

Current R&DI OP Evaluation

(The Research and Development for Innovations Operational Programme)

1st IN-DEPTH ANALYSIS OF THE PHYSICAL PROGRESS OF “R&DI” OP AND IDENTIFICATION OF THE NEEDS OF THE PROGRAMMING PERIOD 2014+

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1. Introduction to the Topic and its Integration to the Context of the R&DI OP

The major objective of the present in-depth analysis is to **evaluate the progress made in executing R&DI OP** and to also **evaluate the needs for preparing the new Programming Period 2014 - 2020**. The subject matter of evaluating the progress reached therein is a detailed analysis of the R&DI OP progress achieved from the beginning of the Programming Period 2007-2013 to the elaboration of the present 1st progress report within this job. The in-depth analysis also aims at **reconstructing the intervention logic** within the priority axes of R&DI OP and their parts (support areas). As a result, this in-depth analysis gives a **basic initial framework for further consequential analyses** prepared in the framework of this evaluation. The in-depth analysis is specified in more details in the Technical Part of the Report.

2. Identification of the Key Questions

To efficiently encompass the analysed issues, the present in-depth analysis has fixed the following evaluation questions with the answers thereto provided chronologically in the subchapters of the evaluation to each priority axis of R&DI OP (apart from PO5 – Technical Support, which only supports implementation of R&DI OP):

The answer is shown if Chapter “5. Analysis and Findings” according to the priority axes and the support areas.

- How does the intervention logic look like for the priority axes of R&DI OP and their parts (support areas)?
- To what extent or how much was the up-to-now implementation of R&DI OP successful in fulfilling the objectives of this Programme?
- What is the probability of completely fulfilling the objectives of R&DI OP until the end of the programming period 2007-2013?
- What spheres should be further aimed at by the continuous evaluation of R&DI OP considering the findings formulated in evaluating the progress reached within R&DI OP?

The answer is shown in Chapter “6. Implication for the period 2014 – 2020” according to the priority axes and relevant support areas.

- What interventions should be anyway included in the interventions supported in the next programming period to provide direct continuity of interventions supported from R&DI OP (the aspect of their long-term sustainability)?
- What basic data shall be provided by the MA of R&DI OP to thoroughly prepare the next programming period in the sphere of projects whose nature shall be either in correspondence with R&DI OP interventions or in connection thereto?

3. Methodology of the Inquiry

The **methodological procedure** of carefully evaluating the progress in R&DI OP is in correspondence with the methodology for the evaluation of the matter-of-fact progress and financial performance of R&DI OP carried out for the given period of time in the 1st Progress Report. As for **reconstructing the intervention logic** of the priority axes and the support areas of R&DI OP, this part has been elaborated in compliance with the methodological paper issued by the European Commission¹. The support areas of R&DI OP have used excel tables, currently used by the National Body for Coordination of the Economic and Social Cohesion Policy in the Czech Republic (the Ministry of Regional Development).

4. Data Collection

To identify the needs in relation to preparing the following Programming Period 2014+, the most significant way of collecting data and required information was a **desk research** completed with **semi-structured dialogues** with representatives of the body responsible for coordination of the preparation of the new Programming Period 2014+, and next with representatives of the MA of R&DI OP, or relevant departments at the Czech Ministry of Education, Youth and Sports.

5. Analysis & Findings

5.1 Evaluation of Priority Axis 1 – European Centres of Excellence

Intervention Logic of Priority Axis 1

The need for making infrastructure and a limited number of top R&D centres able to actively join international cooperation has followed from great dispersion of R&D capacities with low production of internationally acknowledged results, lack of R&D critical size in the spheres with the highest potential and a low level of cooperation of the public and private sectors within R&D. Those problematic scopes were related to the public R&D in the CR covering, nationally, almost all scientific fields. This has been resulting in a totally low effectiveness of public support to R&D. Considering R&D capacities dispersed in the CR, the fields with outstanding results at the international level have not been given corresponding material

¹ The Programming Period 2014-2020 MONITORING AND EVALUATION OF EUROPEAN COHESION POLICY - EUROPEAN REGIONAL DEVELOPMENT FUND AND COHESION FUND – CONCEPTS AND RECOMMENDATIONS (Chapter “1.1. Intervention Logic of a Programme as a Starting Point; Results and Result Indicators”, page 4), European Commission, November 2011)

support to scientific work. The Czech Republic does not belong to large countries. For that reason, with respect to providing long-term international competitiveness, Czech R&D shall be strengthened in the spheres with the biggest potential to be the most competitive in developing top research features through international cooperation and support to transfer of technologies. The above-mentioned key barriers were identified at the beginning of the programming period 2007 – 2013. Nevertheless, for having a sufficiently critical size of research infrastructure and research teams, there were almost no unique R&D establishments of European significance in the CR, which would be equipped with above-standard material means and staff. Comparing the Czech Republic with the international scientific environment, our country has had a greatly below-average share of R&D staff per 1000 inhabitants. In that context, the international R&D competitiveness of the CR has been significantly limited and it was necessary to concentrate all R&D efforts into specialised centres of excellence.

Intervention logic of the support area 1.1

Priority Axis 1 is composed in the support area 1.1 – European Centres of Excellence. For that reason, the intervention logic of that support area is identical to the intervention logic of the whole priority axis described in the previous part, and is shown in the scheme at the end of this document.

Evaluation of the existing rate of fulfilment in R&DI OP specific objective – Priority Axis 1

The up-to-now rate of fulfilment of the corresponding R&DI OP objective is negatively influenced by a delayed beginning of mainly big projects over 50 mil. EUR that have been verified for their presumed conflict with public support rules. For that reason, the implementation stage for this priority axis is approximately in the middle of its cycle, and the fulfilment rate cannot be identified until 2014 or 2015. The matter-of-fact fulfilment of priority axis 1 through the indicators fixed in the Operating Programme (hard infrastructure) is assured through supporting 8 centres of excellence, thereof 5 in the position of large project. The tool ESFRI is actively used by 3 supported centres of excellence, being thus allowed to be more deeply involved in international research projects. The involvement of public research in international R&D project has still been considered as problematic (namely for the involvement of universities and R&D institutions in the CR in EU Framework Programmes). To reach R&DI OP objectives, the centres of excellence also prepare synergic projects within the “Education for Competitiveness OP” and “Enterprise and Innovation OP” to attract and keep excellent R&D staff and next to strengthen their activities within transfer into the application sphere. Nevertheless, those activities are not anyhow monitored and evaluated in detail by the MA of R&DI OP.

Evaluation of the rate of probability in fulfilling R&DI OP specific objective – Priority Axis 1

The specific objective of R&DI OP in infrastructure monitoring indicators will most probably be completely fulfilled as for 31/12/2015. The matter-of-fact development analysis showed that some result indicators would also completely be fulfilled without any serious problems,

while speaking about the indicators that can be ensured in a natural way by their end beneficiaries and their partners during their current activities. As well, the number of projects for cooperation between the application sphere and the centres of excellence shall exceed, almost three times, the programme objective. Therefore, other research stages will have to focus in more details on the factors, typology and general context in which this indicator is going to be fulfilled. On the contrary, the results in R&D sphere seem to be problematically reached. This concerns not only contractual research but also the indicators connected to RVVI methodology (Council for Research, Development and Innovation) as there is a time delay within those indicators in acknowledging research results (accepting specialised articles in scientific magazines with IF or acknowledging a patent which may take even several years). The intervention logic may, however, identify a certain issue relating to ideas of representatives of the centres of excellence and the MA. In general, an “R&D OP” project could have generally been accepted on condition of having proved financial sustainability of that activity even after the end of a project. The **consequent growth in expenditures for the centres of excellence’s activities supported within the priority axis was supposed in line with a majority share of the state budget**, to be accompanied by a not negligible contribution to operation expenditures of the centres of excellence from foreign sources². Nevertheless, this aspect is really problematic because the framework of the up-to-now reform in R&D support in the CR has not accomplished the original supposition of having R&D resources grown. The start-up of R&D activities will be stimulated by the National Sustainability Programme which is aimed to support sustainability of projects issued by centres of research, development and innovations.

Identification of a thematic sphere for further evaluation – Priority Axis 1

The continuous “R&DI OP” evaluation should further concentrate on the following topic within the framework of evaluating PO1. Those topics are further specified in the technical part of the present report:

- **The evaluation approach will have to be differentiated according to the up-to-date stage of the projects**, i.e. current projects versus big projects, and next, the indicators connected to RVVI methodology shall differentiate the infrastructure stage and the stage of starting up R&D activities;
- **The rate of success will have to be differentiated according to the centres of excellence**. The attention should be further paid to big projects and to specific issues of their execution;
- **The issue of keeping sustainability of the centres of excellence** – with the approaches and further R&D development activities to be suitably specified according to the centres of excellence, with a deeper **analysis of the issues of contractual research versus a number of projects involving cooperation between the application sphere** and the centres of excellence;

² Generally from participating in projects of the EU Framework Programme

- The supported centres of excellence will have to focus on **analysing and evaluating “R&DI OP” synergy with project of the centres of excellence, in connection with the Operational Programmes “Education for Competitiveness” and “Entrepreneurship and innovation”** that endeavours to attract and keep excellent R&D staff.

5.2 Evaluation of Priority Axis 2 – Regional R&D Centres

Intervention logic of Priority Axis 2

R&D scheme is one of the key conditions for long-term competitiveness of regional economics. Furthermore, R&D evolution is heavily conditioned by infrastructural provision of high-quality R&D capacities for creating and transferring the knowledge and for strengthening cooperation between R&D institutions and the application sphere. Contrary to PO1, this infrastructure had to be focused according to specific regional issues, to furthermore strengthen the existing cooperation with the application sector. The issue was namely substandard financial investments and little concentration of regional R&D workplaces with insufficient equipment not allowing them to strengthen cooperation with the application sphere (businesses, hospitals, etc.) according to regional needs. On the other hand, the application sphere did not have a sufficient amount of own resources to invest at an efficient level and to an efficient extent. The basic assumption is to maximally thematically interconnect them with the existing regional economic specialisation. Actually, those centres shall contribute to deep regional economic and process specialisations. The main specific objectives work as the tools to fulfil the objectives fixed for the priority axis and the whole Programme, aimed predominantly at shortening innovation cycles, strengthening cooperation with the application sphere using R&D projects providing direct outputs / results for the application sphere. This also includes establishing new partnerships. In addition, the intervention logical framework included the support to R&D staff segment through increasing the number of students and young researches (under 35 years), experienced with R&D projects in cooperation with the application sphere. The last intervention focused on accelerating the transfer of new knowledge and technologies into practice, mainly into SME. The development of those centres created in that way had to significantly contribute to increasing competitiveness of the regions and starting-up their economic growth.

Intervention logic of the support area 2.1

Priority Axis 2 is composed of the one support area “2.1” – Regional R&D Centres. In fact, the intervention logic of the support area is identical to the intervention logic of the whole priority axis described in the previous part, and is shown in the scheme at the end of the present document.

Evaluation of the existing rate of fulfilment in R&DI OP specific objective – Priority Axis 2

The framework of Priority Axis 2 - Regional R&D Centres – induces satisfactory fulfilment of the values of result monitoring indicators, or fulfilment of target values at the level of the priority axis, respectively. In particular, the values of the result indicators were achieved: *11.07.20 – Number of the projects for cooperation between the application sphere and regional R&D centres*: the indicator was already fulfilled at the PO level (150%); *11.08.15 – Number of students using the erected infrastructure*: the indicator was already fulfilled at the PO level (118%). Other indicators have been fulfilled gradually: *11.03.00 – Number of newly created jobs, R&D staff – in total*; is being fulfilled due to gradual execution of projects. Nevertheless, its fulfilment level is satisfactory (62%). Indicator “*11.03.02 – Number of newly created jobs, R&D staff – women*” has been fulfilled similarly (56%). Considering the indicators monitored at the project level, there is specifically a very low level of fulfilling the results applicable in the application sphere (e.g. patents) because of time demandingness of getting patents, or also other results, respectively, and partly as with PP 1, also because of lower willingness of the private sector to cooperate. On the contrary, the centres are very successful in getting finances from national sources.

Evaluation of the rate of probability in fulfilling R&DI OP specific objective – Priority Axis 2

The planned R&DI OP objective concerning the infrastructural monitoring indicators will be most probably completely fulfilled as for 31/12/2015, or it will even be overpassed if having successfully terminated all projects, respectively. The matter-of fact progress analysis showed that the result indicators would also be completely fulfilled without any greater problems, being able to be achieved by their end beneficiaries and their partners naturally through performing their current activities. For example, the result for a number of students using a new infrastructure shall be exceeded by more than 8-times on condition of achieving a specific target value in supported projects; and the result for a number of new jobs shall be overpassed 2-times. As well, the number of cooperation projects between the application sphere and regional R&D centres shall exceed the programme objective nearly 5-times. In that sense, further research stages should preferably deal, in a greater detail, with factors, typology and a whole context of how the indicator will have to be fulfilled. On the contrary, R&D results might seem a bit problematic to be reached at the level of the project indicators, i.e. not only by a volume of contractual research, but also in the case of the indicators connected to RVVI methodology where there is time delay at acknowledging results of research (acceptance of expert articles in scientific magazines with IF or acknowledgement of a patent may take even several years).

Identification of a thematic sphere for further evaluation – Priority Axis 2

The matter-of-fact evaluation may show the following thematic spheres found out thereby, which are important for further evaluation:

- Impacts of applied research results within regional economics;
- Specialisation and successfulness of cooperation projects between the application sphere and regional R&D centres;
- Absorption capacity of erected facilities (number of students) in relation to potential

features within the CR region.

5.3 Evaluation of Priority Axis 3 – Commercialisation and Popularisation of R&D

Intervention logic of Priority Axis 3

This Priority Axis focuses on supporting several selection topics being basic to successfully implement projects in PP 1 and PP 2. This axis aims at creating conditions for successful commercialisation of R&D results, improving the intellectual property protection system, improving the system of providing information about R&D results, accessibility to scientific information, promotion and popularisation of R&D and at making R&D public support more efficient. Priority Axis 3 is divided in 2 support areas, closely interconnected, but simultaneously requiring differentiated approach (commercialisation and intellectual rights protection; promotion, popularisation and evaluation).

Intervention logic of the support area 3.1

The support area 3.1 focuses on commercialising results of research organisations and protection of their intellectual rights. Its intervention logic is shown in the graphs at the end of this document.

Evaluation of the existing rate of fulfilment in R&DI OP objective – support area 3.1

The up-to-now rate showing fulfilment of an objective within R&DI OP is adversely impacted by time delay in the beginning of execution. In spite of the maximum period of 3 years for execution of projects within PO3 (according to the conditions of the calls declared until now), the delay in declaring those calls made no project of OP 3.1 terminated in 2013, i.e. in the last year of the programming period. The real fulfilment of the objective for the support area will not be able to be objectively assessed until the first projects are terminated. The matter-of-fact fulfilment of the support area 3.1 through the indicators established in the Operational Programme is secured by support of 9 projects on support to technology transfer centres and 9 projects on support to pre-seed activities. Primarily, the activities within support area 3.1 should concentrate on support to and completion of projects in PP 1 and PP 2. Nevertheless, the fact of having centres of excellence and regional R&D centres being originated has manifested in the projects within support area 3.1, executed primarily by other subjects. At the turn of the years 2012/2013, the call 7.3 to support pre-seed activities was declared to support other projects within the support area 3.1. In the present project execution stage, we may see that there is the first step made to enhance R&D cooperation and commercialisation between R&D institutions and the public sector. This namely involves support to erection and development of technology transfer centres and pre-seed activities. The real benefit of supported projects to fulfilling the objective in the support area can be assessed after the end of those projects and after seeing their results in practice. Nevertheless, the current evolution may show that projects will be terminated without any problems, further making cooperation with the private sector more efficient.

Evaluation of the rate of probability in fulfilling R&DI OP specific objective – OP 3.1

The specific objective of R&DI OP, considering infrastructural monitoring indicators, will be most probably completely fulfilled as for 31/12/ 2015. The matter-of-fact progress analysis showed that all result indicators within OP 3.1 would have completely been fulfilled without any more significant difficulties. The question of probability at fulfilling the objective of R&D support area 3.1 may be evaluated at two levels. The first level is the fulfilment of the objective quantified through monitoring indicators; and the second one is a real contribution of the projects for commercialising results and extending cooperation with the private sector. As for the level of fulfilling quantified values of monitoring indicators, the objective of the priority axis will be most certainly fulfilled. At the second level of real contribution of the projects to commercialisation of R&D results, the objective fulfilment probability may be estimate only with great difficulty, namely because of worse quantification and long-term cooperation needed therefor. Moreover, real commercialisation is primarily impacted by other factors than projects in R&DI OP. This generally comprises system issues for financing R&D in the CR. The probability of increasing R&D commercialisation and thus fulfilling the objective of the support area primarily depends, in our opinion, on the way of financing other R&D activities, i.e. if being primarily financed from public sources or if there will be greater emphasis on co-finance from R&D results, and therefore on commercialisation and cooperation with the private sector.

Identification of a thematic sphere for further evaluation – support area 3.1

Further evaluation at monitoring matter-of-fact progress should focus on real aspects and probability of developing commercialisation and cooperation with the private sector. That further evaluation should be made at the level of projects to assure particular forms and ways of commercialising R&D results and ways of cooperation with the private sector. Such a research could not be made in that first in-depth analysis because of the following reasons:

- Projects have still been in the stage of execution; and in spite of the first results that may become evident already in this stage, real evidence of their contribution is not expected until the final execution stages; however, rather after terminating the execution through long-term results thereof;
- The second reason is that until having elaborated this first in-depth analysis, there was no time for making a high-quality in-depth analysis at the level of projects.

Intervention logic of the support area 3.2

The support area 3.2 is focused on increasing efficiency of the system and quality of R&D institutions in the CR through implementing **new elements in evaluation and strategic management of R&D policy**. At the same time, the objective also consists of **strengthening positive perception of R&D sphere** by the public. And last but not least, the objective of this intervention is **to support access to scientific information sources** and to improve access to scientific activity results for the public. The Intervention logic of the support area 3.2 is shown in the graphs at the end of this document.

Evaluation of the existing rate of fulfilment in R&DI OP objective – support area 3.2

Similarly to other support areas, the up-to-now rate of fulfilment of the objectives within the support area 3.2 in R&DI OP is adversely impacted by a time delay in the beginning of the execution. Only the monitoring systems of the projects on erecting information R&D infrastructure have already incorporated the first values attained. Therefore, the real fulfilment of the objective of the support area cannot be objectively assessed until the end of the first projects. The matter-of-fact fulfilment of the support area 3.2 through the indicators fixed in the Operational Programme has been ensured by support of 9 projects on creating visitors' and science & learning centres, 3 projects on erecting information infrastructure for R&D and 10 projects on equipping scientific and professional libraries. Current projects within the support area 3.2 cover all targeted values fixed for that support area in the Operational Programme. Real contribution of supported projects in fulfilling the objective of the support area cannot be evaluated until the end of and implementation of their results in practice. Considering the up-to-date evolution, the projects may be expected to be terminated without any difficulty to fulfil the objective of the support area 3.2.

Evaluation of the rate of probability in fulfilling R&DI OP specific objective – OP 3.2

The schedule objective of R&DI OP as for infrastructural monitoring indicators will be most probably completely fulfilled as for 31/12/2015. The matter-of-fact progress analysis showed that all the result indicators of OP 3.2 will also be completely fulfilled without any more serious difficulty. It is currently too soon to say whether all the indicators fixed in projects will be fulfilled or not. We concurrently come from relatively ambitious target values fixed for the indicators in particular projects. On the other hand, the summation of target values of the indicators for all projects greatly exceeds target values fixed in the programmes. For that reason, the OP objective will be most probably fulfilled. The issue of real contribution of the projects to R&D popularisation may be objectively assessed after some time, in fact, after the end of a project through evaluating long-term results (impacts).

Identification of a thematic sphere for further evaluation – support area 3.2

Further evaluation within the matter-of-fact progress monitoring should focus on real benefits of project results in R&D popularisation. The evaluation could take place at a quantitative level, i.e. the number of subjects / people using the project results and simultaneously at a qualitative level, i.e. how much are the target groups satisfied with the outputs of the project and the services, considering their true content. This further evaluation could be made at the level of (selected) projects to contribute to higher awareness and popularisation of R&D results. This first in-depth analysis could not make such a survey in that way because of the two reasons:

- The projects have still been in execution stage and in spite of the first results that might manifest already in that stage, manifestation of their contribution cannot be really expected until the final stages of their execution;
- The second reason is the fact that until elaboration of this first in-depth analysis, there was not time for making a high-quality in-depth inquiry at the level of projects.

5.4 Evaluation of Priority Axis 4 – Infrastructure for University Education related to Research

Intervention logic of Priority Axis 4

The condition of the infrastructure at universities at the beginning of the Programming Period 2007 – 2013 was not able to adequately react to demand for university education. In fact, the issues generally consisted in the lack of finance and unsatisfactory condition of university infrastructures that prevent from multi-purpose and inter-disciplinary use in compliance with modern research and education tendencies and in some cases, even not being in conformity with sanitary and safety standards. The support within the PO focuses on eliminating the lack of finance accumulated from the past, and allowing for selective support to universities (or their parts) modernising their studying features according to the labour market requirements and latest pieces of R&D knowledge. There is a specific situation in the region of Prague that highly provides educational services in the framework of tertiary education also to graduates with permanent residence out of Prague. Nevertheless, it is currently without support. The main objectives fulfilling the function of tools to fulfil the objectives of the priority axis and the whole Programme have been generally focused on increasing capacities of tertiary education and creating conditions to improve education quality. In addition, as for the intervention logic, there was support to the personnel component of university development through increasing a number of their students, cooperation with the application sphere – at increasing laboratory capacities connected with education, and naturally development of information infrastructures (libraries).

Intervention logic of the support area 4.1

Priority Axis 4 is composed of one support area 4.1 – Infrastructure for University Education related to Research. For that reason, the intervention logic of the support area is identical to the intervention logic of the whole priority axis described in the previous part, and is shown in the graphs at the end of this document.

Evaluation of the existing rate of fulfilment in R&DI OP objective – support area 4.1

Priority Axis 4 - Infrastructure for University Education related to Research gives no framework for evaluation of the status of result monitoring indicators, or the fulfilment of their target values, respectively, at the level of the priority axis. The reason is that the indicator values will not be fulfilled until the end of the project execution period, together with their building-approval procedures. In particular, the value thereof has been only reached with the output indicator “11.05.11. – *Reconstructed, Extended and Newly Erected Capacities*”.

Evaluation of the rate of probability in fulfilling R&DI OP specific objective – OP 4.1

The R&DI OP objective considering infrastructural monitoring indicators will be most probably completely fulfilled as for 31/12/2015, or even overpassed at successful termination of all the projects. The intervention logic's point of view may identify an issue that is connected to proving financial sustainability of the project activity after its termination. As there is high probability of reduced allocated financial resources from the

state budget impacting students, and a demographic slump in the number of students, the “third role” of universities might strengthen, or the financing of those structures’ operation may appear unsustainable, respectively. Based on the above-mentioned projections of the target status of the indicators and fulfilment of the specific R&DI OP objective, the use of resources for Prague region support may be considered. This issue also involves support to students from different regions, doing their studies in Prague, still in the present period.

Identification of a thematic sphere for further evaluation – support area 4.1

Based on the matter-of-fact evaluation, the further evaluation could focus on absorption capacity of erected facilities (number of students) in relation to the potential of the region and the CR.

6. Implications for the Period 2014 – 2020

This chapter comes from the analyses made and next from the continuous version of the Operational Programme Research, Development and Education RDE OP (OPVTV in Czech) of 29th March 2013, to be further detailed in future.

6.1 Priority Axis 1 – European Centres of Excellence

Identifying the interventions for the European centres of excellence in the Programming Period 2014+ – OP 1.1

The Ministry of Education, Youth and Sports has currently been preparing itself for the upcoming Programming Period 2014 – 2020: Operational Programme for Research, Development and Education (OPVTV in Czech, RDE OP in English). The issue of the support to centres of excellence will be mainly interconnected with the newly prepared **Priority Axis 1: Strengthening Capacities for High-Quality Public Research**. The key principle of that priority axis is to concentrate sources to strengthen research capacities having potential to develop top research features and their international competitiveness. In line with applied research, the centre of excellence will be allowed to use subventions in the framework of **Priority Axis 2: Development of the Environment for Using Research as a Source of a Long-Term Competitive Advantage**. The objective of the interventions to be performed within that Priority Axis is to prepare and develop the environment for a higher use of the public research sphere capability to build a competitive advantage of cooperating companies and to solve social challenges.

The main issue of the erected centres of excellence is and will be provision of their long-term sustainability because those subjects will have to efficiently get resources / money for their activities apart from public sources, using thus private and foreign sources. A significant issue therein may also be the lack of high-quality research staff acting in those research infrastructures. There may be a lack of technical staff with a degree for making and preparing experiments for the users of those facilities. For that reason, the newly prepared RDE OP should unequivocally include the following:

- **Stimulating incorporation of research organisations in top international cooperation in R&D spheres**, while the involvement of Czech R&D capacities in ESFRI should preferably use also the potential of Prague research capacities;
- **Interventions focused on support to larger inter-disciplinary research teams** that may assert themselves in the European competition, including higher mobility of students, pedagogical and research staff to faster get experienced in the research and application spheres;
- **Support to the activities allowing access to up-to-date scientific information, data and databases for prestigious professional periodicals or electronic information sources.** Research teams in the CR have very weak opportunities in their access to up-to-date scientific information and data compared to developed EU countries. The difficult access to those information sources further reduces attractiveness of research institutions in the CR for scientific workers from abroad;
- As well, interventions should focus on **strengthening the transfer of technologies and international cooperation** that has not been developing in a satisfactory way.

Identification of necessary basic data to prepare the upcoming Programming Period 2014+ in particular interventions – support area 1.1

To thoroughly prepare the programme documentation for the upcoming Programming period 2014 – 2020, the status of the current and newly erected infrastructure of Czech centres of excellence and the planned system for managing research activities in those centres of excellence will have to be mapped. The information thereof shall be compared to similar centres of excellence in other EU countries (comparative analysis of good and bad practice). The attention should be paid to the internal system of bid tools supporting R&D quality in those workplaces, human resources management and scientific & research potential, education and R&D management, including the support to mobility of research staff between the public and private sectors.

6.2 Priority Axis 2 – Regional R&D Centres

Identifying the interventions for regional centres in the Programming Period 2014+ – OP 2.1

In the framework of regional R&D centres, there will be significant support to companies' investments into innovation, research and creation of new relationships with and cooperation among companies, R&D centres and university education, namely in development of products and services, transfers of technologies, social innovations and applications of social services, stimulation of demand, creation of networks, clusters and open innovations through intelligent specialisation, support to technical and applied research, pilot lines, measures to well-timed verification of products, abilities of developed production and primary production within key technologies and spreading of technologies for general use (compliance with investment priorities of the ERDF regulation draft). Innovation regional strategies will be crucial to help develop intelligent specialisations in the

regions. In connection to RDE OP, the newly prepared Priority Axis 2 will be principal for regional R&D centres to develop the environment for using research as a source of a long-term competitive advantage, and next the support to stronger high-quality research defined within Priority Axis 1.

Identifying necessary basic data for the preparation of the next Programming Period 2014+ in selected interventions – support area 2.1

To successfully implement a set of necessary documents whose focus and extent come from the knowledge generated from the last programming period, each intervention asks, projects thematically similar to the project in the current PP 2 should be provided with regional or thematic R&D strategies for the impacted area of the project and for good practice examples, or to have a process map of problematic fields, respectively, within the current Programming Period.

6.3 Priority Axis 3 – Commercialisation and Popularisation of R&D

Identification of similar interventions in the Programming Period 2014+ – OP 3.1

The newly prepared RDE OP involves analogic interventions being supported also in the present R&DI OP within the support area 3.1. The interventions supporting commercialisation of R&D results and making the cooperation with the commercial sphere more efficient are involved in the prepared RDE OP as part of **Priority Axis 2: Development of the environment for the use of research as a source of a long-term competitive advantage**. We especially recommend for this type of intervention to consider the way of co-financing of the projects by the public sector. This would declare support and interest of the private sector in the project and assure R&D activity orientation to practically applicable and usable projects.

Identifying necessary basic data for the preparation of the next Programming Period 2014+ in selected interventions – support area 3.1

Thorough preparation of the upcoming Programming Period 2014+ shall involve the mapping of real demand of commercial subjects for R&D results, looking into feasible financial participations of commercial subjects in R&D activities, and verification of the interest in cooperation and networking among R&D and other subjects.

Identifying similar interventions in the Programming Period 2014+ – OP 3.2

In relation to support area 3.2, we consider the support within RDE OP to be further supported through the activities at popularising R&D and equipping libraries with high-quality scientific and professional literature and other information sources, and next to provide promotion of results of R&DI OP projects to be able to address a higher number of clients to a wide awareness of the public.

Identifying necessary basic data for the preparation of the next Programming Period 2014+ in selected interventions – support area 3.2

The successful and efficient support within RDE OP should namely involve a mapping of demand for information sources both in quality and quantity, evaluating efficiency of ways and forms of popularising R&D, mapping the interest of professional and lay public in different R&D topics to be able to support through RDE OP such an offer that will be followed by demand, comprising both topics and ways of execution thereof.

6.4 Priority Axis 4 – Infrastructure for University Education related to Research

Identifying similar interventions in the Programming Period 2014+ – OP 4.1

R&DI OP and the Infrastructure for University Education related to Research shall have a priority within the prepared RDE OP programme in Priority Axis 3: Development of Universities, and its Investment Priority 2 with Specific Objective 1 aiming at higher quality of educational infrastructure at universities to help them specialise, to improve access of disadvantaged groups thereto and to more open universities for whole-life education needs. In addition, this shall apply to support of excellence in research within Priority Axis 1: Strengthening Capacities for High-Quality Public Research, and namely its Specific Objective 2 in improving conditions for high-quality research at universities and research-related education.

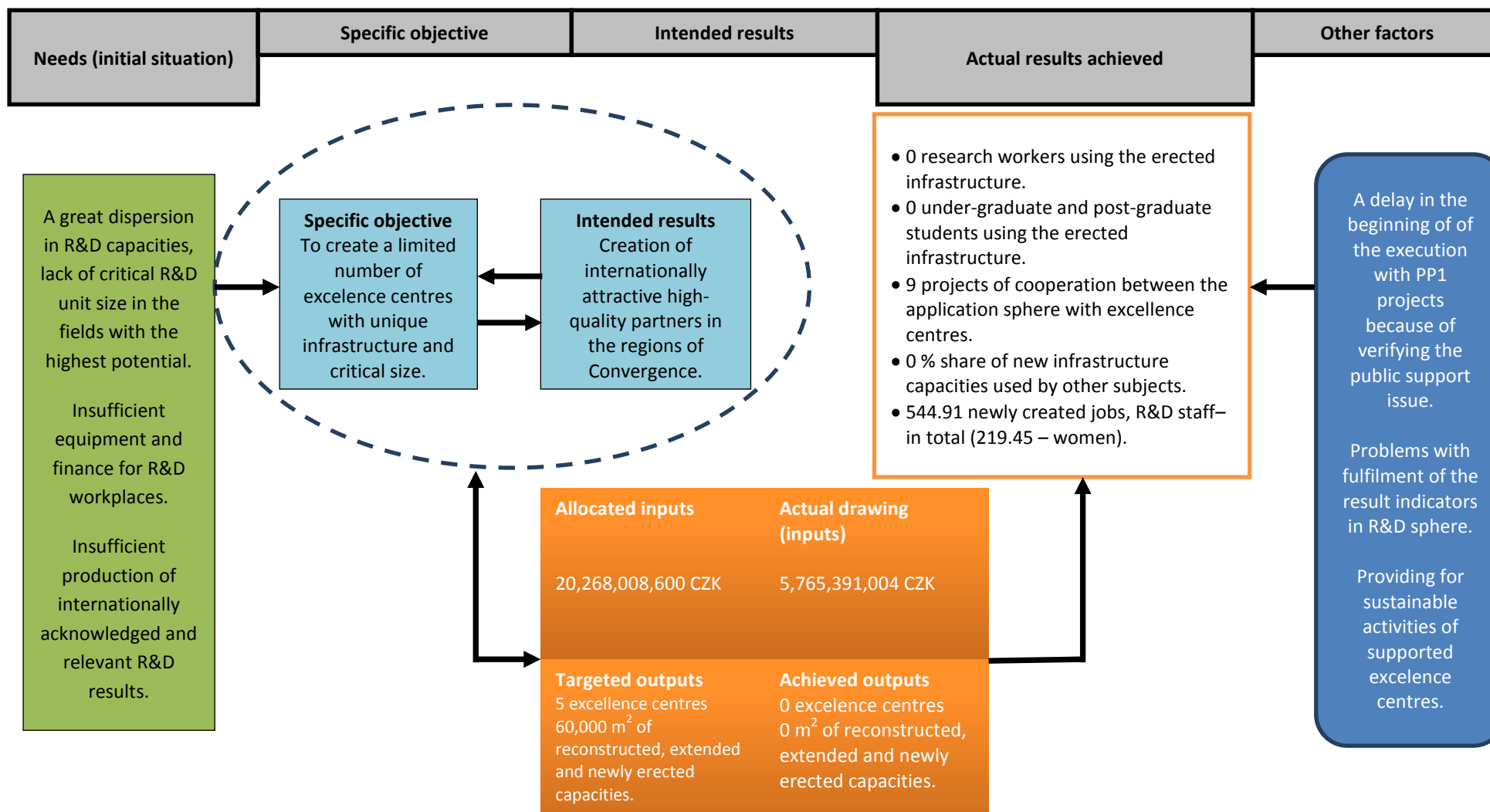
The prepared revision of R&DI OP in extending prospective applicants and beneficiaries of Priority Axis 4 even with subjects acting directly on the territory of the capital of Prague shall further involve such evolution. The intervention logic of the support area 4.1 shows that the result indicators aimed at monitoring of the number of undergraduates or post-graduates benefiting from the newly made or reconstructed infrastructure can be highly efficiently fulfilled not only through that type of investments at out-of-Prague universities, but considering nationwide importance of a significant number universities acting directly in Prague, also through executing similar investments on the Prague-capital territory.

Identifying necessary basic data for the preparation of the next Programming Period 2014+ in selected interventions – support area 4.1

To successfully implement a set of necessary documents with their specialisation and extent, each intervention shall come from the knowledge of the previous Programming Period. Projects thematically similar to the projects within current PO 4 should provide for regional or thematic R&D strategies for the project impact area – in relation to the "third role" of universities and their long-term R&D strategies.

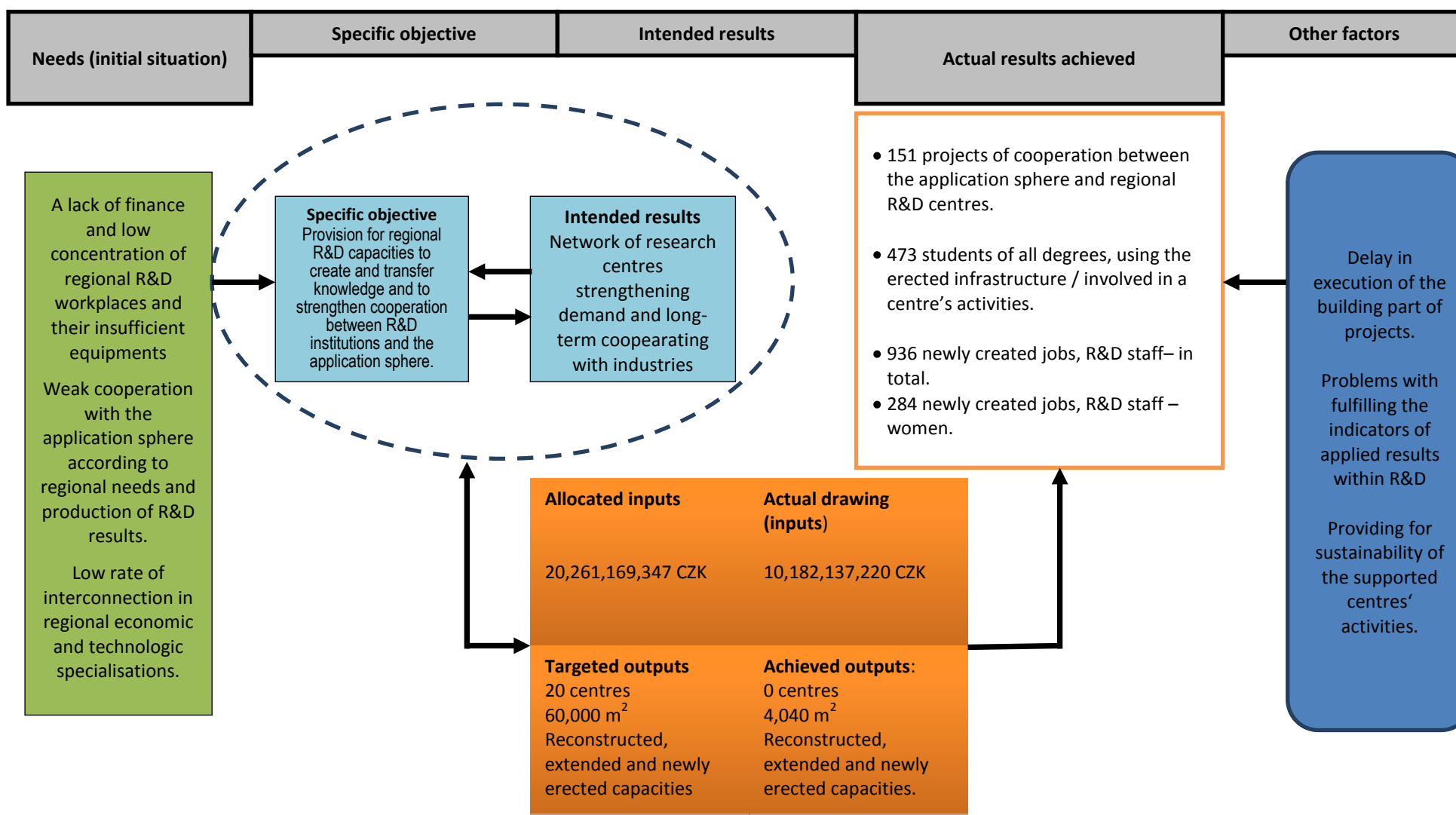
Intervention logic of the support area 1.1 – European Centres of Excellence (R&DI OP)

(Remark: the intervention logic of the support area is identical to the intervention logic of the whole Priority Axis)

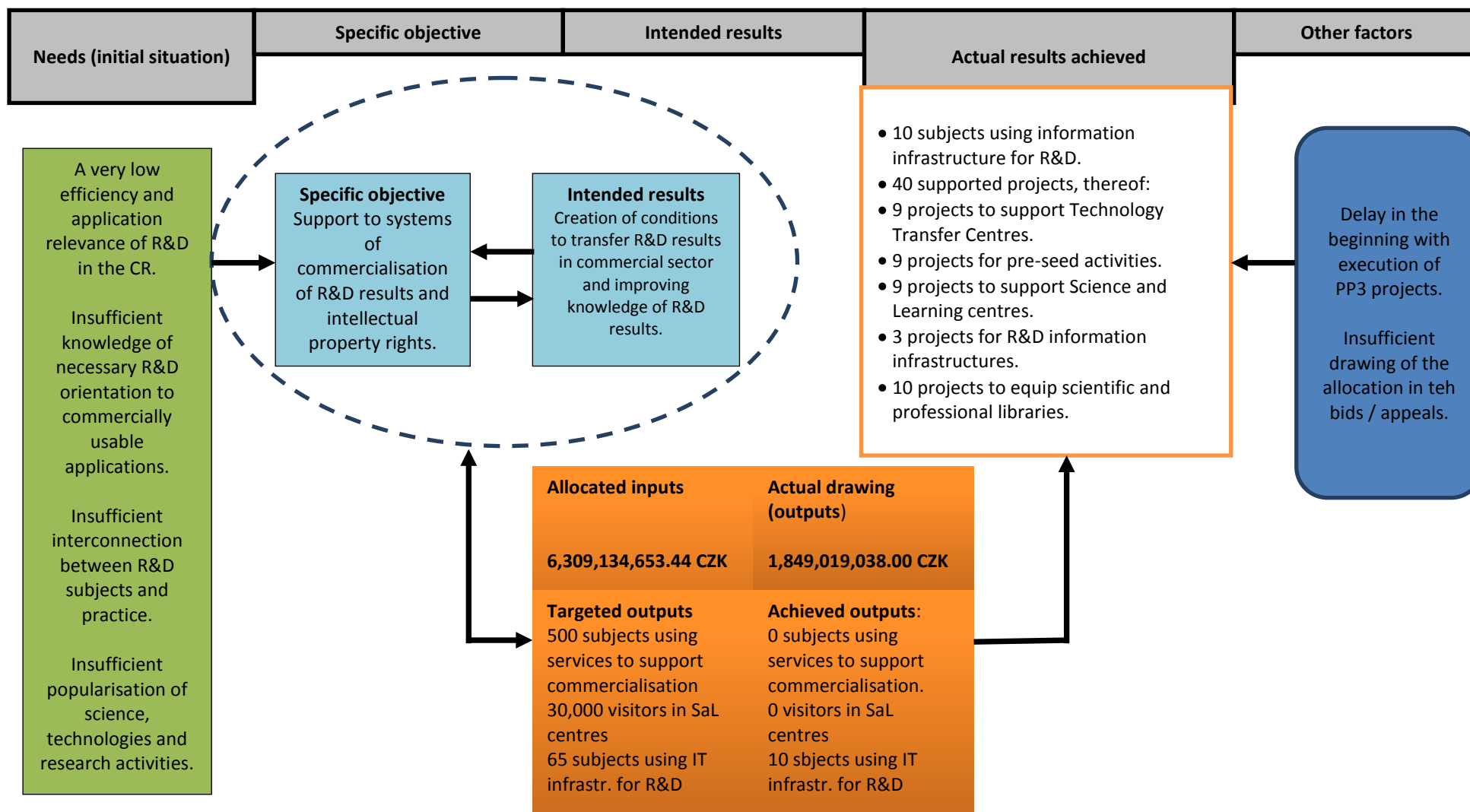


Intervention logic of the support area 2.1 – Regional R&D Centres

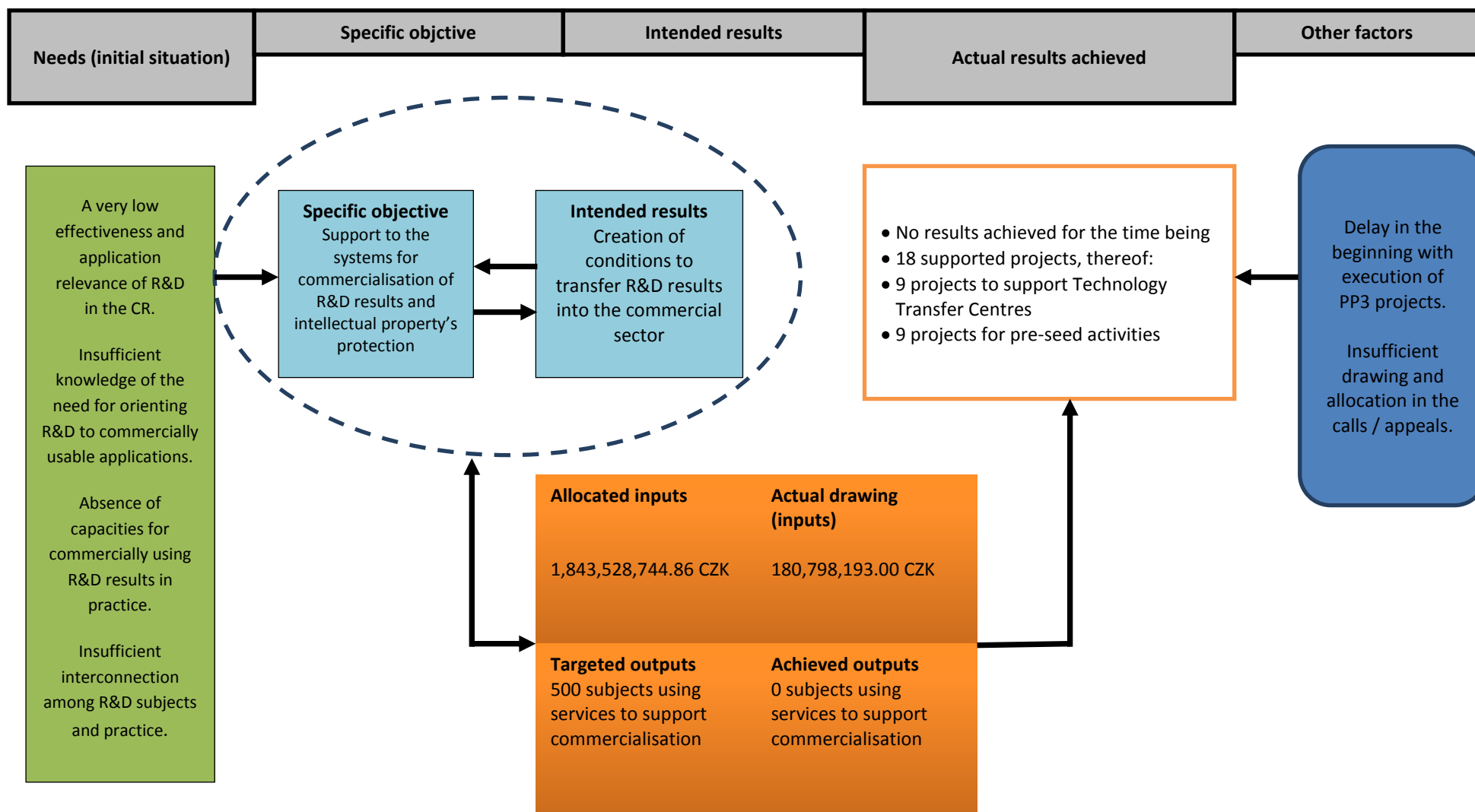
(Remark: the intervention logic of the support area is identical to the intervention logic of the whole Priority Axis)



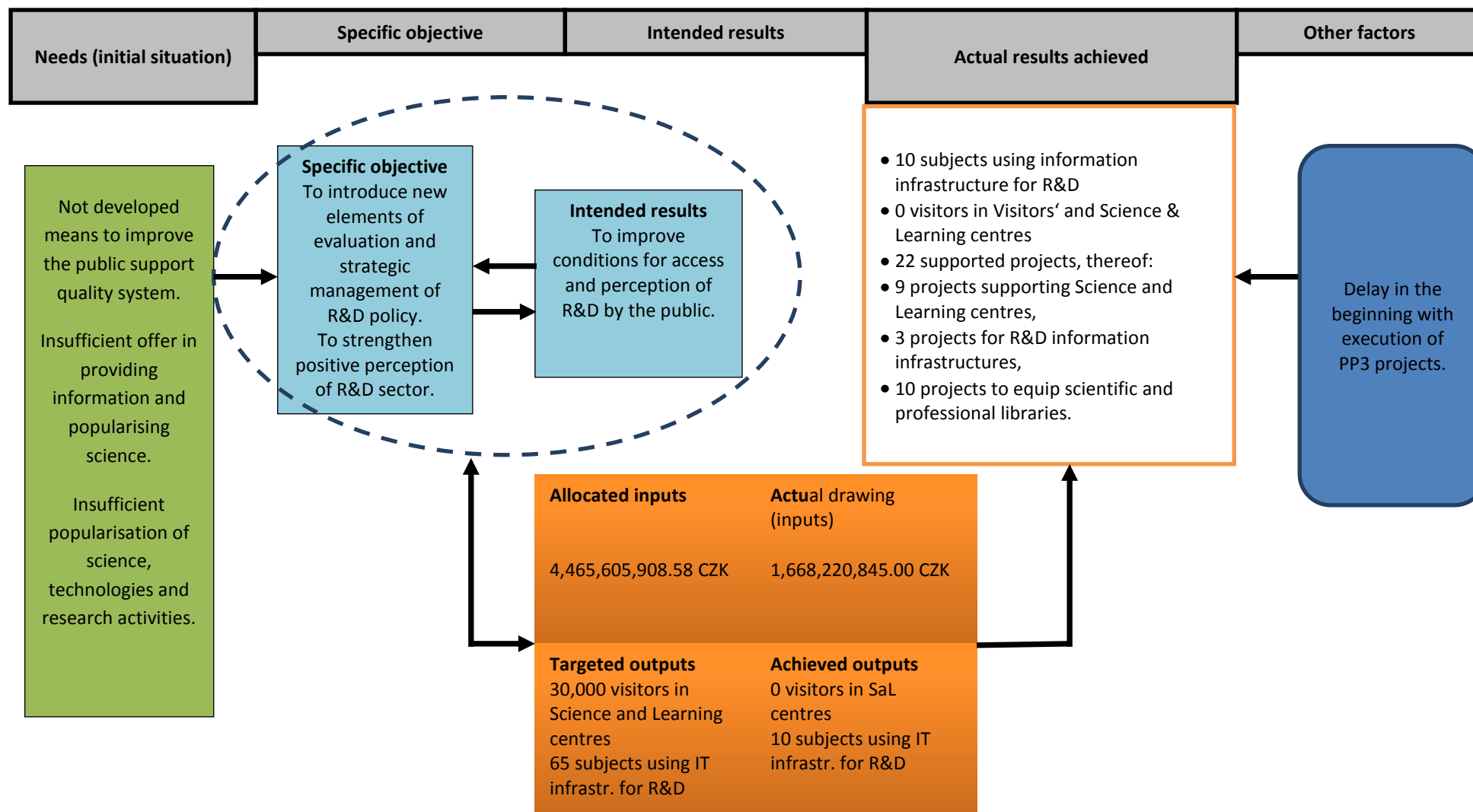
Intervention logic of Priority Axis 3 – Commercialisation and Popularisation of R&D (R&DI OP)



Intervention logic of the support area 3.1 – Commercialisation of research institutions' results and protection of their intellectual property rights (R&DI OP)



Intervention logic of the support area 3.2 – Promotion, popularisation and evaluation (R&DI OP)



Intervention logic of the support area 4.1 – Infrastructure for University Education related to Research

(Remark: the intervention logic of the support area is identical to the intervention logic of the whole Priority Axis)

