



Summary of the Final Report to the Project 145/06-A05
Assessment of Absorption Capacity in the Area of
Innovations and Knowledge Economy and Proposals for its
Support from 2007 to 2013

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Prepared by: Technology Centre AS CR and DHV CR

Assessment of the Absorption Capacity in the Area of Innovations and Knowledge Economy and Proposals for its Support from 2007 to 2013

Summary of the Final Report

to the Project 145/06-A05
according to Measure 5.2 "Technical Assistance CSF" SROP

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1. Preface

The project of "Assessment of the Absorption Capacity in the Area of Innovations and Knowledge Economy and Proposals for its Support from 2007 to 2013" was prepared by the Technology Centre of AV ČR together with DHV CR, spol. s r.o. Praha on the basis of the order placed by the Ministry for Regional Development. The submitted document represents a summary of the most significant findings and conclusions of the developed project and the separate chapters are elaborated on in the full version of the final report.

The research project has been focused on an analysis of the absorption capacity in the area of innovations and knowledge economy and its reflection in relevant Operational Programmes of the Czech Republic for the planning period 2007-13¹. The project objective is to propose such recommendations, which would tend to strengthen the absorption capacity and to adjust a positive environment for the effective drawing of support from European Union structural funds. Drawing financial support in an effective way will favourably influence the development of knowledge economy and innovation potential of the Czech Republic.

Methodology and the procedure of solution of this research project were designed so that to assure quality outputs, which consider the resulting findings of separate methodological steps, adequately assess the absorption capacity, and deduce the final recommendation.

When developing the project, the researchers departed from the information referred to in strategic documents relevant to the topic of the project, in the results of preliminary evaluation of the program documents, and final evaluation reports of the Community Support Framework. An important departing point was the paper "Barriers of Competitiveness of the Czech Republic", which identified the issues preventing sufficient development in the area of innovations, and knowledge economy in the Czech Republic. The essence of the methodology applied was a combination of the results of an analysis of the relevant strategic and program documents in the area of HSS policy and a qualified assessment of the absorption capacity of the Czech Republic in the area of IKE. Data obtained by the above procedure were comprehensively considered by the Implementation Team, while identifying mutual connections and while proposing methods of how to strengthen the absorption capacity of the Czech Republic so that to create favourable conditions for the project proposals in the area of IKE (Innovation and Knowledge Economy) with the objective to utilize the support within the framework of HSS policy.

Analyses aimed at the Czech environment affecting the area of innovations and knowledge economy were supplemented by a research of successful foreign Operational Programmes, aimed at the support of business/enterprising, knowledge economy, innovation activity of firms and an increase of competitiveness. The information source consisted above all in available information/data regarding separate Operational Programmes established abroad. Verified approaches and experiences in the implementation of Operational Programmes of other European countries having longer experience with utilization of the support, especially, the experiences of regions which face the same problems as the Czech Republic, were considered in the resulting proposals and recommendations.

Optimum information suitably illustrating the existing circumstances from the viewpoint of potential recipients/beneficiaries of support in respect of priorities and interventions of Operational Programmes supporting the research, innovation and knowledge economy was obtained by direct questioning the mentioned entities and persons based on an electronic questionnaire. More than 1950 addressees were contacted, all of them from the area of the knowledge creation, transmission and user's domain. Almost 170 completed questionnaires were returned and they were subsequently evaluated. In order

¹ In view of the project development schedule the versions of Operational Programmes of June 2006 were analysed. From that time these documents have significantly varied and certain problems that the results of this project have pointed to were thus already rectified.

to identify the interest in drawing structural funds in the area of research, development and education for the purpose of strengthening the research and development capacities the analysis included, as well, the results of screening performed by the Council for Research and Development (R&D).

Analyses completed within the framework of this study have proven that the proposed Operational Programmes sufficiently cover the areas focused on innovations and knowledge economy and are also in compliance with the strategic documents concentrated on the mentioned area, both on the level of the Czech Republic and the European Union.

The analysis has however pointed out also several problematic areas, which can be negatively reflected in the course of these Operational Programmes and thus may negatively affect utilization of financial means from EU structural funds. We have suggested in connection therewith the corresponding/appropriate recommendations, which may be essentially split into four groups depending on their nature. The group of system measures deals with, especially, the provision of interconnection and coordination of activities of separate Operational Programmes, which will fall within the competence of separate departments, as well as strengthening feedback in between these Operational Programmes. The group of recommendations aimed at an active creation of absorption capacity concentrates the proposals suggesting pre-conditions of not only the implementation of the financially and comprehensive projects but also formulating the terms for successful implementation of innovation projects developed on regional levels. The suggested recommendations for simplification of the Operational Programmes implementation structure are aimed at reducing the costs and effective course/progress of the implementation proper of Operational Programmes, acceleration of disposing of applications for support and facilitation of the continuous monitoring of drawing financial support from structural funds.

An indispensable task is also to increase publicity of the Operational Programmes with an intention to inform the wide public of the objectives, focus, implemented and prepared activities and other issues connected with the implementation of Operational Programmes. A good and targeted publicity will ensure wider participation and relevant range of applicants from various fields and regions.

In the next programming period the Czech Republic will have an opportunity to draw a higher amount of financial means, above all, from the resources of the European Union structural funds. Support of the innovation performance of regions as the basic source of economic growth constitutes the central theme in all the Operational Programmes relevant to innovations and knowledge economy. A great challenge for the Czech Republic will thus be not only to ensure simple drawing of these resources but, especially, to create conditions for their effective utilization. The results of this paper, final proposals and resulting recommendations should contribute just to a creation of such positive environment for drawing financial instruments of the EU Cohesion policy, which will assure a highly effective impact of these resources on increasing the Czech Republic competitiveness just by means of the quality knowledge economy and valuable innovation activities.

2. Analytical Part

Analyses completed within the framework of this paper have proven that the proposed Operational Programmes (OP VaVpI, OP PI and OP VpK) satisfactorily cover all the areas of IKE and are also in conformance with the strategic orientation of the Czech Republic and the European Union, specified in the basic documents prepared both in the Czech Republic (e.g. the National Development Plan, National Strategic Reference Framework, National Program of Reforms) and on the EU level (e.g. the Communities Strategic General Principles, Framework Program for Competitiveness and Innovation 2007-2013, Communication from the Commission: Building the ERA of knowledge and growth, etc.).

The analysis has however proven some deficiencies and problematic areas, which may be negatively reflected in the course of implementation of these Operational Programmes

and may thus reduce in consequence thereof the effectiveness of utilization of financial means from European structural funds. In order to solve the identified problematic areas we have proposed appropriate recommendations specified more in detail in the following sections of Chapter Four.

3. Empirical Part

Within the framework of the questionnaire-based investigation we have distributed three types of questionnaires: the questionnaire focused on the creation of knowledge, the questionnaire focused on transfer of knowledge and the questionnaire focused on business entities. 1952 addressees were asked in the questionnaire research, with the return rate of completed questionnaires equal to nearly 9 % (regarding separate types of questionnaires, see Table 1). Enquired entities/persons mentioned 1726 project proposals in total.

The questionnaire for creation of knowledge was designated for universities, and/or faculties with technical and natural science programs and research institutes (namely, all AV ČR institutes, private research institutes, departmental research institutes). 190 entities have been addressed in total. The questionnaire to transfer knowledge was addressed to consulting agencies, scientific and technical parks and other entities the performance of which helps propagate innovations and knowledge. All in all, 107 entities have been addressed. The questionnaire focused on businesses entities was delivered to 1655 companies having an innovation potential. The set of innovation companies was selected from the database of the Technological Profile of the Czech Republic, the database of Association of Research Organizations and internal databases of processing agencies. One of the required criteria of the selected sample was also the uniform regional spreading out of the addressed companies.

Table 1: Return rate of questionnaires depending on separate types of questionnaires

Questionnaire	No. of addressees:	No. of completed questionnaires	Return rate (%)
Questionnaire to create knowledge	190	52	27,4
Questionnaire to transfer knowledge	107	20	18,7
Questionnaire for business entities	1655	103	6,2
Total	1952	175	9

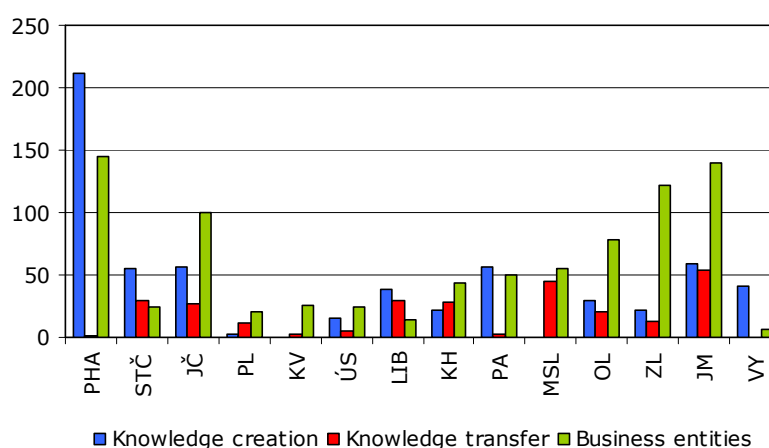
Regional distribution of the project proposals has been expressed in the following Table. The highest number of projects is planned to be filed by entities operating in the region of the capital Prague and the South-Moravian region. More than one hundred project plans was brought up in the Central-Bohemian, South-Bohemian, Pardubice, Olomouc and Zlín regions. The least activity in the area of IKE has been shown by entities located in Karlovy Vary, Plzeň and Vysočina regions.

The following Table indicated also a comparison of the spreading out of the number of project plans according to the estimated financial demand. The Table clearly shows that in most cases individual entities will ask for subsidies from structural funds up to a value of CZK 1 million. It is apparent that the number of project plans is reduced with the value of financial allocation per project. Most project plans with the highest financial allocation have been concentrated in the South-Bohemian, Central Bohemian and Zlín regions. It is obvious that within the framework of project plan conceived in the above manner there will be involved investment projects, which could indicate localization of future Centres of Excellence.

Table 2: Total number of project plans depending on regions

Region	Knowledge creation	Knowledge transfer	Business entities	Up to CZK 1 mil.	CZK 1 - 5 mil.	CZK 5 - 20 mil.	CZK 20 - 50 mil.	CZK 50 - 100 mil.	More than CZK 100 mil.	Total
PHA	212	1	145	118	112	78	25	19	6	358
STČ	55	30	25	36	27	23	5	8	11	110
JČ	56	27	100	62	32	38	16	19	16	183
PL	3	12	20	6	10	7	4	5	3	35
KV	0	2	26	14	5	4	2	3	0	28
ÚS	15	5	24	5	14	9	6	8	2	44
LIB	38	30	14	19	23	18	8	5	9	82
KH	23	28	43	49	14	18	10	1	2	94
PA	56	2	49	37	47	9	3	6	5	107
MSL	0	45	53	36	23	23	8	2	6	98
OL	29	21	78	49	36	19	13	8	3	128
ZL	24	13	122	62	42	28	13	4	10	159
JM	59	54	140	113	69	49	12	2	8	253
VY	41	0	6	16	18	7	3	3	0	47
Total	611	270	845	622	472	330	128	93	81	1726

All in all, the questioned entities consider 1188 projects to be supported as a part on interventions being of the investment nature and 538 project plans mentioned within the framework of investment interventions. Regional distribution of "non-investment" project plans is almost identical with the distribution of the absolute number of all the project plans. Within the framework of "investment" project plans the regional differences are rather suppressed. Considerably different thanks to its number of project plans is only Prague (104) and Karlovy Vary region (6), Plzeň region (14) and Vysočina region (16). Numbers of the project plans in separate regions have been specified in the following diagram.

Number of project plans in the regions of the Czech Republic

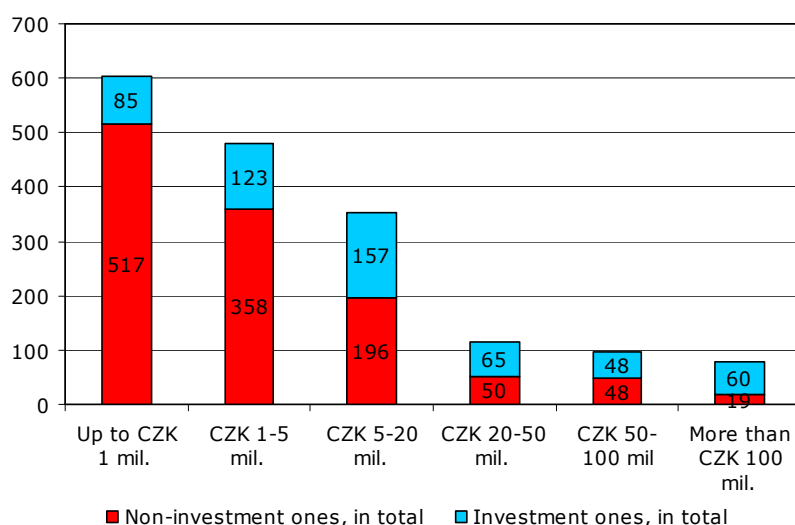
The following Table has expressed the distribution of project plans depending on non-investment and investment interventions in separate types of applied questionnaires and depending on individual categories of the estimated financial demand for the project plan. The Table clearly shows that the project plans within the framework of investment interventions are by 55 % more than those with non-investment interventions. This condition corresponds also to the distribution of project plans per individual groups of

expected financial allocations. Most of them fall within the lowest category of costs, which corresponds to the fact that the entities, which have responded to the questionnaire-based research, consider in most cases filing the projects on a smaller scale, to be based on the already established infrastructure and technical and technological background. There are relatively not many investment projects within the demand category up to CZK one mil. (only 85). Investment projects at such value correspond rather to the purchase of a specialized appliance or ICT equipment, etc. With the growing value of expected costs for the project plan there becomes balanced/equalized also the ratio of the number of project plans within the framework of investment and non-investment interventions. This trend corresponds to the nature of investment projects predominantly focused on the construction of new capacities and requiring higher financial allocations. The highest number of project plans in investment interventions with a financial demand of more than CZK 100 mil. was stated by the questioned entities responding to the questionnaire focused on the knowledge creation. Numbers of the project plans may be seen also in the following diagram.

Table 3: Number of project plans according to the intervention and financial demand

Type of questionnaire/ type of intervention		Up to CZK 1 mil.	CZK 1-5 mil.	CZK 5-20 mil.	CZK 20-50 mil.	CZK 50-100 mil	More than CZK 100 mil.	Total
Knowledge creation	Non-investment	167	126	72	20	28	8	421
	Investment	13	42	49	18	23	34	179
Knowledge transmission	Non-investment	55	51	62	7	4	2	181
	Investment	14	9	35	18	6	13	95
Business entities	Non-investment	295	181	62	23	16	9	586
	Investment	58	72	73	29	19	13	264
Non-investment ones, in total		517	358	196	50	48	19	1188
Investment ones, in total		85	123	157	65	48	60	538
Grand total		602	481	353	115	96	79	1726

Number of project plans depending on individual categories of financial demand



If we attempt to make a very rough calculation of the "low", "high" and "mean" (average) variants of drawing of financial aid from structural funds ("SF") by the addressed entities and persons we get the values referred to in the following Table. Upon the maximum drawing the addressed entities and persons would have drawn from the structural funds (and national resources) over CZK 33.3 bill, upon the "low" variant the drawing would then correspond to a sum of nearly CZK 18 bill. What is however interesting is the sum of drawing depending on individual (non-investment and investment) interventions. Drawing of the "soft" investments reaches at its "high" variant values exceeding CZK 15.5 bill. In view of the overall financial allocation of the financial amount within the framework of relevant OP (OP Praha Adaptability and OP Education/Training for Competitiveness) the total value of which reaches approx. CZK 68.3 bill. the value of project costs which were substantiated by the questionnaire-based investigation is insufficient. This consideration has been caused to a certain extent by the rough splitting of individual intervals of financial demands and, at the same time, an imperfect estimation of entities and persons for the overall financial evaluation of the project plan in question. One may therefore conclude that in comparison with the investment projects there have been allocated for non-investment interventions less funds/financial means than corresponding to the potential interest of entities and persons. The estimation of drawing of "hard" investments corresponds to the total allocation of subsidies from SF and national resources the value of which is (within the framework of OP Praha Competitiveness, OP Research and Development for Innovations, OP Business and Innovation) approx. CZK 99.7 bill. The "high" variant of the provided financial estimates of project proposals granted within the framework of the questionnaire based-investigation reaches a value of nearly CZK 17.9 bill. It is obvious that we have succeeded in the course of the questionnaire-based investigation to address a small part of potential applicants only but in spite that one may conclude that the financial allocation of the overall "hard" financial means in the Czech Republic is sufficient.

Table 4: Prognosis of drawing funds from SF according to the results of the questionnaire based investigation

Interventions	Variant	Up to CZK 1 mil.	CZK 1 - 5 mil.	CZK 5 - 20 mil.	CZK 20 - 50 mil.	CZK 50 - 100 mil.	More than CZK 100 mil.	Total (mil. CZK)
Total	High	602	2405	7060	5750	9600	7900	33317
	Mean	602	1203	4413	4025	7200	7900	25343
	Low	602	481	1765	2300	4800	7900	17848
Non-investment	High	517	1790	3920	2500	4800	1900	15427
	Mean	517	895	2450	1750	3600	1900	11112
	Low	517	358	980	1000	2400	1900	7155
Investment	High	85	615	3140	3250	4800	6000	17890
	Mean	85	308	1963	2275	3600	6000	14231
	Low	85	123	785	1300	2400	6000	10693

At the conclusion of the questionnaire-based investigation there have been evaluated the most serious problems facing the questioned entities and persons during the preparation of projects in the programming period from 2004 to 2006: the high administrative demands during the project management were mentioned as the most significant problem, which was indicated as the most difficult obstacle by more than one third (35.3 %) of addressed respondents. The addressed respondents indicated as the second most significant restriction when drawing from SF in the current programming period the high demands connected with the preparation of a project application, mentioned by more than one quarter (25.9 %) of applicants. These conclusions were also confirmed by in-depth talks. As the least problem (of those identified) were mentioned insufficient information (less than 7 % of the addressed persons).

Table 5: Number of identified problems upon drawing from SF

Problems indicated by the respondents addressed	Knowledge creation	Knowledge transmission	Business entities	Total
Insufficient information	2	2	10	14
Method of payment of expenditure	14	15	19	48
Too high demands to prepare an application	14	6	33	53
Poor support when preparing an application	8	0	9	17
High administrative demands during the project management	20	15	37	72

4. Recommendation

4.1 Recommendation resulting from an analysis of the areas of support in OP from the viewpoint of crucial problems of the Czech Republic in the area of IKE

We have analysed within the framework of Chapter "Relevance of areas of support in OP from the viewpoint of crucial problems of the Czech Republic in the area of IKE" the identified barriers which represent a wide range of problems from the origin of IKE product (innovations, knowledge) up to its implementation in practical life. We subsequently compared separate proposed solutions with the topical content of individual areas of support within the framework of relevant OP and thus reached the barriers, which are not dealt with and resolved by OP in their current draft. In view of an almost concluded Chapter of the Operational Programmes preparation the submitted recommendations are rather of a system nature.

Necessity to strengthen the feedback and interconnections between separate OP's (with the indispensable condition consisting in a thorough analysis of OP in 2004-2006), as well as among separate activities of various departments, results from the defined recommendations referring to individual barriers. This point has reflected the fact that in the future it is not possible to separate interconnected topical wholes/units which could be more effectively supported jointly. Such procedure could create a mechanism enabling effective multi-dimensional activity which would result in a creation of technological platforms, centres of excellence and patent activities, involving in principle a coordination of activities affecting the development of human capital, creation of research capacities and research infrastructure and ensuring human resources for these activities. Another system feature consists also in the establishment of an efficient monitoring system to monitor the number of projects and submitted applications, including their quality, and which could modify after their analysis the requirements and possibly strengthen the deficient activities.

4.2 Recommendation resulting from an analysis of the external consistence of IKE areas

The support of innovations and knowledge economy has been considered by several European documents, which immediately link up with the Lisbon Strategy. Its objectives are established in the Czech strategic documents being essential for the development of IKE in the Czech Republic too. Its deficiency however consists in excessive generalizations concerning the knowledge society and creation of innovations. An important point is therefore to revise those parts of the documents, which deal with the creation of preconditions for the development of innovation strategies and policies within the picture of newly defined obstacles and barriers.

Some of the Operational Programmes will deal with the development of IKE in the new programming period. Some Operational Programmes will deal with the development of IKE in the new programming period, too, and they should cover by their contents the whole area of priority axes defined by the National Strategic Reference Framework. We

may add that the activities, which will be supported within the framework of individual interventions of the relevant Operational Programmes fulfil through their essence the priority axes of the National Strategic Reference Framework. A problematic area is however the topical interconnection of some of the supported activities, when significant overlapping takes place in certain cases and when the area in question is covered only superficially in other cases.

As the problematic areas which OP should focus on in a more consistent manner may be indicated the support of "cluster" initiative and mutual interconnection of entities and institutions, regional closeness of research institutions and innovation poles, stimulation of European innovation initiatives, increase of IKE influence in national economy, support of applied research.

As the system recommendations which ought to be contained within the framework of OP interventions one may perceive e.g. creation of favourable legal and institutional terms for IKE development, increased support of successful areas of the Czech research and development and maintaining principles of sustainable development.

4.3 Recommendations resulting from an analysis of internal consistence of IKE areas

In connection with the adjustment of support from structural funds (ERDF and ESF) there are artificially separated the topics which are closely linked together and which could be much more sensibly supported jointly. This project is unable to take up the ambitions of proposing a change of the overall system of European financing and the only recommendation which could be formulated upon preserving the existing state of affairs is the consistent inter-departmental coordination, not only from the viewpoint of the OP preparation (which is already at its finishing) but also later on, when mutual transfer of experiences obtained in the area of implementation will be beneficial.

As regards the content, it is appropriate to emphasize the discrepancy between the support of physical infrastructure and the development of human resources, especially, in the R&D area. Even in spite of that in the current programming period the development of human resources for R&D is supported within the framework of OP Development of Human Resources (Measure 32 –Support of Tertiary Education, Research and Development) and educational programs supporting IKE are established in the National Program of Research II the authors recommend to consider an interconnection of the topical line between the support of physical infrastructure and development of human resources in the new programming period, both in the topical Operational Programmes and Operational Programmes for Prague.

4.4 Recommendations resulting from evaluation of the questionnaire based investigation

Possible development of the absorption capacity in the area of innovations and knowledge economy is expressed at a certain level also by the opinion and acts of both the public and private entities being involved through their activities in the area of IKE. Results of the questionnaire-based investigation show that the innovation capacities must continue to be supported. One may however claim that the developmental trajectory of the absorption capacity development should tend more and more to "soft" investments and gradually leave the focus on "hard" investment money and building the research infrastructure.

In view of the number of project plans and the absorption capacity in Prague it is possible to create upon successful drawing within the framework of the Central Bohemian Country (in respect of the regional allocation of financial means from ERDF) the scientific-and-research capacities associated in Centres of Excellence, including all the technical and transport infrastructure.

If the drawing of financial aid by means of the project plans is insufficient, the absorption capacity concerning IKE will have to be actively additionally shaped, pilot (model) projects will have to be applied and a sufficiently strong and effective implementation structure will have to be prepared, so that to alleviate the high demands connected with a preparation of the application, and which will simplify the administrative obstacles during the project management. Resulting from the above is the indispensable necessity to simplify the system at all levels, namely, that of the project preparation, evaluation and monitoring. For a more detailed description, see the following Chapter.

The multi-disciplinary nature of projects should be supported too. Thanks to this concept one can avoid high demands for the existing implementation structure, as is the case of a high number of "small-sized" projects. One has to stress the structure of implementation agencies, which is not comprehensible for applicants. It would be convenient to take into consideration to which extent it is advantageous to apply the principle of transferred competence to regional implementation offices and to adjust the system of regional representations with a clear system of project implementation (from the date of submitting the application up to that of payment of the financial support) and to introduce/establish for this system a clear and transparent central coordination.

In view of the nature of projects focused on IKE it would be convenient to create pilot projects, which would verify the functional/operational possibilities of the prepared activities of research and development. Results of these pilot programs must be then implemented within the present adjustment of the system support of the research and development activities. At the same time it is however necessary to take care of a consistent publicity of these pilots, e.g. by means of workshops and seminars.

Other recommendations concerning the results of the questionnaire-based investigation are compatible with the recommendations mentioned within the framework of evaluation of the controlled discussions/talks.

4.5 Recommendations resulting from in-depth conversations

4.5.1 General recommendations

In connection with the often criticized aspects of the programming period 2004 – 2006 there result several essential recommendations of a general nature, which are common for all the types of projects and not only the projects focused on IKE. This refers to very frequently mentioned administrative demands. The whole system should be simplified. For this purpose it is possible to recommend, among others, to transfer responsibility to the applicant, to create a more user's friendly form/shape of the questionnaire, to establish the *paperless office* electronic account, etc. All that would enable to avoid a situation in which applicants are obliged to have ready all the documents at the time of filing the project instead of that they provide them gradually, for the purpose of the project evaluation.

It would be very helpful, too, to simplify the evaluation system and to establish the multistage system, which would reflect the degree of risk and financial value of projects.

A certain measure of simplification would be desirable also in the area of monitoring, where an option of reducing the frequency of giving the monitoring reports is suggested especially at a more advanced stage of implementation, as well as that of a greater emphasis on the good measurability of indicators.

4.5.2 Recommendations for the IKE area

Projects focused on IKE are traditionally more risky from that point of view that their benefit need not be always quite apparent, and/or that they need not comply with what has been planned. That is why it is convenient consistently to execute the pilot projects so that to test a new activity and that its results are applied to adjust the system.

As regards the support bringing indeed the new aspects to the Czech environment, whether involving the area of business education or research and development, it is

necessary to be aware of that it is not enough to offer the support but that it is necessary actively to create its absorption capacity, especially, in the event when there is an interest to stimulate something quite new what has not yet created its background in the Czech Republic. General publicity is therefore not enough but the suitable projects are to be pro-actively looked for and their origin and implementation is to be supported even in their initial stage. This stage is rather the crucial one for the successful project adjustment. In this connection one may find a recommendation to come nearer to the potential applicants even geographically, as the knowledge of local environment and personal relations are equally important.

It is very desirable consistently to support co-operation/mutual assistance among all the participating actors at any stage whatsoever. This recommendations rather applies to all the types of projects but in the case of projects focused on the IKE area one has to stress it still more. It does not only involve the support of co-operation between the implementing agencies, which can thus exchange experiences with the project selections, administrative works in general, monitoring, etc. It involves also the applicants for which the mutual contacts may represent an important source of practical information and can strengthen the absorption capacity, as they will free them of unjustified fears from some of the factors associated with the process itself. Last but not least, this may contribute to "networking the projects", when the projects with similar focus are interconnected.

4.6 Recommendation resulting from an analysis of foreign experiences

4.6.1 Feedback from foreign experiences

Equally as with the period 2007-13 in the Czech Republic under preparation, thus also in the current period one may follow the placement of programs supporting IKE within the regional and topical Operational Programmes. As regards the content, there is an obvious positive shift in the selected Operational Programmes of the Czech Republic toward IKE in a similar structure as that of other selected countries in the current period. It is very complicated to evaluate, whether the Interventions in the area of IKE have been and are more successful in case of the sector or regional approach. All the activities being supported from structural funds abroad at present are included more or less in the selected Operational Programmes of the Czech Republic for a period from 2007 to 2013.

As an interesting point may serve also the fact that human resources are perceived in most countries as a whole but in the Czech Republic a rather artificial division (namely, education vs. employment rate) takes place in the period under preparation, which copies competence of appropriate departments more than the logic of development of human resources required for the Knowledge society.

In addition to the focus of priority axes and the Operational Programmes proper as regards content, the implementation structure/arrangement of Operational Programmes too is significant from the viewpoint of consideration of the absorption capacity. It may be seen (as has been also stressed by the Ministry for Regional Development ["MMR"] on a long-term basis) that the simpler and more central structure, the simpler and more successful is the drawing.

4.6.2 Interconnection with the Position Paper European Commission on National Strategic Reference Framework.

The Position paper of the European Commission has reacted to the National Strategic Reference Framework and thus indirectly to the structure and focus of the Operational Programmes. According to the European Commission the Interventions supporting the development of "clusters", increase of the applied research capacity, improvement of the equipment/outfitting and infrastructure for research and development, increase of support to start-up companies, access to funds/financial means and protection of intellectual property and increase of investments in human resources for the research, development and innovations should be supported.

We opine that all the individual activities are contained in the proposed Operational Programmes, however, it is very complicated (thanks to the division into three programs, namely, OP PI, OP VaVpI and OP VpK) to find the internal logic interconnection. It may be seen from the considered versions of OP that the coordination of the preparation of Operational Programmes has not been not the optimum one. It is equally obvious that the programs were shaped departmentally, i.e. from below and not based on a clearly specified, logic and consistent framework. This is one of the reasons why it is difficult for an external observer (e.g. the EC) to observe/watch logical connections among the programs and the priority axes, including their mutual interconnection. This is also, among others, the reason why the EC e.g. recommends that all the activities relating to a co-operation among colleges/universities, research and development institutions and business sector (supported by ERDF) should be shifted under a single Operational Program ("OP PI"). At present these activities are contained both in OP PI and OP VaVpI.

We recommend to describe in a better way mutual interconnections between individual programs and their logical linkage/feedback, as well as the justification of the independence of Operational Programmes. We consider equally convenient better to justify the placement of individual activities (areas of support) in the respective Operational Programmes.

4.7 Synthesis of recommendations

Analyses carried out within the framework of this paper have proven that the proposed Operational Programmes satisfactorily cover all the IKE areas and are also in compliance with the strategic orientation of the Czech Republic and the EU. There have been however proven certain deficiencies and problematic areas which may be negatively reflected in the course of implementation of these Operational Programmes and in consequence thereof thus reduce the effectiveness of utilization of financial means from the European structural funds. In order to resolve the identified problematic areas there have been suggested four groups of measures, which will increase the absorption capacity in the area of IKE.

Existence of the three Operational Programmes (namely, OP VaVpI, OP PI and OP VpK) for the area of IKE apparently presents the potentially greatest problem, which may be negatively reflected during the entire programming period. The mentioned Operational Programmes rather support a number of activities mutually connected, which may be separated from the viewpoint of interconnections only with great difficulties. To provide for a trouble-free run of the Operational Programmes and the creation of optimum conditions effectively to draw the financial support from structural funds the submitted study has suggested a number of **system measures**. They are, namely, the assurance of interconnection and coordination of activities of separate Operational Programmes, to be supported by different departments, as well as the strengthening of feedback among individual Operational Programmes. An important system measure is also the creation of the appropriate monitoring system enabling to monitor on a continuous basis utilization of the support from structural funds and continuously to adjust the terms and conditions of participation in separate supported activities so that to achieve the optimum drawing of financial means.

A suitable tool from the viewpoint of IKE would be an establishment of the monitoring unit capable of monitoring and coordinating all the activities for this area across the Operational Programmes. However, in order to be capable of meeting this task the monitoring unit would have to possess the above-departmental powers/competence and a political mandate. Only in this manner it could issue recommendations for individual MA in connection with challenges relating to these issues, could support the feedback or synchronization of these challenges and their narrower topical definition, which would lead to the more effective and distinctly IKE-orientated drawing of financial means from structural funds. This unit could be financed from technical assistance. The area of IKE is not the only topic where this above-departmental approach would be suitable. Adjustment of Operational Programmes depending on management/control of separate

Ministries would require it also in other cases. This might significantly contribute to strengthening the partnership and coordination of support from structural funds.

Another topic is an **active creation of the absorption capacity** which would offer preconditions/assumptions of not only the execution of financially demanding comprehensive multi-disciplinary projects but also create the conditions for a successful execution of the risky innovation projects developed on a regional level. It is for these purposes, for example, why it seems to be indispensable to create a quality consulting network with participation of experts from a number of institutions (such as education, R&D, business sector, state administration, etc.). This could be implemented e.g. by way of a centrally controlled consulting body which would ensure a network of persons and entities with scientific potential. It would be essentially a sort of "virtual scientific-and-technological park" associating entities and persons with the industry orientated scientific-and-research potential. Possible candidate interested in research and development in his/her field would thus have a chance to refer to this unit with a certain project plan and the unit would mediate him/her contacts with the entities and persons which and who could be helpful in its implementation. Absorption capacity will be increased also by the support of co-operation among individual actors originating from both the public and private sectors and the connection (networking) of similarly focused projects. The questionnaire-based investigation has shown that on the part of respondents there is a greater interest in the area of IKE in the projects of non-investment nature. This however does not mean that the funds earmarked for this type of projects will be actually drawn in full, as has been otherwise suggested also by the experiences with the insufficient absorption capacity of programs financed from ESF. Because of that it is necessary actively to support the absorption capacity, all the more so that the results of the questionnaire-based investigation suggest a higher interest in small-sized projects. In view of the applied concentration principle rather bigger projects would be desirable, which the entities and persons questioned plan to implement less. Support of creation of the absorption capacity should be aimed above all at business entities and entities engaged in transfer of knowledge. An important activity will be also the execution of pilot projects utilized to verify certain activities under preparation.

Running Operational Programmes will favourably affect also **simplification of the implementation structure of Operational Programmes**, which will not only reduce the costs of their implementation but also accelerate disposing of applications for support and facilitate also the continuous monitoring of drawing financial support from structural funds. An interesting option from the viewpoint of monitoring would be to follow projects depending on individual fields/disciplines, and thus across the Operational Programmes (see the monitoring role of the coordination unit for the area of IKE).

In order to run Operational Programmes throughout the programming period it is important also to create a corresponding central implementation structure with the corresponding network of regional offices, which will ensure the problem-free running of Operational Programmes, as well as the required synchronization of relevant challenges (including synchronization of challenges from various Operational Programmes). The administration of Operational Programmes will be moreover facilitated by electronic management of all the project documentation („paperless office"). An important point is also to build the multistage system of project evaluation, which will reflect their degree of risk and financial demands, with the emphasis to be put also on the good measurability of all the monitored indicators.

An entirely indispensable step is also to **increase publicity** of the Operational Programmes, which will create the conditions for the participation of a wide range of applicants from various fields and regions. As regards the area of publicity, the timely and exact publication of relevant information on both the implemented and prepared activities (brochures, information materials in both printed and electronic shapes) is indispensably required. All the available media should be utilized to a greater extent and should be directed more at individual target groups. A greater problem with drawing financial means from structural funds has appeared in respect of ESF and a greater

measure of publicity and non-investment projects could strengthen the absorption capacity. Absolutely indispensable is not to underestimate the timetable either and one should start with the general publicity already now. The topically focused seminars and workshops should be also organized for potential applicants, as they enable to exchange opinions and experiences among parties from various sectors (academician's area, business sector and state administration). Utilization of well-proven approaches from other European countries, which have had longer experiences with utilization of the support (foreign good practises), especially, the experiences from regions which have faced / face the same problems as the Czech Republic, will be surely positively reflected in running the Operational Programmes and the effectiveness of utilization of the support. From this point of view it would be suitable to cover from the technical assistance also the study trips or stays of foreign experts in the Czech Republic.

A clear overview of the proposed recommendations to improve the absorption capacity in the area of IKE is included in Table 6.

Table 6: Summary recommendations of how to improve absorption capacity in the area of IKE

	Strengthening feedback and interconnection among separate OP's (especially OP PI and VaVpI)
	Strengthening feedback of activities created by separate departments
System measures	Coordination of activities affecting the development of human capital creation of research capacities and research infrastructure and financial
	Establishment of effective monitoring system (monitoring the number of projects and applications and their quality, analyzing them and subsequently strengthening them
	Projects must be actively looked for and their origin and execution supported even at the preparatory stage
	Support of multi-disciplinary projects
	Application of pilot projects (verification of the functional/operational utilization of prepared activities)
	Creation of the system enabling to file complex projects
Active creation of absorption capacity	Coming nearer to potential applicants also geographically (knowledge of the local environment and personal relations)
	Support of co-operation among all the participating actors (feedback among individual applicants)
	Creation of the quality consulting expert network with participation of universities ("VŠ") and R&D institutions
	Support of shared utilization of research capacities by the public and private sectors
	Networking of similarly orientated projects
	Analysis of the existing programs and modification of the program terms and conditions to achieve greater effectiveness
	Ensuring sufficient co-operation in respect of implementation of individual OP
	Synchronization of relevant challenges throughout the programming period
	Comprehensible implementation structure for applicants
Simplification of implementation structure	Centrally coordinated structure (revision of transferred competence of regional offices)
	Transfer of responsibility for the project preparation to the applicant
	Paperless office or electronic account (elimination of preparation of the project documentation)
	Multistage system of project evaluation (reflection of the degree of risk and financial demands of projects in the area of IKE)
	Reduction of frequency of monitoring reports at an advanced stage of implementation
	Stress more the good measurability of indicators
	Increasing publicity and publication of the information on the implemented and prepared measures
	Transfer of "best practice" from EU countries
Increased publicity	Support of replication of approaches to the project and its results (seminars, brochures, web presentation)
	Disseminating the information on methodology and tools used within the framework of project solution
	Organizing topical seminars and workshops

5. Conclusion

The project "Assessment of the Absorption Capacity in the Area of Innovations and Knowledge Economy and Proposals for its Support from 2007 to 2013" was ordered by the Ministry for Regional Development of the Czech Republic and developed by the Technology Centre of AS CR and DHV ČR, spol. s r.o. in accordance with the specification dt. August 15, 2006.

The objective of the project was to assess options for increasing the innovation potential of the Czech Republic by means of strengthening the absorption capacity and effectively drawing the support from the structural funds ("SF") in the area of innovations and knowledge economy. The proposed recommendations adjust positive terms and conditions how to achieve the targets and contributions of the Economic and Social Cohesion Policy for a period from 2007 to 2013. The global goal of the project has been achieved by compliance with the following specific objectives:

1. Analysis and evaluation of the absorption capacity of the Czech Republic from the viewpoints of capability and support of projects in the area of IKE.
2. Proposal of steps to strengthen the project absorption capacity in the area of IKE and the proposal of methods, required structures and suitable entities and persons to implement its systematic support.

The objective of this project was thus to consider a set of proposed interventions to support knowledge economy and innovations in the context of identified needs (relevance and consistence of interventions), as well as the evaluation of readiness, and/or absorption capacity of the Czechoslovak Republic in this area. The final project output has been expressed in concrete recommendations, which will lead to strengthening the absorption capacity and making the support from SF in the area of innovations and knowledge economy more effective.

To assess the possibility of increasing the absorption capacity in the area of IKE we have utilized the available information relating to the issues connected with IKE. The first step was thus represented by means of a detailed analysis concentrating on the documents determining EU focus in the area of IKE and on the strategic documents, which specify in this area the Czech Republic direction in the next programming period. Together with this analysis we made also a detailed study of programs which are utilized abroad in the current programming period and which have been proven well.

As a part of the analytical study we analysed, too, the proposals of areas of support within the framework of Operational Programmes, which relate to the support of IKE issues in a period from 2007 to 2013. The analysis has led to the proposal of classification of the areas of support depending on the content-based orientation. The structure of creation of the applied questionnaires within the framework of electronic collection of data is based on this classification. The „ex-ante“ evaluation was then supplemented with an analysis of relevance of the areas of support in OP from the viewpoint of key issues in the Czech Republic in the area of IKE, which helped identify the problematic areas and barriers preventing the development in this field.

The questionnaire-based investigation formed a significant part of the project. It took place by electronic way and questioned were such institutions which participate in creation of knowledge, transfer of knowledge and moreover the business entities. Results of the questionnaire-based investigation were compared with the screening results of the project plans prepared within the framework of OP VaVpI, performed by the Council for Research and Development.

Each part of the project analytical section resulted in a proposal of a recommendation, which can positively affect the development of innovations and knowledge economy in the Czech Republic. The result of the project is a proposal of four topical areas generated from the resulting recommendations of separate Chapters. The four topical areas which will essentially support the development of the absorption capacity in the area of IKE consist of 29 concrete recommendations in total.