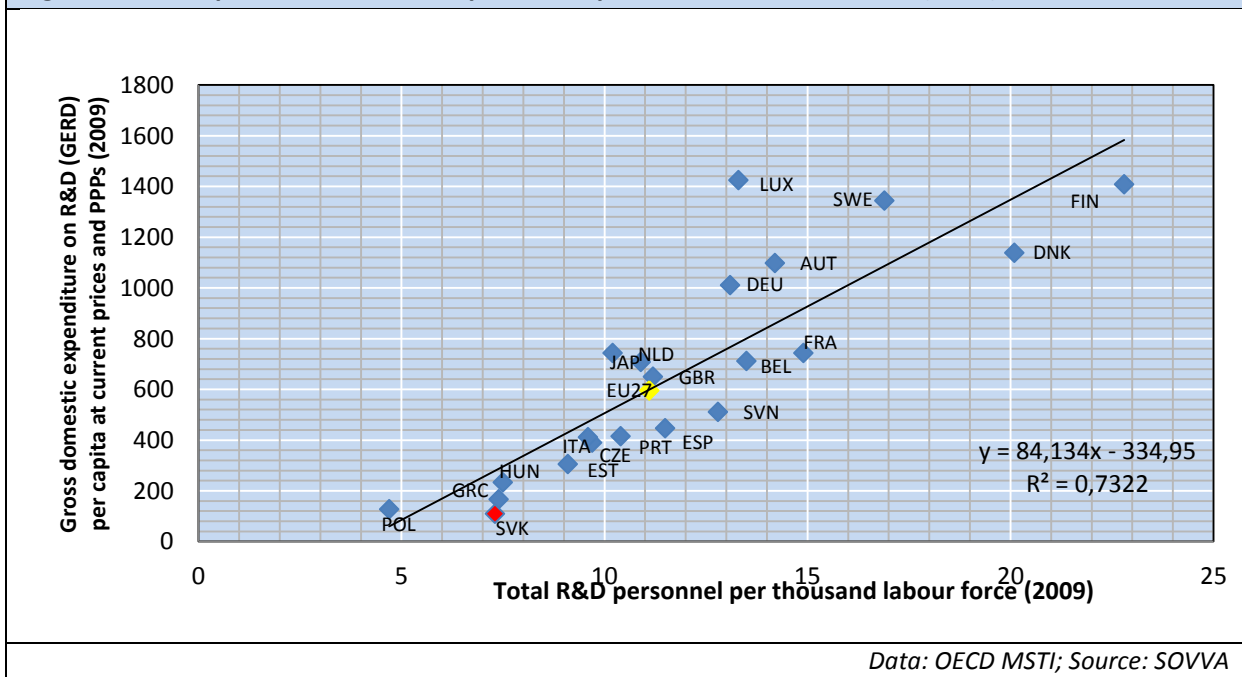
Most EU member states have experienced a gradual increase in the total number of R&D workers compared to the total labour force. R&D workers include all employees involved in research, including scientists, technicians and auxiliary staff. There was a slight increase in the share in Slovakia from 5.1% to 5.9% over the surveyed period. There has been an upward trend, as represented in Figure 4, but the increase has been rather minor in comparison with other countries.

Figure 4 Share of research and development employees in relation to the total number of workforce (2003–2009)



The primary problem causing both the low number of researchers and the poor progress in this area is general underfunding of science in Slovakia. A comparison of the amount of financial resources for R&D and number of R&D personnel (Figure 5) indicates that countries with higher R&D spending have more researchers. Gross domestic expenditure on R&D per capita in Slovakia was USD 109.90 and the number of R&D personnel expressed as FTE per one thousand employees was 7.3 in 2009. That indicates that Slovakia ranks among countries where regardless of its poor investment in R&D (the lowest level of the surveyed countries), the number of research staff is in the range of countries with twice as much R&D spending (Hungary). This is also influenced by the low average earnings of SR researchers which rank third lowest among EU countries.⁴

Figure 5 R&D expenditures and R&D personnel per thousand labour force (2009)



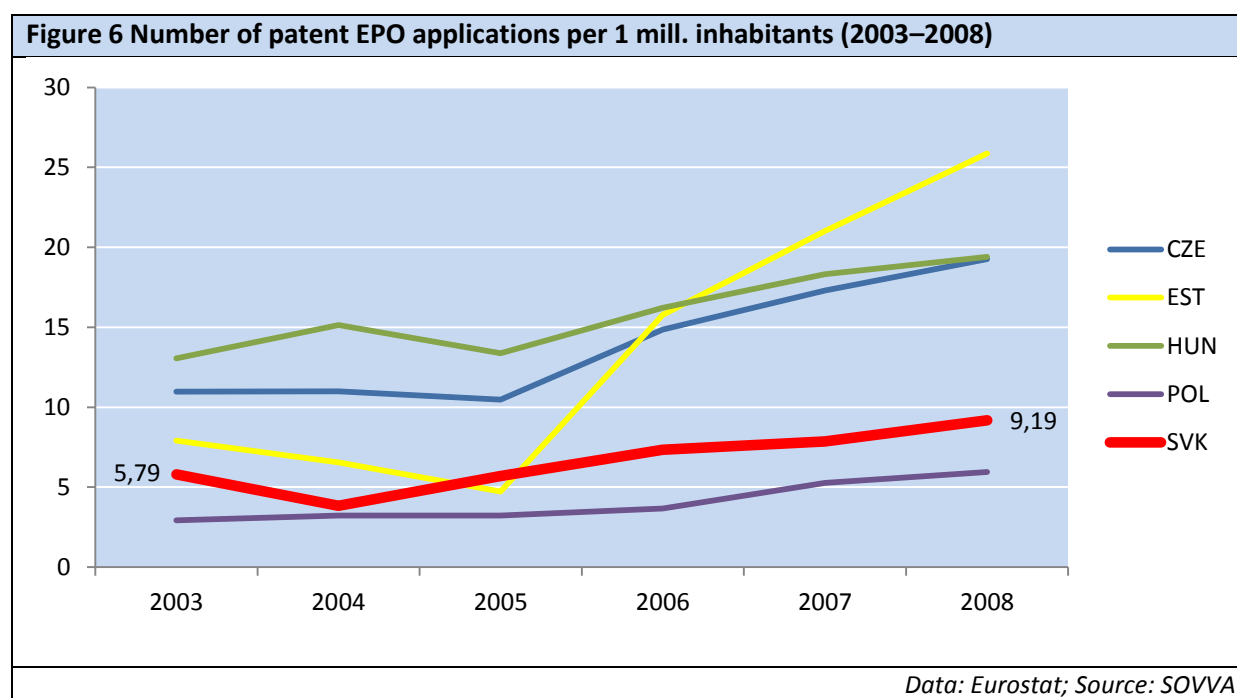
⁴ Remuneration of Researchers in the Public and Private sectors. EC 2007, s. 19.

2.3. Research and development outputs

Patents

The capacity of countries to bring R&D outcomes into practical use is an essential prerequisite for international competitiveness. For that reason both developed and developing countries seek to develop an environment friendly to innovation activities, regardless whether they take place in companies, universities or research organizations. Protection of intellectual property and especially patent protection of the R&D outcomes play an important role. The number of patents employable in an economy or society is usually used as the measurement unit for research outcomes. Patent applications and granted patents are also an important source of process analyses of technological changes. They are considered to be the primary output of applied research in many respects. Comparisons between countries in terms of their performance are most frequently based on indicators of patent application numbers with the European Patent Office (hereinafter only as “EPO”), the US Patent and Trademark Office (hereinafter only as “USPTO”) and the so-called triple patent families, which include patents protecting the same invention with the EPO, the USPTO and the Japanese Patent Office (JPO).

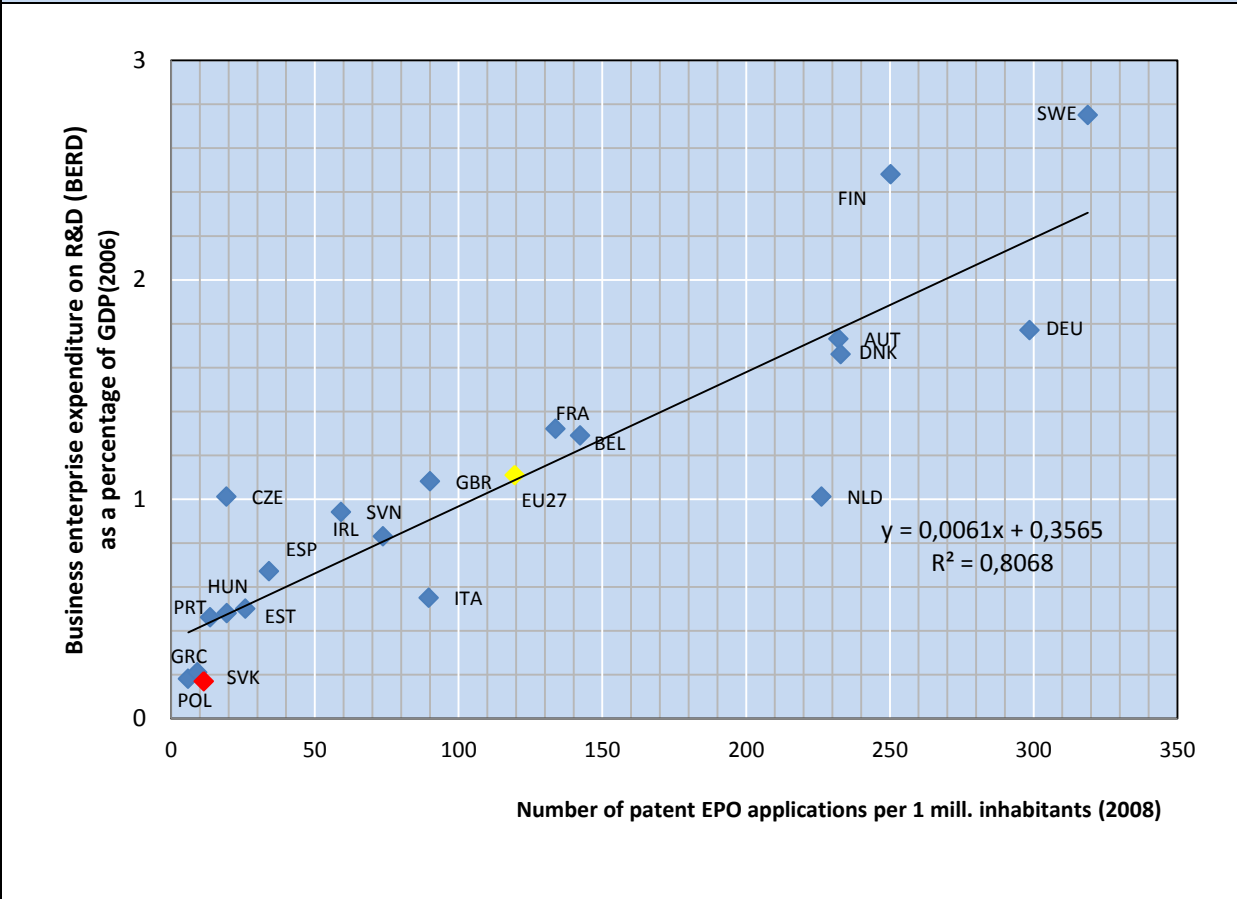
Comparing patent activities between all EU countries is somewhat complex and that is why our comparison was focused on countries in geographical proximity, plus Estonia. The patent performance indicator has consistently ranked Slovakia among the worst performing EU countries (rank 23 in 2008) regardless of a slightly growing number of patent applications per million inhabitants in the EPO since 2004, going from 3.83 up to 9.19 in 2008 (Figure 6). Comparison with the surveyed countries, in particular the Czech Republic and Estonia, indicate a good trend but still rather poor progress.



Patents usually are applied research or experimental development outcomes. That kind of research is funded by corporations in most countries. Figure 7 indicates a strong correlation between BERD R&D spending and number of patent applications with the EPO. Industrial spending on R&D in Sweden

and Finland exceed 2% of GDP and their number of patent applications is greater than 250 per one million inhabitants; in Slovakia it is only 9.19 patents and total spending of 0.21% of GDP. A gradual upward trend in corporate spending in the Czech Republic, Estonia and Hungary has clearly fostered the number of patent applications with the EPO. It also must be stressed that the level of corporate spending is significantly encouraged by a state's science and technology policy and the level of public spending as well. The OECD⁵ study indicates that public research spending encourages more corporate spending and also permits continued industrial research during times of economic stagnation or downturn.

Figure 7 BERD and Number of patent EPO applications per 1 mill. inhabitants

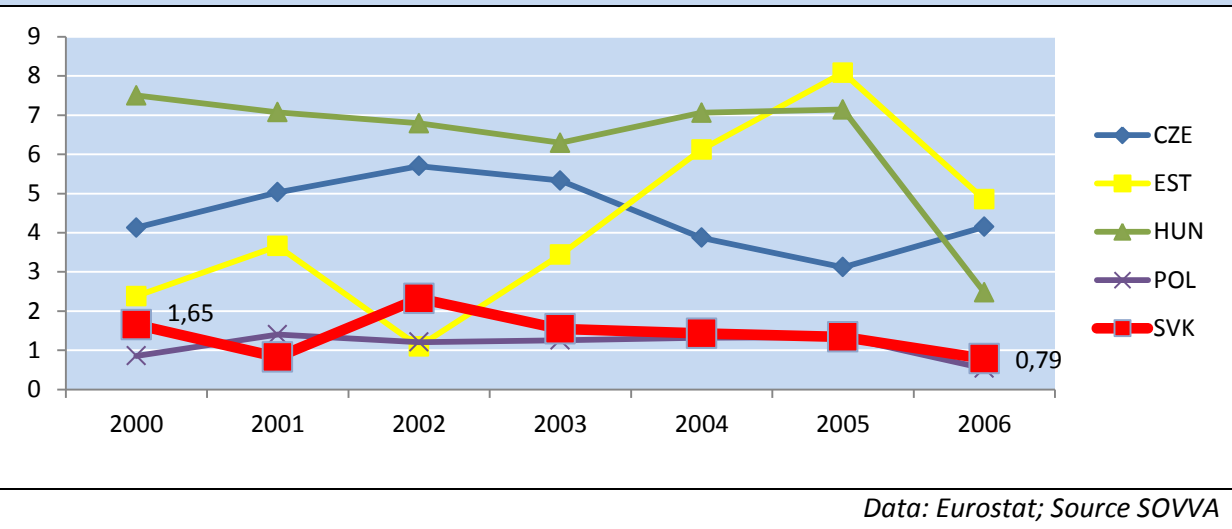


Data: OECD, Eurostat; Source: SOVVA

The number of patents granted by the US Patent and Trademark Office to Slovak inventors per one million inhabitants was 0.79 in 2006, indicating a decrease by 0.86 against the reference year 2000. Figure 8 indicates strong inter-annual volatility up or down in all compared countries. In addition, the value of the indicator is easy to change in either direction. To achieve a range of 2 patents per million inhabitants Slovak researchers need to actually get 11 patents. This indicator is irrelevant for medium term evaluation of OP Research and Development since the last reference value is for 2006, before this programming period actually started.

⁵ A Forward-Looking Response to the Crisis: Fostering an Innovation-led, Sustainable Recovery. OECD DSTI/IND/STP/ICCP(2009)1.

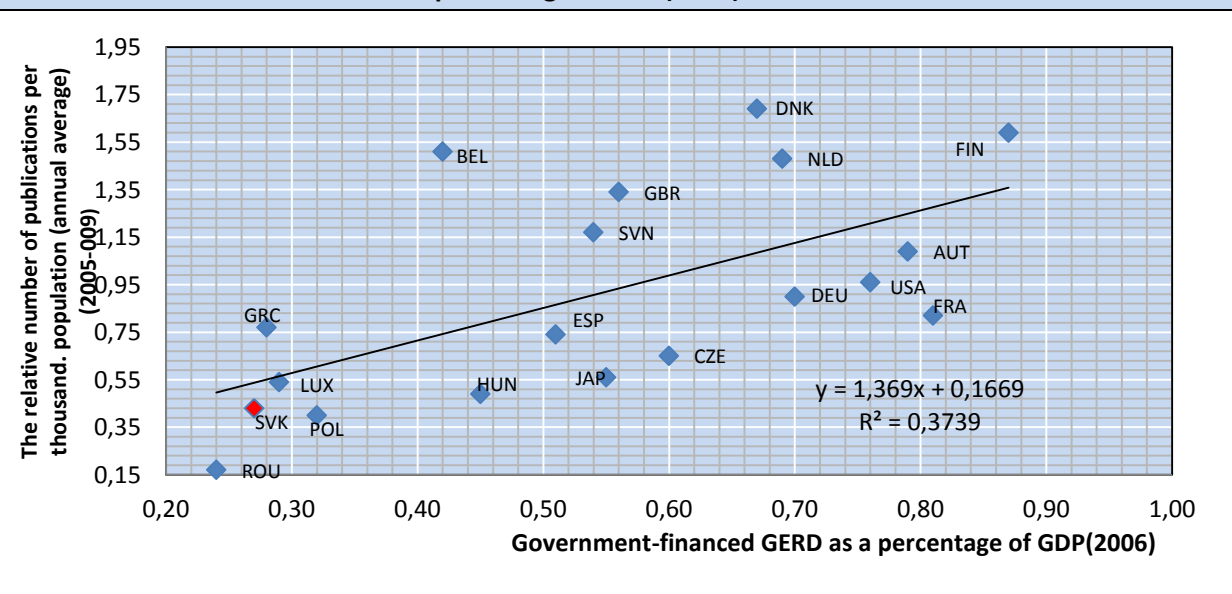
Figure 8 Number of granted USPTO patents per 1 mill. of inhabitants (2000–2006)



Publications

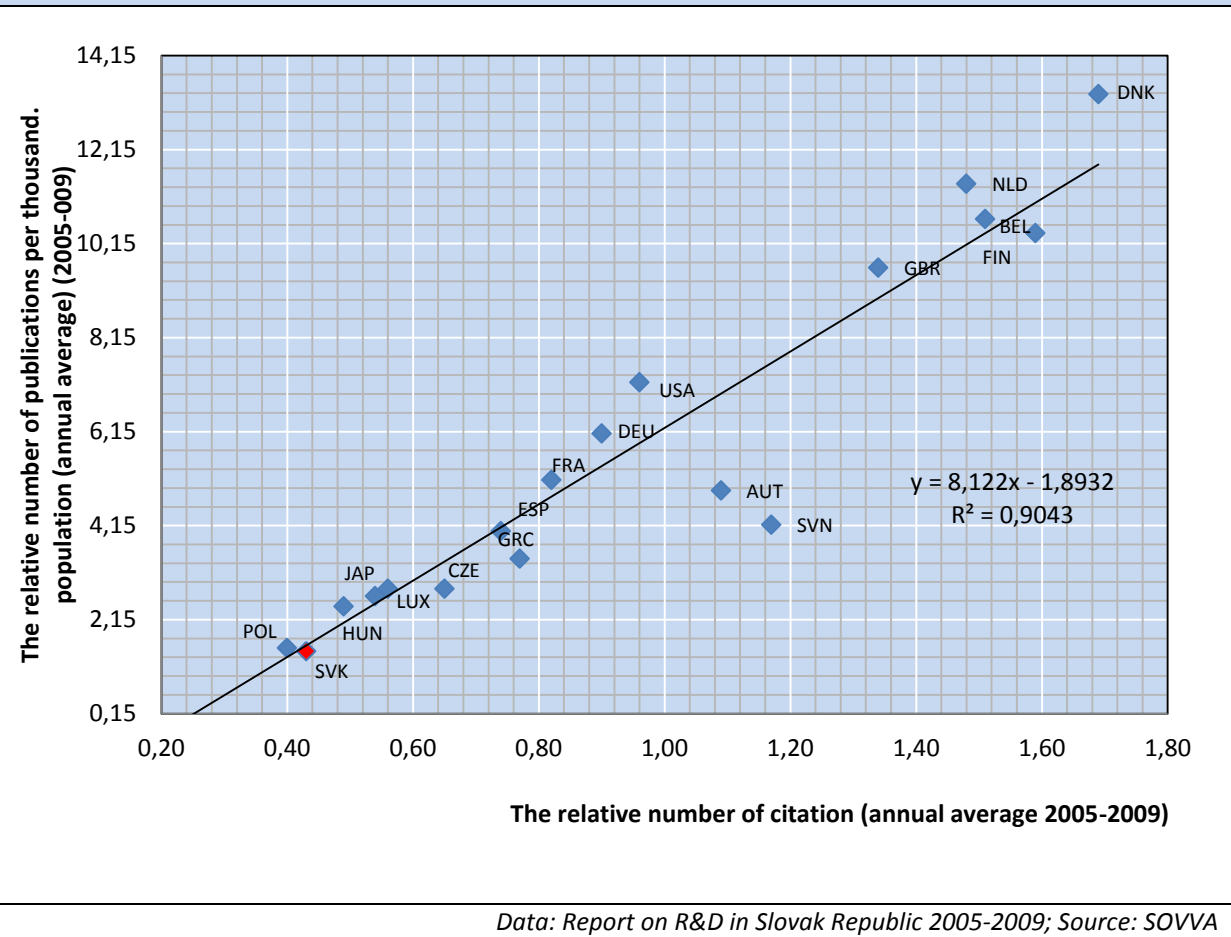
Bibliometric analysis, namely evaluating the number of publications and citations generated by individual scientists, scientific organizations or states, is one of the essential sources for assessment of primary research outputs. Publications are the essential tool for dissemination of R&D results in the scientific community, whereas citations are a reflection by scientists to published papers or books. In principle it holds the higher citation index to a publication, the higher response it had in the community and its higher quality. Similarly to patents, there is correlation between the range of public spending for R&D and number of publications (Figure 9). The Slovak Republic is in the group of countries whose scientists are capable of producing a Current Contents-included publication at a relatively low price. With 0.27% of GDP in public spending for R&D in 2006 the relative number of publications per one thousand inhabitants (yearly average in 2005-2009) was 0.43. That is more than in Poland (0.4) and closely follows Hungary (0.49), while the share of public spending for R&D in Hungary is 0.45% of GDP.

Figure 9 Correlation between relative number of publication (annual average 2005-2009) a Government-financed GERD as a percentage of GDP(2006)



The average number of citations per one thousand inhabitants in the Slovak Republic in 2005-2009 was 1.48 vs. the number of publications, ranking Slovakia below average among the surveyed countries. The data indicate that every publication was cited 3.44 times. On the other hand, Figure 10 shows correlation between the number of citations and the number of publications.

Figure 10 Correlation between relative number of publications and citation (annual average 2005–2009)



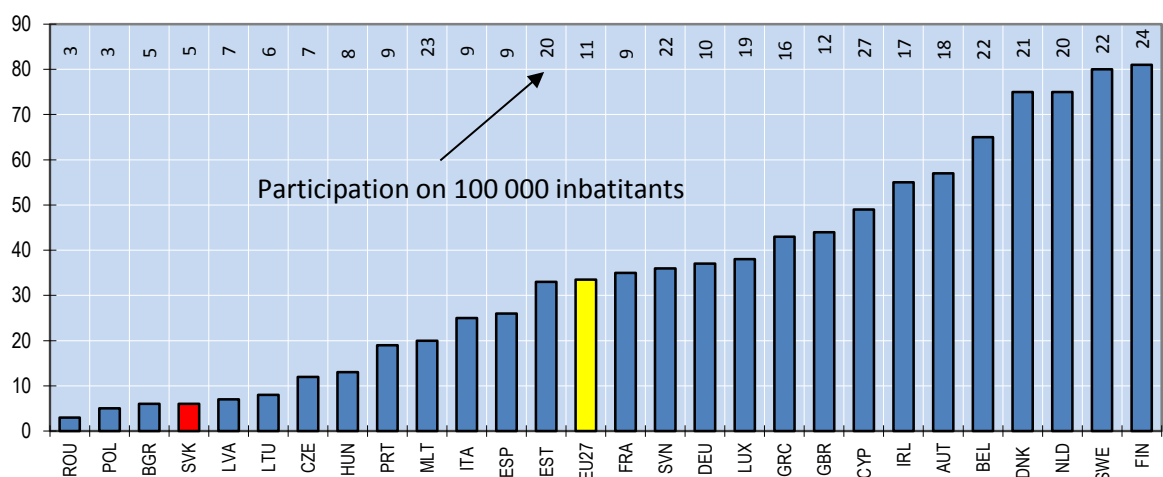
2.3 Participation of the Slovak Republic in the Seventh Framework Programme

The Seventh Framework Programme with a total budget of €50.52 billion for 2007-2013 is the largest pan-European programme to boost R&D. In contrast with other forms of support (such as national programmes and structural funds), funding under this programme is not based on the solidarity principle but exclusively on the basis of excellence. Competition under this instrument is tough since calls are open not just to EU member states but also for research organizations from associate countries, and researchers from so-called third countries can be members of consortiums. The evaluation of the first four years of implementation of the Seventh Framework Programme indicates that the old EU member states drew the most benefit from it, were involved in the highest number of projects and also received the most financial resources. Of the new member states, only Slovenia is above the EU 27 average (Figure 11). When it comes to participation rate in the Seventh Framework Programme in terms of number of projects and funding obtained, Slovakia takes the last

rank. Slovak research organizations participated in 215 projects with total EC approved funding of €823.5 million up to 30 June 2011. Of the approved amount they only received €35.026 million (4.25%). Slovakia's ranking is similar in terms of qualitative assessment of participation as in the number of projects. Slovakia, with five projects, ranks 24 both in terms of number of projects per hundred thousand inhabitants and in terms of financial resources (€6) received per capita (Figure 11). Slovakia ranks 22 in terms of number of participations compared to GDP, namely four projects per €1 billion of GDP. Slovakia with €504 ranks 26 in terms of funds received per €1 million of GDP. The problem is also a rather high share of coordination and support action and networking (the so-called CSA-SA) projects rather than the actual research projects.

The total success rate of applicants in the selection process under the Seventh Framework Programme is 23.9%, but it is only 19.9% (rank 17) for projects involving Slovak research organizations. Slovakia's success rate is much lower when it comes to acquiring financial resources. The European average is 20.7% but Slovakia is at 12.8% (rank 20).⁶

Figure 11 EU contribution on inhabitant (€)



Source: European Commission, Seminar on increase participation of new member countries in FP7, September 2011.

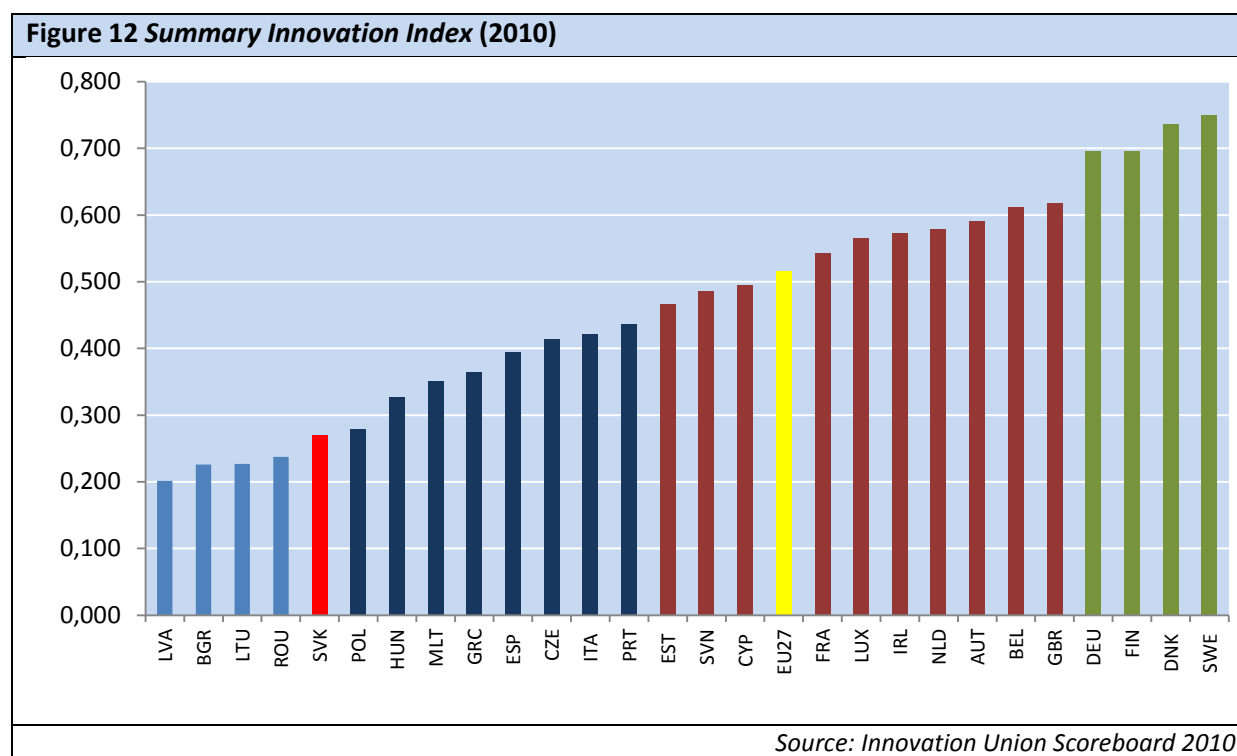
2.6 Innovation performance of the Slovak Republic

Summary Innovation Index

PRO INNO Europe has evaluated innovation performance of EU countries since 2001 – *European Innovation Scoreboard* (renamed to *Innovation Union Scoreboard* in 2010). Based on a cluster of 25 partial, measurable indicators, a Summary Innovation Index (SII) is used to divide countries into four groups (innovation leaders, innovation followers, moderate innovators, catching-up countries). SII

⁶<http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/countries/slovakia.pdf#view=fit&pagemode=none>

offers comparisons of innovation performance within the innovation ecosystem of European countries. The traditionally innovative EU leaders include the Nordic countries and Germany. Slovakia is in the group of moderate innovators but the general overview ranks the country 23 for 2010 (Figure 12).



Slovakia experienced a slight decrease in comparison with 2005 from 0.273 to 0.269 which pulled the country down from rank 20 to rank 23. Slovakia's innovation score has been staying at the same level and its rank is falling in comparison with neighbouring countries and Slovenia. SII increased by 0.068 in the Czech Republic and by 0.094 in Slovenia over 6 years (Table 2). Slovenia has consistently been the most innovative country of the new EU member states.

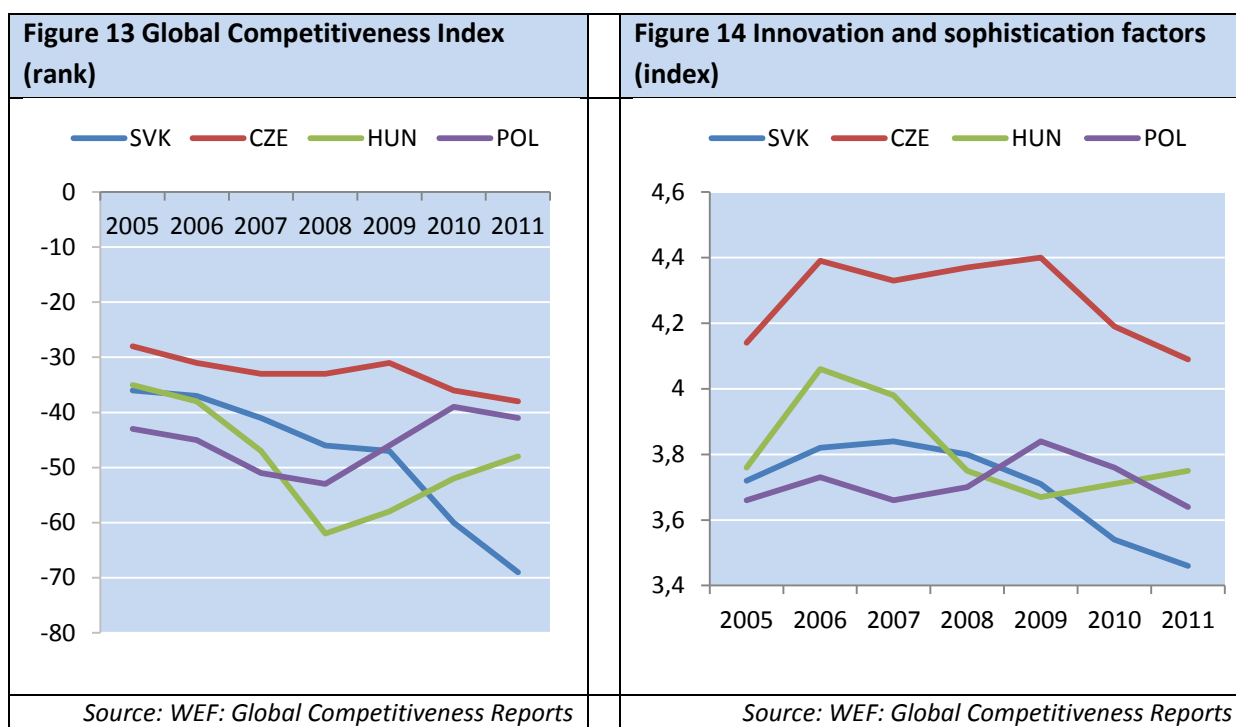
Table 2 Summary Innovation Index (2005–2010)

Year	SVK		CZE		HUN		POL		SVN	
	SII	Rank	SII	Rank	SII	Rank	SII	Rank	SII	Rank
2005	0,273	20	0,346	15	0,273	21	0,272	23	0,393	13
2006	0,265	21	0,379	13	0,298	18	0,273	24	0,404	12
2007	0,277	23	0,395	13	0,296	20	0,28	24	0,426	14
2008	0,273	22	0,369	15	0,307	21	0,269	23	0,45	14
2009	0,285	21	0,376	15	0,304	22	0,285	23	0,473	14
2010	0,269	23	0,414	17	0,327	21	0,278	22	0,487	13

Source: European Innovation Scoreboard 2005, 2006, 2007, 2008, 2009; Innovation Union Scoreboard 2010

Global Competitiveness Index

The World Economic Forum releases annual reports assessing the competitiveness of more than 140 countries in the world on the basis of measurable indicators and surveys covering more than 100 areas. Each area is assessed and scored from 1 (worst) to 7 (best) and has a pre-assigned weight. The resulting score represents the Global Competitiveness Index (GCI). Countries are ranked based on the GCI. The globally most competitive countries have consistently included Switzerland, Singapore, the Nordic countries and the USA. The Slovak Republic has experienced a steep fall from rank 36 to rank 69 (Figure 13) over 7 years. In terms of innovation and sophistication factors, representing 30% of the total assessment, Slovakia ranks 71 and the Slovak index for that area has had a strong downward trend. As *The Global Competitiveness Report 2011–2012*⁷ indicates, major innovation-related problems in Slovakia include poor procurement of progressive technological products by the government, poor cooperation between universities and industry in the area of R&D, poor quality of research organizations, low corporate R&D spending and poor capacities for innovation.



2.7 Baselines and status of implementation of OP Research and Development

Implementation setting

The SR government passed resolution No 832 of 8 October 2006 designating Ministry of Education, Science, Research and Sports to be the managing authority for OP R&D. Under Art.42 of Council Regulation (EC) No 1083/2006 the member state may entrust management or implementation of a part of the operational programme to an intermediate body under the managing authority designated by the member state or by the managing authority. Ministry of Education, Science, Research and Sports, authorised to delegate powers, designated ASFEU to implement demand-oriented projects along all priority axes. Ministry of Education, Science, Research and Sports, the managing authority, implements national projects.

⁷ The Global Competitiveness Report 2011–2012. World Economic Forum. Geneva 2011, s. 318n.

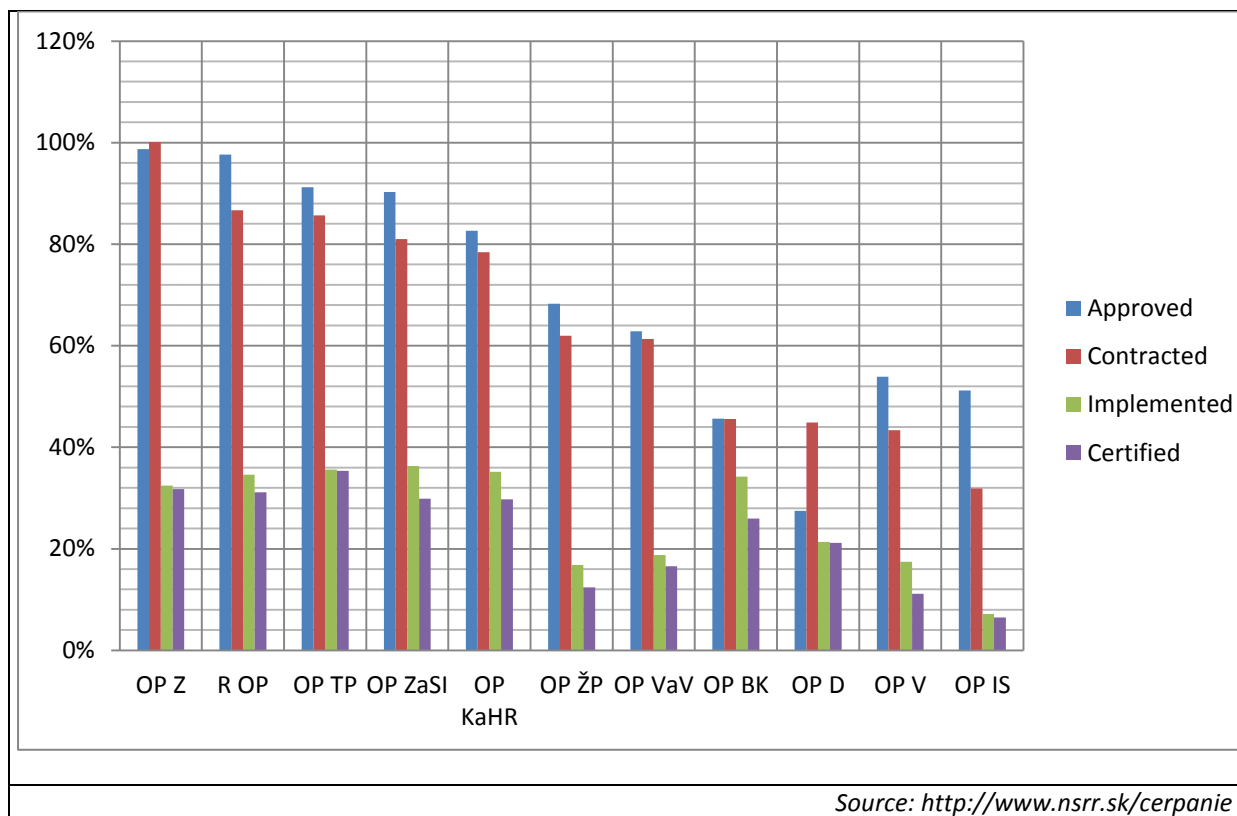
Similarly to other operational programmes, OP Research and Development implementation started with an almost one-year delay. The final version was approved by EC on 28 November 2007. The first calls could only be made at the beginning of 2008, making the implementation process longer. Projects funded under OP Research and Development are focused on both supporting R&D infrastructure and research. OP R&D is the only operational programme permitting project implementation in all of Slovakia. In that way it includes two objectives, namely Convergence, relevant for all of SR with the exception of Bratislava Region and the objective Regional Competitiveness and Employment, relevant to Bratislava Region. Slovakia can make use of an exemption approved by the EC and can use structural funds also for areas not belonging to convergence regions during the current programming period. That is one of the key factors of setting the operational programme in terms of the synergy effect of the EU structural funds on Slovak research. Bratislava Region has about 50% of the research and development capacities in Slovakia in terms of both infrastructure and human resources. The region, however, faces the same structural challenges as other regions. This setting of the operational programme prevented practices applied in neighbouring countries, namely research organizations seeking to detach their research centres or portions of them out of the region of the capital city, which were criticised by the EC.⁸

Current status of implementation of OP Research and Development in comparison with other operational programmes

In terms of implementation, OP Research and Development ranks among average operational programmes. The contracting rate was 61.30%, effected expenditures only 18.75%, and certified expenditures only at 16.53% by 31 August 2011, ranking OP Research and Development below average in terms of drawing of funds. Operational programmes with far lower contracting rate (such as OP Bratislava Region), however, have achieved a much higher implementation rate than OP R&D.

Figure 15 Implementation of structural funds (31. 8. 2011)

⁸ See e.g. Czech Republic. Evaluation of the system, administrative and external influences on the implementation of the OP RDI. Interim Report. Version to the 1th of August 2011, p. 6.



Revision of Operational Programme Research and Development

A revision of OP Research and Development was drafted by MoESRS in August 2011 and approved by the EC on 15 November 2011. The revision was made after the period covered by the evaluation but it is necessary to mention the principal changes it has brought. The changes influence attainment of measurable indicators as well as specific objectives at the level of priority axes and measures.

Based on analysis of drawing of funds under respective priority axes, which indicated a risk of failing to draw funding for priority axes 1 and 3, MA drafted a revision of OP Research and Development and internal reallocation of financial means. Another strong reason for revision of the OP was a technical modification of the programme which was related to specification of measurable indicators (a break-down by men and women) and to involvement of the OP in the JEREMIE initiative.

Reallocation of financial resources included shifting €127,500,000 from priority axis 1 Infrastructure for R&D to priority axis 2 Support to R&D (measure 2.2 Transfer of Knowledge and Technology from Research and Development into Practice), and €42,500,000 to priority axis 5 Infrastructure for Higher Education Institutions. There was a shift of €104,720,000 from priority axis 3 Infrastructure for R&D in Bratislava Region to priority axis 4 Support to R&D in Bratislava Region (measure 4.2 Transfer of Knowledge and Technology from R&D into Practice in Bratislava Region).

3. Analysis of results from survey questionnaires

Two questionnaire-based surveys were conducted by the evaluator in order to assess the effectiveness of implementation of OP Research and Development, namely:

- **Survey questionnaire for demand-oriented project beneficiaries.** The aim of the survey was to map out the satisfaction rate of beneficiaries with how OP Research and Development and its priority axes and calls were set. Another objective was to elicit experiences from beneficiaries who designed and conducted projects, identify weak points or potential risk factors which may have an impact on implementation of OP Research and Development. Questions concerned the experience of beneficiaries with the selection and attainment of measurable indicators. A portion of the questions focused on how the OP objectives were met and on cooperation between providers and beneficiaries as well as how the new operational programme for R&D support can be best set for the next programming period. The questionnaires were answered by 73 respondents and detailed results are included in Annex 1 to the Evaluation of OP Research and Development.
- **Survey questionnaire for employees of MA and ASFEU.** The objective of the survey was to find out how employees of the provider perceive achievement of the objectives of OP and its projects, how they perceive cooperation with beneficiaries, and potential reduction of administrative burden in submitting and conducting projects. There were also questions about issues of measurable indicators and public procurement. There were 86 respondents to this survey. Detailed results from the survey questionnaire are in Annex 2 to the Evaluation of OP Research and Development.

Both questionnaires were designed so as to include as many closed questions with defined answers as possible. Certain questions offered the opportunity to add one's own answer. In this way most questions could be evaluated through quantification. Open or semi-open questions were evaluated through a cluster analysis (selecting the most frequent responses or summarising various responses into a single more general response). The aim of both surveys was to identify cross-sectional problem areas and elicit recommendations for improvement.

Verification of results obtained from the survey questionnaires for beneficiaries was conducted through evaluation interviews with selected MA and IB/MA staff, primarily managers and methodologists. Most respondents displayed strong readiness to be interviewed (an interview was about 1.5 to 2 hours). An overview of interviews is in Table 3. Only one interview out of all planned interviews failed to take place.

Organization	Respondent	Date
Minedu/Structural funds section	Roderik Klinda (director general)	
MoESRS /Structural funds section	Dušan Hudec (department director), Andrea Uhrínová	27th of October 2011
MoESRS /Structural funds section	Peter Mravec (head of division)	4th of November 2011
MoESRS /Structural funds section	Ján Bruncko (department director), Miroslav Hrudkay	8th of November 2011

MoESRS/ Structural funds section	Eva Kojdiaková (department director), Rastislav Motýl, Vladimír Majer	1 st of December 2011
ASFEU	Alexandra Drgová (director general)	3rd of November 2011
ASFEU	Katarína Kellenbergerová (director of OP R&D section)	3rd and 4th of November 2011
ASFEU	Elena Pristašová (head of unit), Tibor Barna	3rd November 2011
ASFEU	Eva Bošková	15th November 2011
<i>Source: SOVVA</i>		

3.1 Main findings from survey questionnaires

3.1.1 Setting of OP Research and Development and its benefit for beneficiaries

The original considerations concerning the setting of an operational programme to support research and development were to devise an operational programme primarily to support development of infrastructure (such as purchasing instruments and equipment, building laboratories). The final version of the programme as approved in 2007, permits supporting infrastructure-only projects (priority axes 1, 3 and 5) as well as research as a process (priority axes 2 and 4). Most of the announced calls up to now were set so as to combine purchases of equipment/instruments with research (except for calls under measure 5.1). In that way aid is intended for both purchase and use of instruments. The purpose of the questionnaire included finding out the degree of satisfaction among beneficiaries with the current setting of the OP and subsequent calls. The survey indicated that an absolute majority (91.2%) of respondents believe the setting is correct. It is interesting that both the beneficiaries and providers⁹ alike agreed that purchasing new instruments/equipment, additional R&D funding and establishment of cooperation between the research and corporate sectors were a major benefit of OP Research and Development for research organizations or for Slovakia.

Designing and conducting projects also has its darker side. The beneficiaries claimed excessive administrative burden in designing and managing projects as the most significant adverse aspect. More than 94% of responding beneficiaries complained about it. Another problem is additional costs related to projects which cannot be included in eligible expenditures. Such costs include, for example, costs of preparation of a project and costs of pre-financing deliveries. That is a problem especially with reimbursements since a grant beneficiary must get money to pay for deliveries (using its own funds or with a loan) and only then can ask the provider for reimbursement. More than a third of the respondents claimed that handling a request for payment takes 4 to 6 months for acquisition of instruments or equipment. Beneficiaries estimated that additional costs of project preparation and management account for as much as 10.6% of the total amount of the grant. They

⁹ For the purposes of this section ,beneficiaries' stands for respondents to survey questionnaires for beneficiaries of demand-oriented projects, and ,providers' stands for MA or IB/MA employees.

also experienced communication problems with ASFEU and frequently diverse positions taken by its staff.

3.1.2 Achieving the objectives of OP Research and Development

Achievement of the global objective of OP Research and Development is one of the major aspects of this evaluation. The objective covers an array of areas including making research more prestigious, improving the quality of infrastructure of higher education institutions and improving the competitiveness of the Slovak economy (see Box 15). Improvement expected from the OP for the mentioned areas has not been yet reflected accordingly in macroeconomic indicators. The aim of the survey questionnaires was to evaluate how the MA and IB/MA staffs and beneficiaries see the achievement of the objectives. A comparison of responses from both respondent groups indicates that OP Research and Development contributes most to achievement of the following three objectives: modernisation and higher effectiveness of the system for R&D support; improving the quality of infrastructure of higher education institutions; and boosting the prestige of research careers. The beneficiaries believed that the OP contributes most to higher competitiveness of science teams, whereas the providers put that objective at rank 5. Both respondent groups thought that achieving objectives such as increasing the competitiveness of the economy and especially increasing the success rate of Slovak applicants in the Seventh Framework Programme and other EU initiatives is a problem. As much as 55% of the beneficiaries thought Slovakia was not succeeding in meeting that objective. On the other hand, more than 52% of the providers could not tell whether the OP is contributing to achieving that objective. The issue of a higher participation rate by Slovak scientific teams is even stronger in light of responses by both beneficiaries (more than 60%) and providers (almost 60%) who believe that OP Research and Development is set as a complementary programme to the Seventh Framework Programme and other EU programmes for promotion of R&D. There is lack of clarity in possible uses of instruments and devices purchased under OP Research and Development projects also for projects under the EU Seventh Framework Programme. The interviews with MA and ASFEU representatives indicated that the providers do not have a clear, uniform opinion on this issue.

3.1.3 Implementation of OP Research and Development

Cooperation between the designers and beneficiaries of a public policy instrument is important for its correct and successful implementation. Implementation of specific instruments such as schemes for promotion of research, development and innovation calls for intensified cooperation. For OP Research and Development, the two parties are ASFEU and MA on one hand and research organizations operating in Slovakia on the other hand. We asked both beneficiaries and providers to score mutual cooperation (1 = very good, 5 = very poor). A positive finding is that only a negligible percentage of both respondent groups perceived cooperation as very poor. The comparison between evaluations of mutual cooperation yielded an interesting finding, namely 90% of the surveyed providers evaluated cooperation with a score of 2 and 3. The score was assigned to cooperation by MA and ASFEU representatives in evaluation interviews. On the other hand, more than 35% of beneficiaries perceived cooperation as very good and another 24% assigned it a score of 2.

The grant beneficiaries under OP Research and Development frequently complain about much administrative burden in designing and implementing projects. That was reiterated in the survey questionnaires by beneficiaries of demand-oriented projects (Chapter 3.1.1 and Annex 1). All

proposed measures for elimination of excessive administrative burden (besides more general budgets) were viewed as important by beneficiaries, attributing top importance to the following measures: (i) more flexibility in project budget (permitting, for example, making notification-based shifts between budget items); (ii) simplification of personnel expenditure reporting through elimination of time recording and leaving only cumulative statements; (iii) faster handling of RfP; and (iv) elimination of the obligation to re-submit official documents that had already been submitted to ASFEU several times in a year. The MA and ASFEU staffs also suggested measures to reduce the administrative burden, attributing most importance to the following: (i) simpler forms and fewer mandatory supplements/enclosures in preparation of grant applications; (ii) faster handling of RfP; (iii) elimination of the obligation to re-submit official documents that had already been submitted to MA or IB/MA several times in a year; (iv) introducing flat rate expenditures; (v) simplification of personnel expenditure reporting through elimination of individual personnel time recording and leaving only cumulative statements. More than 16% of providers claimed, as a matter of fact, that more budget flexibility is not feasible. The evaluation interviews indicated that introducing a notification obligation to substitute for amendments to contracts would result in chaos in the documentation. There are no plans to adopt measures to simplify personnel expenditure statements since the cumulative statement is intended to prevent multiple reimbursements of the same expenditures. There is no plan to eliminate personnel time reports but possibly they will not have to be a mandatory enclosure with RfP. The documents will be archived by the beneficiary and produced for inspection on the spot. Introducing flat rate expenditures is a feasible measure but all historical data have to be collected and submitted to the EC to support the measure. Beneficiaries suggested that administrative burden can be reduced also through simpler manuals, elimination of the specific site for project implementation, and introduction of electronic submission of documents.

3.1.4 Achieving the objectives of projects

Achieving project objectives is important not only in terms of general achievement of specific objectives of measures and priority axes and the global objective of OP Research and Development, but also for assessment of the effectiveness of project support. Both respondent groups believe that project designers and implementers meet project objectives set up in submitted project proposals. Only 1.5% of beneficiaries thought they were not properly managing to achieve the project objectives and 6.2% of providers reported the same assessment. Both respondent groups agreed that the reason why project objectives are not being achieved or are being only partially achieved is public procurement and related complications.

Almost two-thirds of beneficiaries responded that their projects failed to progress as scheduled. An absolute majority of respondents identified public procurement (over 91%) as a cause of delay. Certain difficulties result also from delays due to amendments to grant contracts. Beneficiaries and providers alike claimed public procurement was a major issue causing delays in schedules. They also identified errors in RfP and delays due to amendments to grant contracts as major problems that caused delays.

Achievement of project objectives is closely related with setting up and meeting measurable indicators at a project level. The issue of measurable indicators is a complex matter since failure to meet them may result in support reduction or complete elimination of it. The projects completed so far have a 90% rate of attainment of measurable indicators. Almost 11% of beneficiaries believed the

measurable indicators had been set adequately and more than 45% believe they were set rather adequately. On the other hand, more than 37% reported that the indicators were set rather inadequately or inadequately. Only 5% of respondents from MA and ASFEU thought the measurable indicators were set adequately, more than 46% thought they were set rather adequately, and more than 13% thought they were set rather inadequately or inadequately. Both respondent groups claimed that the key problem in meeting indicators was that the first calls did not include clear definitions of indicators and the way of achieving them. The beneficiaries had no clear information about which indicators to define and at what levels. That is why beneficiaries often chose inadequate indicators or defined excessively high target values which they are having difficulty in achieving. Beneficiaries also claimed that a limited choice of indicators also was a problem as most of the indicators were input rather than output oriented.

As mentioned several times before, one of the most significant problems in project implementation is public procurement. Almost three-quarters of MA and ASFEU staff encountered difficulties in public procurement. The most disturbing issues include violation of public procurement regulations, incorrect procedures for public procurement applied by beneficiaries, procuring items in conflict with comments to grant contracts, and discriminatory conditions.

Another area contributing to delays in the schedule is RfP. As much as 53% of the surveyed beneficiaries reported RfP-related difficulties in their projects. Major problems claimed by this respondent group included excessively long checking of RfP by ASFEU, requests for documents and complementary information by RfP which went beyond the contractual relations and the Manual for Beneficiaries, and requests for more additional documents/information by RfP which had not been mentioned in the previous request for additional documents/information. The interviewed MA and ASFEU respondents claimed that the major problems were a high error rate in RfP, failure to submit necessary documents and lengthy checks of personnel expenditures. There is a two-stage control by RfP, namely first the formal aspect is checked and then the content is checked.

3.1.5 Setting up a new operational programme

The European Union is amidst its preparations for a new programming period and budget for structural policies for 2014 to 2020. The EU innovation strategy and the EU draft budget for Strategy EU 2020 indicate that on one hand, a minimum 20% of financial resources in EU structural funds should be used to support research, development and innovation, and respective support forms should be more complementary and interlinked at all levels. The idea is to have a more effective and mutually complementary interlink between R&D promotion at the European level (Horizon 2020), structural funds and national resources. Recent EC proposals suggest the less-developed regions invest a minimum of 50% of ERDF financial resources in supporting research, innovation, SMEs, energy efficiency and renewable energy resources. The future EU cohesion policy will in that way put stronger emphasis on development and building of research infrastructures for scientists.¹⁰

The Slovak Republic is in negotiations over the budget for structural funds for the upcoming programming period. Preparations are under way to set up policies in the area, and above all, to define areas to be supported. It follows from the above that there should be an operational programme (or support under a larger concentrated operational programme) in the 2014-2020

¹⁰ Factsheet: Widening participation in Horizon 2020. 30 November 2011.

programming period for support of R&D-related activities. The beneficiaries who participated in the survey suggested that the new operational programme be developed in line with the following fundamental principles:

- Have a more flexible programme than the current one, posing less administrative burden on design and conduct of projects;
- Support better targeted at infrastructure rather than research alone (approximately a 3:2 ratio);
- Research organizations in Bratislava Region should continue to have the opportunity to use structural funds to support R&D like they do now;
- Funding targeted more at smaller projects rather than at large infrastructure-related ones;
- OP intended more as a complementary scheme to EU framework programmes;
- Fewer priority areas included in the programme.

3.1.6 Conclusions and recommendations

The evaluation discussions with MA and ASFEU representatives indicated that one of the problems was that all actors were unprepared for such a large volume of funding, such as the resources available under OP Research and Development. The provider staff did have certain experience in implementation of structural funds from 2004-2006 or pre-accession assistance. However, there was very little experience with ERDF. The beneficiaries had no experience with the system and the intensity of control over provided financial resources required for EU structural funds and OP Research and Development in the current programming period. The survey questionnaires and evaluation interviews resulted in identification of the following problems in implementation of OP Research and Development:

- (i) **Administrative burden.** Beneficiaries complained about disproportionately excessive administrative burden in preparing, designing and conducting projects. Regardless of the fact that the system has been set by the Central Coordination Authority in many areas and it applies to all operational programmes, there are opportunities to reduce administrative burden at the level of OP Research and Development. For situations where the established system obviously hampers effective implementation, it is suggested the MA initiate adjustments also in the Structural Funds and Cohesion Fund Management System for 2007-2013. The current system is too rigid, causing excessive administration burden for both beneficiaries and the provider. Many administrative acts could be used or performed using a notification obligation rather than drafting supplements/amendments to grant contracts. Project budgets accompanying applications for grants must be drafted in minute detail and any subsequent budget adjustment is subjected to approval by the provider, and subsequently, a supplement to the grant contract must be signed. The procedure adds administrative burden to both parties. In the Czech Republic there is the Decision about subsidy provision instead of a Grant contract and it is permissible to modify project budgets at the lower levels, in writing and by notification. The main budget items of a project can be modified only based on a written request and with consent by the provider. A notification is sufficient to modify the budget for individual instruments/pieces of equipment not exceeding Kč.5 million. The Czech system considerably speeds up implementation of projects and reduces administrative burden for both parties. Designing and conducting projects is also

more flexible since the time elapsed from drafting an application to actual launch of the project is less than one year in many cases.

Project co-financing is yet another problem for public higher education institutions. Almost all higher education institutions have difficulties obtaining additional funding for their projects. Under the above-mentioned OP Research and Development for Innovation, public higher education institutions in the Czech Republic obtain subsidies amounting to 100% of eligible expenditures.

In light of the results of the survey questionnaires the evaluator recommends to reduce administrative burden in implementation of OP Research and Development by **waiving demanding documents from applicants and beneficiaries** which are issued by other state or public administration agencies (such as the social insurance provider, tax authorities and the like) that can be independently checked by the provider. We also recommend to recognize project preparation costs (up to certain range) to be an eligible expenditure. We also recommend **simplification of statements for personnel expenditures**, namely leaving the cumulative statements in use, and letting the beneficiary fill in work reports but not demanding that they are an integral part of RfP. Another opportunity for reduction of administrative burden related to personnel expenditures is to stop requesting filling in and submission of time recording worksheets for researchers and other staff working full time on the project. In order to accelerate drawing of funds, we recommend more extensive use of **pre-financing and advance payment in the public sector**.

- (ii) **Provider – beneficiary cooperation.** Regardless of perceptions of cooperation as good or average by both beneficiaries and staff of MA and ASFEU, there are certain problems. Beneficiaries mostly complained that they have to produce documents beyond what is required under the Manual for Beneficiaries and Grant Contract. The Manual for Beneficiaries was last amended on 1 June 2010 and version 3.0 has many provisions which are no longer valid. It is important for beneficiaries to have a manual with all needed and, albeit, valid up-to-date information in order to avoid many misunderstandings between providers and beneficiaries. Likewise, the provider should obligate the beneficiary to submit information and/or documents specified in the manual. The current system, with its myriad guidelines, is rather confusing. The area of information and publicity is an example. The area is regulated and covered in four documents, namely the Terms and Conditions of the Grant Contract, Manual on Information and Publicity, Guideline for Beneficiaries concerning implementation of information and publicity-related measures in OP Research and Development, and finally, in the Manual for Beneficiaries. We recommend that the MA **amend the Manual for Beneficiaries**. The manual should be better structured (with chapters, headings, sections, subsections) and serve as a document where beneficiaries can find all information and instructions needed for project implementation. Another problem which surfaced from the survey is that ASFEU staff does not give clear and unambiguous answers to questions asked by beneficiaries. For that reason we recommend an annual **questionnaire-based evaluation of cooperation**, in which beneficiaries can identify and draw attention to trouble areas. We also recommend introducing a **system** permitting beneficiaries **to evaluate answers to their questions and inquiries** which they obtained from staff of the provider. Beneficiaries can have an opportunity to evaluate the quality and relevance of answers and managers can have a better idea of their standard in provision of information.

(iii) Requests for payments

The survey questionnaires indicated that one of the issues causing delays in project implementation are RfP control and reimbursement. Beneficiaries complained that checking of RfP takes too long and they are asked to submit documents and additional information beyond what is specified in their contracts and the Manual for Beneficiaries. Beneficiaries also claimed they had an impression that demands for additional documents and/or information were made only to extend the time available for checking them. On the other hand, respondents from the MA and ASFEU claimed a high error rate in RfP and a frequent need to request documents. The control of RfP is now made in two steps, namely the formal aspect is checked first, followed by a check of the content. When the formal check reveals errors, the provider asks the applicant to add what is missing and only then the content is examined. That procedure stretches the time of RfP handling and reimbursement and for that reason the evaluator recommends to **combine both checks into a single step**.

(iv) Measurable indicators. Measurable indicators are the basic tool for monitoring the attainment of objectives specified in RfP used under the current system of structural fund and cohesion implementation. Measurable indicators are intended to help assess cost-efficiency, effective and efficient use of funds allocated under a specific OP, priority axes, measures and projects. Failure to attain the target indicators of a project may result in reduction in all expenditures or even cancelation of a grant contract by the provider and recovery of all provided financial resources. An essential problem was identified, namely the first calls did not give clear information regarding the way of meeting the indicators. Many beneficiaries set very high target indicators for their projects and then experience difficulties in attaining them in the final stages. In addition as the measurable indicators are set now, they focus more on input indicators than output indicators. The problem is that the levels of indicators, as they had been set by the applicants in grant applications, cannot be modified even if the evaluation resulted in reductions in the requested grant. Target indicators can be modified only in two cases, namely the women-men indicator ratio and the total amount in indicators such as the volume of financial resources for environmental projects. In light of the results from the surveys it is recommended that the provider **clearly defines all measurable indicators** and the way of documenting their attainment and assessment and gives applicants information about the way of their attainment as early as when the call is made.

(v) Use of instruments/equipment for other projects. The participation rate of Slovak research organizations in the EU 7th Framework Programme is very low (Chapter 2.5). The survey questionnaires revealed that both beneficiaries and MA and ASFEU think that the objective of OP Research and Development, inter alia, also includes a higher success rate of use of the instrument by Slovak applicants that is not being achieved. One of the essential problems identified is the use of instruments/equipment purchased under projects funded from OP Research and Development in projects under the EU 7th Framework Programme. The evaluator has not obtained a clear answer to this question in the evaluation interviews, as about half of the interviewed persons claimed that the rules do not allow it. A review of the issue found that this kind of ban is not mentioned in EU directives or regulations, nor is it mentioned in Slovak implementation documents. In addition that kind of ban is against the complementarity principle in use of EU structural funds for R&D and the 7th Framework Programme. For that reason, we recommend that the provider **issues a clear decision** saying

whether beneficiaries are allowed to use equipment/instruments purchased under OP Research and Development in projects under the 7th Framework Programme and possibly under what conditions.

(vi) Public procurement. The public procurement system under OP Research and Development, as well as the responsibilities of MA and, subsequently ASFEU, result from the Management System of Structural Funds and Cohesion Fund for the Programming Period 2007-2013.¹¹ MA is responsible for checking whether a public procurement is in accordance with the grant contract, equal treatment of bidders, transparency, cost-effectiveness and effectiveness. The check is conducted in two steps, namely one before the evaluation of bids was concluded but before a contract is signed, and after signing of the contract. When there are supplements, before signing the contract supplement and after signing the contract supplement. The evaluation interviews showed that public procurement-related problems mostly occurred at the beginning of implementation of OP Research and Development and still occur up until now. The most frequent errors made by beneficiaries are in definition of the subject of procurement in line with the grant contract and discriminatory conditions. That happened primarily because beneficiaries had little experience with public procurement. Public procurement is the cause of an absolute majority of delays in project time schedules. The principal issue identified is the Act on Public Procurement. On one hand, the act obliges beneficiaries to procure cost-effectively, but on the other hand, application of that principle may result in procuring poor quality instruments/equipment for R&D. Another problem is frequent amendments to the act, with seven amendments in 2011 alone. Public procurement is the most significant issue causing delays in projects and extensions of schedules. Our recommendation is for MA and ASFEU to focus more attention to this area, also bearing in mind the last calls under preparation whose projects may be at risk of not drawing the financial resources as planned.

¹¹ Management System of Structural Funds and Cohesion Fund for Programming Period 2007–2013. Version 4.4, Chapter 4.2.3, (49-84)

4. Implementation of OP Research and Development

4.1 Implementation of measure 1.1 Modernization and building of technical infrastructure for research and development

Priority axis 1, infrastructure for research and development, is implemented through one measure, 1.1 Modernization and building of technical infrastructure for research and development. The aim of the support was mainly to modernise the research infrastructure and equipment of research organizations, upgrade research infrastructure with emphasis on interdisciplinary projects (involving the academic and the private sector), and building and upgrading of ICTs. The research and development priority axis covers the entire territory of the Slovak Republic with the exception of Bratislava Region. National projects are implemented through the MA, and demand-oriented projects are implemented through the ASFEU.

Box 1 Specific objective of the priority axis 1 and specific objective of the measure 1.1.

Modernisation and improvement of quality of technical infrastructure for research and development in 2007-2013 with a view to increase the ability of research and development institutions to efficiently cooperate with renowned research institutions in the EU and other countries, as well as with entities of the social and economic practice through the transfer of knowledge and technologies.

The total financial allocation for priority axis 1 was €310,962,416 (of which €264,318,054 was from the ERDF). The revision of OP Research and Development approved by the European Commission in November 2011 led to the re-allocation of funds within individual priority axes. Therefore, the total allocation for priority axis 1 was reduced to €110,962,416 (of which €94,318,054 was from the ERDF). Before the re-allocation, measure 1.1 combined with measure 2.2., Transfer of knowledge and technology from research and development into practice, was the largest instrument for implementing OP Research and Development (21.86% of the total allocation); however, after the re-allocation this share dropped to 7.8%.

Box 2 Framework activities of the measure 1.1.

1.1.1.	Modernisation of research and development infrastructure and equipment of higher schools, research institutions, research centres and other research and development organisations.
1.1.2.	Support of research infrastructure in areas of strategic importance for further development of the economy and the society (12 topical priorities of research and development, needs of key industrial sectors of Slovakia, increase of the standard of living and the need for sustainable economic growth), with emphasis placed on interdisciplinary projects involving several education or research institutions and joint research centres with the involvement of the academic and business sectors.
1.1.3.	Modernisation, building and sustainable development of ICT infrastructure of research and development in research and development centres, including the support to broadband networks between top research and development organisations.

4.1.1 Published calls for proposals

No call for demand-oriented projects was launched during the period under review. According to the MA, this was due to the approach that was applied with respect to the overall implementation of OP

Research and Development by the previous management of the MoESRS, in which the main focus of implementation was to be placed on priority axis 2, while funds for priority axis 1 were to be used only later.¹² Consequently, measure 1.1 was implemented only through two national projects, one selected by direct award and the other by invitation to tender.

Infrastructure for research and development – Data centre for research and development (OPVaV/K/RKZ/NP/2008-2)

The project was selected by direct award announced on 1 December 2008. It was implemented as a mirror project under two measures – measures 1.1 and 3.1. The total amount of the grant under both measures is €33,133,963.58, of which €19,959,916.39 is the amount of funds contracted under measure 1.1. The project leader is the Centre for Scientific and Technical Information of the Slovak Republic (“the CVTI SR”, hereinafter). Eligible framework activities are activities 1.1.1 and 1.1.3. (Box 2).

Slovak infrastructure for high performance computing (OPVaV/K/RKZ/NP/2009-1)

The project was selected on the basis of invitation to tender published on 28 May 2009. The total amount of the grant for the project, implemented as a mirror project under measures 1.1 and 1.3, is €25,965,000. The amount of funds contracted for measure 1.1 is €13,280,750. The project leader is the Computer Centre of the Slovak Academy of Sciences (“SAS” hereinafter). Eligible framework activity is 1.1.3 (Box 2).

Summary of calls under measure 1.1

The total amount of contracted funds for both national projects is €33,240,666.39; the amount of grants disbursed as of 31 December 2010 was €7,050,502.52, i. e. 21.21% of total contracted grants. After the revision of OP Research and Development, the 10.69% share of contracted grants in the total allocation for measure 1.1 grew to 29.96%. Disbursed funds represented 2.27% of the total allocation; after the revision of OP Research and Development, their share grew to 6.35%. Total disbursements amounted to €7,050,502.52.

An open call for demand-oriented projects with the overall financial allocation of €65,000,000 was launched on 17 October 2011. The call was aimed at promoting investment in technical equipment, instrumentation and laboratory equipment. Considering the total allocation and the minimum (€1,500,000) and maximum (€3,000,000) grant per project, available funding can be expected to cover a maximum of 22 to 24 projects. The call covers only one eligible framework activity – 1.1.1.

Measure 1.1 is being currently implemented mainly through framework activities 1.1.1 (one national project) and 1.1.3 (both national projects); after the closure of the on-going call, it will be implemented mainly through framework activity 1.1.1. The measure will not be implemented through framework activity 1.1.2.

4.1.2 Measurable indicators

Two comparison levels will be considered in the evaluation of the fulfilment of objectives using measurable indicators. On the one hand, it will be the rate of attainment of initial objectives set for the period under review and, on the other hand, the fulfilment of measurable indicators whose target values had changed as a consequence of the revision of OP Research and Development.

¹² Annual Report on Implementation of OP Research and Development for 2010, p. 55.

The current status of measurable indicators as of 31 December 2010 is presented in Table 4. The only indicator that is being fulfilled is “Number of R&D institutions whose technical value was increased”; this indicator has been fulfilled at 14.29% compared to 5% before the reallocation. The revised target value (14) of this indicator is expected – also in view of the recently launched call for demand-oriented projects – to be attained at more than 100%.

The remaining eight indicators can be divided into three categories: (i) indicators that will be attained, (ii) indicators whose attainment is at risk and (iii) indicators whose attainment is not likely.

The indicator that can be included in the first category is the “Percentage of funding for implementation of environmental projects out of the total allocation (for the OP)”. To reach the target value, the value of contracted projects should be at least €2.85 million, which is achievable under the current call. It will probably also be possible to reach the target value of the indicator of “Percentage of funding for implementation of projects covering public health issues out of the total allocation (for the OP)” (contracted funds must amount to at least €7.11 million).

The indicators that can be included in the second category are “Number of projects dealing with environmental issues” and “Number of projects dealing with public health issues” with target values of 4 and 7, respectively. Because of the focus of the demand-oriented call, there is a certain risk that the indicator “Number of researchers professionally benefiting from the assistance provided” will not be attained.

The indicator that belongs to the third category is “Number of EPO patent applications”. Given the nature of projects (both national and demand-oriented), it is highly unlikely that the target value of 9 patents will be attained. Another at-risk indicator is “Number of publications in professional journals” with the target value of 25. For the same reasons, it will probably not be possible to reach the target value of the measurable indicator “Number of jobs created in research”.

In the current situation, assessment of the fulfilment of measurable indicators broken down into men and women is not possible.

Table 4 Indicators at the level of the measure 1.1								
Indicator	Type of indicator	Unit of measure	Baseline (2007)	Target	Target after OP R&D revision	Result achieved	Ratio result achieved/ target	Ratio result achieved/ target after OP R&D revision
1. Number of researchers professionally benefiting from the support provided	Output	number	0	3400	1214	0	0,00%	0,00%
1a. Number of researchers professionally benefiting from the support provided-women	Output	number	0	1700	607	0	0,00%	0,00%
1b. Number of researchers professionally benefiting from the support provided-men	Output	number	0	1700	607	0	0,00%	0,00%
2. Number of publications in professional magazines	Result	number	0	145	52	0	0,00%	0,00%
3. Number of R&D institutions technically appraised	Output	number	0	40	14	2	5,00%	14,29%

4. Number of jobs created for researchers	output/core	number	0	130	46	0	0,00%	0,00%
4a. Number of jobs created for researchers - men	output/core	number		65	23	0	0,00%	0,00%
4.b Number of jobs created for researchers - women	output/core	Number	0	65	23	0	0,00%	0,00%
<i>Source: Annual Report on Implementation of OP Research and Development for 2010</i>								

Table 5 Evaluation at the level of the measure 1.1 – projects							
Call Code / Reg. no. or code of TA Notice / Written Invitation	Publication date of call/Completion date of call	Eligible applicants	Number of the applications for grant	AfNFCs approved	Number of projects contracted	Ratio contracted/Number of the applications for grant	Number of projects completed
1.1/2008-2	1.12.2008-2.3.2009	CVTI SR	1	1	1	100,00%	0
1.1/2009-1	28.5.2009-31.8.2009	Computer Centre of the SaS	1	1	1	100,00%	0
Total			2	2	2	100,00%	0

Source: Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008

Table 6 Evaluation at the level of the measure 1.1 – financing (€)								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Funds allocation for call	Amount of contribution requested	Amount of contribution approved	Amount of contribution contracted	Ratio requested/allocation for call	Ratio contracted/requested	Drawing	Ratio drawing/contracted
1.1/2008-2	19 996 033,49	19 996 030,33	19 959 916,39	19 959 916,39	100,00%	99,82%	7 044 332,44	35,29%
1.1/2009-1	13 298 652,03	13 330 750,00	13 280 750,00	13 280 750,00	100,24%	99,62%	6 170,08	0,05%
Total	33 294 685,52	33 326 780,33	33 240 666,39	33 240 666,39	N/A	99,74%	7 050 502,52	21,21%

Source: Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008

4.1.3 Conclusions and recommendations on measure 1.1

Because the demand-oriented call was launched only as recently as October 2011, during the period under review the measure was implemented only through national projects. No call for demand-oriented projects was published during the period under review and the disbursement rate is thus very low (1.93% of the total allocation). Also for this reason, the MoESRS re-allocated funds from this measure to measures 2.2 and 5.1; the resulting increase in the utilisation rate was, however, only moderate – by 5.40%. Given the current status of the implementation of measure 1.1, there is a real risk that 3 of the 9 target values of measurable indicators will not be attained; moreover, it is quite certain that the target values will not be reached for another three of them. The risk that the entire allocation for this priority axis will not be utilised is very low; this is also due to the setting of the current call (especially the purchase of instruments) and maximum duration of projects (18 months). Certain risks could arise as a result of delays in project implementation schedules due, for instance, to the cancellation of public procurements. No major problems have been encountered in the implementation of national projects. The implementation of these projects is on track and the defined objectives are being achieved on an on-going basis.

Based on the above, it is possible to conclude that considering the current state of implementation, the specific objective of measure 1.1. (Box 1) is not being attained. Moreover, due to the reallocation of funds, it will be attained only partially also at the end of the current programming period. Yet this was the measure that was intended to serve as a key instrument for building quality infrastructure and, consequently, for improving the potential of Slovak research teams to join the European research programmes.

The evaluator recommends that the further implementation of measure 1.1 be focused mainly on the full utilisation of remaining funds allocated for the measure. In view of the impending termination of the programming period, it is recommended to speed up the selection process relating to call OPVaV-2011/1.1/01-SORO. It is recommended that adequate project implementation support be provided to the beneficiaries by the ASFEU, especially in relation to public procurement.

4.2 Support of networks of excellence in research and development as the pillars of regional development and support to international cooperation

Priority axis 2, Support to research and development, is implemented through two measures – 2.1, Support of networks of excellence in research and development as the pillars of regional development and support to international cooperation, and 2.2, Transfer of knowledge and technologies from research and development into practice.

Unlike in measure 1.1., support provided under measure 2.1 should be directed towards research as a process, mainly in the form of cooperation at the international, national or regional level. Investment should be channelled to human capital and to inducing the return of researchers working abroad. A detailed description of framework activities is given in Box 4. No national projects were implemented under this measure; demand-oriented projects are implemented through the ASFEU. From the geographical perspective, eligible regions are all regions of the Slovak Republic except for Bratislava Region.

Box 3 Specific objective of the priority axis 2 and specific objective of the measure 2.1.

Improving the efficiency of the system for the support of research and development so that it contributes to the growth of competitiveness, redressing of regional disparities, creation of new innovative (high tech) small and medium-sized enterprises and jobs creation.

Increase the quality of research organizations and support to excellent research activities with emphasis placed on areas of strategic importance for the further development of the economy and the society.

The total financial allocation for priority axis 2 was €466,443,624 (of which €396,477,080 was from the ERDF). As a consequence of the revision of OP Research and Development, this allocation was increased to €616,443,624 (of which €523,977,080 was from the ERDF), representing 43.42% of funds available for activities under OP Research and Development. No reallocation of funds took place under measure 2.1. The budget remained at the initial level of €155,481,207.

Box 4 Framework activities of the measure 2.1.

2.1.1.	Support to exchange and joint research programmes carried out by Slovak R&D and educational institutions in cooperation with renowned foreign R&D institutions.
2.1.2.	Support of important research and development projects in areas of strategic importance for the further development of the economy and the society (12 research and development priorities of Slovakia, needs of key industrial sectors of Slovakia, increase of the standard of living and the need for sustainable economic growth).
2.1.3.	Support of cooperation between regional structures and research and development organizations, including cooperation between research and development institutions and secondary schools
2.1.4.	Support of international cooperation in the area of research and development
2.1.5.	Support of the return of Slovak scientific workers (including graduates and post-graduates) working abroad to Slovakia
2.1.6.	Support of human resources in areas of strategic importance for the further development of the economy and the society

4.2.1 Published calls for proposals

As of 30 June 2011, three calls were launched with a total allocation of €155,691,442.21. The first call was launched in May 2008 and the last in July 2009.

Call OPVaV-2008/2.1/01-SORO

The call was aimed at establishing centres of excellence. The submission period for grant applications was 20 May 2008 to 25 August 2008. The total financial allocation for the call in the amount of SKK 1 billion (€33,193,918.87) was subsequently raised to SKK 1.026 billion (€ 34,056,960.76). Eligible were two framework activities – 2.1.1 and 2.1.2 – and each project was required to include activities related to building and modernising ICTs and ICT networks. Research organizations filed a total of 55 applications, 14 of which failed to meet formal criteria; all the remaining 41 applications complied with professional criteria and the selection committee recommended granting funds to 28 projects. The success rate for the call was 50.91%. The amount of requested funding exceeded the financial allocation by 92.18%. The total amount of contracted funds was €33,519,725.63. The 51.21% share of contracted funds in the total amount of requested grants demonstrates the great interest of researchers in this call. The average amount of grants awarded per one project was €1,197,133.06.

Total funds disbursed as of 30 June 2011 amounted to €21,805,813.80, i. e. close to two-thirds of all contracted funds.

Call OPVaV-2009/2.1/02-SORO

The call was aimed at further expansion of the already existing centres of excellence approved under the previous call. The pool of eligible applicants was thus limited to 28 successful applicants from the first call for proposals on centres of excellence. The call was published on 27 February 2009, and the closing date for the submission of projects was 1 June 2009. The total financial allocation was €8,300,000. Eligible activities were activities 2.1.1, 2.1.2 and 2.1.4. The total budget for 28 submitted projects was €69,960,095.02 (120% of the total allocation). Four projects did not meet formal requirements; the selection committee recommended granting funding to 22 projects (78.57% success rate). The amount of funds for contracted grants was €56,039,513.24 (80.10% of total requested funds). Average funding per project was €2,547,250.60. The disbursement of funds in the amount of €7,103,793.03 represents 12.68% of total contracted grants. The average grant per project is €2,547,250.60.

Call OPVaV-2009/2.1/03-SORO

Like in the two previous calls, the aim of the last call was to provide support to the centres of excellence. Grant applications had to cover framework activities 2.1.1 and 2.1.2 subject to the requirement that projects could not be related to the same field of science or technology as those supported under call OPVaV-2008/2.1/01-SORO. The project submission period was 30 July 2009 to 18 November 2009. With the allocation of €63,334,481.45, this was the biggest call under measure 2.1. The call evoked a very high interest among researchers who filed 56 applications amounting to a total of €193,203,167.34. The interest shown by researchers was thus three times higher than the financial envelope for the call. Seventeen applications failed to meet formal or professional selection criteria; from among the remaining 39 applications, the selection committee approved 17 projects which were awarded a total of €62,965,839.47 (32.59% of total requested funds). The average grant per project was € 3 03 872.91. The disbursement rate was 0.14% of total contracted grants (€86,417.81).

Summary of calls under measure 2.1

The overall success rate of applicants in measure 2.1 is 48.20%, i. e. the funding was granted for almost every second grant application. The success rate was affected especially by the second call, which was opened only for successful applicants from the first call. The interest in the implementation of projects under measure 2.1 was more than twice as high as the financial allocation for the measure: requested grants amounted to €328,612,555.92. The total amount of contracted funds was €152,525,078.34; i. e. the average budget per project was €2,276,493.71. Of the total allocation of €155,481,207 for measure 2.1, 98.10% was contracted and the amount of actually disbursed funds as of 30 June 2011 was 18.65% (€28,996,024.64).

Measure 2.1 is implemented mainly through framework activities 2.1.1 and 2.1.2, which were eligible under all three calls, and partly also through framework activity 2.1.4 which was eligible under the second call. On the other hand, framework activities 2.1.3, 2.1.5 and 2.1.6 do not contribute to fulfilling the objectives of measure 2.1 in any manner, since they had not been included among eligible activities under any measure. The measure is thus implemented mainly in the form of

support to projects in the area of strategic importance for the Slovak economy and society and in the form of enhancing the international dimension of Slovak science.

4.2.2 Measurable indicators

The progress attained towards meeting measurable indicators can be evaluated on the basis of monitoring reports and data in the ITMS, which form the basis of annual reports on the implementation of OP Research and Development, and of half-yearly monitoring reports presented by SORO. The current rate of fulfilment of measurable indicators can serve as the basis for assessing not only the present state of attaining the target values, but also for forecasting the development and probability of their attainment.

The state of attainment of measurable indicators for measure 2.1 is shown in Table 7. The majority of indicators have already surpassed the target values. By the end of 2013, the target value of indicators “Number of publications in professional journals” and “Number of researchers professionally benefiting from the assistance provided” will be exceeded several times over.

The indicator “Number of jobs created in research” presents the sum of impact indicators; it will be attained only gradually. Considering the target values defined in the projects, it can be realistically expected that this indicator will be fulfilled without major problems. Since there are no more calls planned under measure 2.1, the target value of indicator “Number of projects supporting networks of research and development centres” will not be reached and the present value of 67 can be considered as final. The indicator was thus fulfilled at 26.80%.

Table 7 Indicators at the level of the measure 2.1						
Indicator	Type of indicator	Unit of measure	Baseline (2007)	Target	Target after OP R&D revision	Result achieved
2.2.1.1 Number of publications in professional magazines	result	number	0	70	1 075	1536,28%
2.4.1.2 Number of jobs created for researchers	output/core	number	0	65	0	0,00%
2.1.1.3 Number of researchers professionally benefiting from the support provided	result	number	0	1700	1844	108,47%
2.3.1.4 Number of R&D institutions technically appraised	result	number	0	20	23	115,00%
2.5.1.5 Number of projects promoting R&D workplace networks	result	number	0	250	67	26,80%

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8

Table 8 Evaluation at the level of the measure 2.1 – projects								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Publication date of call/Completion date of call	Eligible applicants	Number of the applications for grant	AfNFCs approved	Number of projects contracted	Ratio contracted /Number of the applications for grant	Number of projects completed	Call Code / Reg. no. or code of TA Notice / Written Invitation
OPVaV-2008/2.1/01-SORO	20.5.2008-25.8.200	Public HEI, state HEI, SaS, organizations conduct research and development establish by central public administration authorities, NGOs.	55	28	28	50,91%	0	0
OPVaV-2009/2.1/02-SORO	27.2.2009-1.6.2009	Only holder of AfNFCs from call for proposals OPVaV-2008/2.1/01-SORO.	28	22	22	78,57%	0	0
OPVaV-2009/2.1/03-SORO	30.7.2009-18.11.2009	Public HEI, state HEI, SaS, organizations conduct research and development establish by central public administration authorities, NGOs.	56	17	17	30,36%	0	0
Total			139	67	67	48,20	0	0

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8

Table 9 Evaluation at the level of the measure 2.1 – financing (€)								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Funds allocation for call	Amount of contribution requested	Amount of contribution approved	Amount of contribution contracted	Ratio requested/allocation for call	Ratio contracted/requested	Drawing	Ratio drawing/contracted
OPVaV-2008/2.1/01-SORO	34 056 960,76	65 449 293,56	33 846 725,54	33 519 725,63	192,18%	51,21%	21 805 813,80	65,05%
OPVaV-2009/2.1/02-SORO	58 300 000	69 960 095,02	56 071 354,97	56 039 513,24	120,00%	80,10%	7 103 793,03	12,68%
OPVaV-2009/2.1/03-SORO	63 334 481,45	193 203 167,34	62 973 014,98	62 965 839,47	305,05%	32,59%	86 417,81	0,14%
Total	155 691 442,21	328 612 555,92	152 891 095,49	152 525 078,34	211,07%	46,41%	28 996 024,64	19,01%

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8

4.1.3 Conclusions and recommendations on measure 2.1.

The funds contracted under the three calls for proposals represent 98.10% of the total allocation for measure 2.1. No further calls are envisaged. The overall success rate of applicants reached the level of 48.20% and, as of 30 June 2011, the rate of disbursement of grants was 18.65%. The calls were met with great interest by the scientific community (only a 30.36% success rate in the third call). On the other hand, given the fact that the grants were awarded for the purpose of establishing centres of excellence, the average amount of grant per project is disproportionately low (€2,276,493.71). The main problem consisted in the setting up of this measure, which reflected the decision of the MoESRS to support the creation of a disproportionately high number of centres of excellence with relatively low budgets. Thus, a total of 45 centres of excellence were supported under measure 2.1 (28 under the first and 17 under the second call). Support for an additional 22 centres of excellence in Bratislava Region was granted under measure 4.1. This means that support from OP Research and Development was provided for the creation and operation of 67 centres. Moreover, the centres of excellence selected in the first call received the funding *de facto* in two rounds, and as many as six centres that were successful in the first round did not qualify for support in the second call. The consequence of this procedure used to select the centres of excellence was an increased administrative burden for both the provider and the beneficiary. Moreover, on the one hand, it contributed to delays in the implementation of priority axis 1 and, on the other hand, it resulted in the creation of an unreasonably large number of excellence centres with very low budgets. On average, support per one centre of excellence amounted to €3,389,446.19, while the budgets for setting up and running excellence centres in Europe represent a multiple of this amount. For example in the Czech Republic, 33 projects for the creation of regional research and development centres, supported under its OP Research and Development, were granted a total of €666,000,000 (more than €20 million per project).

In 2007, the Slovak government approved 12 relatively wide-ranging substantive priorities of research and development set out in the Long-Term Vision of National Science and Technology Policy till 2015. In addition to supporting research and development from national sources, the aim of these priorities was to draw on EU structural funds under OP Research and Development, namely for i) modernization of technical infrastructure; ii) networking of the centres of excellence; iii) transfer of knowledge to practice. According to the prevailing opinion expressed in the discussions concerning the system of support for the centres of excellence held in 2008, support should be given to a broad range of disciplines. This means that it should not be limited to centres of excellence in 12 priority areas, but should extend to up to 50 scientific disciplines. The aim of this approach, applied by the political leadership of the Ministry of Education, was to identify top scientific teams in the Slovak Republic. However, from the evaluator's perspective, it led to a further fragmentation of research and development. The real benefit of the centres of excellence for research and development can be assessed only after the projects have been completed and finalised, especially regarding their long-term sustainability.

Box 5 Building centres of excellence in Finland and Austria

The approach to the building of centres excellence was more cautiously in other EU countries. In Finland government established in first phase 12 CE in 1995.¹³ More CEs were established

¹³ Centres were financed from the state budget and not from structural funds of the EU.

continuously. After certain time was established international peer review. The members of peer review propose funding on next years. Government decided to continue in support of building CEs and created the six-year centres of excellence programme launched by the Academy of Finland in 2000 involves 26 units in different research fields.

In Austria were in 1992 established the Special Research Programs (Spezialforschungsbereiche, SFB). From these programs receivers can obtain financial support on creation CEs. CEs were established continuously. In the first eight years of programs were established 16 centres. Interim evaluations of a SFB are organised after three and six years. The reviewer panel consists of 5-10 international experts. The SFB provides a written progress report and a proposal for the funding of the next three-year period.¹⁴

Even though no project was completed during the period under review, a conclusion can be made that the target values of measurable indicators of measure 2.1, with the exception of indicator “Number of projects supporting networks of research and development centres”, will be fulfilled at more than 100%; the target value for some of them will be exceeded several times over. This is evident especially in the case of the measurable indicator “Number of publications in professional journals”.

Based on the above, it can be stated that the specific goal of measure 2.1 (Box 4) is being gradually fulfilled. However, since the support was directed towards as many as 45 centres of excellence, the emphasis was not placed only on areas of strategic importance for further development of the economy and society. In the future, it will be necessary to better focus on creation of a critical mass (equipment, human resources) and its concentration in less, really excellent centres that are competitive especially at the European level. A persistent problem in Slovak science is still the unstable situation of scientists (see Chapter 2.2). In spite of this problem, no call was aimed at supporting activities that would foster the development of human resources, or at creating appropriate conditions to encourage Slovak scientists working abroad to return to Slovakia, though they could improve the quality of research in Slovakia.

4.3 Implementation of measure 2.2 Transfer of knowledge and technologies obtained in research and development into practice

Support provided under measure 2.2, Transfer of knowledge and technologies obtained in research and development into practice, was intended to promote the creation of incubators, applied research, technology transfer, protection of intellectual property, and establishment of regional centres. A comprehensive description of framework activities is provided in Box 6. Measure 2.2 is implemented through national projects (MA) and demand-oriented projects (ASFEU). Eligible regions are all regions in the Slovak Republic, except for Bratislava Region.

Box 6 Specific objective of the priority axis 2 and specific objective of the measure 2.2

Improving the efficiency of the system for the support of research and development so that it contributes to the growth of competitiveness, redressing of regional disparities, creation of new

¹⁴ Ulla Malkamäki, Tuula Aarnio, Annamajja Lehvo & Anneli Pauli, Centre of Excellence Policies in Research Aims and Practices in 17 Countries and Regions. Academy of Finland 2/01, Helsinki 2001.

innovative (high tech) small and medium-sized enterprises and jobs creation.

Increase the level of cooperation of R&D institutions with the society and economy through the transfer of knowledge and technology, thereby facilitating economic growth of the regions and of the whole Slovakia.

As a consequence of the revision of OP Research and Development, the initial allocation of €310,962,417 for measure 2.2 was increased to €460,962,417; this represents close to one-third of all financial resources allocated for research and development support from structural funds in the Slovak Republic during the current programming period.

Box 7 Framework activities of the measure 2.2.

2.2.1.	Raising innovation culture in the academic sector by incubators
2.2.2.	Support to applied research and development
2.2.3.	Improving the quality of internal management of transfer of knowledge and technology from the academic sector into practice, including activities aimed at eliminating the barriers between research and development on the one hand and the society and economy on the other
2.2.4.	Increased use of intellectual property rights by research and development organisations from the academic sector
2.2.5.	Building of and support to regional centres

4.3.1 Published calls for proposals

As of 30 June 2011, a total of seven demand-oriented calls and three national projects (two in the form of direct awards and one in the form of a written invitation to tender – JEREMIE) were published under measure 2.2. As of the date of evaluation of OP Research and Development, projects were contracted under the first five calls. In case of call OPVaV-2010/2.2/06-SORO, contracts were awarded only as late as July 2011. Grant applications submitted in response to call OPVaV-2010/2.2/07-SORO are currently under evaluation. This is why the financial allocation for this call has not been included in the evaluation of the overall success rate.

OPVaV-2008/2.2/01-SORO

The call was aimed at providing support to applied research and development and to technology transfer. The period for submitting grant applications was 28 November 2008 to 2 March 2009. Eligible framework activities covered by the call were activities 2.2.2, 2.2.3 and 2.2.4. Of the total number of 98 applications, 62 met formal requirements and 57 fulfilled also professional criteria. Since the initial allocation for the call in the amount of €9,958,175.66 would cover funding for only 22 projects, the MA decided to increase the allocation to €24,601,373.66. As a result, the selection committee recommended to award contracts to all 57 grant applications. Two applicants withdrew from contracting. The success rate thus reached the level of 56.15%. The demand for funding exceeded the allocation by more than 170% and, regarding the initial allocation, by as much as 420.80%. The total amount of contracted funds was €21,945,433.40, i. e. 52.37% of total requested funds. The average amount of grant per project is €399,007.88. The amount of funds disbursed as of 30 June 2011 was €6,320,819.03 (28.80% of total contracted funds).

OPVaV-2009/2.2/02-SORO

In the second call, support could be sought only by applicants whose projects involved applied research and development and transfer of technologies in the area of energy and power engineering. The call was launched on 30 March 2009 and the deadline for submitting grant applications was 3 August 2009. The eligible activity was framework activity 2.2.2. The amount of the total allocation was €30,000,000; the amount of 11 submitted grant applications was €48,098,499.94, i. e. 160.33%. In the selection procedure, approvals were granted for five applications; however, since one applicant withdrew from contracting, the total number of approved projects was four (36.36% success rate) with the amount of €17,109,117.08 (35.57% success rate). The average grant per project was €4,277,279.27. The amount of disbursed funds as of 30 June 2011 was €607,116.70 (3.55% of all contracted funds).

OPVaV-2009/2.2/03-SORO

The call was aimed at providing support to applied research and development and to technology transfer for natural and legal persons holding business licenses and carrying out research and development activities (the State aid scheme). The project submission period was 28 April 2009 to 10 August 2009. The eligible framework activity was activity 2.2.2. The total budget was €40,000,000; out of 68 submitted grant applications, the selection committee chose 30; contracts were awarded to 25 projects, amounting to a total of €31,328,791.50. The success rate of projects was 36.76%. Requests for funding exceeded the allocation for the call by 224.06%. The average budget per project was €1,253,151.66. The amount of disbursed funds as of 30 June 2011 was €819,061.19 (2.61% of all contracted funds).

OPVaV-2009/2.2/04-SORO

The fourth call was launched under measure 2.2 on 30 October 2009; the deadline for submission of grant applications was 8 February 2010. The financial allocation per call was €30,000,000. The eligible activity was framework activity 2.2.2. The interest of applicants in the call was higher than in all previous calls: the ASFEU received 146 grant applications with a total value of €118,227,900.74 – almost quadruple the total allocation. 120 applications complied with formal criteria and 112 applications also met professional criteria. The selection committee subsequently approved 35 projects (23.97% success rate) with a total value of €29,810,788.79 (25.21% success rate). The average grant per project was €851,736.82. The amount of disbursed funds as of 30 June 2011 was €52,411.90 (0.18% of all contracted funds).

OPVaV-2009/2.2/05-SORO

The fifth call published on 21 December 2009 was aimed at the provision of support to research centres (the State aid scheme); eligible applicants were natural and legal persons holding business licenses and carrying out research and development activities. The deadline for submitting grant applications was 19 April 2010. The eligible activity was framework activity 2.2.2 – support to applied research and development. The total budget for the call was €45,000,000. The same as the preceding call, this call evoked great interest, although the success rate of applicants in terms of awarded projects was slightly lower than in the preceding call – 23.75%. The 80 submitted grant applications had a total value of €174,438,535.97 (387.64% of the allocation). The financial value of contracted grants was €43,656,196.74 (25.03% of requested grants) for a total of 19 projects (one beneficiary withdrew from the contract). The average grant per project was €2,297,694.57. No disbursement of funds granted under this call was reported as of 30 June 2011.

OPVaV-2010/2.2/06-SORO

The aim of this call was to support the creation of competence centres (the State aid scheme for partners-entrepreneurs). The call was published on 2 June 2010; the deadline for applications was 11 October 2010. The total allocation amounted to €30,000,000. The aim of the call was to create a limited number of competence centres whose role would be to foster links between the academic sphere and entrepreneurs. Project proposals had to involve at least one academic and two business partners. Eligible applicants were public and state higher education institutions and the SAS and its institutes. Eligible activities were framework activities 2.2.2 and 2.2.5 – Building of and support to regional centres. Out of 15 submitted grant applications, contracts were granted for five projects (33.33% success rate). The amount of requested grants was €96,504,751.69 (more than three times the allocation), while the value of contracted projects was €31,502,531.07 (32.64% success rate). No disbursement of funds for projects has been reported due to the fact that grant contracts awarded to individual beneficiaries took effect as late as July 2011¹⁵. Competence centre projects are the biggest demand-oriented projects to date, with an average grant per project of €6,300,506.21.

OPVaV-2010/2.2/07-SORO

The most recent call concerning measure 2.2 was published on 28 April 2011, and the deadline for the submission of grant applications was 1 August 2011. The aim of the call was to support research centres (the State aid scheme) with a total budget of €40,000,000.

The national information system for supporting research and development in Slovakia (OPVaV/K/RKZ/NP/2008-1)

The national project was selected by direct award announced on 30 June 2008; the closing date for the direct award was 29 September 2008. The aim of the national project is to develop a system of information support for research and development based on electronic information sources. The total allocation for the project from measures 2.2 and 4.2 is €19,016,351.32. The amount of contracted funds from measure 2.2 is €10,026,743.48. The national project leader is the CVTI SR. The eligible framework activity is activity 2.2.3. The disbursement as of 30 June 2011 was €3,200,252.87 (31.92% of total contracted funds).

Initiative JEREMIE (OPVaV/K/JEREMIE/2009-1)

Direct invitation to join the JEREMIE initiative was published on 10 September 2009 and the closing date was 23 September 2009. The amount of aid from measure 2.2 was €23,529,412. On 28 October 2009, the MoESRS signed a financing agreement with the European Investment Fund followed by the transfer of the first tranche to the JEREMIE Transition Account. The entry into effect of the Lisbon Treaty and postponement of the date of signature of the Holding Fund Agreement made it necessary to sign an addendum to the original agreement in 2010. As a result of the transfer of funds to the JEREMIE account, the entire budget line amounting to €23,529,412 is deemed to be drawn. The eligible framework activity is activity 2.2.2.

National infrastructure for technology transfer support in Slovakia NITT SK (OPVaV/K/RKZ/NP/2010-1)

¹⁵ Although grant contracts under this call were concluded only as recently as July 2011, the amount of contracted grants is specified for the sake of completeness of information about the call.

The allocation made for the direct award was €8,500,000. The direct award was announced on 29 January 2010 and the closing date was 7 May 2010. The purpose of national projects is to design and develop a national infrastructure for technology transfer support. Two independent mirror projects implemented under measures 2.2 and 4.2 were awarded grants amounting in total to €8,234,571.17, €4,801,970.79 of which was awarded under measure 2.2. Eligible framework activities are activities 2.2.3 and 2.2.4. As of 30 June 2011, the disbursement level was €12,315.72, i. e. 0.26% of contracted grants.

Summary of calls under measure 2.2

General evaluation of the calls launched to date under measure 2.2 should be performed at two levels since national projects would have an impact on the final success rates, especially regarding the financing. The evaluator therefore assessed demand-oriented calls on one hand, and the measure as a whole (including national projects) on the other hand.

The overall success rate of applicants under measure 2.2 is 34.21% for demand-oriented projects and 34.68% for all projects. Thus, on average, funding was granted to every third grant application. The number of projects contracted under measure 2.2 as a whole was 143 (three of them were national projects). The total financial allocation for demand-oriented calls was €239,601,374 (including €40,000,000 for call OPVaV-2011/2.2/07-SORO). Applications for funding under measure 2.2 exceeded financial possibilities of individual calls almost three times (284.97%). In demand-oriented calls, the amount of actually contracted funds amounted to 30.83% of grants requested in submitted applications. For measure 2.2 as a whole this amounts to 35.19%. The average grant amount per project in demand-oriented calls was €1,226,243.77, and in measure 2.2 as a whole it was €1,463,773.87. The value of all contracted funds was €213,710,984.85, i. e. 68.73% of the initial allocation for measure 2.2, and 46.36% of the allocation after the revision of OP Research and Development. As of 30 June 2011, the disbursement rate of funds was 11.11% of the initial allocation (7.49% after the reallocation); in absolute terms, it represents €34,541,389.41. The ratio between the amount of grants actually contracted and financial allocations available for the calls is 87.85%.

Measure 2.2 is mainly implemented through framework activity 2.2.2 – Support to applied research and development, i. e. eligible activity in all demand-oriented calls launched to date and also in the JEREMIE initiative. The measure is partly implemented also through framework activities 2.2.3 (call OPVaV-2008/2.2/01-SORO and national project 2.2/2008-1), 2.2.4 (call OPVaV-2010/2.2/06-SORO and national project 2.2/2010-1). In the near future, the measure will also be implemented through framework activity 2.2.5 (call OPVaV-2010/2.2/06-SORO). Framework activity 2.2.1, Raising innovation culture in the academic sector by incubators, makes no contribution to the attainment of objectives of the measure, as it has not been included among eligible activities in any of the calls published to date. Thus, measure 2.2 is mainly implemented in the form of support to applied research in research organizations and in the business sector, and in the form of promoting links between the two sectors by means of joint projects.

4.3.2. Measurable indicators

The progress attained to date in the fulfilment of measurable indicators can be assessed on the basis of monitoring reports and of ITMS data that serve as the background for annual reports concerning the implementation of OP Research and Development, and of half-yearly monitoring reports of the SORO. In evaluating the progress obtained in the area of measurable indicators, the evaluator

considered two levels of comparison. On the one hand, the setting up of target indicators applicable during the period covered by the evaluation of OP Research and Development and, on the other hand, the values of target indicators adjusted after the revision of the OP. The revision led to a substantial increase in the budget for measure 2.2. Since at least one more call for demand-oriented projects is expected to be launched under this measure, the values attained will be substantially modified. Nevertheless, it can be noted already at this point that measurable indicators “Number of publications in professional journals” and “Number of R&D institutions whose technical value was increased” were fulfilled both as against initial target values and against the target values after the revision of OP Research and Development. Judging by the values specified in the projects, the target value of the former measurable indicator will be exceeded several times. Since the indicator “Number of jobs created in research” represents the sum of impact indicators, no data are as yet available on its fulfilment; nevertheless, judging by the values specified in the projects, the initial target value and the adjusted target value after the revision of OP Research and Development can be expected to be fulfilled. The value of the indicator “Number of researchers professionally benefiting from the assistance provided” will be exceeded several times. The only problematic indicator continues to be “Number of cooperation projects between R&D institutions and the economy/society”, which is being attained at 27.60% and 20.88%, respectively; it can be realistically expected that the target value of 661 projects will not be reached.

Table 10 Indicators at the level of the measure 2.2								
Indicator	Type of indicator	Unite of measrure	Baseline (2007)	Target	Target after OP R&D revision	Result achieved	Ratio result achieved/target	Ratio result achieved/target after OP R&D revision
2.4.2.1 Number of jobs created for researchers	result/core	number	0	135	199	0	0,00%	0,00%
2.2.2.2 Number of publications in professional magazines	result	number	0	145	214	302,2	208,41%	141,21%
2.1.2.3 Number of researchers professionally benefiting from the support provide	output	number	0	3400	5040	1710	50,29%	33,93%
2.3.2.4 Number of R&D institutions technically appraised	output	number	0	40	59	77	187,50%	127,12%
2.6.2.5 Number of projects promoting R&D workplace networks	result/core	number	0	500	661	141	27,60%	20,88%

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8

Table 11 Evaluation at the level of the measure 2.2 – projects								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Publication date of call/Completion date of call	Eligible applicants	Number of the applications for grant	AfNFCs approved	Number of projects contracted	Ratio contracted/Number of the applications for grant	Number of projects completed	Call Code / Reg. no. or code of TA Notice / Written Invitation
OPVaV-2008/2.2/01-SORO	28.11.2008-2.3.2009	Public HEI, state HEI, SAS, organizations conduct research and development establish by central public administration authorities, NGOs.	98	57	55	56,12%	2	0
OPVaV-2009/2.2/02-SORO	30.3.2009-3.8.2009	Public HEI, state HEI, SAS, organizations conduct research and development establish by central public administration authorities, NGOs.	11	5	4	36,36%	1	0
OPVaV-2009/2.2/03-SORO	28.4.2009-10.8.2009	Financial supports (state aid) for legal entities conduct research and development activities whose were established before 1 st of January 2008.	68	30	25	36,76%	3	0
OPVaV-2009/2.2/04-SORO	30.10.2009-8.2.2010	Public HEI, state HEI, SAS, organizations conduct research and development establish by central public administration authorities, NGOs.	146	35	35	23,97%	0	0
OPVaV-2009/2.2/05-SORO	21.12.2009-19.4.2010	Financial supports (state aid) for legal entities conduct research and development activities whose were established before 1 st of January 2009.	80	20	19	23,75%	1	0
OPVaV-2010/2.2/06-SORO ¹⁶	2.6.2010-11.10.2010	Public HEI, state HEI, SAS.	15	5	5	33,33%	0	0
OPVaV-2011/2.2/07-SORO	28.4.2011-1.8.2011	Financial supports (state aid) for legal entities conduct research and development activities whose were established before 1 st of January 2010.	N/A	N/A	N/A	N/A	N/A	N/A

¹⁶ Projects under call OPVaV-2010/2.2/06-SORO were contracted as late as July 2011.

2.2/2008-1	30.6.2008-29.9.2008	Direct award	1	1	1	100,00%	0	0
2.2/2009-1	10.9.2009-23.9.2009	Written invitation – JEREMIE	1	1	1	100,00		0
2.2/2010-1	29.1.2010-7.5.2010	Direct award	1	1	1	100,00%	0	0
Total			421	155	146	34,68%	7	0

Source: Semi-annual monitoring report of ASFEU (1/ 2011);, Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008

Table 12 Evaluation at the level of the measure 2.2 – financing (€)								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Funds allocation for call	Amount of contribution requested	Amount of contribution approved	Amount of contribution contracted	Ratio requested/allocation for call	Ratio contracted/requested	Drawing	Ratio drawing/contracted
OPVaV-2008/2.2/01-SORO	24 601 373,66	41 903 771,57	22 570 481,36	21 945 433,40	170,33%	52,37%	6 320 819,03	28,80%
OPVaV-2009/.2/02-SORO	30 000 000	48 098 499,94	19 142 692,40	17 109 117,08	160,33%	35,57%	607 116,70	3,55%
OPVaV-2009/2.2/03-SORO	40 000 000	89 625 253,27	36 142 887,28	31 328 791,50	224,06%	34,96%	819 061,19	2,61%
OPVaV-2009/2.2/04-SORO	30 000 000	118 227 900,74	29 817 019,06	29 810 788,79	394,09%	25,21%	52 411,90	0,18%
OPVaV-2009/2.2/05-SORO	45 000 000	174 438 535,97	44 666 055,55	43 656 196,74	387,64%	25,03%	0,00	0,00%
OPVaV-2010/2.2/06-SORO	30 000 000	96 504 751,69	31 502 530,06	31 502 531,07 ¹⁷	321,68%	32,64%	0,00	0,00%
OPVaV-2011/2.2/07-SORO	40 000 000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total demand-driven projects	239 601 374	568 798 713,18	183 841 665,71	175 352 858,58	284,97%¹⁸	30,83%	7 799 408,82	1,37%
2.2/2008-1	10 044 230,85	10 026 743,48	10 026 743,48	10 026 743,48	100,00%	99,83%	3 200 252,87	31,92%

¹⁷ Projects under call OPVaV-2010/2.2/06-SORO were contracted as late as July 2011..

¹⁸ Without allocation for call OP VaV-2011/2.2/07-SORO.

2.2/2009-1	23 529 412	23 529 412,00	23 529 412,00	23 529 412,00	100,00%	100,00%	23 529 412,00	100,00%
2.2/2010-1	4 956 754,99	4 929 261,00	4 801 970,79	4 801 970,79	99,45%	97,42%	12 315,72	0,26%
Total national projects	38 530 397,84	38 485 416,48	38 358 126,27	38 358 126,27	99,93%	99,67%	26 741 980,59	69,72%
Total	278 131 771,50	607 284 129,66	222 199 791,98	213 710 984,85	255,02%⁹	35,19%	34 541 389,41	16,16%
<i>Source: Semi-annual monitoring report of ASFEU (1/ 2011);, Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008</i>								

4.3.3 Conclusions and recommendations on measure 2.2

The share of contracted funds in the current allocation (after the revision of OP Research and Development) for measure 2.2 is 46.36% (€213,710,984.36). When including the allocation for the 7th demand-oriented call (€40,000,000), available resources for measure 2.2 exceed €207,000,000. The calls launched in connection with the above measure raised exceptional interest and the average success rate of applicants reached the level of 34.21%. The disbursement rate is 7.49% of the total allocation. The average level of grants for projects selected in demand-oriented calls is €1,226,243.77. The implementation involves 143 relatively small projects; this presents increased administrative burden for both the provider (checking applications and, in particular, projects) and the beneficiaries.

The support provided under this measure was mainly focused on applied research; with the exception of the second call, projects were relatively small in size. It was only the sixth call aimed at providing support for the creation of competence centres that was geared towards the creation of conditions for generating a critical mass (in terms of staffing and equipment) and, in particular, the creation of links between academic partners and the business sector. In the Slovak context, the average budget per project (€6,300,506.21) is high; yet, it is this kind of projects that will enable building competitive research teams and their networks.

Measurable indicators are being fulfilled on an on-going basis and except for one of them it is already certain that the target values will be attained. As for some indicators, they will attain a multiple of their initial value. This is especially evident for the measurable indicator “Number of publications in professional journals” whose target value was greatly underestimated when drafting OP Research and Development.

Because no project was completed during the period under review, it can only be stated that the specific objective of measure 2.2 is being fulfilled on an on-going basis, both through the national projects and most demand-oriented projects in which cooperation between academic institutions and the business sector was one of the criteria for participation. These activities also include support for building competence centres.

The support from measure 2.2 provided during the period under review did not sufficiently concentrate the available resources. The support was given to a larger number of smaller projects oriented on applied research and the concentration of resources occurred only in connection with the creation of competence centres. Thus, as regards the remaining allocation (almost 45% of all resources available for measure 2.2), it is recommended to launch a single call aimed at supporting several large research projects (up to a maximum of €50 million), drawing on the already performed activities and concentrating research capabilities in one place. The support should be oriented on building science parks or research centres. In the Czech Republic, this kind of support from its OP Research and Development was given to seven projects with a total value of €666,000,000. This amount is not suggested to be applied to the present case since relevant projects would be considered as major projects under Council Regulation (EC) No. 1083/2006. Since Slovakia has already entered the second half of the current programming period, the evaluator recommends that the call be launched as soon as possible so as to avert the risk of non-use of funds.

4.4. Modernization and building of technical infrastructure for research and development in Bratislava Region

Priority axis 3, Research and development infrastructure in Bratislava Region, is implemented through a single measure – 3.1, Modernization and building of technical infrastructure for research and development in Bratislava Region. The support should be mainly geared towards the modernization of research infrastructure and equipment with emphasis on interdisciplinary projects involving both the academic sphere and the private sector. It should also be given to projects of modernization, building and development of the ICT infrastructure in research organizations. The eligible area for implementing this priority axis is Bratislava Region. National projects are being implemented through the MA; demand-oriented projects are to be implemented through the ASFEU.

Box 8 Specific objective of the priority axis 3 and specific objective of the measure 3.1.

Modernisation and improvement of quality of technical infrastructure for research and development in the Bratislava region in 2007-2013 with a view to increase the ability of research and development institutions to efficiently cooperate with renowned research institutions in the EU and other countries, as well as with entities of the social and economic practice through the transfer of knowledge and technologies.

The amount of the total financial allocation for priority axis 3 is €148,689,894 (of which €126,386,410 was from the ERDF). The revision of OP Research and Development approved by the European Commission in November 2011 led to the reallocation of funds within individual priority axes. The total allocation for priority axis 3 was reduced to €25,489,894 (of which €21,666,410 was from the ERDF), representing 1.79% of total funds earmarked for research in OP Research and Development.

Box 9 Framework activities of the measure 3.1.

3.1.1.	Modernisation of research and development infrastructure and equipment of higher schools, research institutions, research centres and other research and development organisations in the Bratislava region.
3.1.2.	Support of research infrastructure in areas of strategic importance for the further development of the economy and the society (research and development priorities of Slovakia, needs of key industrial sectors of Slovakia, increase of the standard of living and the need for sustainable economic growth), with emphasis placed on interdisciplinary projects involving several education or research institutions and joint research centres with the involvement of the academic and business sectors from the Bratislava region.
3.1.3.	Modernisation, building and sustainable development of ICT infrastructure of research and development in research and development organisations, including the support to broadband networks connecting top research and development organisations in the Bratislava region.

4.4.1 Published calls for proposals

No call for demand-oriented projects was launched during the period under review. According to the MA, this was due to the approach of the previous management of the MOESRS to implementation of OP Research and Development in general, according to which implementation was to be primarily oriented on priority axis 4, and the funds from priority axis 3 were to be used only later.¹⁹ Measure

¹⁹ Annual Report on the Implementation of OP Research and Development for 2010, p. 81.

3.1 was thus implemented only through two national projects, one of which was selected by direct award and the other by invitation to tender.

Infrastructure for Research and Development - Data centre for research and development (OPVaV/K/RKZ/NP/2008-2)

The project was selected by direct award announced on 1 December 2008. The total amount of the grant for the project implemented under measures 3.1 and 1.1 was €33,193,918.87, with €13,174,047.19 provided under measure 3.1. The national project leader is the CVTI SR. Eligible framework activities were 3.1.1 and 3.1.3. (Box 9).

Slovak infrastructure for high performance computing (OPVaV/K/RKZ/NP/2009-1)

The project was selected by means of invitation to tender announced on 28 May 2009. The total amount of the grant for the project, financed as a mirror project under measures 3.1 and 1.1, was €25,965,000. The amount of the contracted grant under measure 3.1 is €12,684,250. The national project leader is the Computer Centre of the SAS. The eligible framework activity is activity 1.1.3 (Box 9).

Summary of calls under measure 3.1

The total amount of contracted funds for the two national projects is €25,858,297.19; the amount of funds disbursed as of 31 December 2010 was €4,663,447.15, i. e. 21.21% of total contracted funds. The share of contracted grants in the total allocation for measure 3.1 was 17.39%; after the revision of OP Research and Development, it increased to 101.45%. The share of disbursed funds in the total allocation was 3.14%; after the revision of OP Research and Development, this share increased to 18.30%. In absolute terms, disbursed grants were at the level of €4,663,447.15.

Due to the fact that the revision of OP Research and Development led to the reallocation of funds from priority axis 3 to priority axis 4, the amount of contracted funds exceeded 100%. No more calls or direct awards are envisaged for the above priority axis.

4.4.2 Measurable indicators

When assessing the fulfilment of the defined objectives by means of measurable indicators, the evaluators compared two reference levels. On one hand, they compared the fulfilment of the initial objectives set for the period under review and, on the other hand, the fulfilment of measurable indicators whose target values have changed as a consequence of revision of OP Research and Development.

The current status of measurable indicators as of 31 December 2010 is given in Table 13. The only indicator that has been partially fulfilled is “Number of R&D institutions whose technical value was appreciated”; the rate of fulfilment of this indicator is 28.57% compared to 5% before the reallocation. Since no more calls are planned for this priority axis, the level of fulfilment of this indicator can be considered as final.

The remaining eight indicators can be divided into two categories: (i) indicators whose attainment is at risk and (ii) indicators that will not be attained.

The first category includes the indicator “Number of researchers professionally benefiting from the assistance provided” with a certain risk that it will not be attained. A similar risk also exists with regard to the indicator “Number of jobs created in research”.

Indicators that can be assigned to the second category are “Number of projects dealing with environmental issues”, “Number of projects dealing with public health issues”, “Percentage of funding for implementation of environmental projects out of the total allocation (for the OP)”, “Percentage of funding for implementation of projects covering public health issues out of the total allocation (for the OP)”, “Number of EPO patent applications” and “Number of publications in professional journals”. Because no more demand-oriented calls are envisaged, it can be stated that the objectives of these measurable indicators will not be reached. In the existing situation it is not possible to predict the fulfilment of measurable indicators broken down between men and women.

Table 13 Indicators at the level of the measure 3.1.								
Indicator	Type of indicator	Unite of measure	Baseline	Target	Target after OP R&D revision	Result achieved	Ratio result achieved/target	Ratio result achieved/target after OP R&D revision
1. Number of researchers professionally benefiting from the support provided	output	number	0	3400	582	0	0,00%	0,00%
1a. Number of researchers professionally benefiting from the support provided-women	output	number	0	1700	291	0	0,00%	0,00%
1b. Number of researchers professionally benefiting from the support provided-men	output	number	0	1700	291	0	0,00%	0,00%
2. Number of publications in professional magazines	result	number	0	95	16	0	0,00%	0,00%
3. Number of R&D institutions technically appraised	output	number	0	40	7	2	5,00%	28,57%
4. Number of jobs created for researchers	output/core	number	0	70	12	0	0,00%	0,00%
4a. Number of jobs created for researchers -men	output/core	number	0	35	6	0	0,00%	0,00%
4.b Number of jobs created for researchers -women	output/core	Number	0	35	6	0	0,00%	0,00%

Source: Annual Report on Implementation of OP Research and Development for 2010; Revision of the OP Research and Development

Table 14 Evaluation at the level of the measure 3.1 – projects							
Call Code / Reg. no. or code of TA Notice / Written Invitation	Publication date of call/Completion date of call	Eligible applicants	Number of the applications for grant	AfNFCs approved	Number of projects contracted	Ratio contracted/Number of the applications for grant	Number of projects completed
1.1/2008-2	1.12.2008-2.3.2009	CVTI SR	1	1	1	100,00%	0
1.1/2009-1	28.5.2009-31.8.2009	Computer Centre of the SaS	1	1	1	100,00%	0
Total			2	2	2	100,00%	0

Source: Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008

Table 15 Evaluation at the level of the measure 3.1 – financing (€)								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Funds allocation for call	Amount of contribution requested	Amount of contribution approved	Amount of contribution contracted	Ratio requested/all ocaation for call	Ratio contracted/requsted	Drawing	Ratio drawing/contract ed
1.1/2008-2	13 197 885,38	13 197 888,50	13 174 047,19	13 174 047,19	100,00%	99,82%	4 659 742,12	35,37%
1.1/2009-1	12 701 347,97	12 699 250,00	12 684 250,00	12 684 250,00	99,98	99,88%	3 05,03	0,03%
Total	25 899 233,35	25 897 138,50	25 858 297,19	25 858 297,19	N/A	99,85%	4 663 447,15	18,03%

Source: Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008

4.4.3 Conclusions and recommendations on measure 3.1.

Only two national projects were under implementation as of the date of the interim evaluation of OP Research and Development. The share of disbursed funds in the overall allocation for the measure was 2.67%, and contracted funds accounted only for 17.39% of the total allocation. Since no call was launched for demand-oriented projects, it can be realistically expected that the funds allocated for measure 3.1 will not be disbursed by the end of the programming period. This was also the reason for the decision of the MoESRS to proceed with the revision of OP Research and Development and with the reallocation of funds from measure 3.1 to measure 2.2. The allocation for measure 3.1 was thus reduced to €25,489,894; the level of contracting increased to 101.45% and the disbursement rate to 15.55%. Another result of the reallocation was that no demand-oriented call will be launched under measure 3.1.

As a consequence of the revision of OP Research and Development, seven out of nine indicators at the level of priority axis 3 will not be fulfilled; the risk of non-fulfilment also concerns the measurable indicators “Number of researchers professionally benefiting from the assistance provided” and “Number of jobs created in research“. No major problems have been encountered in the implementation of the national projects. Implementation of these projects is on track and the defined objectives are being achieved on an on-going basis.

Based on these facts, the evaluator has concluded that given the current status of implementation and the lack of demand-oriented calls, the specific objective of measure 3.1. (Box 9) is not being attained and will not be attained even after the current programming period has ended. Yet, this was the measure that was mainly designed to upgrade the facilities of research institutions so as to strengthen their competitive position in applying for research funds from European research programmes. Because the above projects were intended as purely investment projects, their implementation would have been much faster and less demanding in terms of administration than that of projects under other measures. The main problem behind the lack of fulfilment of the specific objective of measure 3.1 is connected with the setting up of calls under OP Research and Development as a whole, where preference was given to calls under priority axis 4, although the projects should have focused on research as a process rather than on research and development infrastructure. This fact probably contributed to reducing the performance of Slovak research teams under the 7th framework programmes.

4.5 Implementation of measure 4.1 Support of networks of excellence in research and development as the pillars of regional development and support to international cooperation in Bratislava Region

Priority axis 4, Support for research and development in Bratislava Region, is secured under two measures: 2.1, Supporting networks of excellent research and development centres as pillars of regional development in Bratislava Region, and 2.2, Transfer of knowledge and technology from research and development into practice in Bratislava Region.

Support provided under measure 4.1 was to be directed towards research as a process, mainly in the form of cooperation at the international, national and regional levels. At the same time, it was intended to promote investment in human capital and to induce the return of researchers working abroad. A detailed description of framework activities is given in Box 11. No calls for national projects were launched under this measure; demand-oriented projects were implemented through the ASFEU. The eligible region is Bratislava Region.

Box 10 Specific objective of the priority axis 4 and specific objective of the measure 4.1.

Improving the efficiency of the system for the support of research and development so that it contributes to the growth of competitiveness, redressing of regional disparities, creation of new innovative (high tech) small and medium-sized enterprises and jobs creation in the Bratislava region.

Increase the quality of research organisations and support to excellent research activities in the Bratislava region with emphasis placed on areas of strategic importance for the further development of the economy and the society.

The total financial allocation for priority axis 4 was €223,034,841 (of which €189,579,614 was from the ERDF). After the revision of OP Research and Development, this allocation was increased to €346,234,841 (€294,299,614 from the ERDF). The allocation of €74,344,947 for measure 4.1 remained unchanged; it represents 5.23% of all financial resources available to the Slovak Republic under OP Research and Development.

Box 11 Framework activities of the measure 4.1.

4.1.1.	Support to exchange and joint research programmes carried out by R&D and educational institutions in the Bratislava region in cooperation with renowned foreign R&D institutions.
4.1.2.	Support of important research and development projects in the Bratislava region in areas of strategic importance for the further development of the economy and the society (research and development priorities of Slovakia, needs of key industrial sectors of Slovakia, increase of the standard of living and the need for sustainable economic growth).
4.1.3.	Support of cooperation between regional structures and research and development organisations, including cooperation between research and development institutions and secondary schools in the Bratislava region
4.1.4.	Support of international cooperation in the area of research and development
4.1.5.	Support of the return of Slovak scientific workers (including post-graduate students and post-graduates) working abroad to higher schools and research institutions in the Bratislava region
4.1.6.	Support of human resources in areas of strategic importance for the further development of the economy and the society.

4.5.1 Published calls for proposals

Calls launched under measure 4.1 mirrors those launched under measure 2.1. A total of three calls were published by 30 June 2011.

OPVaV-2008/4.1/01-SORO

The call was published on 20 May 2008 and the closing date for grant applications was 25 August 2008; the focus of the projects was on creation of excellence centres. Each project had to include activities related to building and modernising ICTs and ICT networks. The amount of the financial allocation was SKK 500 million (€16,596,959.44); however, because of the significant interest and the high quality of the submitted projects, the allocation was subsequently increased to SKK 660 million (€21,907,986.46). Eligible framework activities were activities 4.1.1 and 4.1.2. Formal and professional requirements were met by 24 of the 33 submitted grant applications; the selection committee chose 17 projects (51.52%), which were awarded grants in a total amount of €21,638,717.49. The sum of project budgets exceeded the financial allocation by 80.98%. The average funding per project was €1,272,865.73. The amount of disbursed funds as of 30 June 2011 was €13,670,772.86, i. e. 63.18% of total contracted funds.

Call OPVaV-2009/4.1/02-SORO

Applicants who responded to the second call launched under measure 4.1 recorded an increased success rate of 76.47% (out of 17 grant applications, contracts were granted for 13 projects). This was mainly due to the fact that the call was aimed at the expansion of the already existing centres of excellence funded on the basis of the preceding call. The number of applicants was therefore limited to 17. The submission period for grant applications was 27 February 2009 to 1 June 2009. The financial allocation for the call was €34,450,000. Eligible framework activities were activities 4.1.1, 4.1.2 and 4.1.3. The demand for funds exceeded the financial envelope of the call by 29% (€44,441,955.82). The total amount of grants for 13 contracted projects was €33,837,265.57; the average grant per project was €2,602,866.58. Disbursements made by 30 June 2011 reached the level of €5,609,638.95, i. e. 16.58% of contracted grants.

Call OPVaV-2009/4.1/03-SORO

The most recent call under measure 4.1 was also aimed at supporting the centres of excellence. Applications for grants had to be related to framework activities 2.1.1 and 2.1.2, but projects could not cover the same fields of science and technology as the projects implemented under call OPVaV-2008/4.1/01-SORO. The submission period for applications was 30 July 2009 to 18 November 2009. With an overall allocation of €18,109,190.17, this was the smallest call under measure 4.1.; nevertheless, the call raised the greatest interest of all calls launched to date and out of 33 grant applications, grants were awarded only to 5 (15.15% success rate). The amount of funds requested in grant applications (€110,547,345.85) exceeded the total allocation for the call more than 6 times. The average grant per project was €3,404,004.50.

Summary of calls under measure 4.1

The overall success rate of applicants under measure 4.1 was 42.17%. The rate was affected especially by the second call, which was open only for successful applicants from the first call. The total financial allocation for the three calls was €74,467,176.63. The interest of applicants in the implementation of projects falling under measure 4.1 exceeded the financial possibilities of the measure by more than two and a half times with requested grants amounting to €194,638,345.99.

The overall level of contracted grants was €72,496,078.34 and the average budget per project is €2,071,493.71. The share of contracted funds in the financial allocation of €74,344.947 for measure 4.1 is 97.51%; the funds that were actually disbursed as of 30 June 2011 represent 25.93% of available funding. In absolute terms, they amount to €19,280,411.81.

Measure 4.1 is implemented mainly through framework activities 4.1.1 and 4.1.2 – eligible activities under all three calls – and partly also through framework activity 4.1.4, eligible under the second call. In contrast, framework activities 4.1.3, 4.1.5 and 4.1.6 do not contribute to meeting the objectives of measure 4.1 in any manner because they are not eligible under any measure. Thus, this measure is implemented mainly in the form of supporting projects in the area of strategic importance for the Slovak economy and society, and in the form of promoting the international dimension of Slovak science.

4.5.2 Measurable indicators

No other new call is planned for measure 4.1. This means that the recorded level of indicators “Number of R&D institutions whose technical value was increased” and “Number of projects supporting networks of R&D centres” can be considered as final. The first indicator was reached at 75% (the resulting value of 15) and the second at 23.33% (the resulting value of 35). On the other hand, measurable indicators “Number of publications in professional journals” and “Number of researchers professionally benefiting from the assistance provided” have already been fulfilled at 747% and 211%, respectively. The indicator “Number of jobs created in research” represents the sum of impact indicators and will be fulfilled only gradually. The target values of projects make it possible to assume that the indicator will be reached without any major problem.

Table 16 Indicators at the level of the measure 4.1						
Indicator	Type of indicator	Unit of measure	Baseline (2007)	Target	Target after OP R&D revision	Result achieved
2.2.1.1 Number of publications in professional magazines	result	number	0	50	373,785	747,57%
2.4.1.2 Number of jobs created for researchers	output/core	number	0	35	0	0,00%
2.1.1.3 Number of researchers professionally benefiting from the support provide	result	number	0	1700	3595	211,47%
2.3.1.4 Number of R&D institutions technically appraised	result	number	0	20	15	75,00%
2.5.1.5 Number of projects promoting R&D workplace networks	result	number	0	150	35	23,33%

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8

Table 17 Evaluation at the level of the measure 4.1 – projects								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Publication date of call/Completion date of call	Eligible applicants	Number of the applications for grant	AfNFCs approved	Number of projects contracted	Ratio contracted/Number of the applications for grant	Number of projects completed	Call Code / Reg. no. or code of TA Notice / Written Invitation
OPVaV-2008/4.1/01-SORO	20.5.2008-25.8.2008	Public HEI, state HEI, SaS, organizations conduct research and development establish by central public administration authorities, NGOs.	33	17	17	51,52%	0	0
OPVaV-2009/4.1/02-SORO	27.2.2009-1.6.2009	Only holder of AfNFCs from call for proposals OPVaV-2008/2.1/01-SORO.	17	13	13	76,47%	0	0
OPVaV-2009/4.1/03-SORO	30.7.2009-18.11.2009	Public HEI, state HEI, SaS, organizations conduct research and development establish by central public administration authorities, NGOs.	33	5	5	15,15%	0	0
Total			83	35	35	42,17%	0	0

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8

Table 18 Evaluation at the level of the measure 1.1 – financing (€)								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Funds allocation for call	Amount of contribution requested	Amount of contribution approved	Amount of contribution contracted	Ratio requested/allocation for call	Ratio contracted/requested	Drawing	Ratio drawing/contracted
OPVaV-2008/4.1/01-SORO	21 907 986,46	39 649 044,32	21 783 665,63	21 638 717,49	180,98%	54,58%	13 670 772,86	63,18%

OPVaV-2009/4.1/02-SORO	34 450 000	44 441 955,82	33 854 164,90	33 837 265,57	129,00%	76,14%	5 609 638,95	16,58%
OPVaV-2009/4.1/03-SORO	18 109 190,17	110 547 345,85	17 020 068,24	17 020 022,48	610,45%	15,40%	0,00	0,00%
Total	74 467 176,63	194 638 345,99	72 657 898,77	72 496 005,54	261,37%	37,25%	19 280 411,81	26,60%
<i>Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8</i>								

4.5.3 Conclusions and recommendations on measure 4.1.

The total allocation for measure 4.1 was contracted at 97.51% by means of three calls. Consequently, no more calls are envisaged. The overall success rate of applicants reached the level of 42.17%. Enormous interest within the research community for the creation of centres of excellence was also witnessed by the fact that support was granted to only one in six applications submitted in response to the third call. Concerning the amount of requested grants, applicants obtained only 37 cents for every euro applied for. The average amount of grant per project is lower by approximately €200,000 (€2,071,314.44) than the amount of grant in mirror measure 2.1. With regard to the overall implementation, the evaluator identified primarily one substantial problem, namely the setting up of the calls. This resulted mainly from the strategic decision concerning the number of centres of excellence that were to be created in Slovakia with the support of structural funds from the EU. The previous management of the MoESRS decided that support should be geared towards creating a large number of excellence centres with low budgets and thus 22 centres of excellence were created in Bratislava Region (by means of 35 projects). When adding 45 centres supported under measure 2.1, Slovakia currently has 67 centres of excellence created with support from OP Research and Development. The average budget per centre in Bratislava Region is €3,295,272.98. The fact that this initial approach was misguided was apparent also in the second call when four of the excellence centres that received support in the first call failed to obtain funds for their further development due to their inability to meet formal requirements. As stated as well in Chapter 4.2.3, the above-noted approach resulted in greater administrative and financial burden for both the provider and the beneficiaries. Moreover, it caused delays in the implementation of priority axis 1 and led to the creation of an unreasonably high number of centres of excellence with low budgets. More detailed information on the approach to building centres of excellence is provided in Chapter 4.1.3.

Although no project was brought to completion during the period under review, it is possible to assert that the target values of two measurable indicators will not be attained. However, target values of another two indicators will be exceeded several times over (see Chapter 4.5.2). This is especially evident in the case of one measurable indicator, “Number of publications in professional journals”, with a target value greatly understated during the drafting of OP Research and Development. Based on the above, it can be stated that the specific objective of measure 4.1 (Box 10) is being implemented on an on-going basis. However, because support was given to as many as 22 centres of excellence, the emphasis was not laid only on areas of strategic importance for further development of the economy and society. In the future, it would be more advisable to focus on creation of a critical mass (equipment, human resources) and particularly on its concentration in a few really excellent centres which are competitive especially at the European level. Slovak science has a persistent problem of upgrading and maintaining human capital in science (see Chapter 2.2). In spite of this, not a single call was aimed at supporting activities designed to promote human resources and create the necessary conditions for inducing Slovak scientists working abroad to return to Slovakia although they who could boost the quality of research in the country.

4.6 Implementation of measure 4.2 Transfer of knowledge and technology from research and development into practice in Bratislava Region

Support provided under measure 4.2, Transfer of knowledge and technology from research and development into practice in Bratislava Region, was aimed at the creation of incubators, applied

research, transfer of technologies, protection of intellectual property and building of regional centres. A comprehensive description of framework activities is listed in Box 13. Measure 4.2 is implemented through national projects (MA) and demand-oriented projects (ASFEU). The eligible region is Bratislava Region.

Box 12 Specific objective of the priority axis 4 and specific objective of the measure 4.2

Improving the efficiency of the system for the support of research and development so that it contributes to the growth of competitiveness, redressing of regional disparities, creation of new innovative (high tech) small and medium-sized enterprises and jobs creation in the Bratislava region.

Increase the level of cooperation of R&D institutions with the society and economy through the transfer of knowledge and technology, thereby facilitating economic growth of the regions and of the whole Slovakia.

In the revision of OP Research and Development, the initial allocation for measure 4.2 in the amount of €148,689,894 was increased to €271,889,894, accounting for almost 25% of OP Research and Development.

Box 13 Framework activities of the measure 4.2

2.2.1.	Raising innovation culture in the academic sector in the Bratislava region by incubators
2.2.2.	Support to applied research and development in the Bratislava region
2.2.3.	Improving the quality of internal management of transfer of knowledge and technology from the academic sector in the Bratislava region into practice, including activities aimed at eliminating the barriers between research and development on the one hand and the society and economy on the other
2.2.4.	Increased use of intellectual property rights by research and development organisations from the academic sector of the Bratislava region
2.2.5.	Building of and support to regional centres in the Bratislava region

4.6.1 Published calls for proposals

By 30 June 2011, seven demand-oriented calls were launched and three national projects (two of which were selected by direct award and one – JEREMIE – on the basis of invitation to tender) were launched under measure 4.2. Contracts were signed for projects under the first five demand-oriented calls. Projects selected in response to call OPVaV-2010/4.2/06-SORO were contracted as recently as July 2011. Grant applications submitted in response to call OPVaV-2010/4.2/07-SORO are now subject to the process of evaluation and selection. For this reason, the evaluation has not included the financial allocation for this call into the evaluation of the overall success rate.

OPVaV-2008/4.2/01-SORO

The call was aimed at supporting applied research, development and transfer of knowledge in Bratislava Region. Applicants could submit their grant applications between 28 November 2011 and 2 March 2009. The call for proposals was linked to eligible framework activities 4.2.2, 4.2.3 and 4.2.4. Out of a total of 35 applications, 25 fulfilled formal criteria and 24 fulfilled also professional criteria. Because the initial allocation for the call in the amount of €4,979,087.83 did not sufficiently meet the

demand of the applicants, the MA decided to increase it to €10,242,755.83. This made it possible for the selection committee to award contracts for 23 grant applications. The success rate of applicants thus reached the level of 65.71%. The demand for funding represented more than 153% of the allocation and as much as 315.53% of the initial allocation. The total amount of contracted grants is €9,751,449.17, i. e. 60.07% of total requested grants, and the average budget per project is €423,976.05. The disbursement as of 30 June 2011 reached the level of €3,464,032.12 (35.52% of total contracted grants).

OPVaV-2009/4.2/02-SORO

Financial contributions were available under the second call for supporting applied research and transfer of technologies in the area of energy and power engineering. The call was launched on 30 March 2009 and the deadline for applications was 3 August 2009. Eligible framework activity was activity 4.2.2. The initial allocation for the call was €12,000,000. Based on a request from the ASFEU, the MA approved its increase by €2,000,000. Applicants submitted only four grant applications in the amount of €19,867,373.07, representing 141.91% of the allocation. The selection committee approved three grant applications (75% success rate) in the amount of €13,879,223.00 (69.86% success rate). The average amount of grant per one project is €4,626,407.67. By 30 June 2011, the disbursement reached the level of €1,262,570.55 (9.10% of contracted funds).

OPVaV-2009/4.2/03-SORO

This call was designed to support applied research, development and transfer of technologies for natural and legal persons holding business licenses and carrying out research and development activities (the State aid scheme). The submission period for applications was 28 April 2009 to 10 August 2009. The eligible framework activity was activity 4.2.2 – Support of applied research in Bratislava Region. 24 grant applications were submitted for the overall allocation of €20,000,000; the selection committee chose 14 applicants. Contracts were finally awarded for 12 projects amounting in total to €15,699,078.57. The success rate of projects reached 50%. The demand for funding represented 142.95% of the amount of allocation for the call. The average amount of grant for each project is €1,308,256.55. The disbursement level as of 30 June 2011 was €942,924.77 (6.01% of contracted funds).

OPVaV-2009/4.2/04-SORO

The fourth call under measure 4.2 was launched on 30 October 2009 and the deadline for submitting applications was 8 February 2010. The allocation for the call was €15,000,000. Like in the previous call, the eligible framework activity was activity 4.2.2. The interest of applicants in the call was the greatest from among all calls: the ASFEU received 73 grant applications with a total value of €63,531,808.11 – almost quadruple the total allocation. The selection committee subsequently approved 16 projects (21.92% success rate) amounting in total to €14,533,017.78 (22.8% success rate). The average grant amount per project was €908,313.61. The level of disbursement as of 30 June 2011 was only €21,619.80, i. e. 0.15% of all contracted funds.

OPVaV-2009/4.2/05-SORO

The fifth call launched on 21 December 2009 was aimed at support of research and development centres (the State aid scheme); eligible applicants were natural and legal persons holding business licenses and carrying out research and development activities. The deadline for grant applications was 19 April 2010. The eligible framework activity was activity 4.2.2, Support of applied research and

development. The overall allocation for the call was €25,000,000. This call evoked relatively high interest and the success rate of applicants reached only 27.03%. 37 grant applications were submitted requesting a total of €76,816,887.27 (307.27% of the allocation). The level of contracted grants was €21,246,051.55 (27.66% of requested grants). Contracts were awarded for ten projects. The average grant amount per one project is €2,124,605.16. No disbursements were made for projects under this call by 30 June 2011.

OPVaV-2010/4.2/06-SORO

The aim of this call was to support the creation of competence centres (the State aid scheme for partners-entrepreneurs). The call was launched on 2 June 2010 and the deadline for grant applications was 11 October 2010. The overall amount allocated for this call was €20,000,000. The aim of the call was to create a limited number of competence centres entrusted with networking the academic sphere and entrepreneurs. Project proposals had to involve at least one academic and two business partners. Eligible applicants were public and state higher education institutions as well as the SAS and its institutes. Eligible framework activities were activities 4.2.2 and 4.2.5 – Building of and support to regional centres in Bratislava Region. Out of six submitted grant applications, contracts were granted for three projects (50% success rate). While the amount of requested grants was €37,207,793.41 (186.04% of the total allocation), the level of contracted grants is €19,373,760.72 (52.07% success rate). No disbursement of funds for projects has been reported due to the fact that grant contracts awarded to individual beneficiaries took effect only as recently as July 2011²⁰. Competence centre projects are the biggest demand-oriented projects as yet, with average grant per project of €6,457,920.24. The average amount of grants for competence centres in Bratislava Region is more than €150,000 higher than the amount of grants for competence centres financed from measure 4.2.

OPVaV-2010/4.2/07-SORO

The last call under measure 4.2 was launched on 28 April 2011 and the deadline for the submission of grant applications was 1 August 2011. The call was aimed at the support of research and development centres (the State aid scheme) and its overall allocation is €20,000,000.

National information system of support of research and development in Slovakia (OPVaV/K/RKZ/NP/2008-1)

The national project was selected by direct award announced on 30 June 2008; the deadline for applications was 29 September 2008. The aim of the national project is to create a system of information support for research and development on the basis of electronic information systems. The total amount of grants for mirror projects under measures 2.2 and 4.2 was €19,881,676.23 and the grant awarded under measure 4.2 was €9,854,932.75. The national project leader is the CTI SR. The eligible framework activity is activity 4.2.3. As of 31 December 2010, the disbursement reached the level of €3,009,382.74 (30.54% of the contracted amount). The eligible activity is framework activity 4.2.2.

JEREMIE Initiative (OPVaV/K/JEREMIE/2009-1)

Direct invitation to join the JEREMIE initiative was published on 10 September 2009 and the closing date was 23 September 2009. The amount of aid from measure 4.2 is €5,882,353. On 28 October

²⁰ Although grant contracts under this call were concluded only as recently as July 2011, the amount of contracted grants is specified for the sake of completeness of information about the call.

2009, the MoESRS signed a financing agreement with the European Investment Fund followed by the transfer of the first tranche to the JEREMIE Transition Account. The entry into effect of the Lisbon Treaty and postponement of the date of signature of the Holding Fund Agreement made it necessary to sign an addendum to the original agreement in 2010. As a result of the transfer of funds to the JEREMIE account, the entire item amounting to €5,882,353 is deemed to have been exhausted. The eligible activity is framework activity 4.2.2.

National infrastructure for the support of transfer of technologies in Slovakia NITT SK (OPVaV/K/RKZ/NP/2010-1)

The amount of allocation under the direct award was €8,500,000. The direct award procedure was launched on 29 January 2010 with the closing date of 7 May 2010. The aim of the national projects is to design and implement the national infrastructure for supporting transfer of technologies. The projects are implemented as part of priority axes 2 and 4 (measures 2.2 and 4.2) with an overall allocation of €8,234,571.17. Eligible framework activities are activities 4.2.3 and 4.2.4. The amount of contracted funds from measure 4.2 was €3,432,600.38. Disbursements made by 30 June 2011 amounted to € 8,795.78, i. e. 0.26% of the allocation for measure 4.2.

Summary of calls under measure 4.2

General evaluation of calls launched to date under measure 4.2 should be undertaken at two levels, because national projects would impact the final success rates, especially in regards to financing. The evaluator therefore first assessed the demand-oriented calls and subsequently focused on the measure as a whole (including national projects).

The overall success rate of applicants under measure 4.2 is 37.43% for demand-oriented projects and 38.46% for all projects. 70 projects were contracted under measure 4.2 as a whole (three of them were national projects). The total financial allocation for demand-oriented projects was €124,242,755.83 (including €20,000,000 for call OPVaV-2011/4.2/07-SORO). The demand for funding from measure 4.2 was more than twice as high (236.42%) as the actual possibilities of all calls. In demand-oriented calls, the share of actually contracted grants compared to the amount of grants requested in applications is 39.09%. For measure 4.2 as a whole, it is 43.53%. The average amount of grant per project in the demand-oriented calls is €1,410,187.77; in measure 4.2 as a whole, it is €1,623,606.67. On the whole, funds contracted under measure 4.2 amounted to €113,652,466.92, representing 76.44% of the initial allocation for measure 4.2, and 41.80% of the allocation after the revision of OP Research and Development. The disbursement rate recorded on 30 June 2011 was 9.81% (or 5.37% after reallocation). In absolute terms, disbursed funds reached the level of €19,280,411.81.

The share of contracted grants in the financial allocations for the calls is only 90.64%.

Measure 4.2 is carried out mainly through framework activity 4.2.2 – Support to applied research and development, i. e. eligible activity in all demand-oriented calls launched to date, as well as in the JEREMIE initiative. It is partly carried out also through framework activities 4.2.3 (call OPVaV-2008/4.2/01-SORO and national project 4.2/2008-1) and 4.2.4 (call OPVaV-2008/4.2/01-SORO and national project 4.2/2010-1). In the near future, the measure will be carried out also through framework activity 4.2.5 (call OPVaV-2010/4.2/06-SORO). Framework activity 4.2.1 – Raising innovation culture in the academic sector in Bratislava Region by incubators, does not contribute to meeting the objectives of the measure in any manner, because it has not been included among

eligible activities in any call. Measure 4.2 is therefore implemented primarily by providing support to applied research in both academic institutions and in the business sector, and support to interlinking the two sectors through joint projects.

4.6.2 Measurable indicators

The progress attained to date in the fulfilment of measurable indicators can be assessed on the basis of monitoring reports and of ITMS data, which serve as the source for annual reports concerning the implementation of OP Research and Development, and of half-yearly monitoring reports of the SORO. In evaluating the progress obtained in the area of measurable indicators, the evaluator considered two levels of comparison. On one hand, the setting of target indicators applicable during the period covered by the evaluation of OP Research and Development and, on the other, the values of target indicators adjusted after the revision of the OP. The revision led to a substantial increase in the budget for measure 4.2. Since at least one more call for demand-oriented projects is expected to be launched under this measure, attained values will be substantially modified.

At present, the target value has not been reached for any measurable indicator (as against the objective after the revision of OP Research and Development). Nevertheless, the evaluator expects the target values to be met for most measurable indicators. The only at-risk indicator is “Number of cooperation projects between research and development institutions and the economy/society”, which is being currently fulfilled at 21.67% (13.95% after the revision): the target value of 466 projects is probably at risk.

Table 19 Indicators at the level of the measure 4.2.								
Indicator	Type of indicator	Unite of measure	Baseline (2007)	Target	Target after OP R&D revision	Result achieved	Ratio result achieved/target	Ratio result achieved/target after OP R&D revision
2.4.2.1 Number of jobs created for researchers	result/core	number	0	65	121	0	0,00%	0,00%
2.2.2.2 Number of publications in professional magazines	result	number	0	95	175	49,61	52,22%	28,35%
2.1.2.3 Number of researchers professionally benefiting from the support provide	output	number	0	3400	6218	622	18,29%	10,00%
2.3.2.4 Number of R&D institutions technically appraised	output	number	0	40	73	43	102,50%	56,16%
2.6.2.5 Number of projects promoting R&D workplace networks	result/core	number	0	300	466	68	21,67%	13,95%

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8; Revision of the OP Research and Development

Table 20 Evaluation at the level of the measure 4.2. – projects								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Publication date of call/Completion date of call	Eligible applicants	Number of the applications for grant	AfNFCs approved	Number of projects contracted	Ratio contracted/Number of the applications for grant	Number of projects completed	Call Code / Reg. no. or code of TA Notice / Written Invitation
OPVaV-2008/4.2/01-SORO	28.11.2008-2.3.2009	Public HEI, state HEI, SaS, organizations conduct research and development establish by central public administration authorities, NGOs.	35	23	23	65,71%	0	0
OPVaV-2009/4.2/02-SORO	30.3.2009-3.8.2009	Public HEI, state HEI, SaS, organizations conduct research and development establish by central public administration authorities, NGOs.	4	3	3	75,00%	0	0
OPVaV-2009/4.2/03-SORO	28.4.2009-10.8.2009	Financial supports (state aid) for legal entities conduct research and development activities whose were established before 1 st of January 2008.	24	14	12	50,00%	1	0
OPVaV-2009/4.2/04-SORO	30.10.2009-8.2.2010	Public HEI, state HEI, SaS, organizations conduct research and development establish by central public administration authorities, NGOs.	73	16	16	21,92%	0	0
OPVaV-2009/4.2/05-SORO	21.12.2009-19.4.2010	Financial supports (state aid) for legal entities conduct research and development activities whose were established before 1 st of January 2009.	37	10	10	27,03%	0	0
OPVaV-2010/4.2/06-SORO	2.6.2010-11.10.2010	Public HEI, state HEI, SaS.	6	3	3 ²¹	50,00%	0	0
OPVaV-2011/4.2/07-SORO	28.4.2011-1.8.2011	Financial supports (state aid) for legal entities conduct research and development activities whose were established before 1 st of January 2010.	N/A	N/A	N/A	N/A	N/A	N/A
4.2/2008-1	30.6.2008-	Direct award	1	1	1	100,00%	0	0

²¹ Projects under call OP VaV-2010/2.2/06-SORO were contracted as late as in July 2011.

	29.9.2009							
4.2/2009-1	10.9.2009-23.9.2009	Written invitation – JEREMIE	1	1	1	100,00%	0	0
4.2/2010-1	29.1.2010-7.5.2010	Direct award	1	1	1	100,00%	0	0
Total			182	72	70	38,46%	1	0

Source: Semi-annual monitoring report of ASFEU (1/ 2011); Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008

Table 21 Evaluation at the level of the measure 4.2 – financing (€)								
Call Code / Reg. no. or code of TA Notice / Written Invitation	Funds allocation for call	Amount of contribution requested	Amount of contribution approved	Amount of contribution contracted	Ratio requested/allocation for call	Ratio contracted/requested	Drawing	Ratio drawing/contracted
OPVaV-2008/4.2/01-SORO	10 242 755,83	15 710 633,06	9 751 618,61	9 751 449,17	153,38%	62,07%	3 464 032,12	35,52%
OPVaV-2009/4.2/02-SORO	14 000 000	19 867 373,07	13 879 223,00	13 879 223,00	141,91%	69,86%	1 262 570,55	9,10%
OPVaV-2009/4.2/03-SORO	20 000 000	28 589 070,71	16 735 356,34	15 699 078,57	142,95%	54,91%	942 924,77	6,01%
OPVaV-2009/4.2/04-SORO	15 000 000	63 531 808,11	14 533 032,07	14 533 017,78	423,55%	22,88%	21 619,80	0,15%
OPVaV-2009/4.2/05-SORO	25 000 000	76 816 887,27	21 418 804,15	21 246 051,55	307,27%	27,66%	0,00	0,00%
OPVaV-2010/4.2/06-SORO	20 000 000	37 207 793,41	19 373 760,72	19 373 760,72 ²²	186,04%	52,07%	0,00	0,00%
OPVaV-2011/4.2/07-SORO	20 000 000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total demand-	124 242 756,83	241 723 565,63	95 691 794,89	94 482 580,79	231,89% ²³	39,09%	5 691 147,24	6,02%

²² Projects under call OP R&D-2010/2.2/06-SORO were contracted as late as in July 2011.

²³ Without an allocation for call OPR&D-2011/4.2/07-SORO

driven projects								
4.2/2008-1	9 872 120,47	9 888 268,10	9 854 932,75	9 854 932,75	100,16%	99,66%	3 009 382,74	30,54%
4.2/2009-1	5 882 353,00	5 882 353,00	5 882 353,00	5 882 353,00	100,00%	100,00%	5 882 353,00	100,00%
4.2/2010-1	3 543 245,01	3 567 255,00	3 432 600,38	3 432 600,38	100,68%	96,23%	8 795,78	0,26%
Total national projects	19 297 718,48	19 337 876,10	19 169 886,13	19 169 886,13	100,21%	99,13%	8 900 531,52	46, 43%
Total	143 540 474,31	261 061 441,73	114 861 681,02	113 652 466,92	211,32%¹¹	43,53%	14 591 678,76	12,84%

Source: Semi-annual monitoring report of ASFEU (1/ 2011); Annual Report on Implementation of OP Research and Development for 2010, 2009, 2008

4.6.3 Conclusions and recommendations on measure 4.2

The level of contracted funds in relation to the current allocation (after the revision of OP Research and Development) for measure 4.2 is 41.80% (€113,652,466.92). If the allocations for the seventh demand-oriented call (€20,000,000) are included, the total amount of resources available under measure 4.2 would be more than €138,000,000. Applicants showed an exceptional interest in the calls published under this measure, the average success rate being 37.43%. The rate of disbursement compared to the total allocation is presently only 4.95%. The average amount of grants for the demand-oriented projects is €1,410,187.77. This means that there are currently 70 relatively small projects under implementation; this imposes a greater administrative burden on both the provider (checking applications and, in particular, projects) and the beneficiaries. The support provided under this measure was mainly focused on applied research; with the exception of the second call, the projects were relatively small in size. Only the sixth call, supporting the creation of competence centres, aims at creating conditions for networking academic partners with the business sector and achieving stronger synergic effects. In the context of Slovakia, the average budget for one project (€6,457,920.24) is relatively high.

Measurable indicators are being gradually fulfilled and, except for one of them, it is already apparent that all target values will be achieved. The values of some indicators will be exceeded even by several times over. This is especially evident in the case of measurable indicator “Number of publications in professional journals” with a target value significantly understated during the preparation of OP Research and Development. Since no project was completed during the period under review, it can only be stated that the specific objective of measure 4.2 is being fulfilled on an on-going basis, both through national projects and most demand-oriented projects in which cooperation between academic institutions and the business sector was one of the criteria for participation. These activities also include support for creating competence centres.

The support from measure 4.2 that was provided during the period under review did not sufficiently concentrate available resources. The support was given to a large number of smaller projects oriented on applied research, but the resources were really concentrated only in the creation of competence centres. Since measure 4.2 is a mirror measure to measure 2.2, recommendations concerning this measure will be similar. Scientific organizations in Bratislava Region continue to face the same structural problems as organizations in other regions. Moreover, there is now a risk of further brain drain of Slovak experts and students to newly-built facilities and research projects in the nearby city of Brno. If the Bratislava research organizations are to play a stronger role in the CENTROPA region (Vienna, Brno, Bratislava, Győr), research capabilities must be concentrated. Such concentration will bring synergy effects not only for research as such, but also for increasing the competitiveness of the economy. For this reason, the evaluator recommends to launch only one call for the remaining allocation (more than 49% of all financial resources for measure 4.2.) with the aim of supporting a few large research projects (up to a maximum of €50 million) that would draw on the already performed activities and concentrate research resources in one place. The support should focus on the creation of science parks or research centres. Since the Slovak Republic has already entered the second half of the current programming period, the evaluator recommends that the call be launched as soon as possible so as to avert the risk of non-use of available funds.

4.7 Implementation of measure 5.1 – Building of infrastructure of higher education institutions and modernization of their interior equipment with a view to improve the conditions of the education process

Priority axis 5, Infrastructure of higher education institutions, is implemented under a single measure. It is measure 5.1, Building of infrastructure of higher education institutions and modernization of their interior equipment with a view to improve the conditions of the education process. Support was to be geared mainly to improving conditions for the process of education either by the construction of new buildings or the reconstruction of existing ones. The support is aimed at improving the environment for students and researchers and, at the same time, reducing operating costs of buildings.

Eligible activities include the modernization of interior facilities of universities, reconstruction of university buildings, construction of new buildings, extension of university buildings and reconstruction of accommodation facilities, etc. The priority axis Infrastructure of higher education institutions applies to the whole territory of Slovakia, with the exception of Bratislava Region. Eligible applicants for all calls for proposals were state and public institutions of higher education and the Slovak Academy of Sciences and its institutes. The entire priority axis 5 is implemented through the ASFEU.

Box 14 Specific objective of the priority axis 5 and specific objective of the measure 5.1.

The objective of priority axis Infrastructure of higher schools is increasing the quality of education on higher schools (universities) through investments into physical infrastructure used for the education process.

Increasing the quality of education on universities through investments into physical infrastructure.

The amount of the initial financial allocation for priority axis 5 was €235,294,118 (of which €200 million was from the ERDF). The revision of OP Research and Development, approved by the European Commission in November 2011, entailed a reallocation of financial resources within individual priority axes. As a result of the reallocation, the allocation for priority axis 5 was changed to €285,294,118 (€242.5 million from the ERDF). This represents 16.54% of overall financial resources from structural funds of the EU allocated for research and development (after the revision of the OP, this share was increased to 20.05%).

Box 15 Framework activities of the measure 5.1

1.	Modernisation of interior equipment of universities, in which the education process takes place, with a view to improve the conditions for new forms of learning (supported shall be in particular new technologies in building classrooms for language, chemistry, biology and physics lessons, workshops, ICT rooms, provision of computers to academic libraries, building and maintenance of ICT networks).
2.	Investment activities focused on the reconstruction of higher schools (for example additional heat insulation, replacement of windows, roof replacement or repair, replacement of central heating system, repairs on building walls, static reinforcement of buildings, renewal of plaster on buildings, reconstruction of sanitary rooms and WC, reconstruction of heating, water supply, sewage and electrical systems).
3.	Constructing new buildings of existing higher schools.

4.	Extension of university buildings (e.g. annexes or superstructures, academic libraries, additional services provided within the campus, improvement of campus surroundings).
5.	Modernisation and reconstruction of accommodation facilities, gymnasiums, canteens and sporting grounds of universities.

4.7.1. Published calls for proposals

As of 30 June 2011, three calls were published under measure 5.1, with a total allocation of €263,292,682.20.

Call OP VaV-2008/5.1/01-SORO

This was the first call published under OP Research and Development. The call was launched on 25 February 2008 and the deadline for grant applications was 26 May 2008. The total financial allocation for this call was SKK 2.5 billion (€82,984,797.19). Applicants were free to submit projects for all eligible activities (Box 15) with the exception of modernization and reconstruction of gymnasiums, canteens and sporting grounds. All projects had to include an activity aimed at the modernization of ICTs and ICT networks. The number of projects was limited because of the requirement that each higher education institution and the Slovak Academy of Sciences could submit only one application. The funds requested in the 19 submitted grant applications reached the level of €84,886,738.21. Eleven applications were accepted (57.89% success rate) and awarded grants reached the level of €49,370,642.49 (58.16% of total requested grants). Total disbursements as of 30 June 2011 were at the level of €40,365,231.1, i. e. 81.76% of all contracted funds.

The total demand for grants represented 102.29% of the allocation. Nevertheless, contracted funds represented less than two-thirds of the allocation. Out of 19 submitted applications, six were excluded for non-compliance with formal criteria and two more applications failed to meet professional criteria. As of 30 June 2011, six projects were under implementation and five projects were properly completed. The average amount of grant per project is €4,488,240.23.

Call OP VaV-2008/5.1/02-SORO

The call was launched on 18 August 2008 and the deadline for submitting grant applications was 18 November 2008. The overall allocation was SKK 2.5 billion (€82,984,800). At the request of SORO, the allocation was subsequently increased by €4,979,087.83 to a total of €87,963,885.02. As in the previous call, projects could cover all eligible activities with the exception of modernization and reconstruction on gymnasiums, canteens and sporting grounds. The objective of the call was mainly to support investment into ICTs and ICT networks. The share of eligible expenditure for ICTs in the overall eligible expenditures had to be at least 50%. State and public higher education institutions and the Slovak Academy of Science were each entitled to submit only one application.

The amount of funds requested in the 21 grant applications was €97,559,611.43. Nineteen applications were accepted and contracts were eventually granted for 18 projects (85.71% success rate) amounting to a total of €81,027,242.33. Disbursements made by 30 June 2011 reached the level of €43,440,277.89 (53.61% of total contracted funds). One application was excluded due to non-compliance with formal criteria and one application failed to meet the professional criteria. One applicant withdrew at the stage of signing the contract due to its failure to secure the co-financing required. As of 30 June 2011, all 18 projects were under implementation. The average grant amount per one project is €4,501,513.46.

Call OP VaV-2008/5.1/03-SORO

The call was launched on 29 June 2009 and the deadline for submission of grant applications was 19 October 2009. The initial allocation for the call was €102,143,425.10. At the request of SORO, the MA approved the reduction of this allocation to €92,344,000. The aim of the call was primarily to support investment into ICTs and ICT networks. The share of eligible expenditure for ICTs in the overall eligible expenditures had to be at least 50%. Every eligible applicant was entitled to submit only one application. Applications could be filed for all eligible activities except modernization and reconstruction of gymnasiums, canteens and sporting grounds and expenditures related to setting up and equipping these facilities.

Research organizations submitted a total of 22 grant applications. The amount of requested funds was €121,253,979.72, i. e. 131.31% of the total allocation for the call. Three of the 22 submitted applications did not meet formal criteria; out of the remaining 19 applications complying with professional criteria, the selection committee awarded grants to 17 applications (77.27% success rate). The total amount of approved grants for projects was €92,325,185.17. As of 30 June 2011, contracted grants reached the level of €92,215,144.97 and total disbursements were at the level of €6,672,361.17 (7.24%). The average grant amount per project is €5,424,420.29.

Summary of calls under measure 5.1

The overall allocation for the three calls amounted to €263,292,682.20. The amount of requested grants represented 115.35% of this allocation. The amount of contracted grants is €222,613,029.79, i. e. 73.30% of total requested funds. Out of a total of 62 submitted grant applications, contracts were awarded for 46 projects – applicants thus reached the success rate of 74.19%. The average grant amount per project is €4,839,413.69. The disbursements made as of 30 June 2011 amounted to €90,477,870.16 (40.64% of contracted funds). The disbursement rate in relation to the overall allocation for measure 5.1 reached 38.45%. If the reallocation of funds between priority axes resulting from revision of OP Research and Development is taken into account, the disbursement rate is 31.71% (€90,477,870.16). The share of contracted grants in the overall allocation for the calls under measure 5.1 is the lowest from among all measures in OP Research and Development – 84.55%.

4.7.2. Measurable indicators

The progress attained to date in fulfilment of measurable indicators can be assessed on the basis of monitoring reports and ITMS data serving as the source for annual reports on the implementation of OP Research and Development, and of half-yearly monitoring reports of the SORO. When assessing the progress obtained in the area of measurable indicators, the evaluator considered two levels of comparison. On one hand, the setting up of target indicators applicable during the period covered by the evaluation of the OP Research and Development and, on the other, the values of target indicators adjusted after the revision of the OP (November 2011).

The status of attainment of the values of measurable indicators as of 30 June 2011 is given in Table 22. The value of the indicator “Number of students benefiting from improved infrastructure” is zero. This indicator represents the sum of impact indicators at project levels, which means that it will be attained gradually within one year after completion of a specific project. After adding up the value of

contracted funds (457 662), the target value of 300,000 or 363,750 (after the revision) can be expected not only to be met, but even surpassed.

The measurable indicator “Number of newly constructed buildings and facilities” is being fulfilled at 15% or at 42.86% when considering the revision of OP Research and Development. The measurable indicator “Number of reconstructed buildings and facilities” was fulfilled at 130% or, after the revision of the OP, at 63.41%.

The measurable indicator “Number of organizations with modernized interior equipment related to the education process” is being achieved at 25% (at 20.83% after the revision of the OP). The value set by beneficiaries in contracts awarded under the first three calls was 17. Thus, if there had been no revision of the OP, it is clear that this indicator would not be achieved.

Based on the above, the revised measurable indicators can be expected to be achieved, also as a consequence of the revision of the OP and the ensuing possibility to launch the fourth call. Another factor affecting the achievement of the target values is the reduction of the target value of the indicator “Number of newly constructed buildings and facilities” from 20 to seven. The only remaining problematic indicator is “Number of organizations with modernized interior equipment related to the education process”; this indicator will most probably not be fulfilled, since it is hardly possible to expect seven organizations that have not yet modernized their interior facilities to respond to the call.

Table 22 Indicators at the level of the measure 5.1								
Indicator	Type of indicator	Unit of measure	Baseline (2007)	Target	Target after OP R&D revision	Result achieved	Ratio result achieved/target	Ratio result achieved/target after OP R&D revision
5.3.1.1 Number of students benefiting from improved infrastructure	result	number	0	300 000	363 750	0	0,00%	0,00%
5.1.1.2 Number of newly built buildings and facilities	output	number	0	20	7	3	15,00%	42,86%
5.1.1.3 Number of reconstructed buildings and facilities	output	number	0	20	41	26	130,00%	63,41%
5.2.1.4 Number of organisations with modernised interior equipment related to the education process	output	number	0	20	24	5	25,00%	20,83%

Source: Semi-annual monitoring report of ASFEU (1/ 2011); Revision of the OP Research and Development

Table 23 Evaluation at the level of the measure 5.1 – projects							
Call Code / Reg. no. or code of TA Notice / Written Invitation	Publication date of call/Completion date of call	Eligible applicants	Number of the applications for grant	AfNFCs approved	Number of projects contracted	Ratio contracted/Number of the applications for grant	Number of projects completed
OPVaV-2008/5.1/01-SORO	25.2.2008 - 26.5.2008	Public HEI, state HEI, SaS	19	11	11	57,89%	5
OPVaV-2008/5.1/02-SORO	18.8.2008-18.11.2008	Public HEI, state HEI, SaS	21	19	18	85,71%	0
OPVaV-2009/5.1/03-SORO	29.6.2009-19.10.2009	Public HEI, state HEI, SaS	22	17	17	77,27%	0
Total			62	47	46	74,19%	5

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8

Table 24 Evaluation at the level of the measure 5.1 – financing (€)									
Call Code / Reg. no. or code of TA Notice / Written Invitation	Funds allocation for call	Amount of contribution requested	Amount of contribution approved	Amount of contribution contracted	Ratio requested/allocation for call	Ratio contracted/requested	Drawing	Ratio drawing/contracted	Call Code / Reg. no. or code of TA Notice / Written Invitation
OPVaV-2008/5.1/01-SORO	82 984 797,19	84 886 738,21	51 159 873,86	49 370 642,49	102,29%	58,16%	21 792 101,29	40 365 231,10	81,76%
OPVaV-2008/5.1/02-SORO	87 963 885,02	97 559 611,43	86 328 330,91	81 027 242,33	110,91%	83,05%	0	43 440 277,89	54,61%
OPVaV-2009/5.1/03-SORO	102 143 425,10	121 253 979,72	92 325 185,17	92 215 144,97	131,31%	76,30%	0	6 672 361,17	7,24%
Total	263 292 682,20	303 700 329,36	229 813 389,94	222 613 029,79	115,27%	73,30%	21 792 101,29	90 477 870,16	41,15%

Source: Semi-annual monitoring report of ASFEU (1/ 2011), Appendix 8; Annual Report on Implementation of OP Research and Development for 2010

4.7.3 Conclusions and recommendations on measure 5.1

As of 30 June 2011, three demand-oriented calls were launched under measure 5.1, all of them with the objective to support the reconstruction and modernization of educational facilities at higher education institutions and the Slovak Academy of Sciences. Since the revision of OP Research and Development resulted in an increase in the allocation for this measure, the MoESRS launched a fourth call on 16 November 2011. Considering the amount of its allocation, this should be the last call under this measure. The evaluator views the main problem of implementation as a very low share of contracted grants in the overall allocation for the calls (82.01%). While the share of contracted funds in the initial allocation is 93.44% (or, after the revision of the OP, 77.07%), the share of disbursed grants in the total allocation is 38.45%, or 31.71% (after the revision). Compared to all other measures, the progress attained in implementation of measure 5.1 is the most apparent. The same applies to the success rate of applicants (74.19%); this is also due to the fact that the only eligible applicants are state and public higher education institutions and the Slovak Academy of Sciences and that each research organization was entitled to submit only one grant application. The implementation of this measure is expected to be relatively fast because submitted projects involve mainly expenditures on construction works or the purchase of equipment (with small or no personnel costs). However, public procurement requirements still remain a problem in causing delays in project implementation schedules.

The fulfilment of most measurable indicators at the level of the measure is on-going, with the exception of “Number of organizations with modernized interior equipment related to the education process”, with a target value that will most probably not be achieved.

The specific objective of measure 5.1 (Box 14) is gradually being achieved. The rate of fulfilment of achieving measurable indicators indicates that most applicants are proceeding with the reconstruction of currently existing buildings and facilities. No major problems have been encountered in launching the calls and implementing measure 5.1. Identified problems were related mainly to the public procurement process.

Regarding further implementation of measure 5.1, the evaluator recommends that focus should be mainly on full utilisation of the remaining funds. There is a slight risk of non-disbursement of funds for the call OPVaV-2011/5.1/04-SORO. The main risk for measure 5.1 is the public procurement process which, in many cases, causes delays in the project implementation schedule. That is why the evaluator recommends that projects be selected with a view to their implementation in the last quarter of 2012 at the latest. At the same time, the evaluator recommends that the ASFEU provides adequate support to beneficiaries, especially in the process of public procurement.

Timeline of the calls of proposals



5. Achieving measurable indicators and objectives of OP Research and Development

The primary aim of this chapter is to analyse and assess whether the OP objectives and specific objectives of respective measures are being achieved. The other aim is to assess the appropriateness of measurable indicators vis-à-vis the needs of beneficiaries, and their use in design and implementation of projects. Subsequently, the primary external and internal factors having an impact on achievement of objectives were identified.

5.1 Appropriateness of setting of measurable indicators vis-à-vis the needs of beneficiaries

5.1.1 Attainment of measurable indicators at the OP level

Assessment of progress in attaining measurable indicators at the OP level was split into two steps by the evaluator. First, context-based indicators were evaluated to identify progress in terms of the baseline values. These indicators document the status of R&D in Slovakia and are internationally comparable. The issue is discussed in more detail in Chapter 2. The second step focused on assessing attainment of indicators which were aggregated from projects under OP Research and Development.

Mid-term evaluation of attainment of measurable indicators for any support instrument entails a certain risk that positive effects in many cases do not reveal themselves sufficiently in statistics. Nevertheless, certain trends are obvious and permit projections of future developments. Investment in science in Slovakia has been low over the long term, as shown in Figure 1. A turning point was in 2010 when the share of R&D spending in GDP went up by 0.63%, according to data from the Statistical Office of the Slovak Republic, but we have no comparisons with other countries for 2010. It can be assumed that other EU countries using structural funds for R&D experienced an increase in R&D spending in 2010 as well. In spite of the increase, it can be said that Slovakia is not going to meet the target value of 1.5% of GDP in 2015. Slovakia has sunk to rank 23 in the Summary Innovation Index and in regard to the degree it lags behind other countries it is rather unlikely that the target value (rank 19) can be achieved. The number of EPO patent applications has gone up slightly but the number of USPTO-granted patents went down. Attainment of the other indicator is irrelevant in terms of this evaluation since the last value published by Eurostat is for 2006. In addition, as illustrated in Figure 8, the indicator values have been rather volatile, moving in both directions.

The situation in Slovakia has been gradually improving in the area of human resources. The number of researchers and scientists has been going up but the share of R&D workers in the total labour force is only 5.9% in comparison with the target value of 8%. Similarly, the number of students in doctoral programmes went slightly up but it is very unlikely that target values for these two indicators will be met. It is obvious now that the only context indicator for which the target value will be achieved is the percentage of the population in age category 25-64 with a higher education degree.

Table 24 Context indicators of OP Research and Development

Indicator	Type of indicator	Unite of measure	Baseline	Target	Result achieved	Ratio result achieved/target
Summary innovation index (EIS)	context	ranking	22	19	23	82,61%
Number of patent EPO applications per 1 mill. inhabitants	context	number	8	18	9,19	51,06%
Share of R&D workers in the total workforce	context	number of R&D workers per 1000 workers	5,1	8	5,9	73,75%
Total expenditure for R&D (% of GDP)	context	%	0,51	1,5	0,63	42,00%
Number of granted USPTO patents per 1 mill. of inhabitants	context	number	1,28	2	0,79	39,50%
Number of doctoral students in science and technology in population of 20-29 years of age	context	%	0,4	0,7	0,43	61,43%
Percentage of population with higher education of 25 - 64 of age	context	%	11,8	13	14,1	108,46%

Source: OP R&D, chapter 2.

Evaluating the degree of attainment of measurable indicators which were aggregated from projects is even more complex than the context indicators. In certain cases there is just summing up the result indicators at a project level and they will be attained upon completion of the projects. It can already be said, however, that target values for certain indicators were underestimated (such as number of publications in specialised journals) and other indicators were overestimated (such as number of projects). To attain that indicator, the average grant amount per project would be less than €900,000.

Table 25 Indicators at the level of the operational programme (ITMS)

Indicator	Type of indicator	Unite of measure	Baseline	Target	Target after OP R&D revision	Result achieved	Ratio result achieved /target	Ratio result achieved /target after OP R&D revision
Number of projects	output/core	Number	0	1 600	1 600	356	22,25%	22,25%
Number of researchers professionally benefiting from the support provided	result	Number	0	17 000	16 454	3624	21,32%	22,03%
Number of researchers professionally benefiting from the support provided-women	output	Number	0	8 500	8 227	1472,5	17,32%	17,90%

Number of researchers professionally benefiting from the support provided-men	output	Number	0	8 500	8 227	2151,5	25,31%	26,15%
Number of publications in professional magazines	result	Number	0	600	577	779,29	129,88%	135,06%
Number of R&D institutions technically appraised	result	Number	0	200	193	153	76,50%	79,27%
Number of projects of cooperation between R&D institutions and social and economic practice	result/core	Number	0	800	1 127	204	25,50%	18,10%
Number of jobs created for researchers	impact/core	Number	0	500	478	0	0,00%	0,00%
Number of jobs created for researchers -men	impact/core	Number	0	250	239	0	0,00%	0,00%
Number of jobs created for researchers -women	impact/core	Number	0	25	239	0	0,00%	0,00%
Number of projects promoting R&D workplace networks	result	Number	0	400	563	102	25,50%	18,12%
Number of created spin-off small enterprises with researchers as their founders	impact	Number	0	50	72	0	0,00%	0,00%
Number of patented EPO applications	impact	Number	0	100	97	0	0,00%	0,00%
Number of students benefiting from better infrastructure	result	Number	0	300 000	363 750	0	0,00%	0,00%
Number of projects dedicated to the issue of the environment	output	Number	0	40	40	30	75,00%	75,00%
Number of projects dedicated to the issue of health of population	output	Number	0	80	75	17	21,25%	22,67%
Percentage of funds from the total quantity of funds allocated (under OP) for the implementation of projects dedicated to the issue of the environment	output	%	0	3	3	0,173	5,77%	5,97%
Percentage of funds from the total quantity of funds allocated for the implementation of projects dedicated to the issue of health of population	output	%	0	6	5	0,257	4,28%	4,94%
<i>Source: Annual report on implementation of OP R&D for 2010</i>								

5.1.2. Setting of measurable indicators with regard to the needs of beneficiaries

This section focuses on evaluating the use of measurable indicators, their appropriateness and clarity to beneficiaries/recipients and how they inter-relate along respective levels. The evaluation focused primarily on the relevance of measurable indicators to the needs of beneficiaries and for assessment of progress and achievement/attainment of project objectives.

Currently available measurable indicators are essential and are actually the only tool for monitoring the achievement of the objectives of a project, its measures, priority axes and the entire OP during the current programming period. Measurable indicators are also used to assess cost-effectiveness and effectiveness and efficiency at all levels. If a beneficiary/recipient fails to meet indicators at 85%, the provider reduces the budget in each item proportionately to the failure to achieve the indicators concerned. If the attainment of indicators is below 30%, the provider submits a proposal for cancellation of the grant contract.²⁴ The failure to achieve the set target values in projects may result in reduction in eligible expenditures or recovery of the entire grant. The importance attributed by the provider to attaining measurable indicators is also illustrated by ASFEU award, EUROPROJEKT 2011, for exceptional contribution to education and science, for which attainment of measurable indicators was included in the criteria for winning an award.²⁵

When it comes to evaluation of OP R&D, the principally identified issue is that under the first calls the beneficiaries did not have enough information about selection of indicators, and especially about their attainment and documentation. The beneficiaries only learned, ad hoc, how indicators are to be met and documented when they were already designing and implementing their projects. That has been a source of trouble for projects that are about to be completed. Many applicants defined excessively high target values and now are having trouble achieving them. ASFEU published its guidelines on proving the attainment of certain measurable indicators as late as 9 July 2010²⁶, after the announcement of 21 demand-oriented calls. In addition, the guideline does not define all measurable indicators used in calls. Clear rules for attainment of measurable indicators still do not exist. The situation causes extensive and unnecessary complications to beneficiaries.

For that reason the evaluator recommends a **clear definition of all measurable indicators and the method for their attainment and documentation.**

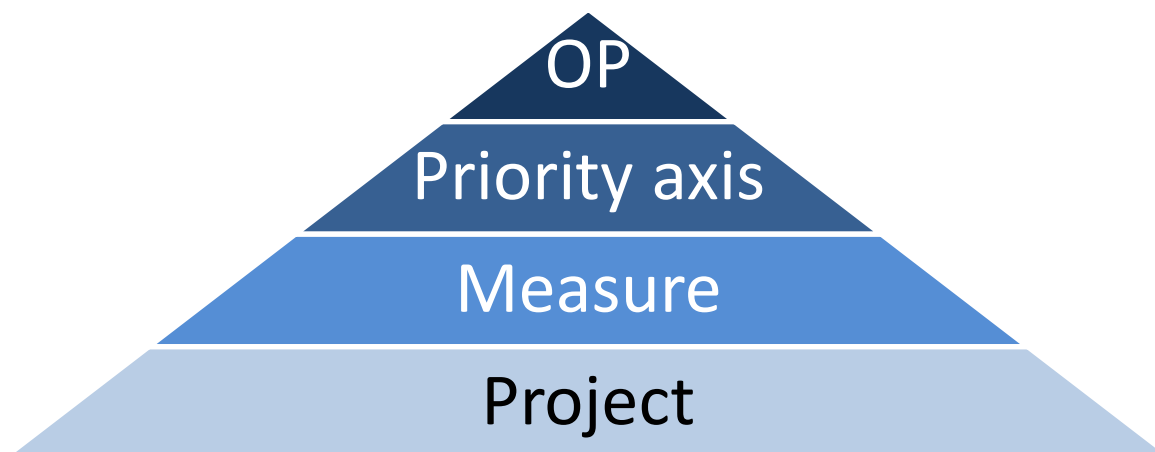
The Management System of Structural Funds and Cohesion Fund²⁷ stipulates that data and measurable indicators at project levels, across measures and priority axes up to the programme level are supposed to be aggregated. The evaluator identified measurable indicators at a project level under OP Research and Development which are not aggregated at higher levels and are only left as project indicators. Because of that, broader comparisons cannot be made and the indicators fail to offer a broader image of the results. For that reason the evaluator recommends using only indicators at a project level which will be subsequently **aggregated at higher levels.**

²⁴ Manual for Beneficiaries under OP Research and Development, version 3.0., p. 53.

²⁵ <http://www.asfeu.sk/agentura/aktuality/clanok/asfeu-odovzdala-cenu-europrojekt-2011-za-vynimocny-prinos-v-oblasti-vzdelavania-a-vedy/>

²⁶ Guideline No. 8/2010.

²⁷ Management System of Structural Funds and Cohesion Fund for the programming period 2007–2013. Version 4.4, chap. 4.3, par. 11.



The currently used measurable indicators at a project level, in terms of scientific contribution, are predominantly indicators of inputs rather than outputs. That applies especially to indicators evaluating the number of projects in specific areas, amount of financial resources invested in specific areas, the number of new jobs and the amount of cooperation, introduced services, erected buildings, and the like. The traditional results-based indicators used under OP Research and Development are the number of publications and granted patents (EPO, USPTO and the like). Most of the used measurable indicators do not permit evaluation of the scientific quality of the project results (of research projects in particular). Evaluating results of research projects solely based on a system of attainment of set measurable indicators is feasible only for exclusively infrastructure projects (especially priority axes 1.1, 3.1 and 5.1). It is rather difficult to apply that system to projects involving research, and the actual added value of projects may get lost. In those cases proving performance through measurable indicators fails to sufficiently reflect the actual setting and environment and its needs. It is not clear what synergic effects certain indicators have on actual project results.

The conclusion of a project is not followed by a critical evaluation of its contribution to the economy and society; rather, only the degree of attainment of defined indicators is assessed. Projects that meet the set target indicators very well are deemed to be successful. For that reason, when it comes to indicators, the evaluator recommends to put **more emphasis on output indicators rather than input indicators**. Once a project is concluded, there is also a need to evaluate how well it actually met its research objectives and what benefit or contribution it brought to the economy and society, through **final reviews**. For the sake of better comparability of measurable indicators at a project level, we propose introduction of a **mandatory indicator** with every call, which every applicant will have to choose on a mandatory basis.

5.2 Achievement of global objective of OP R&D and specific objectives of measures

The original considerations concerning the design of OP Research and Development were aimed at having an exclusively infrastructure-related programme to permit Slovak research organizations to upgrade and modernize rather obsolete equipment and instruments, and foster their competitiveness in obtaining financial resources for research activities from other national or international sources of funding. The final approved version of the OP permits both purchase of

infrastructure and supports implementation of research projects and, importantly, significantly fosters interlink between academic fields and industry. Moreover, higher education institutions also had the opportunity to refurbish their old buildings or build new buildings under the programme.

Box 16 Global Objective of OP Research and Development²⁸

The Global Objective of Operational Programme Research and Development is: Modernisation and increased efficiency of the system of support to research and development and improvement of the quality of infrastructure of higher schools so that they contribute to the growth of competitiveness of the economy, redressing of the regional disparities, creation of new innovative (high-tech) small and medium-sized enterprises, jobs creation and improvement of the conditions of the education process on higher schools.

The proposed interventions will help to increase the credibility of research and this will stimulate the interest of young talents in research activity or professional career in this sphere. New creative ideas flexibly responding to the needs of small and medium enterprises and their closer cooperation will also be beneficial. The resulting effect will be higher competitiveness of scientific teams within the national research, higher interest of small and medium enterprises in research activities concentrating on innovation in public research institutions, higher schools and other research centres. Slovak research teams will also be able to compete on international level and this will mean for the Slovak research sector that a closer cooperation with international organisations will develop and the Slovak applicants will be more successful in Framework Programme 7 and other EU initiatives.

5.2.1 Factors influencing the achievement of objectives of OP Research and Development

The mid-term evaluation of achievement of objectives under OP Research and Development resulted in identification of three essential factors which had an impact on implementation of the instrument.

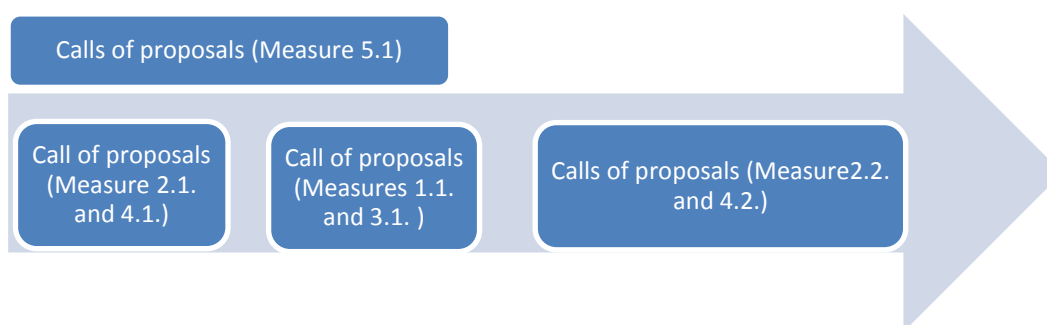
1. **Political factors.** Similarly to other operational programme, implementation of OP Research and Development started with more than a one-year delay. The Slovak government made amendments to the National Strategic Reference Framework in 2006, which resulted in a change in the number of operational programmes and, to a certain degree, their focus. That is why the final version of OP Research and Development was approved by EC on 28 November 2007. The first call could be made only on 25 February 2008. The implementation was 14 months behind the ideal scenario. Another political factor influencing the implementation was the plan by the SR government to shift €120 million from OP Research and Development to OP Transport and use the money to build motorways. The SR government approved the plan on 2 February 2011 and commissioned the minister of education, science, research and sport with drafting a revised OP Research and Development.²⁹ The government plan generated a strong response from the scientific community, including the largest protest action with a call “Rescue Science” which was signed by 9,341 people in a matter of a couple of days. Re-allocation of financial resources from OP Research and Development (and other programmes) was not approved by the EC, and the government had to give up its original plan. That caused yet more delay to implementation.

²⁸ Operational Programme Research and Development. Bratislava – November 2007, p. 63.

²⁹ SR government resolution No. 73/2001 of 2. 2. 2011.

2. **Absence of an implementation strategy.** At the time when the OP was designed there was no clear way of implementation agreed upon and there was no logical alignment between calls. Demand-oriented calls under measures intended to assist in purchase of instruments and equipment were not announced at all (measure 3.1) or were announced as late as in 2011 (measure 1.1). On the other hand, calls concerning only research (measures 2.2 and 4.2) were successively announced since the end of 2008. The absence of an implementation strategy also played a role in development of centres of excellence (measures 2.1 and 4.1), when 67 centres in Slovakia were supported with an average budget of €3.3 million. The centres were simultaneously supported under three calls, adding administrative burden on both parties. Establishment of 10 centres was supported under the first call but these did not get more funding for further development under the second call. The target value in terms of supported projects is 1,600 in terms of measurable indicators at OP level, which is a good example of the unclear idea in the manner of implementation. Should that value be met, the average amount per project is less than €900,000. From the above, it results that the provider supported smaller research projects rather than the larger infrastructure-related ones. The average budget of contracted projects in the entire OP is €2,225,103. The figure is only €1,996,443 if the national projects are excluded. Those projects are relatively big projects to the Slovak standard but if compared with other European research, the size of the projects is average or small, in particular when the project budget also covers purchase of instruments. Larger projects involving several partners were supported as late as in 2010.

Appropriate strategy for implementation of OP Research and Development



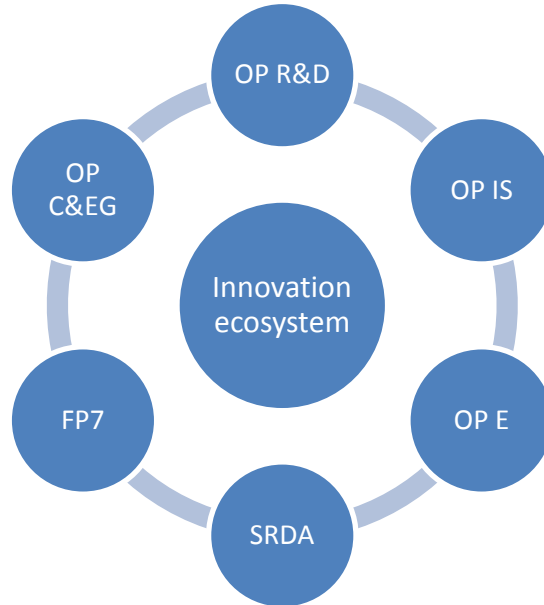
3. **Interrelation with research, development and innovation policies.** All support schemes for a knowledge-based economy and especially for research and development should be interrelated in a complementary way. What is important in research is a logical interrelation between all existing support (especially grant) schemes. Researchers can currently obtain financial resources for their research from three essential schemes providing competitive funding:

- Calls and grant schemes within SRDA,
- OP Research and Development,
- EU 7th Framework Programme.

A problem that reduces the success rate of research teams in getting grants for their research, which simultaneously increases their administrative burden, is that all mentioned schemes apply different rules for selection and different rules for project design and implementation. All schemes have different forms of evaluation of the results and effects of projects. While OP Research and Development puts emphasis on attainment of target values of measurable

indicators, grant schemes apply final scientific evaluations. OP Research and Development was intended to be a complementary source of funding for R&D. Regardless of the original aim, it can be said that there actually is no interrelation between OP calls and SRDA calls.

Interrelation of main schemes supporting a knowledge-based economy



5.2.2. Interest in OP Research and Development by the scientific community

OP Research and Development has become an important instrument for R&D support in Slovakia. With regard to the delayed start of its implementation and other factors mentioned in Section 5.2.1, and the fact that only 5 projects had been completed in the evaluated period, the positive effects the OP was expected to bring could not be fully reflected in achievement of objectives at this time. The scientific community expressed quite large interest in submitting project proposals. When it comes to demand-oriented calls, 40.6% of submissions were contracted and the ratio between the requested and effectively contracted grants was 43.6%. The success rate is higher than what it is in the EU 7th Framework Programme (23.9%) but competition under the OP is much smaller. In addition to that there were certain calls applying restrictions, namely one organization could only submit a single project proposal (especially measure 5.1) or only applicants who had been successful in a previous call could participate in the next call (measures 2.1 and 4.1). The lowest submission success rates were in measure 2.2 (34.21%) and measure 4.2 (37.43%) and certain calls under these measures had success rates in the range of 20-30%. The scientific community displayed strong interest also because the scheme was actually the only stable instrument for R&D support in Slovakia regardless of the factors mentioned in Section 5.2.1. What was mainly accomplished in the monitored period was acquisition of new instruments and equipment, the fostering of cooperation between research teams, and cooperation between academic organizations and industry. A certain drawback is that research teams from Bratislava Region are not allowed to cooperate with institutions situated in other regions. In that regard the evaluator highly appreciates the so-called “Bratislava exemption” permitting drawing of EU structural funds for research and development in Bratislava Region which had not been included in the convergence regions. Almost 50% of all

research capacities (infrastructure, human capital) are pooled in Bratislava Region. Higher education institutions and research organizations in Bratislava Region face the same structural challenges as the other regions. The “Bratislava exemption” was favourably perceived also by respondents in the survey questionnaire for grant beneficiaries. The same favourable attitude was expressed as well by MA and ASFEU representatives in evaluation interviews.

5.2.3 Achieving the global objective of OP Research and Development and specific objectives of measures

The evaluator drew from the definition of the global objective in OP Research and Development (Box 16). Subsequently a comparison using structural indicators was made between the status of R&D in Slovakia and in other EU and/or OECD countries, and with the status at the time when OP Research and Development was established. The analysis of the R&D status is in Chapter 2. The aim of this unit is to assess how and whether the implementation was embraced in achieving the global objective and specific objectives of respective measures.

The OP Research and Development was split into 8 logical components for this purpose.

- 1. *Modernization and higher effectiveness of the R&D support system.*** That objective has been achieved only partially. The existence of structural funds actually somewhat jeopardizes the operation of the national schemes, since the state-sponsored R&D programmes for science support were suspended and the SRDA budget did not grow. From a comparison of financial allocations for OP Research and Development and SRDA (Table 1), it is obvious that structural funds have turned into the primary source of funding for R&D in Slovakia. The survey questionnaires indicated, however, that the instrument entails a rather large administrative burden in comparison with the SRDA schemes. The administrative burden has been shrinking just very moderately.
- 2. *Quality improvement in infrastructure of higher education institutions.*** Interventions under measure 5.1 contributed significantly to attainment of this objective. Buildings of higher education institutions and of the Slovak Academy of Sciences were reconstructed in all regions except for Bratislava Region.
- 3. *Improving competitiveness in the economy.*** Investments in R&D clearly contribute to better competitiveness of the economy both at national and regional levels. The time gap between investment into more sophisticated areas and real improvement in competitiveness is longer. The World Economic Forum reports indicate that in terms of global competitiveness Slovakia sank from rank 36 in 2005 to rank 69 in 2011 (Figure 13), with index of innovation and sophistication factors (Figure 14) going down since 2007, and Slovakia having the worst ranking within the V4 countries. The objective is not being achieved in terms of the mid-term evaluation under OP Research and Development.
- 4. *Eliminating regional disparities.*** Considering how the OP Research and Development was set, its primary objective should not be eliminating regional disparities. Quality research is done in the largest cities of Slovakia, as attested both by success rates of universities and research organizations and statistical data by regions. The cities concerned are Bratislava, Košice and Žilina. Research teams in those cities also are most successful in calls under framework programmes.

5. **Creation of new jobs.** Interventions under instruments such as OP Research and Development can contribute to primary or secondary job creation. The former involves jobs for scientists which would not be created without the instrument. MoESRS does not have exact figures of jobs created in the evaluated period since that measurable indicator is a sum of results indicators at project levels and will be attained on an on-going basis. Based on estimates by ASFEU³⁰ the evaluator assumes that the target value set in the preparation of the OP, namely 500 new jobs, will be achieved. The secondary effect is jobs created as a result of using the results of projects in the economy and society.
6. **Boosting the interest of talented people in scientific and research careers.** Completed doctoral study is the prerequisite for a scientific career. The interest of talented people in science and research can be estimated based on the number of students in doctoral programmes. As illustrated in Figure 2 (Chapter 2.2), the numbers of students in doctoral programmes in 2008 was slightly higher than in 2004 in Slovakia and accounted for 0.43% of the population in the age 20-29 category. The total absolute number of students undertaking their doctoral programmes went up by 1,294 in 2010 in comparison with 2004.³¹ The prestige of research can be assessed through the interest of the population in R&D and the level of respect attributed to scientists by society but it is very hard to measure. Surveys concerning science and technology conducted by Eurobarometer in 2005 and 2010 indicated that of all Europeans, Slovaks rank among the people with the least interest in inventions and technological novelties. In the survey 23% of respondents in 2010 and 25% in 2005 claimed no interest in this area.³²
7. **Higher competitiveness of scientific teams within the national research.** The beneficiaries believe that this objective is doing the best of all specified objectives. The competitiveness of Slovak science teams has certainly gone up following targeted support and especially purchase of new instruments and equipment. This is also demonstrated by recent calls with a growing number of applicants submitting high quality projects.
8. **Higher success rate of Slovak applicants in the EU 7th Framework Programme and other EU initiatives.** As indicated by the survey questionnaires, both beneficiaries and provider staff viewed that indicator as the most troublesome. Slovakia ranks among the worst EU countries in terms of number of projects and financial resources obtained from the EU 7th Framework Programme. The synergic effect of EU structural funds expressed as a higher participation rate by Slovak scientific teams was not obvious in the monitored period. The reason may, inter alia, be that research organizations focused on projects under OP Research and Development. There is less competition and less co-financing. But there is also a substantially larger administrative burden in comparison with the 7th Framework Programme. Another factor causing low participation is rather poor competitiveness of Slovak research teams in comparison with ones from the EU 15 countries. The unresolved issue of use of instruments and equipment purchased under OP Research and Development for projects under 7th Framework Programme remains problematic.

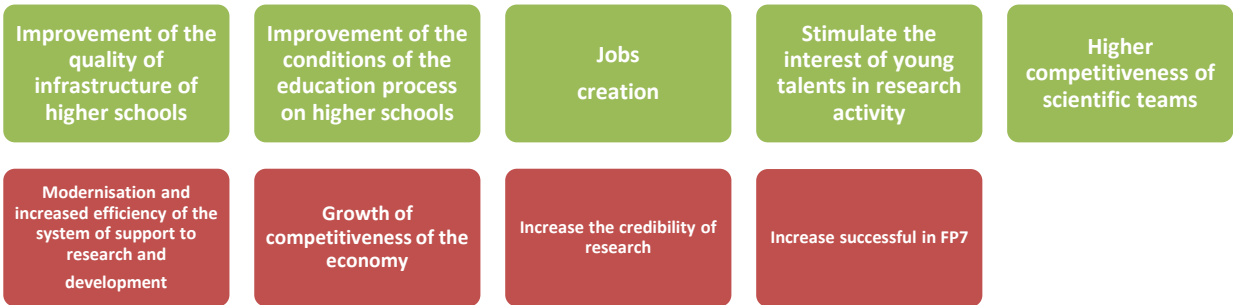
³⁰ Semiannual Monitoring Report by IB/MA, 1st 6 months of 2011, annex 8.

³¹ SLOVSTAT.

³² Europeans, Science and Technology. EC, June 2005; Science and Technology. Report. EC, June 2010.

The global objective of OP Research and Development is partially being achieved, primarily through better quality infrastructure within higher education institutions and better educational processes, creation of new jobs, more talented people interested in science and research and better competitiveness of science teams. Difficult areas still include especially modernization and higher effectiveness of systems for support of science, increasing the competitiveness of the economy, boosting the attractiveness of research careers, improving the international competitiveness of research teams, and increasing the success rate of research teams under the EU 7th Framework Programme.

Global Objective of the OP R&D



6. Conclusions

The process of evaluation of the implementation status of OP Research and Development and its various measures by 30 June 2011 included a survey questionnaire for grant beneficiaries which focused on how the programme was set and implemented, its objectives and the needs it met, and a survey questionnaire for employees of the provider which focused on how the programme was set and whether its objectives were met. A series of evaluation interviews with MA and ASFEU managers followed the surveys. The purpose of the interviews was to verify in more detail and clarify information obtained from the survey questionnaires and desk research. The desk research by the evaluator included an analysis of the state-of-the-art of R&D in Slovakia compared with other countries and against reference indicators at the time when OP Research and Development was approved. The evaluator also conducted an analysis of programme documents, particularly in terms of how adequately the measurable indicators were set and objectives attained at levels of the OP and its respective measures. Based on the mentioned analyses the evaluator ascertained the status of implementation of the OP, mid-term achievement of objectives, and both internal and external factors having impacts on the programme.

1. *Setting and status of implementation of OP Research and Development and its measures*

OP Research and Development is among the programmes with poorer contracting rate and especially poorer actual drawing of funds (Chapter 2). The current status of implementation was to a considerable degree influenced by external factors, political decisions in particular. The implementation started with a delay of almost 14 months due to changes to the setting and the number of operational programmes in 2006. A slowdown in implementation was also caused by the plan announced by the Slovak government in February 2011 to shift €120 million from OP Research and Development to OP Transport to fund construction of motorways. A certain delay then resulted from a decision by Ministry of Education, Science, Research and Sport to revise the OP and make an internal re-allocation of financial resources between axes. The evaluator believes that was the right decision in a situation when there was a justified concern that funds would not be drawn under priority axes 1 and 3. The reallocation also made it possible to pool a critical amount of financial resources under measures 2.2 and 4.2 and thereby support major and more concentrated projects (Chapter 5).

The evaluator perceives the reallocation of financial resources to be a result of an inadequate strategy for call announcements under OP Research and Development. The calls lacked any logical inter-relation. An example is the call under measure 1.1, whose key objective was to support building and purchasing infrastructure, which was announced as late as the end of 2011, while the call under mirror measure 3.1 was not announced at all. Ministry of Education, Science, Research and Sport, in contrast, focused primarily on implementation of priority axes 2 and 4 in the previous period, which were targeted at building centres of excellence and promotion of applied research. The evaluator is of the opinion that the approach to building centres of excellence (measures 2.1 and 4.1) was rather non-systematic since the establishment of 67 centres of excellence with relatively low budgets (€2 to €2.2 million) was supported from structural funds (Chapter 4).

2. *Achieving the global objective and specific objectives of OP measures*

A detailed evaluation of accomplishment in achieving the global objective and specific objectives of respective measures is in chapters 4 and 5. Mid-term evaluation of achievement of objectives is significantly influenced by the current status of implementation and especially the drawing of financial resources.

With regard to the current status of implementation and the fact that only two national projects were conducted under measures 1.1 and 3.1 during the evaluated period, and there was not a single demand-oriented call and most target values of measurable indicators will not be attained, the evaluator states that the specific objectives of those measures are not being achieved. There will be no calls for demand-oriented projects made under measure 3.1 and for that reason the specific objective of the measure will not be met even after termination of this programming period.

The specific objectives of measures 2.1 and 4.1 are **being achieved on a continuous basis**, even if there are too many rather small centres of excellence and in spite of certain measurable indicators not being met after termination of the programming period.

The specific objectives of measures 2.2 and 4.2 are being **achieved on a continuous basis**, primarily through aid to applied research. The evaluator appreciated that the provider started supporting major projects that bring together academic and business partners (competence centres) in recent calls.

The specific objective of measure 5.1 is being **achieved on a continuous basis**, primarily through reconstruction of buildings, construction of new buildings, introduction of ICT and development of ICT networks. Target values for most measurable indicators will be attained.

The global objective is being **achieved partially**. A particularly major challenge will be to meet target values of certain measurable indicators and certain programme-related ones as well. A more profound evaluation of the achievement of the global objective can be done once a relevant number of projects have been completed.

3. Provider-beneficiary cooperation

The evaluator concluded from the evaluation that provider-beneficiary cooperation is one of the problems affecting the attainment of the OP objectives and measures. The beneficiaries complained about excessive administrative burden entailed in both submission of proposals/requests and project implementation, and having mutual cooperation also was complicated because of unclear and complex rules of the implementation system, which to a considerable degree are set up by the CCA. The handling of requests for payments takes too long. The evaluator finds the documentation accompanying a request and administration of projects to be excessively complicated and unclear in many areas. The Manual for Beneficiaries was last amended on 1 June 2010 and fails to respond to the current situation. In addition, the same issue is covered in several different documents, making the process more difficult for beneficiaries. On the other hand, frequent errors in documents submitted by beneficiaries may cause delays in handling the issue by the provider. Public procurement was identified as a major issue causing significant delays in project schedules. The current system can be called a crisis in trust between providers and beneficiaries. Issues concerning provider-beneficiary cooperation are discussed in more detail in chapters 3, 5 and annexes 1 and 2.

4. Measurable indicators and scientific results of projects

Assessment of project results almost entirely depends on attainment of the set target measurable indicators but that does not represent the actual scientific contribution of the project. Measurable indicators are also intended to assess cost-effectiveness, effectiveness and efficiency in use of the aid. The evaluator identified problems in how measurable indicators had been set, namely certain target values were either underestimated or overestimated, indicating that there had been no clear idea of objectives and their achievement during the preparation and design of the programme. Another identified problem is an absence of clearly-defined measurable indicators and the way of their attainment and documentation. Beneficiaries have no opportunity to modify target indicators depending on external factors (such as a cut in the grant). Measurable indicators are discussed in more detail in chapters 4 and 5.

Table 26 Result of the evaluation			
Area of the evaluation	Yes	No	Partially
1. Evaluating whether objectives and measurable indicators were established in line with actual needs of beneficiaries and whether the set objectives and measurable indicators are still relevant.	X		
2. Evaluating whether the established objectives and measurable indicators for OP, priority axes and measures are being achieved and whether the structure of OP priority axes and respective measures need to be updated.			X
3. Evaluating whether the objective of measure 1.1 Modernisation and Improvement of Quality of Technological Infrastructure of R&D is being achieved and through what activities		X	
4. Evaluating whether the objective of measure 2.1 Supporting Networks of R&D Centres of Excellence as Pillars for Regional Development and Supporting Multiregional Cooperation is being achieved and through what activities.	X		
5. Evaluating whether the objective of measure 2.2 Transfer of R&D Knowledge and Technologies to Practical Use is being achieved and through what activities.	X		
6. Evaluating whether the objective of measure 3.1 Modernization and Improvement of Quality of Technological Infrastructure for R&D in Bratislava Region is being achieved and through what activities.		X	

7. Evaluating whether the objective of measure 4.1 Supporting Networks of R&D Centres of Excellence as Pillars for Regional Development and Supporting Multiregional Cooperation in Bratislava Region is being achieved and through what activities.	X		
8. Evaluating whether the objective of measure 4.2 Transfer of R&D Knowledge and Technologies to Practical Use in Bratislava Region is being achieved and through what activities.	X		
9. Evaluating whether the objective of measure 5.1 Building Infrastructure of Higher Education Institutions and Modernising their Equipment to Improve Educational Facilities is being achieved and through what activities.	X		
10. Evaluating whether the global objective of OP Research and Development is being achieved.			X
11. Evaluating whether all seven specific objectives of OP Research and Development are being achieved.			X

7. Recommendations and specific proposals

Based on the results from analyses, surveys, interviews, evaluations and specific conclusions, the evaluator recommends the following measures be taken in order to improve management and implementation of OP Research and Development:

1. *Introducing trust in the implementation process*

Trust between providers of financial aid and the scientific community is a fundamental prerequisite for operation of the research ecosystem. Structural funds have become an integral part of the system in recent years. Trust must dwell on principles of straightforward, simple, transparent and objective implementation in combination with clear and tough sanctions for those who violate rules, regardless of the level. A quality implementation system has to be as simple as possible at the same time. The provider should act entirely only within the scope of effective legislation, regulations, contracts and manuals during implementation. The provider, when checking whether the provided aid was used cost-effectively, effectively and for the specified purpose, should certainly not go beyond the scope of the above. The Manual for Beneficiaries, in particular, has to clearly and specifically define rights and responsibilities.

In that regard there is need to simplify the entire system of implementation of structural funds in Slovakia on the part of CCA as well. MA for Research and Development, via its powers, should initiate such simplification at the level of the Monitoring Committee for a Knowledge-Based Economy or of the National Monitoring Committee for the National Strategic Reference Framework. The government of SR is also aware of the need to reduce administrative burdens and make the entire system simpler, and reiterated that need in the Strategy Phoenix: *“pursue to significantly reduce bureaucracy in drawing and administering funds”*.³³ There is yet another strategic government document pointing at the issue of bureaucracy in implementation of structural funds, Minerva 2.0, in which the government of SR stated, *“One of the major reasons for the low drawing rate is an extremely demanding administration system of EU structural funds which, owing to specific requirements by the Slovak legislation and managing and intermediate bodies introduced many complex rules and exhausting demands on project implementers instead of seeking to make use of mechanisms available in the system to simplify the entire process. Project implementers and the managing authorities alike, are overwhelmed with administrative procedures to a degree that the delays in handling and assessing requests for payments jeopardize the very existence of beneficiaries who are have to pay their bills and loan instalments. It is desirable, taking example from other countries, to reduce the administrative burden down to what is absolutely necessary and required by the European Union and to improve effectiveness in the practical implementation of simplified rules.”*³⁴

Recommendations by the evaluator:

- Devise a simple implementation system based on trust and clearly defined sanctions for those who violate rules;

³³ Aktualizácia dlhodobého zámeru štátnej vednej a technickej politiky do roku 2015 (Stratégia Fénix), kap. 3.6.

³⁴ Minerva 2.0. Slovensko do prvej ligy, riešenie S.2.

- Update the Manual for Beneficiaries. The manual should be better structured, broken down by units such as headings, chapters, bullets, etc. and should be a document offering all information and instructions needed by beneficiaries for project implementation;
- Introduce an annual questionnaire-based assessment by beneficiaries;
- Introduce a system for quality assessment of answers given to emailed questions and inquiries.

2. *Speeding up implementation*

OP Research and Development is one of the worst performing programmes in terms of contracting rate and drawing down of funds. Several factors have caused the situation and there is certain risk that allocations will not be fully drawn. The evaluator proposes the following recommendation:

- Speed up selection of projects for calls under measures 3.1 and 5.1;
- Announce calls under measures 2.2 and 4.2, covering the entire pending allocation;
- Support a limited number of major research projects (science parks or research centres);
- Clearly determine that research infrastructures (especially instruments and equipment) can be used by beneficiaries in conducting projects under the 7th Framework Programme and other EU initiatives;
- Refrain from revision of OP Research and Development.

3. *Keep reducing the administrative burden*

Administrative hurdles stretch the time needed to conduct a project and OP implementation. The EC plans to significantly reduce administrative burden for projects under Horizon 2020. For that reason the evaluator recommends to keep adopting measures to reduce administrative burden for OP Research and Development as well through the following measures:

- Refrain from demanding documents from beneficiaries which the provider already has or which are issued by other state and public administration authorities;
- Simplify reporting of personnel expenditures;
- Abolish time-recording reports for employees and researchers who work full-time on a project;
- Make more extensive use of pre-financing and apply advance payments for the public sector;
- Introduce flat-rate expenditures;
- Speed-up checking of requests for payment by combining the formal and content checks into one.

4. *Measurable indicators and actual scientific results*

Results of projects conducted under OP Research and Development are evaluated practically only through attainment of target values of measurable indicators. The actual scientific benefit to the economy and society is not evaluated almost at all. As a matter of fact, there is no definition of all used indicators and how they are attained. The following measures are recommended by the evaluator:

- Clearly define all used measurable indicators, including the method of their attainment and documentation;
- Focus on attainment of output indicators rather than input indicators;

- Aggregate each indicator at measure, priority axis, and programme levels;
- Introduce a mandatory indicator (indicators) for every call.

5. Principles for further use of EU SFs for research and development in Slovakia

The mid-term evaluation clearly showed that aid from structural funds has had favourable effects on Slovak science which had been underfunded for a long time. Financial aid for research and development from structural funds has proven beneficial especially during the economic crisis, since the sector was getting funding regardless of the status of the state budget. Discussions have started on the nature of EU cohesion policy for the 2014-2020 programming period both at Slovak and EU levels. The final amount of aid from EU structural funds for Slovakia for that period is not yet known, but (with respect to EC proposals) a minimum 20% of all aid allocation will go to support research development and innovation capacities. There is no specific information at the national level about the number of operational programmes or their focus but it is very likely that there will be an operational programme covering the concerned areas.

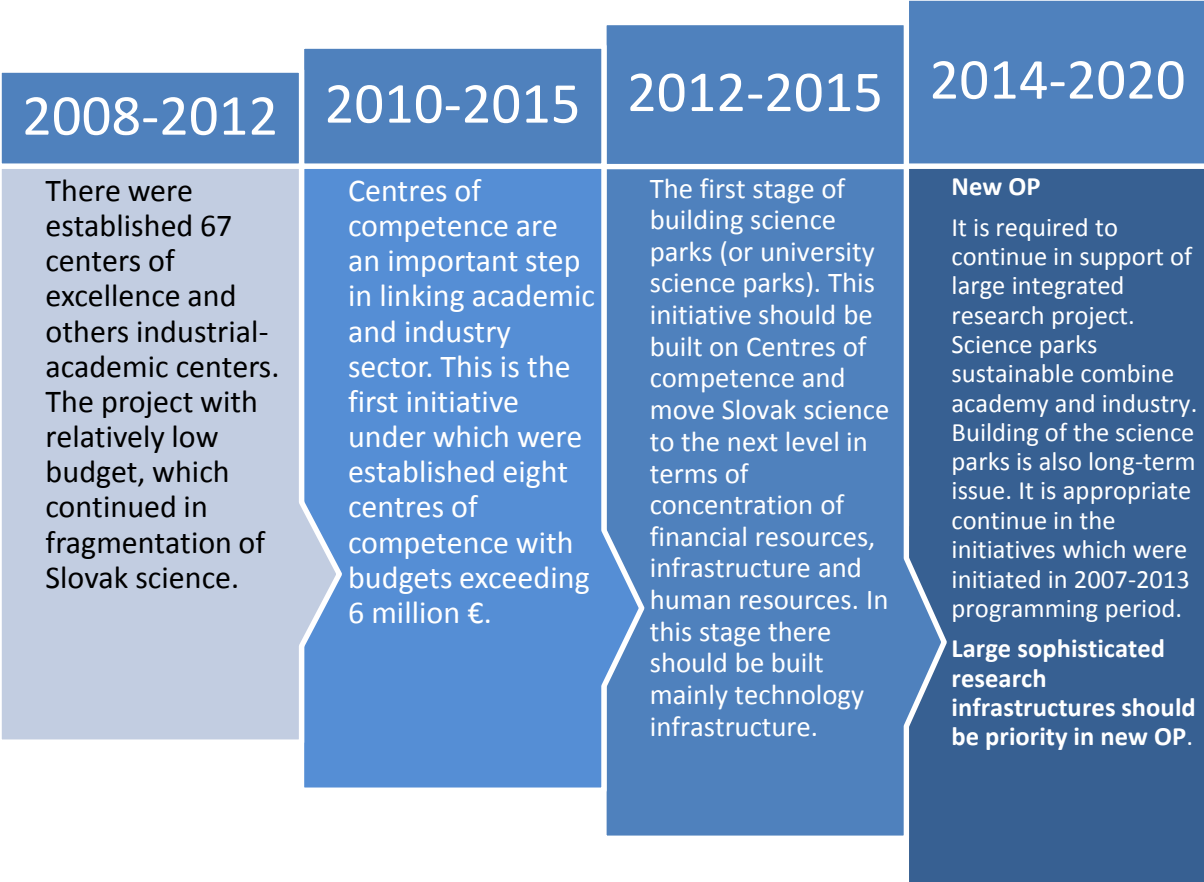
Based on the mid-term evaluation of OP Research and Development the evaluator recommends to continue implementing interventions in order to direct aid from EU structural funds to support research and development capacities in the programming period 2014-2020. The recommendation also is, in line with EU policies for this area, to direct a minimum 20% of the total budget for EU structural funds at measures supporting research, development and innovation capacities in the next programming period. The evaluator recommends the new operational programme be designed on the following fundamental principles:

- Direct a minimum of two-thirds of financial resources from the OP to support major projects (university-based science parks, research centres, etc.);
- Focus on supporting a smaller number of priority axes where Slovak science is competitive;
- Permit further use of structural funds for R&D also in Bratislava Region;
- Devise a simple OP implementation system and keep reducing the administrative burden;
- Define a clear strategy for its implementation (call announcements made in a logical follow-up pattern);
- Permit public higher education institutions to draw grant aid up to 100% of eligible expenditures;
- Set up the OP so that it is complementary to Horizon 2020;
- Assess and select projects similarly to other grant schemes;
- Involve international evaluators in assessment and selection of submissions;
- Evaluate project results through final scientific (peer) reviews;
- Introduce the institution of Decision about a grant (subsidy) to substitute for a Grant Contract;
- Include preparation of projects in eligible expenditures.

With regard to the current implementation and poor interrelation between respective components of the state policy to support research and development and the specific status of that area under structural funds, the evaluator recommends considering, as one of the potential alternatives, to designate the section for science and technology of Ministry of Education, Science, Research and Sport to be the managing authority for the new operational programme in the next programming period. The Slovak Research and Development Agency could be IB/MA. That arrangement will ensure

a direct interlink to the state policy, harmonise the way of project selection and implementation of two essential national schemes for R&D support, and bring a higher added value. An important factor of interlinking all schemes is that the state science and innovation policy will be used as a blanket policy in management and implementation of all public funding. If the above form of implementation of EU structural funds for R&D is not feasible, the evaluator recommends the MA closely cooperates in OP implementation with the section for science and technology of Ministry of Education, Science, Research and Sport, and ASFEU with SRDA, in particular in preparation of a new OP and, subsequently, in defining themes for calls.

Continued support for research and development from EU structural funds



Annex 1 Detailed results from survey questionnaire for demand-oriented project beneficiaries

1. Essential information about the survey questionnaire process

The survey of demand-oriented project beneficiaries under OP Research and Development was conducted from 18 to 25 October 2011 with a questionnaire. E-mails were sent to all research organizations with projects that had started before 30 June 2011. An organization involved in one project could complete a single questionnaire. Despite the short deadline for submission of the questionnaire the number of completed questionnaires was n=73.

The survey questionnaire had four stages:

1. Questionnaire design

- Designing the draft questionnaire by SOVVA;
- Comments to the questionnaire provided by members of the evaluation team;
- Incorporating the comments into the questionnaire;

2. Data collection

- Programming the questionnaire into the SurveyMonkey on-line application;
- Testing the on-line questionnaire by the SOVVA staff;
- Sending out E-mails to grant beneficiaries;

3. Data processing

- A data check and elimination of illogical responses;
- Processing each question into a table and a figure;
- Identification, description and aggregation of the most frequent responses to open-ended questions.

4. Analytical outputs

- Analysis of respective outputs and results from the survey as a whole;
- Incorporation of the results from the survey questionnaire into the evaluation of OP Research and Development.

The outputs from the survey questionnaire are an integral part of the evaluation of OP Research and Development. Annex 1 includes a more detailed analysis and graphical representation of the responses to the questions.

2. Analysis of results from the survey questionnaire

2.1. General data

The respondents to the survey questionnaires were geographically proportionately distributed. Most respondents were from Bratislava Region (43.8%) and Košice Region (26%), the fewest were from Trenčín Region (1.4%), with the lowest number of projects (Figure P1.1). The highest share of respondents was from the sector of higher education institutions (41.7%), followed by the state sector (29.2%) and the corporate sector (27.8%) (Figure P1.2). Most projects were being conducted under measure 2.2 (28.8%) and 4.2 (23.3%), the fewest were under measure 5.1 (Figure P1.3).

Expenditures under OP Research and Development were split up into four basic categories, namely: (i) Personnel expenditures, (ii) Construction activities, (iii) Instruments/equipment and (iv) Services. For the first category of personnel expenditures as many as 83% of respondents were using reimbursements, and just 17% used advance payments and pre-financing (Figure P1.4). For construction activities pre-financing was being used much more (53%), reimbursements were used by 42%, and advance payments by only 5% of the respondents (Figure P1.5). There was a similar situation in instruments/equipment, namely 49% of respondents used pre-financing, 42% used reimbursement, and only 9% used advance payments (Figure P1.6). As for services, reimbursement was the most common way (55% of beneficiaries), followed by pre-financing (37%) and advance payments were used only by 8% (Figure P1.7).

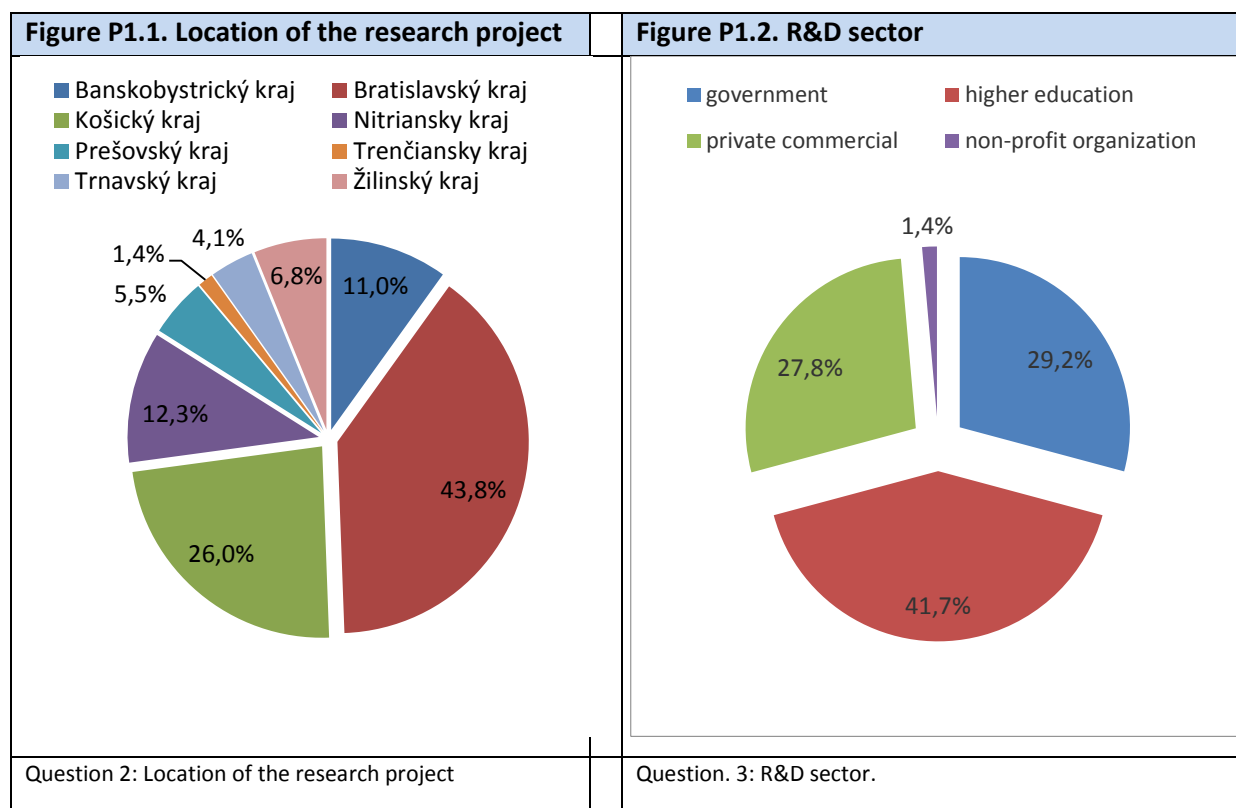
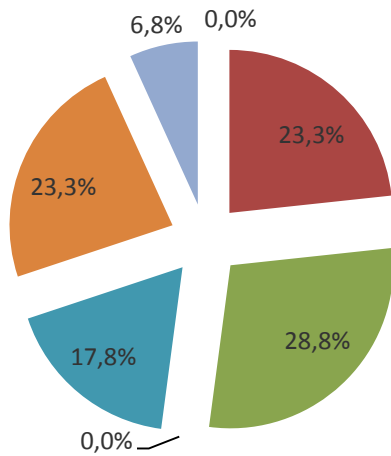


Figure P1.3. Measure of OP R&D

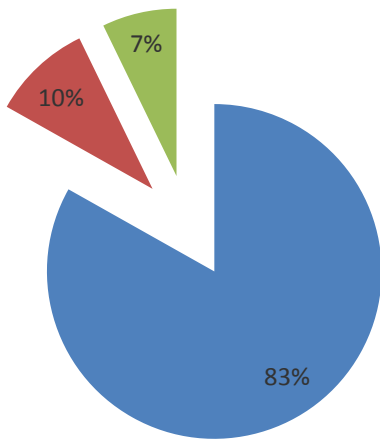
- Measure 1.1 ■ Measure 2.1 ■ Measure 2.2
- Measure 3.1 ■ Measure 4.1 ■ Measure 4.2
- Measure 5.1



Question 4: In which measure is your project conducted.

Figure P1.4. Payments (personnel expenses)

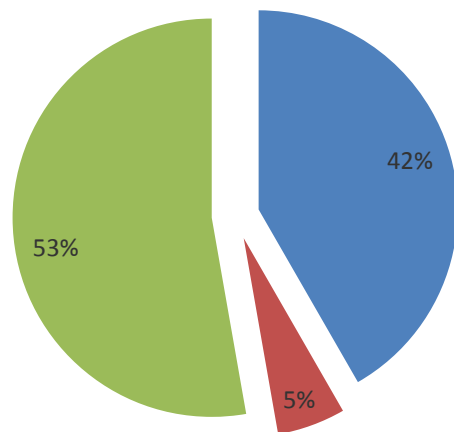
- reimbursements ■ advance payments
- pre-financing



Question 5: Indicate the type of payment you use for personnel expenses

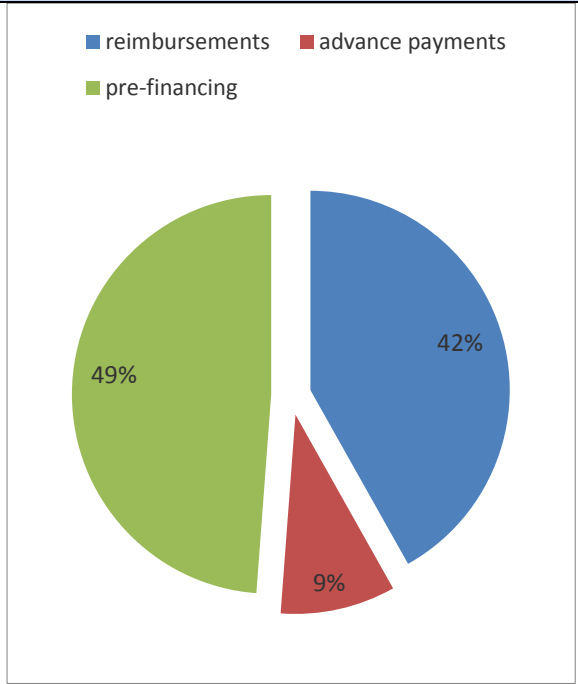
Figure P1.5 Payments (construction activities)

- reimbursements ■ advance payments
- pre-financing



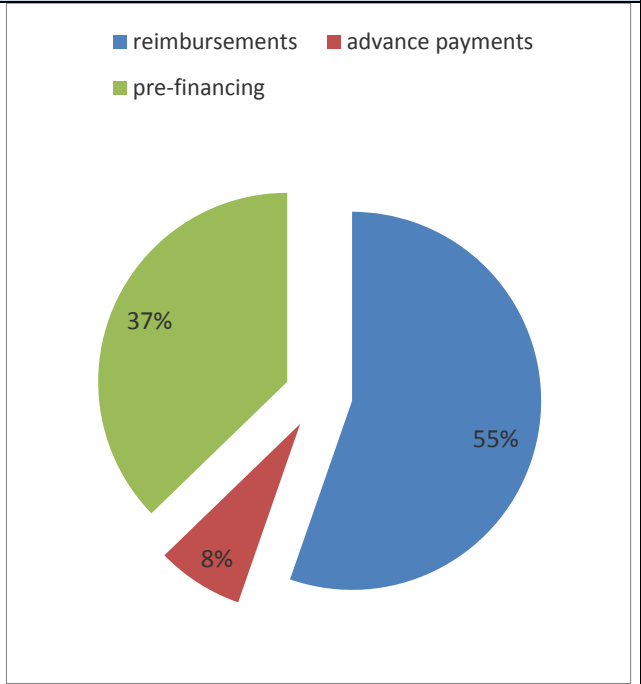
Question 6: Indicate the type of payment you use for construction activities

Figure P1.6. Payments (Instruments/equipment)



Question 9: Indicate the type of payments you use for Instruments/equipment

Figure P1.7. Payments (services)



Question 8: Indicate the type of payments you use for services

2.2. Setting of OP Research and Development and its benefits

The purpose of this unit of the survey questionnaire was to elicit the perception by beneficiaries concerning whether the current setting of OP Research and Development is adequate, what are its benefits to research organizations and what are the essential principles for design of a new OP for support of R&D.

An absolute majority of respondents (91.2%) agreed with the current setting of OP Research and Development and the possibility to get aid for both infrastructure and research. Only 4.4% of respondents believed that aid should support only research and 2.9% said aid should support only purchasing infrastructure (Figure P1.8)

The perception of the respondents concerning achievement of the global objective of OP Research and Development (split into logical components) indicated that the respondents believe the OP's greatest benefits are higher competitiveness of science teams in national research (noted as achieved and rather achieved by 83.58%) and modernization and higher effectiveness of the system of support for R&D (achieved and rather achieved by 85.07%). More than 50% positive responses included the following objectives: higher quality infrastructure for higher education institutions (achieved and rather achieved by 79.10%, boosting the prestige of research careers (61.19%), elimination of regional disparities (58.21%) and creation of new jobs (55.22%). Less than 50% of positive responses scored the objectives "boosting interest by talented people in research" (46.27% achieved and rather achieved, and 26.87% not achieved and rather not achieved), "higher interest by SMEs in conducting research focused on innovation in public research institutions, higher education institutions and other research centres" (46.27% achieved and rather achieved, and 23.88% not achieved and rather not achieved) and "improving the competitiveness of the economy" (40.30% achieved and rather achieved, and 26.87% not achieved, and 28.36% rather not achieved). Most respondents (55.22%) think that the objective "higher success rate of Slovak applicants under the 7th Framework Programme and other EU initiatives" was certainly not achieved or not achieved (Figure P1.9).

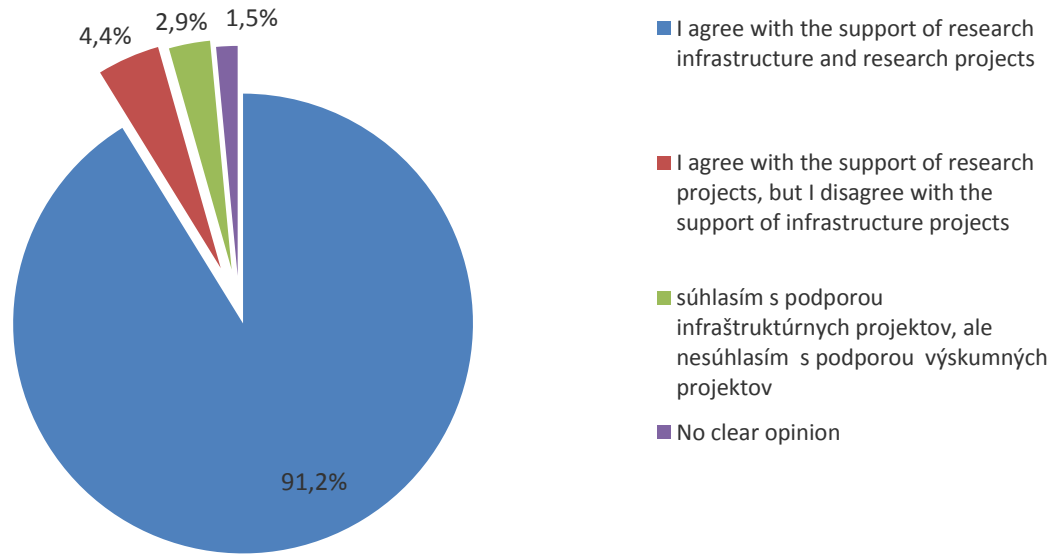
On the other hand, as much as 62.6% of respondents believed that OP Research and Development was complementary to EU programmes (such as 7th Framework Programme and CIP) and enables increasing the participation by Slovak research teams in these programmes. Disagreement with that statement was expressed by 29.8% of beneficiaries (Figure P1.10).

Respondents identified three major kinds of benefits of the OP for their home research organization, namely purchase of instruments and equipment (82.4%), additional financial resources for research (58.8%) and establishment of cooperation between research and corporate sectors (36.8%) (Figure P1.11).

Three major negative aspects of conducting projects under OP Research and Development were identified by the respondents and included primarily excessive administrative burden (94.2%), additional costs of projects (53.6%) and the co-financing rate (33.3%). Other issues causing difficulties specified in the open-ended question included primarily the method of financing, non-reimbursement of RfP, complex and lengthy communication by ASFEU with beneficiaries, and non-uniform and subjective decision-making by the provider (Figure P1.12).

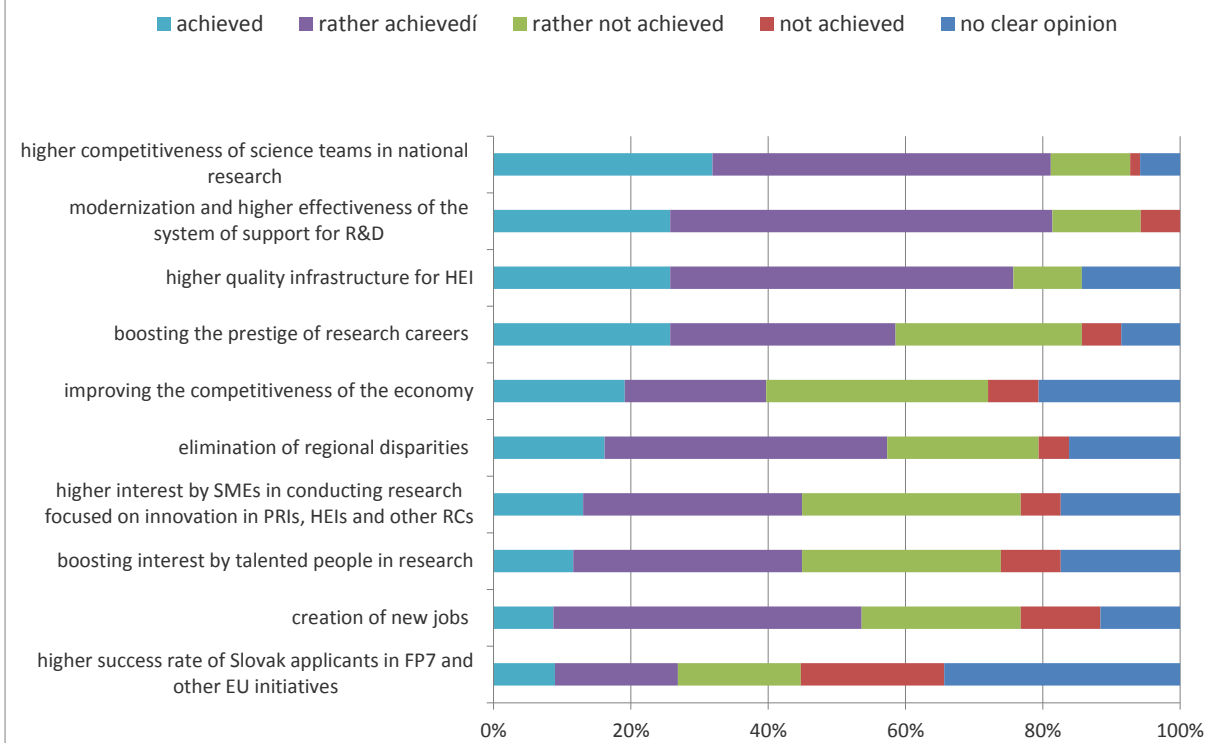
As much as 84% of respondents believe that the new OP for support of R&D should be set up so as to be more flexible and entail less administrative burden in project implementation, and only 4.3% of respondents think the current implementation is set adequately. The aid should be targeted more at R&D infrastructure development (60.9%) rather than at research alone (49.3%). The respondents believe that a bigger number of smaller projects should be financed (42%) rather than a smaller number of large projects (26.1%). 33.3% of respondents were in favour of continuation of the so-called “Bratislava exemption”, while 17.4% thought that Bratislava Region should not be exempted. The future OP should be set up more along the principle of complementarity to the EU framework programmes (31.9%). In contrast, only 8.7% believe Slovakia should focus more on the priority national themes and not take the international context into consideration (8.7%). The respondents desired fewer priority areas to be defined in the new OP (29%) (Figure P1.13).

Figure P1.8. Setting of OP Research and Development (and calls for proposals)



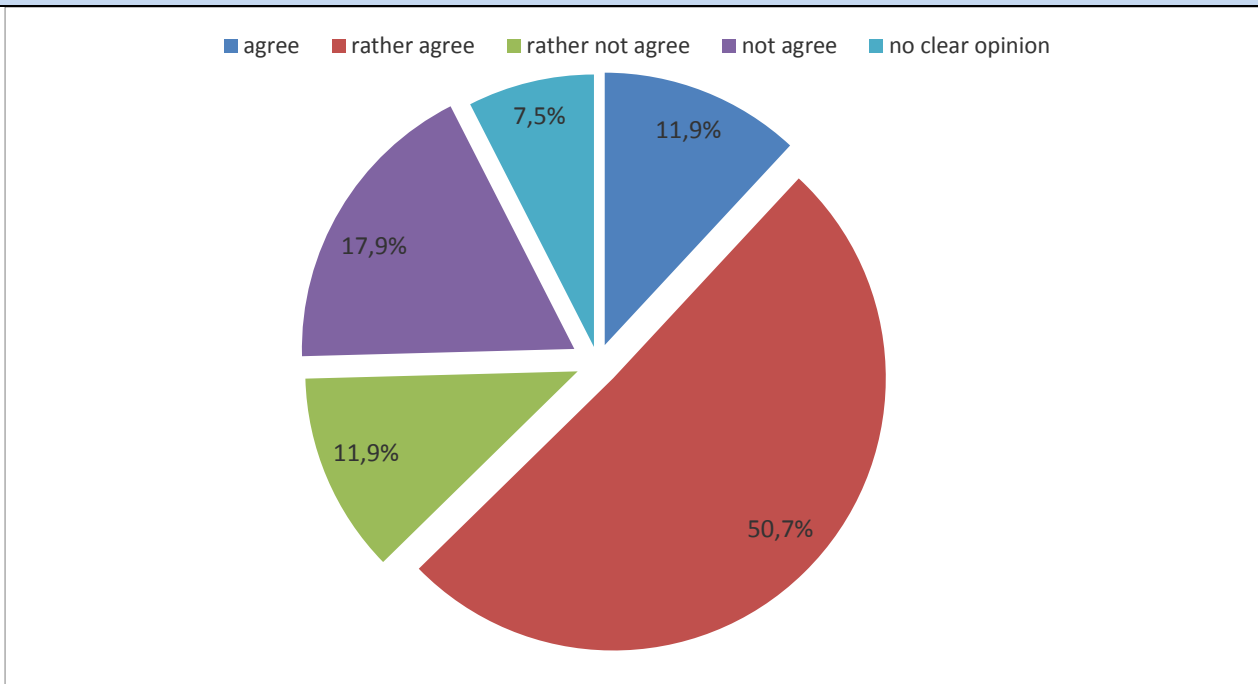
Question 9: Do you agree with the current set of OP Research and development (and calls for proposals) in which it is possible to support research and infrastructure projects?

Figure P1.9. Achievement of the global objective of OP Research and Development



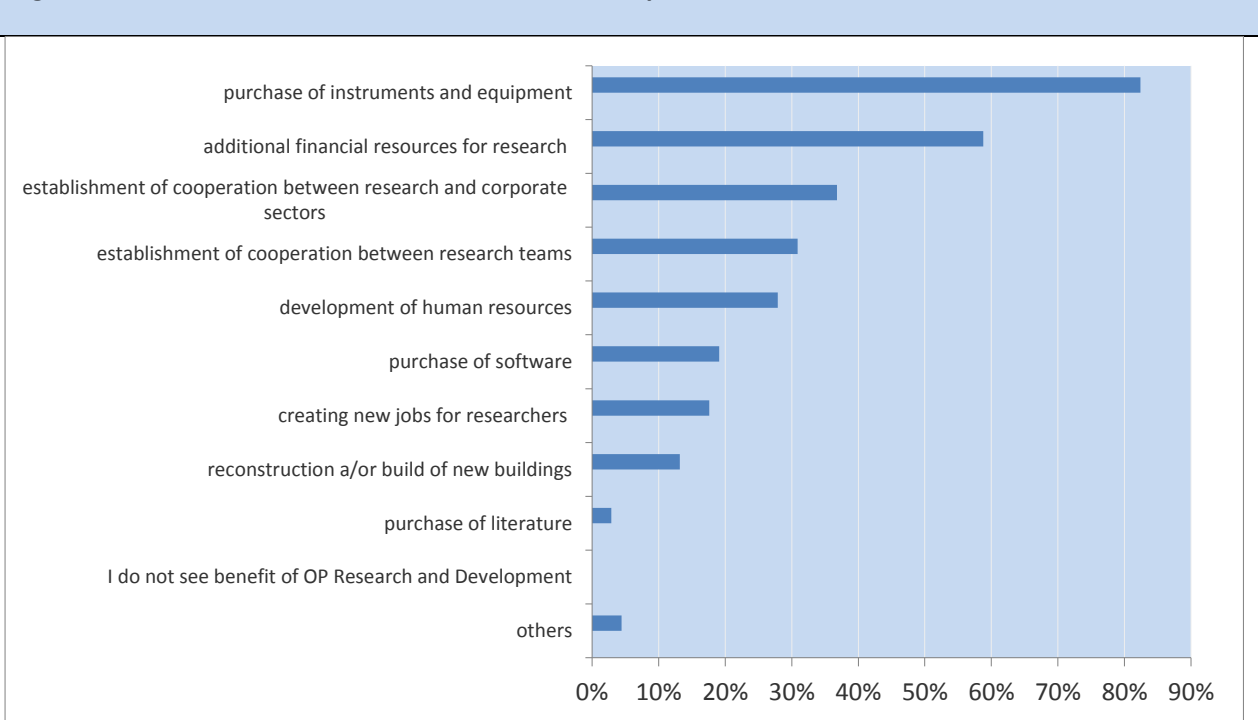
Question 10: Based on your experience in implementing projects, do you think that the OP Research and development achieved these goals?

Figure P1.10. Complementarity of OP Research and Development and EU programs



Question 11 Based on your experience in implementing projects, do you agree or disagree with the statement that the OP Research and Development is set complementary to EU programs (eg FP7, CIP, etc..) and it allows to increase the participation of the Slovak Republic in EU programs?

Figure P1.11. Benefit of the OP Research and Development

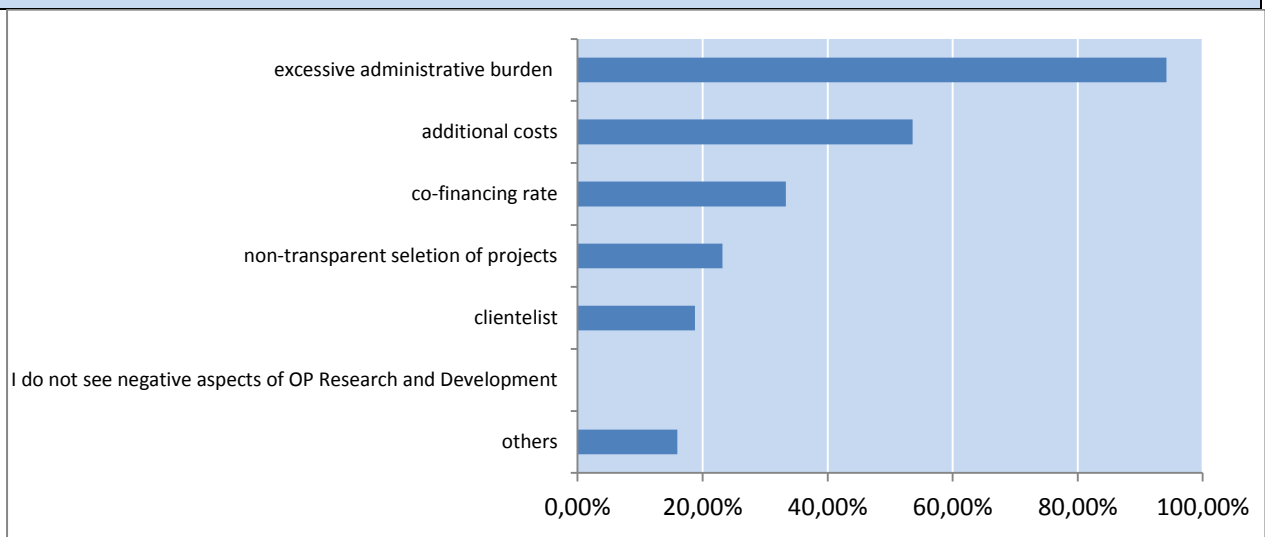


Others (most common answers):

- Increasing the level of research and development;
- Technology transfer.

Question 12: What is the main benefit of OP Research and Development for your institution? (choose 3 possibilities)

Figure P1.12. Negative aspects of OP Research and Development

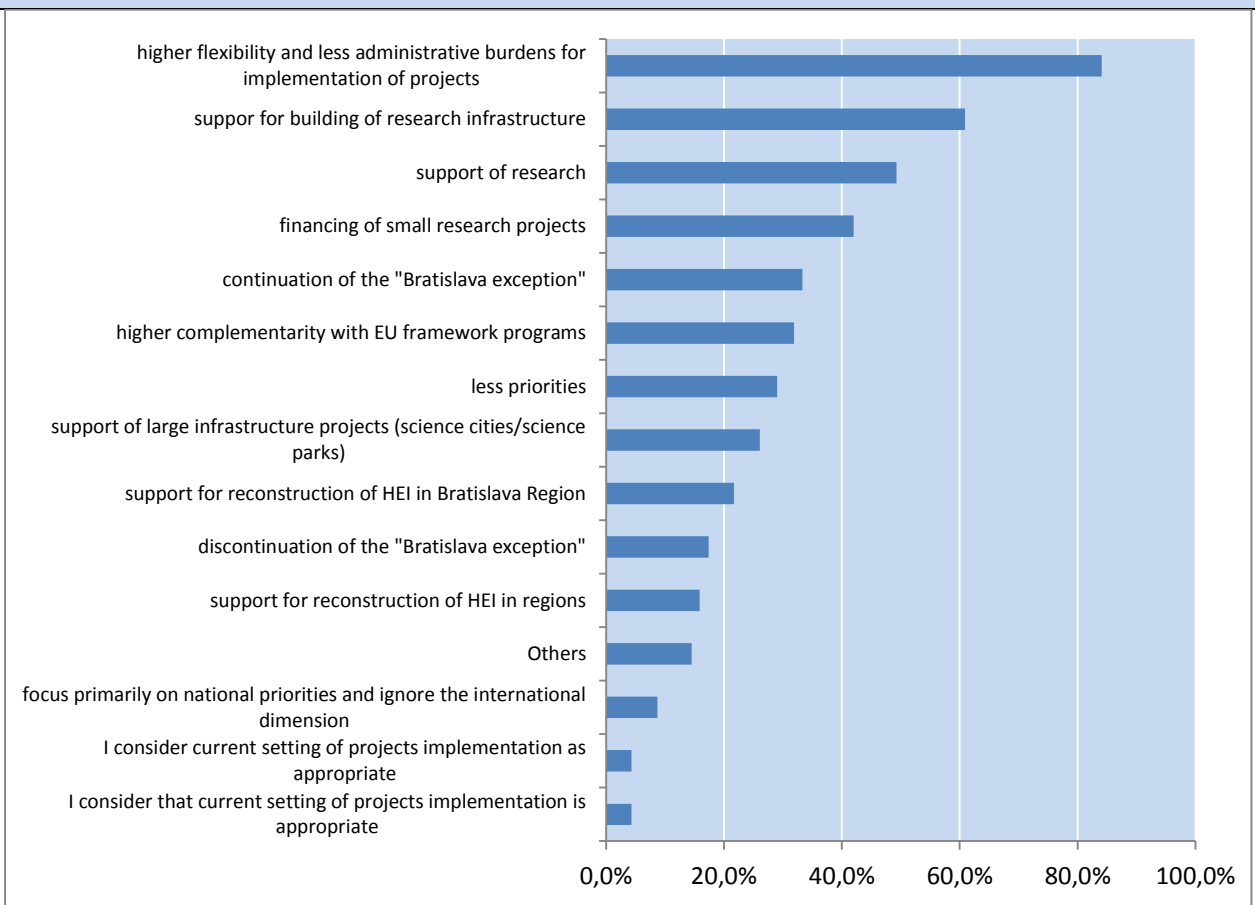


Others (most common answers):

- Copyright, use of instruments and equipment, change the rules during project implementation;
- The way of financing of projects and non-financing of RfP;
- Difficult and slow ASFEU communication with the beneficiaries;
- Bureaucratization of management, administration and financing of approved projects;
- Inconsistencies and subjectivity in deciding on the level of the MA and ASFEU;
- Opposing statements of state bodies, or of the same body in the same things, often issued additionally;
- Difficulties and risks of procurement for research activities that are so specific that cannot be planning as is usual for other activities. Public procurement for research should be treated in the legislation differently than before.

Question 13: What is the main negative aspects of seeking funding for projects from OP Research and Development ?

Figure P1.13. Setting of new OP Research and Development

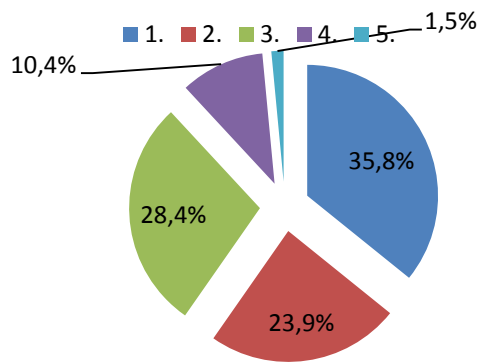


Others (most common answers):

- Achieving the global objectives OP and responsibility of competent for their execution,
- Setting of project indicators for real outputs and not inputs,
- Results of research and development supported from public funds must produce public values,
- Human resource development,
- Increase support for international cooperation within programs research infrastructure, INTEREG, ERA-NET, cross-border cooperation and etc.

Question 14: Slovak Republic is in the preparation of new programming period for EU structural funds for the years 2014-2020. On what principles in your opinion should be built a new operating program to support research and development?

Figure P1.14. Cooperation between provider and beneficiaries



Question 15: ASFEU is responsible for implementation of projects within OP Research and Development. How would you evaluate cooperation in implementing your project? (1= very good, 5= very bad)

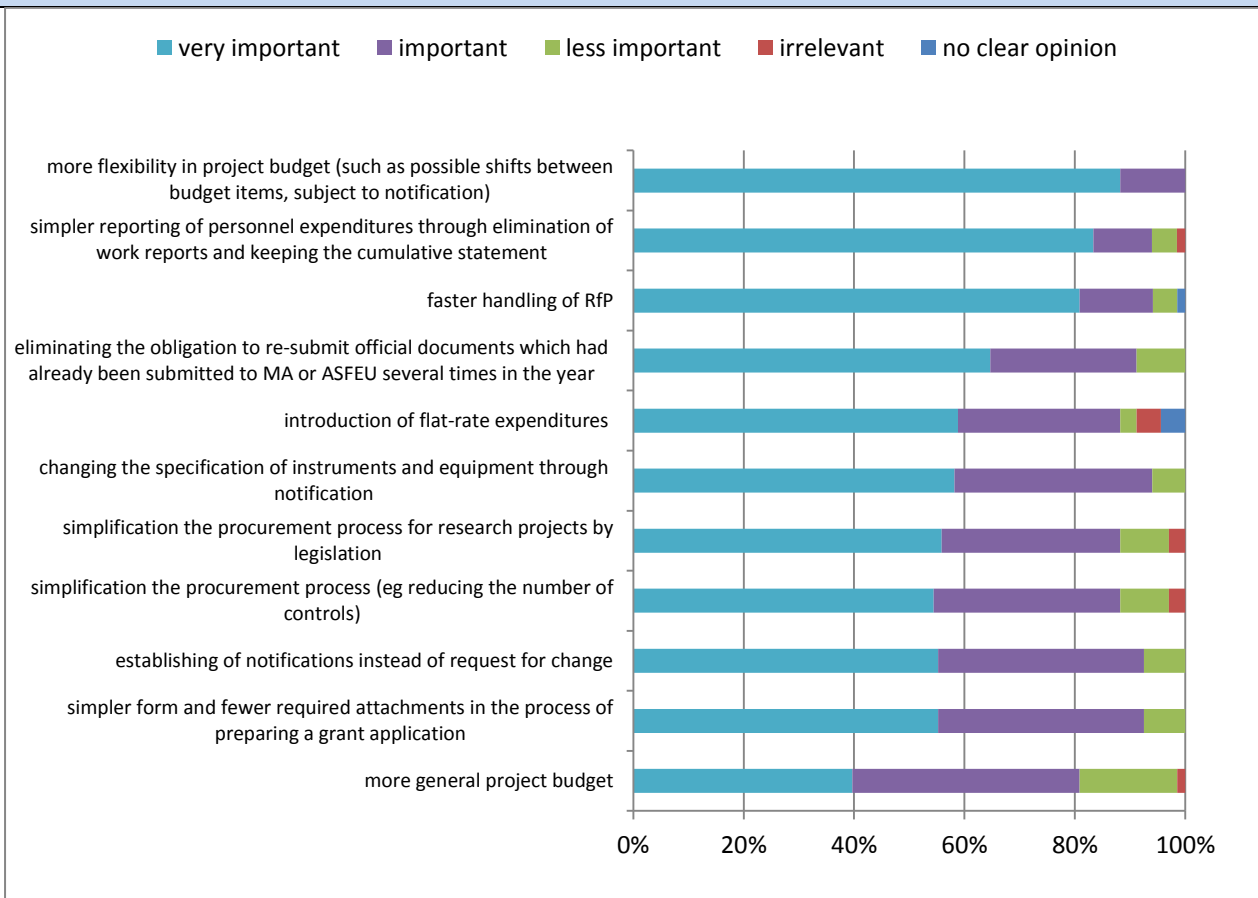
2.3. Implementation of OP Research and Development

Grant beneficiaries often complain about excessive administrative burden entailed in implementation of projects funded under OP Research and Development. That was confirmed by the survey questionnaire (see Figures P1.12 and P1.13). Measures (other than more general project budgets) to eliminate the administrative burden were viewed as very important by most respondents. Three of the proposed measures were viewed as important by more than 80% of respondents, namely “more flexibility in project budget (such as possible shifts between budget items, subject to notification)” (88.2%), “simpler reporting of personnel expenditures through elimination of work reports and keeping the cumulative statement” (83.3%) and “faster handling of RfP” (80.9%) (Figure P1.15). Proposals by beneficiaries focused mainly on simplification of manuals, introducing flat-rate expenditures, eliminating the obligation to have a specific site of project implementation, and introducing electronic submission of documents.

Regarding hidden costs or additional costs, they included primarily costs of project administration which cannot be included in the planned expenditures (51.5%), costs of project preparation (41.2%) and costs of pre-financing of the project (38.2%) (Figure P1.16). Costs of necessary adjustments to premises/buildings for equipment installation are the most important item from among the other costs mentioned by the respondents. Beneficiaries estimate the average hidden costs at 10.6%. (Box P1.2).

The absolute majority of respondents attribute primary importance to scientific results (86.6%) over administrative correctness of implementation (13.4%) (Figure P1.17).

Figure P1.15. Eliminate the administrative burden

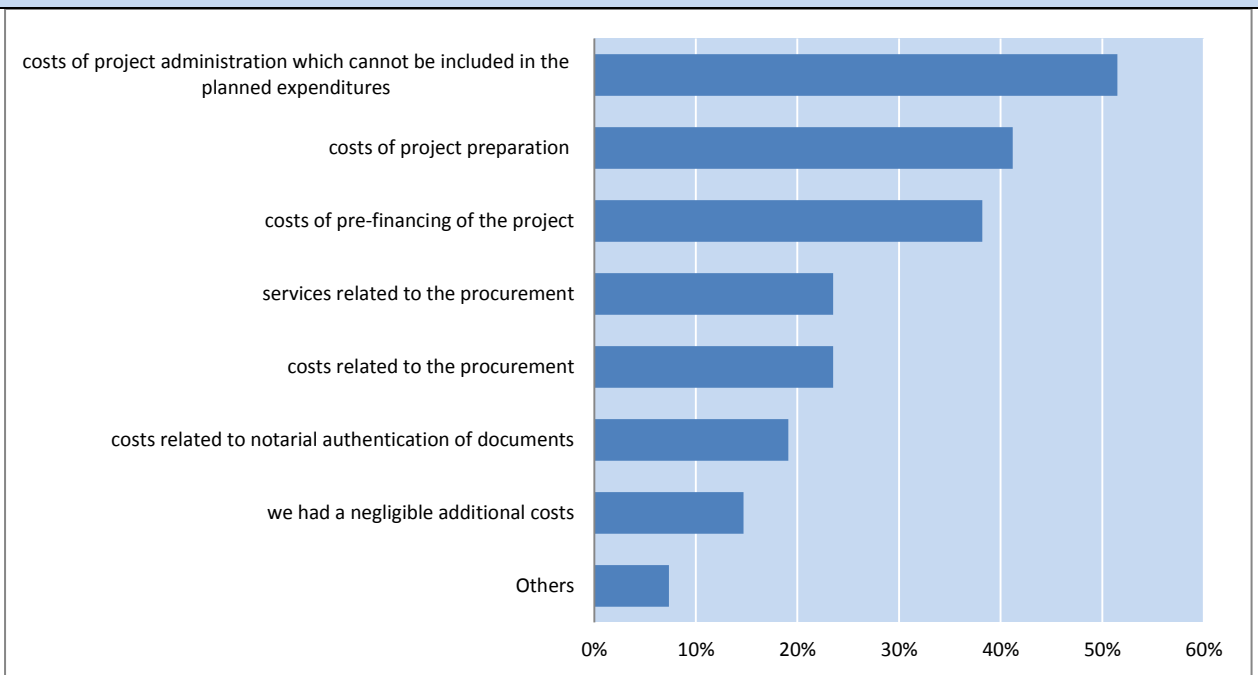


Others (most common answers):

- Simplification of the guide, facilitate publicity,
- Possible changes in the activities and the budget related with process of research (the possibility of transferring funds from personal expenses to devices and vice versa),
- The ability to increase expenses on project management for prolongation of project and dissave their to full completion of the project from administrative point,
- Change Schedule of the project and prolongation project by notification,
- The possibility to change budgets by notification- move items between partners, availability of financing by advance payments and pre-financing for businesses, increase the percentage amount of advance payments, to allow easier way extraordinary advance payments, accelerating the flow of funds,
- The introduction of maximum flat-rate expenses,
- The ability to change indicators (in increasing one, reciprocal other one to reduce),
- Enable sending documents electronically- eg. Scan invoices. The procedure for entering statements dispense with their paper versions.
- Clearly answers from employees ASFEU to questions of applicants. It often happend that many employees ASFEU answered the same question different,
- Cancel specific location of the project realization and to limit location only regionally,
- Cancel detailed statements of work with descriptions of activities, eliminate of personal matrix and keeping time sheets and monitoring reports,
- The filling the online form statement of work takes 4-5 times longer than it took the filling of form excel,
- Do not submit all accounts, just audit/ control of the organization for RfP.

Question 16: In which areas do you see the greatest potential of reducing administrative burden of preparing and implementation projects under the OP Research and Development?

Figure P1.16. Hidden cost of projects



Others (most common answers):

- The costs on documentation, which related with requirements for submitting requests for payment and is over the framework of agenda customary used in the organization, the costs for making copies of documents, demands on time for verifying the amount of documents,
- The unrecognized costs for filling the statements of work and for studying the rules, manuals, regulations, guidelines, general terms and conditions, costs accounting of each expense,
- The costs for necessary construction modifications to install equipments- these expenses, often in the preparation of the project, can not be precisely specified,
- The costs for moving equipments after supply,
- The costs of energy and water- these expenses are difficult to recognize,
- The pre-financing- the costs to pay VAT on purchases from abroad, these costs can be reimbursed, but the organization must first be paid from its own resources,
- Bank charges on foreign payments,
- Shipping,
- Office supplies,
- Take into account the real general costs or pay them by flat-rate. These are the costs related with administration and project solution (often presented as indirect costs of the project).

Question 18: In case, that you had additional (hidden) costs, indicate, what percentage of the amount of the grant were?

Box P1.1. Hidden costs related to prepare phase of the project and conduct of the project

On the question number 18 answered a total of 38 respondents, 4 of them could not estimate the amount of hidden costs associated with preparing and solution of project. For other respondents, the range varied from 2 to 50% on average is about 10, 6%.

Question 17: Each applying for funding from operational programs provides additional (hidden) costs. Which of the following additional costs are the most burdensome (or most negative perceived)?

2.4. Meeting the objectives of projects

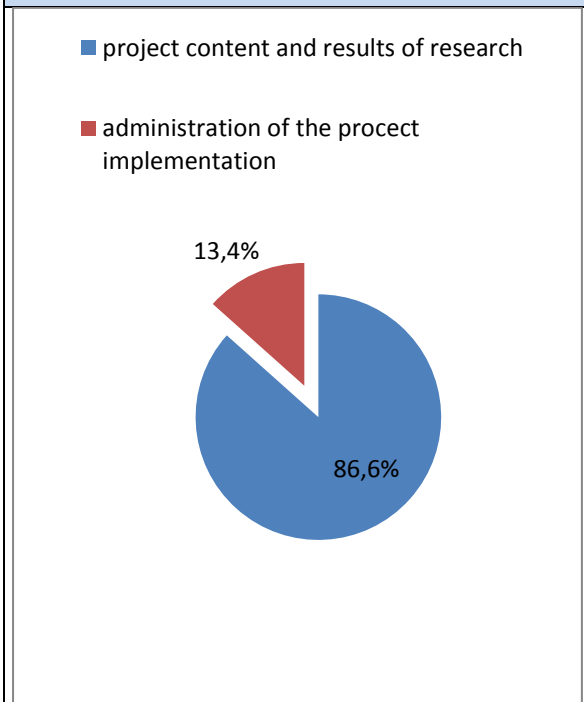
Objectives defined in project descriptions are being achieved in more than three-quarters of projects, partially being achieved in 20.9% of projects and not being achieved in 1.5% of projects, with the reasons given being complex and lengthy public procurement (Figure P1.18).

More than two-thirds of respondents stated that their projects are not progressing according to schedule (Figure P1.19). The major reasons why these projects are failing to progress according to schedule are delays caused by public procurement (91.3%) and delays caused by requests for grant contract amendments (28.3%) (Figure P1.20).

The setting of measurable indicators was perceived as rather adequate by 45.3% of respondents and as adequate by 10.9% of respondents. On the other hand, 21.9% of respondents think the indicators were set rather inadequately and 15.6% think they were set inadequately (Figure P1.21). The major difficulties related to attaining the indicators by beneficiaries included limited choice, unclear definition of measurable indicators, and the method of their attainment and monitoring in the early, first calls as well as the focus of the entire system on input indicators rather than output indicators (Box P2).

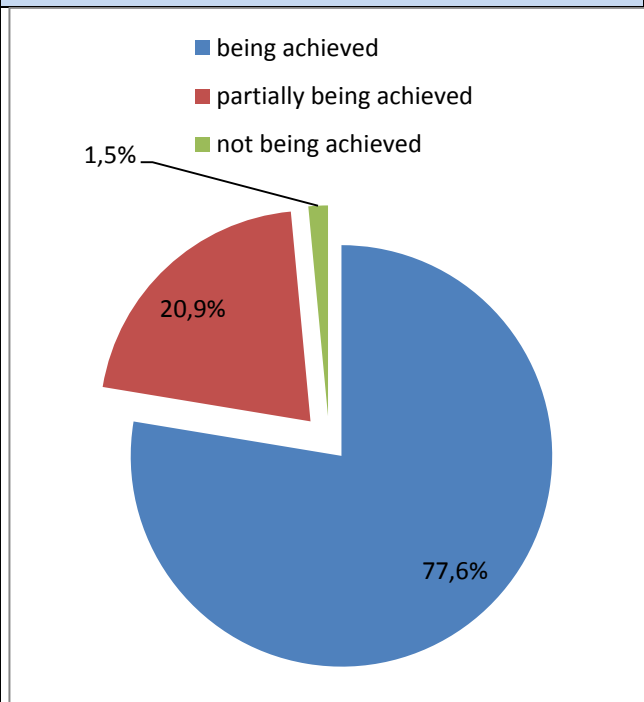
As much as 53% of respondents claimed having had problems with requests for payment in their projects (Figure P1.22), with the most significant problems being excessively long checking of RfP by ASFEU, requesting documents and additional information to RfP going beyond contractual agreements and the Manual for Beneficiaries and requesting yet additional documents/information to RfP and reservations which had not been mentioned in the previous request for completion of RfP. Two-thirds of respondents specified that the average period of handling RfP for personnel expenditures was 4-6 months, 15.1% estimated it at 7-9 months, and the same percentage claimed that RfP is handled in 3 months (Figure P1.23). In the category of construction activities, 81.8% of respondents claimed their projects did not include that kind of activities. Handling of RfP takes less than 3 months and 3-6 months according to 6.8% of respondents, each (Figure P1.24). Regarding purchase of instruments/equipment, 42.1% of respondents claimed that the average handling time of RfP was less than 3 months, and 35.1% estimated 4-6 months, while 5.3% of respondents said handling of RfP took longer than 9 months (Figure P1.25). As for services, 35.2% of respondents claimed the average time for handling RfP was less than 3 months, and 29.6% estimated it at 4-6 months (Figure P1.26).

Figure P1.17. Content of the project vs. administration of the project



Question 19: What is your priority in implementation of your project?

Figure P1.18. Achieving of the project objectives

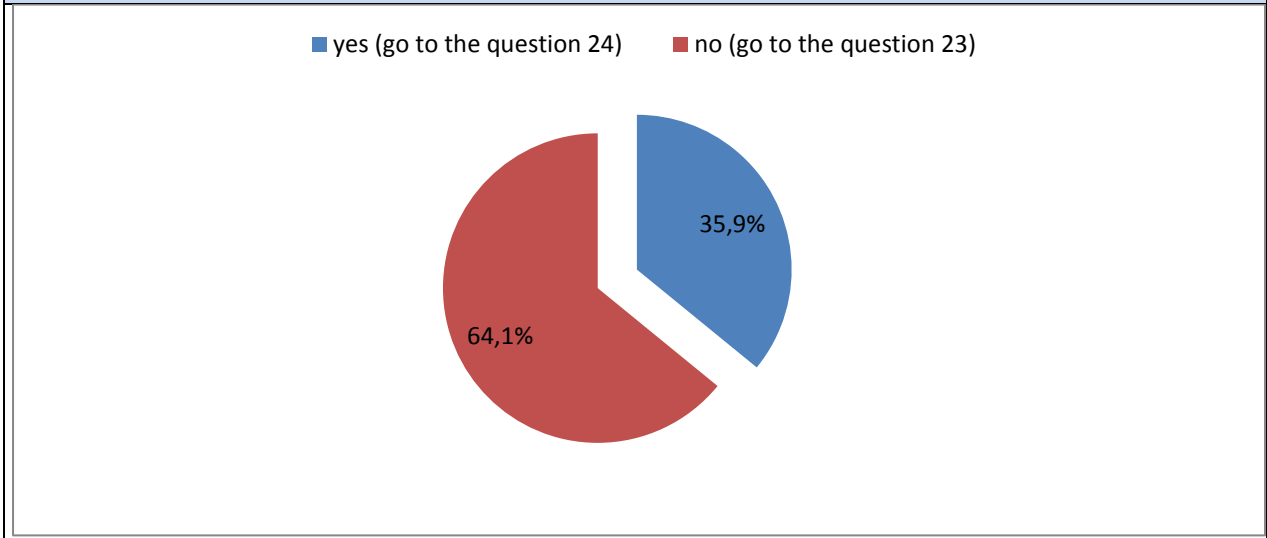


Reasons:

- Complicated and lengthy procurement

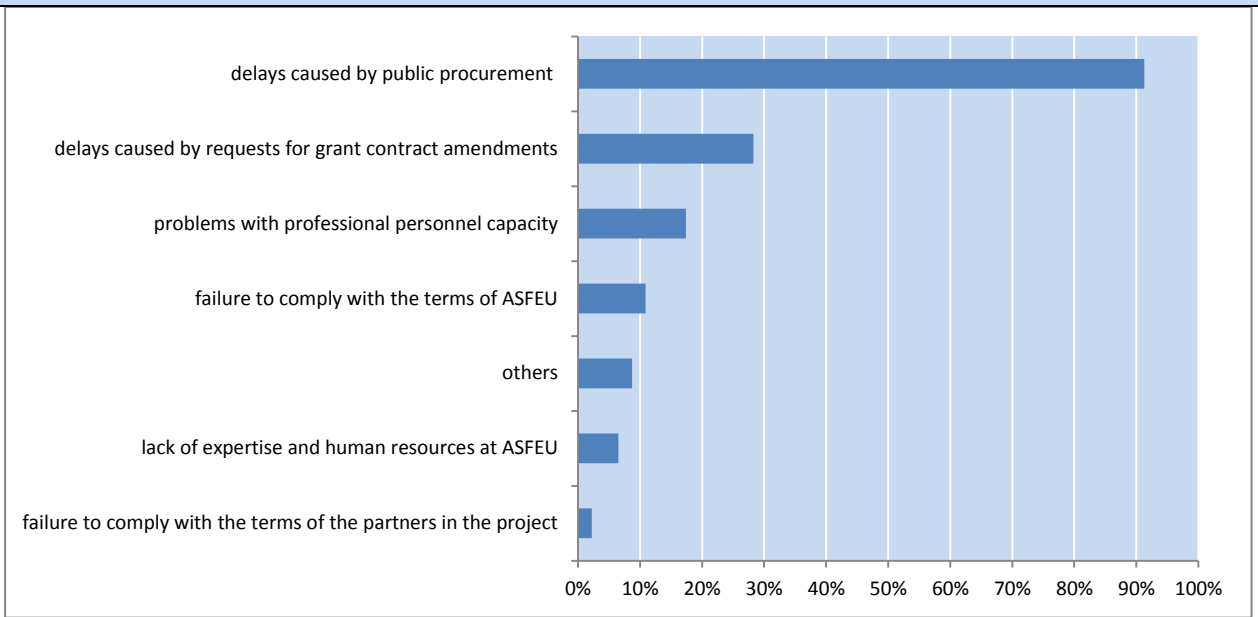
Question 21: It thrives to achieve the projects objectives?

Figure P1.19. Progress according to schedule



Question 22 Does your project progress according to schedule?

Figure P1.20. Major reasons why projects are failing to progress according to schedule

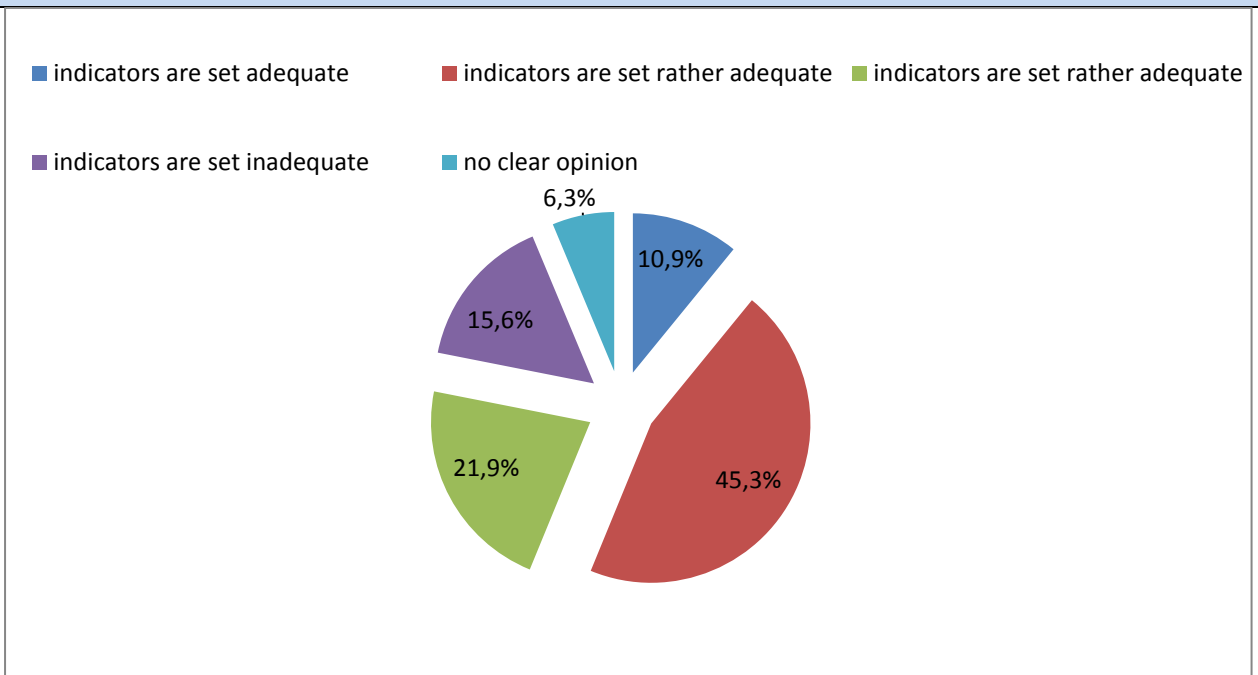


Others (most common answers):

- Delays due to financial problems as a result of long processes in the reimbursement
- The complexity of the project,
- Insufficient administrative capacities of all partners,
- Insufficient clearly and practically defined methodological guidelines (eg. Guidelines for the recipient should be developed in collaboration with investigators.)

Question 23: If the project does not proceed according to the original schedule, which is the most common reasons?

Figure P1.21. Setting of indicators



Question 24: Based on your experience in implementation of the projects, do you think that results and impacts of indicators for each calls are set appropriately or inappropriately?

Box P1.2. Meeting the project indicators

On the question number 25 answered a total of 50 respondents. One answer of them was an illogical and one has not been completed correctly. Other answers can be based on their nature divided into 3 groups- positive, negative and neutral experience. On latter question, respondents do not have insufficient experience of achieving measurable indicators, since the project is still in the first phase of the solution.

Positive experience (most common reasons):

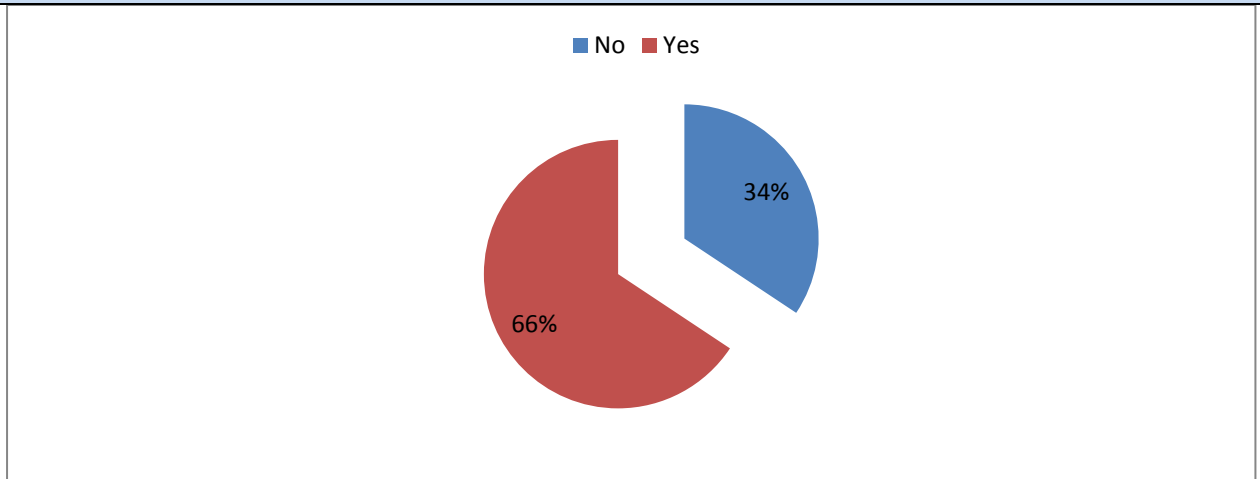
- Selected indicators are defined appropriately,
- The indicators thrive to achieving according to schedule,

Negative experience (most common reasons):

- For the first calls measurable indicators were not appropriately defined, there was not appropriately defined the method of achieving and monitoring,
- From the reasons of not existing clear rules of achieving, measurable indicators have been set high for many projects and in currently there are problems with their achieving,
- Measurable indicators are set for evaluation of inputs instead evaluation of outputs,
- Measurable indicators do not evaluate research quality and achieving of the project objectives,
- Limited selection of indicators,
- Calls should include regulations on the appropriate number of measurable indicators and the method of their implementation,
- Measurable indicators should be monitored during the entire project, not to individual activities,
- The achieving of measurable indicators in the personal area , especially the problem of equal opportunities, where the applicant can not guarantee that the graduate student is male or female,
- Some indicators related to horizontal priorities are from sight of research projects irrelevant.

Question 25: Please describe your experience of meeting indicators (definition, suitability, meeting of indicators etc).

Figure P1.22. Problems with RfP



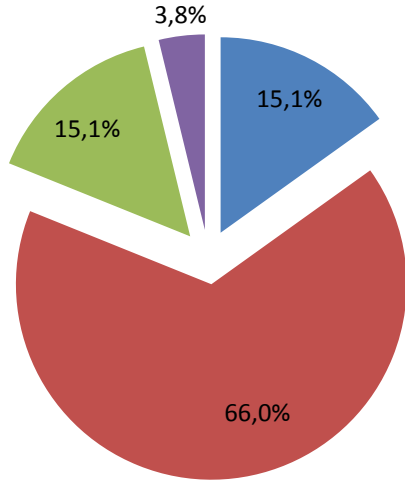
Most common answers:

- Extra-long control of RfP by the ASFEU,
- Require evidence beyond the contractual relations,
- Require amendments RfP, documents and attachments beyond the recipient's guide,
- Often calls to one RfP, reservations that were not mentioned in a previous call to complete RfP,
- Disproportionate bureaucracy in assessing eligibility,
- Calls to complete the RfP are often targeted for small, probably due to workers ASFEU stretched the time limit for administration requests,
- The overlap of activities in personnel expenses, and their assessment for the entire month as ineligible,
- A different approach to assessing financial managers RfP (annexes, which are sufficient for one, is inadequate for any other manager),
- Technical problems ITMS,
- Problems with reimbursement RfP, which include services,
- Subjective assessment of the content of studies, and nowhere is not mentioned, what should include and how should be a range,
- Problems with reimbursements of wages,
- Too many papers documenting accounting for all types of expenses,
- A large bureaucracy joined with written calls to complete RfP (phone or e-mail contact would significantly expedite processing).

Ot. 26: Have you encountered any problems with the RfP?

Figure P1.23. The average time of reimbursement (personnel expenses)

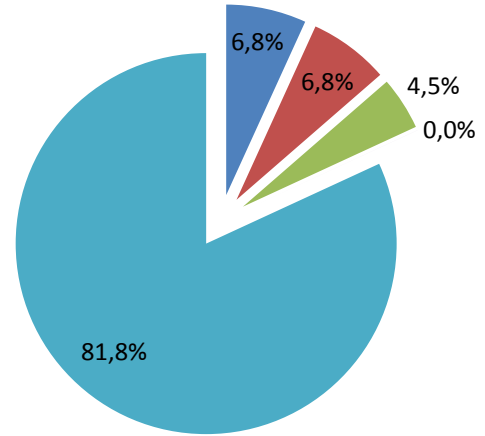
■ less then 3 months ■ from 4 to 6 months
■ from 7 to 9 months ■ more then 9 months



Question 27: What is the average time of reimbursement for personal expenses?

Figure 1.24. The average time of reimbursement (construction activities)

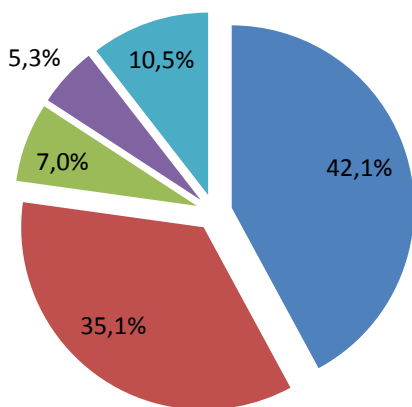
■ less then 3 months
■ from 4 to 6 months
■ from 7 to 9 months
■ more then 9 months



Question 28: What is the average time of reimbursement for construction activities?

Figure P1.25. The average time of reimbursement (instruments/equipment)

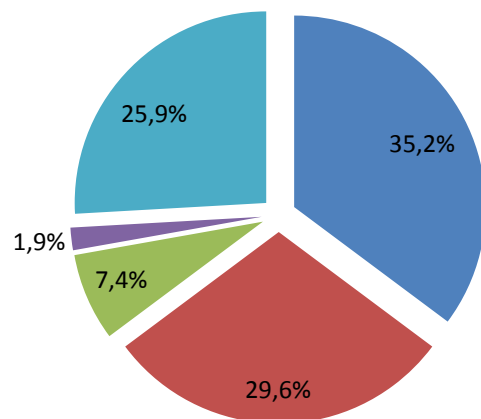
■ less then 3 months
■ from 4 to 6 months
■ from 7 to 9 months
■ more then 9 months
■ we do not buy instruments and equipment



Question 29: What is the average time of reimbursement for instruments and equipment?

Figure P1.26. The average time of reimbursement (services)

■ less then 3 months
■ from 4 to 6 months
■ from 7 to 9 months
■ more then 9 months



Question 30: What is the average time of reimbursement for services?

Annex 2 Detailed results from survey questionnaire for employees of MA and ASFEU

1. Essential information about the survey questionnaire process

The survey for employees of MA and IB/MA under OP Research and Development was originally planned to be administered from 18 to 25 October 2011. The questionnaire contractor had planned that the principal would address the employees of MA and IB/MA (primarily project and financial managers) who are involved in implementation of the OP. An on-line version of the questionnaire was prepared and programmed using the SurveyMonkey application with the intention of making administration of the survey and evaluation of responses easier. Following comments made by the principal, the evaluator eliminated certain questions, and the principal also changed the method of distribution and collection of completed questionnaires. Questionnaires in pdf version were distributed by e-mail to employees of MA and IB/MA by MA. The printed and completed questionnaires were handed over to MA which subsequently provided the hard copies to the evaluator. The survey questionnaire was administered from 15 to 23 November 2011. The number of completed questionnaires was n=86.

The survey questionnaire had four stages:

1. Questionnaire design

- Designing the draft questionnaire by SOVVA;
- Comments to questionnaire provided by members of the evaluation team;
- Incorporating the comments;
- Submission of the draft questionnaire to MA and subsequent embedding of comments.

2. Data collection

- Programming the questionnaire into an the on-line SurveyMonkey application;
- Testing the on-line questionnaire by the SOVVA staff;
- E-mailing the pdf questionnaire to MA;
- Questionnaire distribution to employees of MA and ASFEU;
- Collection of hard copies of the questionnaire.

3. Data processing

- Loading all questionnaire data into the SurveyMonkey application;
- Data check and elimination of illogical responses;
- Processing each question into a table and a figure;
- Identification, description and aggregation of the most frequent responses to open-ended questions.

4. Analytical outputs

- Analysis of respective outputs and results of the survey as a whole;
- Incorporation of the results from the survey questionnaire into evaluation of OP Research and Development.

Analytical processing of results from the survey questionnaire is an integral part of the evaluation of OP Research and Development. Graphical layout of respective questions and a more detailed analysis are integral parts of Annex 2.

2. Evaluation of the survey questionnaire

Regarding achievement of the global objective of OP Research and Development (split into logical components), the employees of MA and IB/MA believed that the OP brings the highest benefit to modernization and higher effectiveness of the system of support for R&D (certainly achieved and rather achieved by 85.7% of the respondents), followed by improving the quality of infrastructure of higher education institutions (certainly achieved and rather achieved by 83.3%), boosting the prestige of research careers (70.2%) and higher level of interest by SMEs in implementation of research focusing on innovation in public institutions and other research centres (63.9%). The respondents did not express clearly strong views of elimination of regional disparities (certainly achieved and achieved by 44%, certainly not achieved and not achieved by 23.8%), improving the competitiveness of the economy (certainly not achieved and not achieved by 25%), and creation of new jobs (certainly not achieved and not achieved by 28.6%). An interesting finding from the survey is that as much as 52.4% of the employees of MA and IB/MA involved in implementation of OP Research and Development were unable to assess whether the OP contributes to a higher success rate of Slovak applicants under the EU 7th Framework Programme and other EU initiatives (Figure P2.1).

On the other hand, as much as 59.5% of the respondents agreed that OP Research and Development is set as a complementary programme to EU programmes (such as the 7th Framework Programme and CIP) and results in higher participation by Slovak research teams in the initiatives. The responses showed that 9.5% of the employees fully agreed and 6% rather disagreed with that statement. 25% of the respondents did not know (Figure P2.2).

Regarding the benefit of OP Research and Development to the Slovak Republic, the respondents viewed purchase of instruments and equipment (by 77.4%), additional resources for research (by 69%) and establishing cooperation between research and industry (by 44%) as the leading benefits (Figure P2.3).

Only 4.9% of employees of MA and IB/MA perceived beneficiary-provider cooperation as excellent, 46.3% scored it with 2 and 45.1% scored it with 3. Cooperation was perceived as very poor by 2.4% of respondents (Figure P2.4).

The perception of administrative burden was as follows: over 60% of respondents claimed that the following measures are very important or important for the burden reduction: simpler forms and less mandatory supplements/annexes in preparation of an application for a grant (69.7%), faster handling of RfP (65.4%), eliminating the obligation to re-submit official documents which had already been submitted to MA or ASFEU several times in the year (65.1%), introduction of flat-rate expenditures (61.9%) and simplification of personnel expenditures reporting by elimination of work reports and keeping cumulative statements (60.7%). With regard to the last mentioned measure, 15.5% of respondents believed that this change is not feasible. An even higher percentage (16.7%) of respondents believed that the measure for more flexibility in a project budget is not feasible (Figure P2.5).

Regarding achievement of project objectives, 21% of respondents thought that the objectives were being achieved in all projects and most projects (66.7%). Only 6.2% of respondents claimed that

objectives were not being achieved and identified public procurement as the major cause (Figure P2.6).

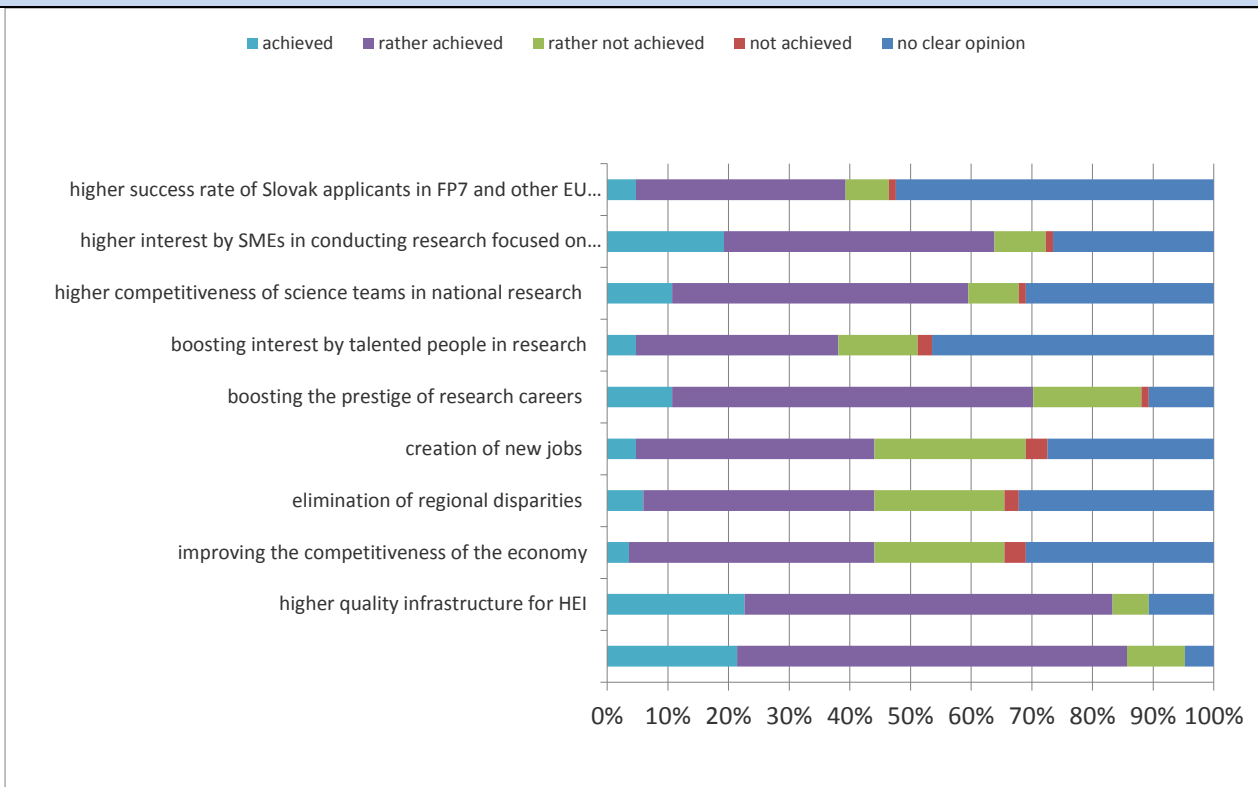
The main cause for project implementation lagging behind schedule was delays due to public procurement according to 76.3% of employees of MA and ASFEU. Errors in RfP were identified by 72.5% of respondents and delays caused by requests for grant contract amendments were identified by 50% of respondents (Figure P2.7).

Measurable indicators were set adequately according to 5%, and rather adequately according to 46.3% of the respondents. On the other hand, 12.5% of respondents thought the indicators were set rather inadequately. 36.3% of respondents said they could not tell whether the measurable indicators were set adequately (Figure P2.8).

Question No. 10 was open-ended and respondents were asked to describe their experience with attainment of indicators by beneficiaries. The question was skipped by 46.5% of respondents. Of those who completed it, 32.6% reported they had no experience with measurable indicators, and 28.3% of responses can be viewed as rather positive (beneficiaries had no difficulties in attaining their measurable indicators, and 39.13% of responses were rather negative. The respondents identified the major difficulties with attaining the measurable indicators as an absence of clear definition of indicators and the way of their attainment in certain calls or applicants' inadequate choice of indicators or defining excessively high values which they are unable to now achieve. (Box P2.1).

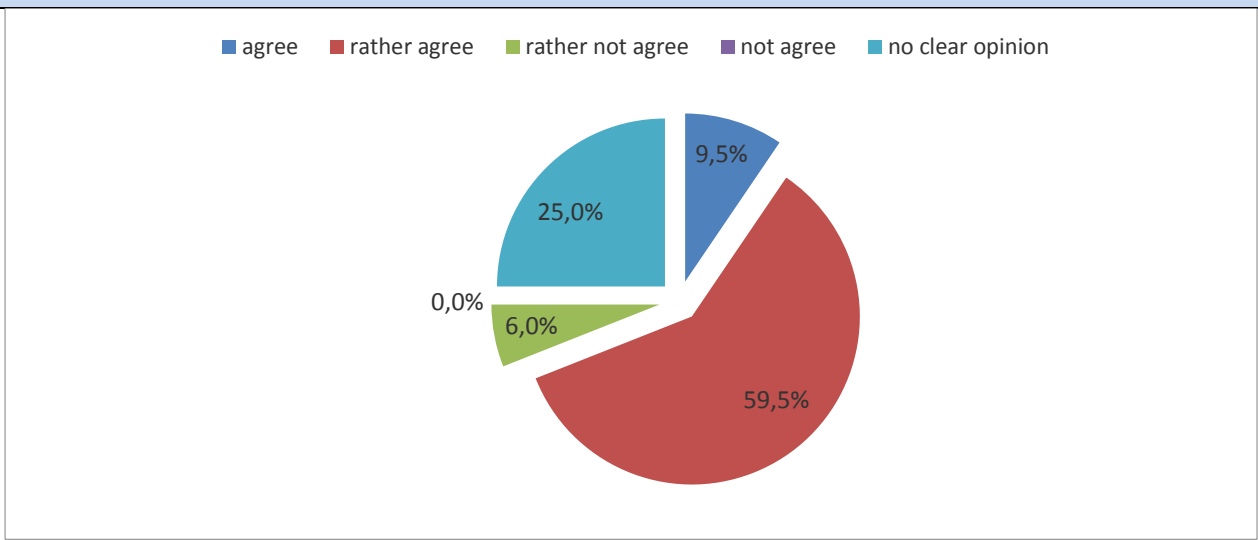
Public procurement was an identified issue in project implementation. Almost two-thirds of respondents reported difficulties related to public procurement. Major identified issues were violations of the public procurement act, wrong procedure applied in public procurement, procuring items in conflict with the comment to the grant contract, and discriminatory conditions (Figure P2.9).

Figure P2.1. Achievement of the global objective of OP Research and Development



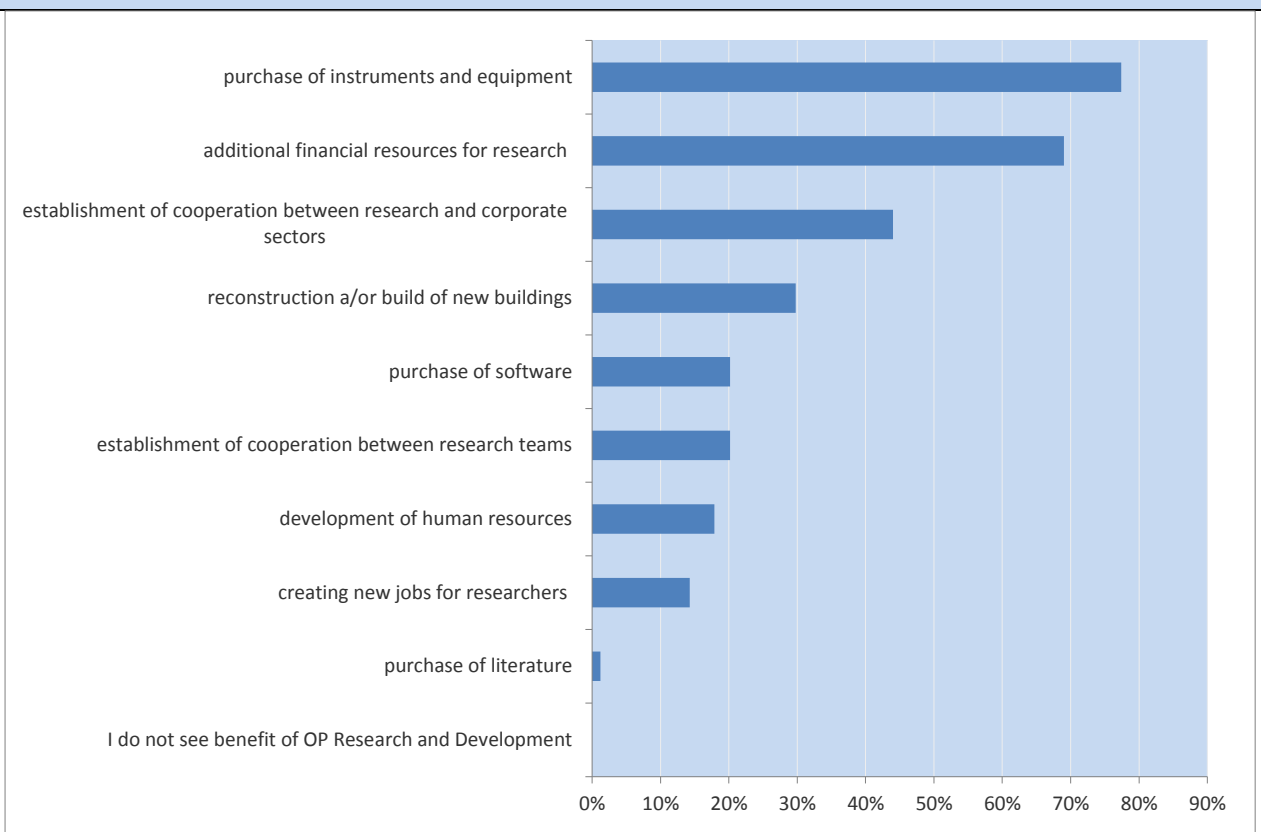
Question 1: Based on your experience in implementing projects, do you think that the OP Research and development achieved these goals?

Figure P2.2. Complementarity of OP Research and Development and EU programs



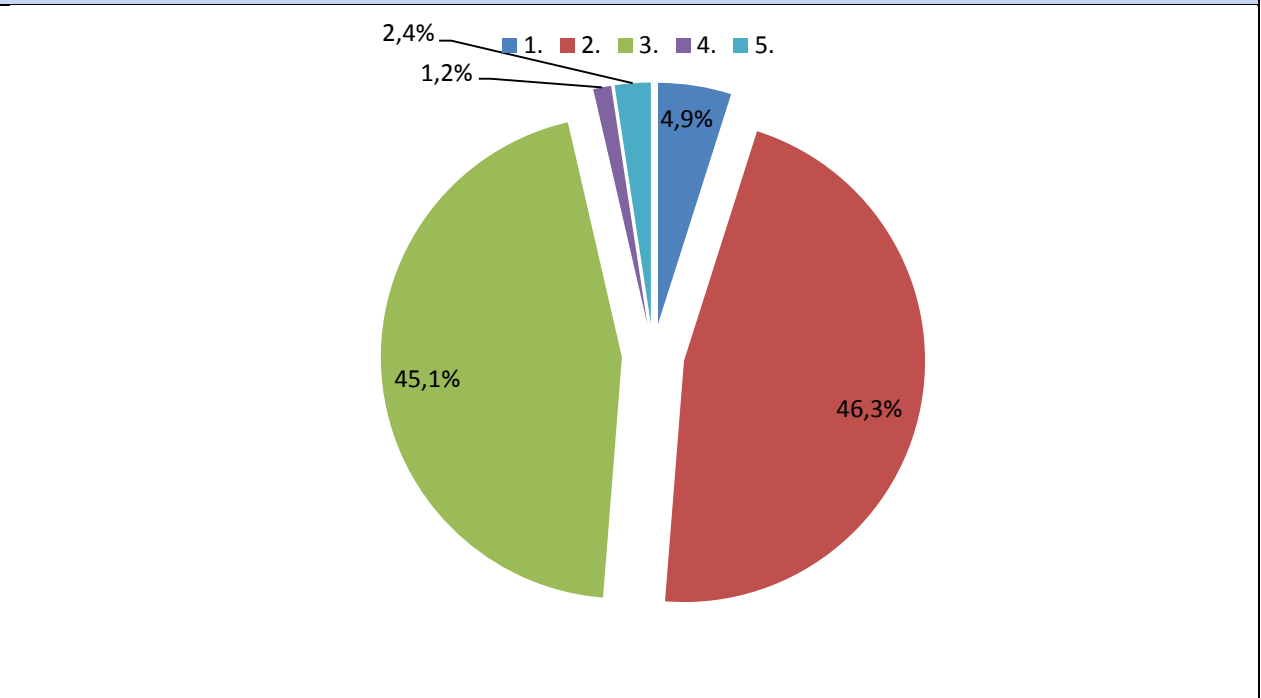
Question 2: Based on your experience in managing and implementing projects, do you agree or disagree with the statement that the OP Research and Development is set complementary to EU programs (eg FP7, CIP, etc..) and it allows to increase the participation of the Slovak Republic in EU programs?

Figure P2.3. Benefit of the OP Research and Development for Slovak republic



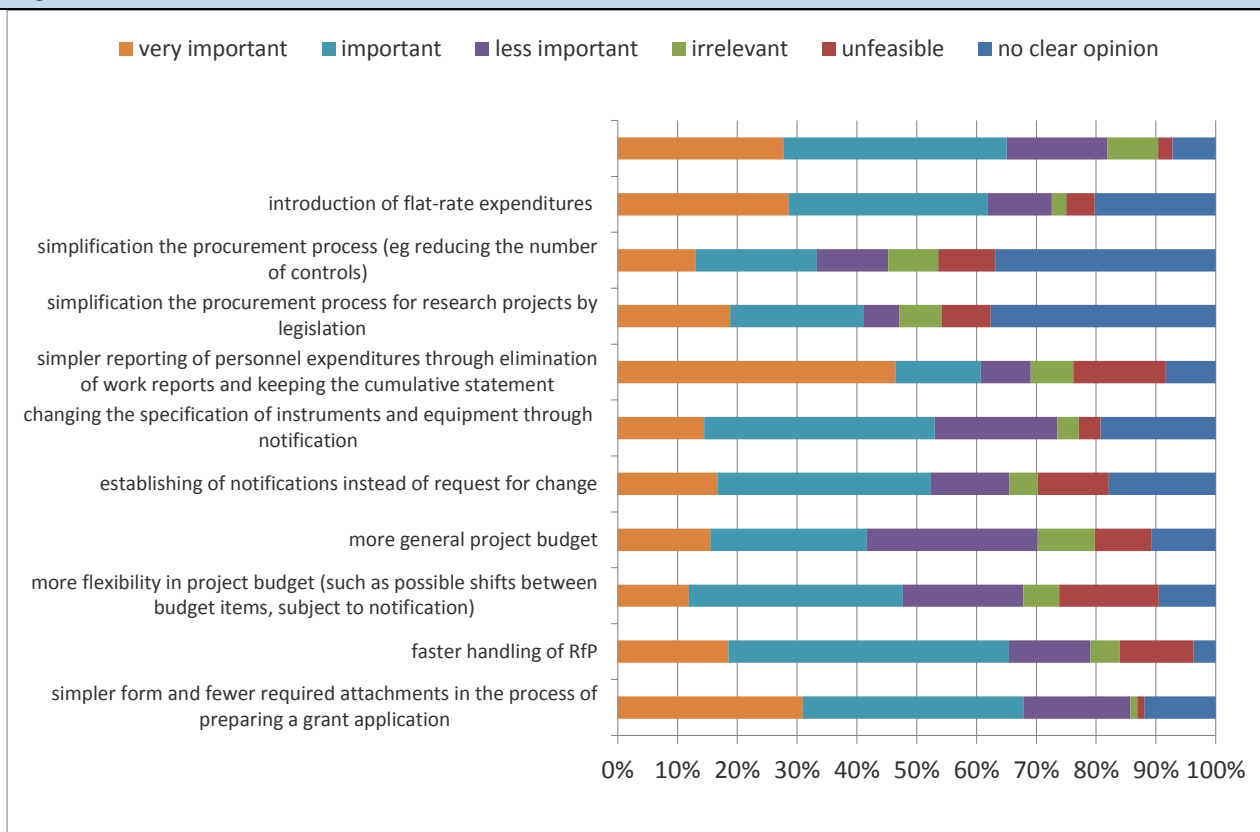
Question3: What is the main benefit of OP Research and Development for your institution? (choose 3 possibilities)

Figure P2.4. Cooperation between provider and beneficiaries



Question 4: How do you rate collaboration with receivers? (1=very good, 5=very bad)

Figure P2.5. Eliminate the administrative burden

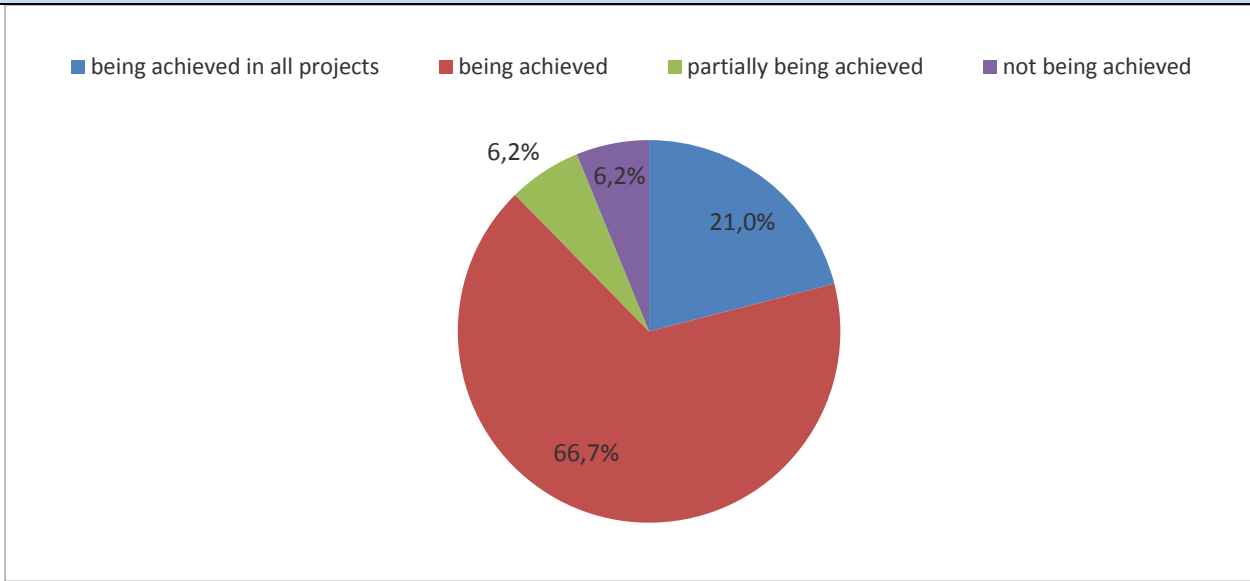


Others (most common answers):

- Simplification of procedures of administrative checks at MA/ASFEU
- Cancelation of duty of the beneficiary to verify documents, receipts and bank statements of the partners;
- Merging positions of the expenditure manager with the project manager. One person should have better overview on the project state of art, and the receiver would communicate with only one manager.
- Administrative checks records sent electronically.
- Project evaluation should focus first and foremost on intent of the projects, the administrative issues should be treated as minor / secondary.
- Not only in the project preparation phase, but also during the implementation is essential to diminish the number of documents the beneficiary should work with.
- Elaborate the User’s Manual for the Call as single compendium substituting plethora of cross-references to other ASFEU documents.
- Elaborate the Beneficiary’s Guide through the individual steps of the project implementation – from publicity issues to methods of work reporting etc. Current model of abundance of documents with overlaping issues is for the beneficiaries extremely misleading.
- Give the beneficiaries more freedom for setting targets and methods to reach them.
- Implementing of majority of the above simplifications could set conditions making impossible to observe principles of effectiveness, efficiency, expedience and efficacy.

Question 5: In which areas do you see the greatest potential for reducing administrative burden of preparing and implementing projects under the OP Research and Development?

Figure P2.6. Achieving of the project objectives

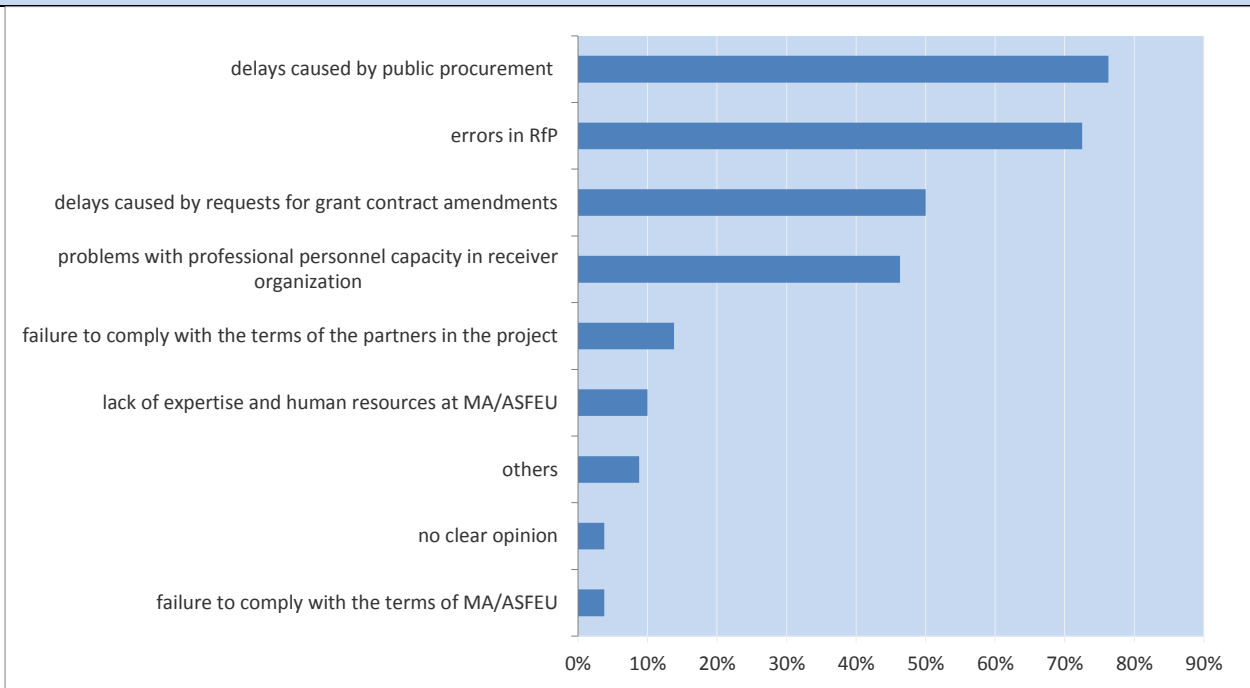


Not being achieved (most common answers):

- procurement

Question 6: It thrives to achieve the projects objectives?

Figure P2.7. Major reasons why projects are failing to progress according to schedule



Others (most common answers):

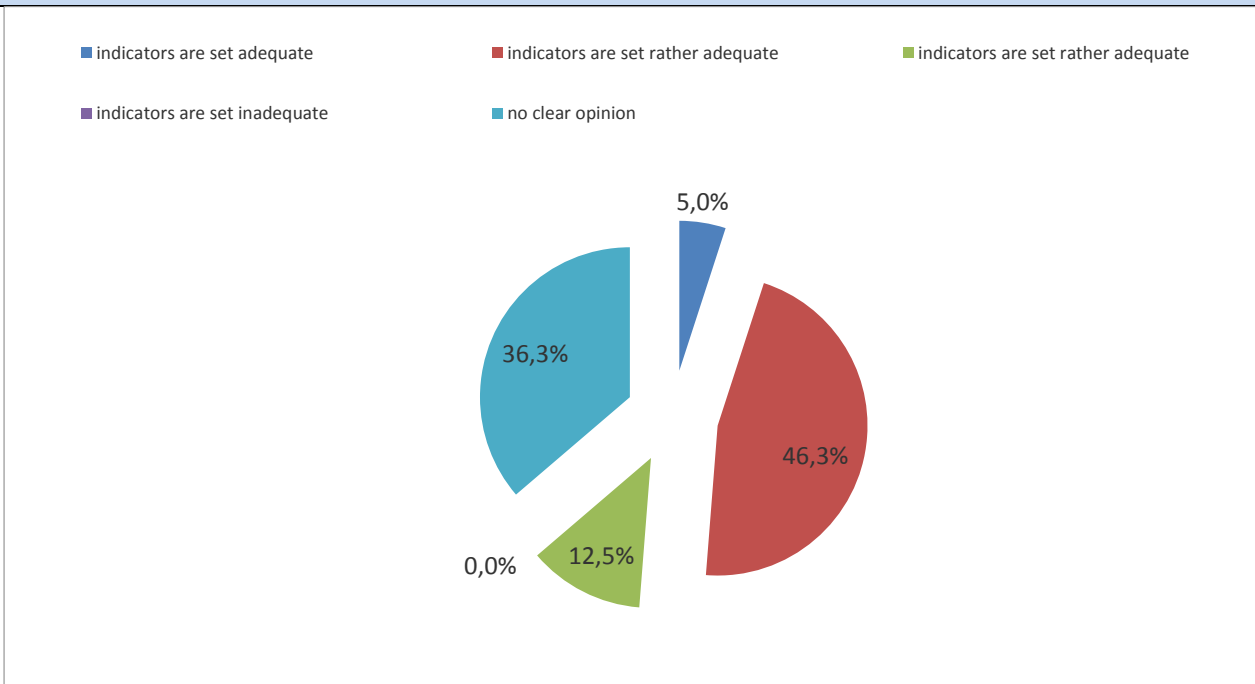
- Incorrect harmonogram in Application for funding.
- Unsuufficient staff for pure paperwork.
- Expert skills and proficiency of staff responsible for receiver’s project management.
- Submission of cummulative requests for payment for several months (sometimes possibly 12) instead of continuous submissions of payments extesively prolonging their checks.
- Significant gap between project preparation process and its implementation leading to necessity of major project time

frame updates.

- Frequent applications for change of agreement due to: time framework (start of project implementation), date of public procurement notice, staff available, parameters of equipment.
- Delays due to political environment, change of OP, delays in approval of state aid schemes.
- Unsuccessful feasibility studies done before submitting Application for funding and subsequently unsound cost estimates, administrative and expert capacities. Missing project sustainability study.

Question. 7: What are the reasons why projects are failing to progress according to Schedule?

Figure P2.8. Setting of indicators



Question 8: Do you think that results and impact indicators in each call for proposals are set adequate or inadequate.

Box P2.1. Meeting the project indicators

Question 9 was answered by 46 of respondents. 15 respondents did not have clear opinion or stated that question is related to the project managers. We divided remaining answers into two groups – positive and negative.

Positive answers (13) (most common reasons):

- Mostly positive experiences
- Indicators are meeting according to the agreement and guidelines of MA/ASFEU
- Indicators are meeting on more than 90% in finished projects

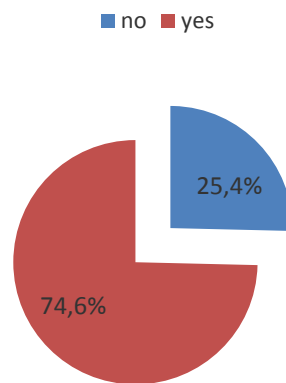
Negative answers (18) (most common reasons):

- There were no clear definition of meeting indicators in calls for proposals
- Many receivers have chosen inadequate indicators or defined to high results of indicators and now they have problems with meeting chosen indicators.
- Receivers do not know how to meet indicators.
- There are no guidelines from MA.
- Receiver should have possibility to choose indicators beyond indicators chose by MA/ASFEU.

- Receivers make mistakes in number of reported indicator in the monitoring reports and they do not send annexes.
- There are problems with meeting the indicator “Number of Current content publication”. This makes delay in project schedule.

Question 9: Please describe your experience of meeting indicators.

Figure P2.9. Problems with procurement



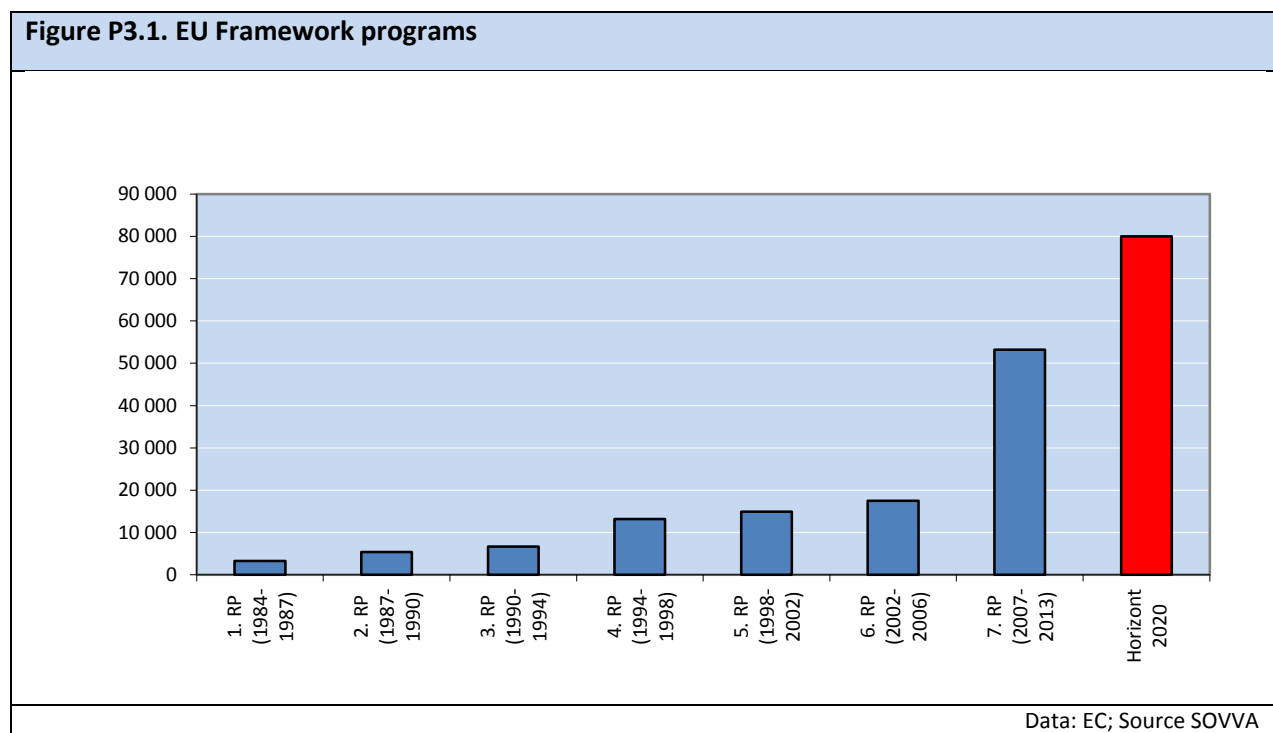
Most common answers:

- Beneficiaries carry out procurement in contradiction with the Agreement comments.
- Beneficiaries’ administrative mistakes.
- Beneficiaries’ process mistakes.
- Breach of the procurement law.
- Listing concrete appellations of Instruments, equipment and software.
- Discriminatory terms of participation.
- Incorrect procurement procedure.
- Procurement conditions set in favour of predetermined winner.
- Lengthy and complex public procurements affected time frameworks of the project.
- Failures in observing the deadlines.
- Errors in location of the project implementation.
- Missing listing of budget items and specification of public procurement.
- Breach of efficiency principle.
- Partition of order item.

Question.10: Have you encountered with problems in procurement?

Annex 3 Horizon 2020

Support for research, development and innovation in the European Union has been lagging behind its global competitors, the USA and Japan. China, India and Brazil, still perceived as developing countries, have been gradually increasing their investments in research. The goal of the Lisbon strategy, increasing research and development spending up to 3% of GDP by 2010 has not been achieved within the EU. That goal has been transferred into the new strategy Europe 2020. The European Commission was responding to the EU's lagging behind global leaders in almost all key indicators (total R&D spending, its structure, number of patents, export of medium-tech and high-tech products, etc.) through a concerted effort to promote excellent research at the European level. The effort will be materialised in the next programming period for 2014-2020 through significantly stronger support for programmes covering research, development and innovation.



Research, development and innovation are supported via three major sources of funding at the EU level:

- 7th Framework Programme for Research, Technological Development and Demonstration (FP7);
- Innovation-focused branch of the Framework Programme for Competitiveness and Innovation (CIP);
- European Institute of Innovation and Technology (EIT).

A blending of the three initiatives is envisioned in 2014–2020, resulting in a single instrument, the Common Strategic Framework for Research and Innovation (CSF) also called *Horizon 2020*. Providing support from the new programme should be simpler than now and all rules and procedures for

project funding should be streamlined and harmonized. Horizon 2020 will promote research and development along three areas which are in line with the strategy Europe 2020:

1. **Excellent Science.** The aim is to raise the level of excellence in the European Union as a base for world class research, especially through support and development of talent within the EU and attracting the best researchers to Europe. That aim should be achieved through stronger support for frontier research (through the European Research Council); supporting future and emerging technologies; supporting skills, education and development of research careers (through the Marie Curie Actions); and building, involvement and development of networks of priority research infrastructures (including e-infrastructures).
2. **Tackling societal challenges.** The goal of this block is supporting a full array of activities from research up to bringing implementation of its results in the market through innovative activities, inter-disciplinary approaches, and socio-economic and humanities-oriented research. Focus will be on the following areas:
 - Health, demographic changes and welfare;
 - Food safety and security, organic farming;
 - Safe, secure, clean and efficient energy;
 - Intelligent, green and integrated transport;
 - Supplies of raw materials;
 - Efficient use of resources and fighting climate change;
 - Inclusive, innovative and safe society (including cyber-safety and safe Internet communication).

EIT, making use of its Knowledge and Innovation Communities (KIC) should help tackle these challenges through its significantly increased budget.

3. **Developing frameworks to strengthen industrial leadership and competitiveness.** The goal is to: foster research in the corporate sector and innovation in supporting technologies; foster services and developing sectors in order to attract more private investment; tackle specific problems of small and medium-sized enterprises (SMEs). The activities will focus primarily on:
 - More strategic investment and promotion of the leading role in the current and future industrial technologies and services, through ICT (including micro/nano electronics and photonics);
 - Nanotechnologies, advanced materials, advanced manufacturing systems;
 - Industrial biotechnologies;
 - Space research and innovation, low-carbon and adaptation technologies with special emphasis on securing an integrated approach to key technologies;
 - Easier access to venture financing and venture capital (created based on the Risk Sharing Finance Facility under FP7 and financial instruments under CIP);
 - Broad support for innovative SMEs with high growth potential.

The EU cohesion policy will be a complementary instrument to Horizon 2020. Both instruments will generate strong synergies in support for research, development and innovation in Europe. Horizon 2020 will focus on excellent research and innovation regardless of geographical location. The cohesion policy will be an important instrument for support of research and innovation at a regional

level, including development of research infrastructures. The cohesion policy in the area of research, development and innovation should create prerequisites for convergence regions and help them be fully involved in research programmes under Horizon 2020.

Horizon 2020 will bring major simplification and streamlining of all procedures covering both funding schemes and administrative rules for researchers and dissemination of project outputs. *Horizon 2020* will include the following principles in rules and administration:

1. ***Streamlining of financial schemes and instruments.*** Successful instruments will continue in the next period, instruments with identical goals will be combined into one, and instruments not meeting their goal will be abolished. Innovative financial instruments will be more extensively used rather than grant financing. Before commercial use attention will be paid to public procurement and prices.
2. ***A single set of rules.*** A single set of rules will be applied under all programmes and cover eligibility, accounting, reporting and audit. The EC will improve the equilibrium between trust and control. In order to reduce the administrative burden for beneficiaries of the aid, there will be a radical simplification of reimbursement of expenditures, by accepting common accounting and control applied by beneficiaries, and more extensive use will be made of lump and flat-rate payments.
3. ***Faster start-up of projects.*** A new set of rules will speed up the stage of assessment and selection of submitted proposals and the subsequent negotiations, making launching of projects possible in a much shorter time than now. The applicants and implementers will be able to use services of a unique portal. Supporting structures in member states will establish a one-stop shop for all activities under *Horizon 2020*, providing information in the respective national language. Special measures will be adopted to help talented researchers and innovators inexperienced in EU funding for projects. A uniform audit system will be used across all activities under *Horizon 2020*.
4. ***More externalization.*** The quality, effectiveness and consistency of *Horizon 2020* will improve through more externalization and drawing from progress achieved under the current programmes. Executive agencies which were established in the current programming period will be extended. Public-private partnership with industry will also be used.
5. ***Strategic setting of European, regional and national resources.*** Through joint programming by member states, the setting will bring a higher added value and better effects of all investments.
6. ***Innovative instruments.*** Innovative instruments will bring more investment from the private sector to research and innovation, including access to venture capital for high-tech companies and SMEs. The instrument will be implemented externally through the European Investment Bank or other international financial institutions or public financial institutions with at least one of the member states being its shareholder.

The EC envisions that as much as two-thirds of the *Horizon 2020* budget will be implemented externally through various mechanisms.

