



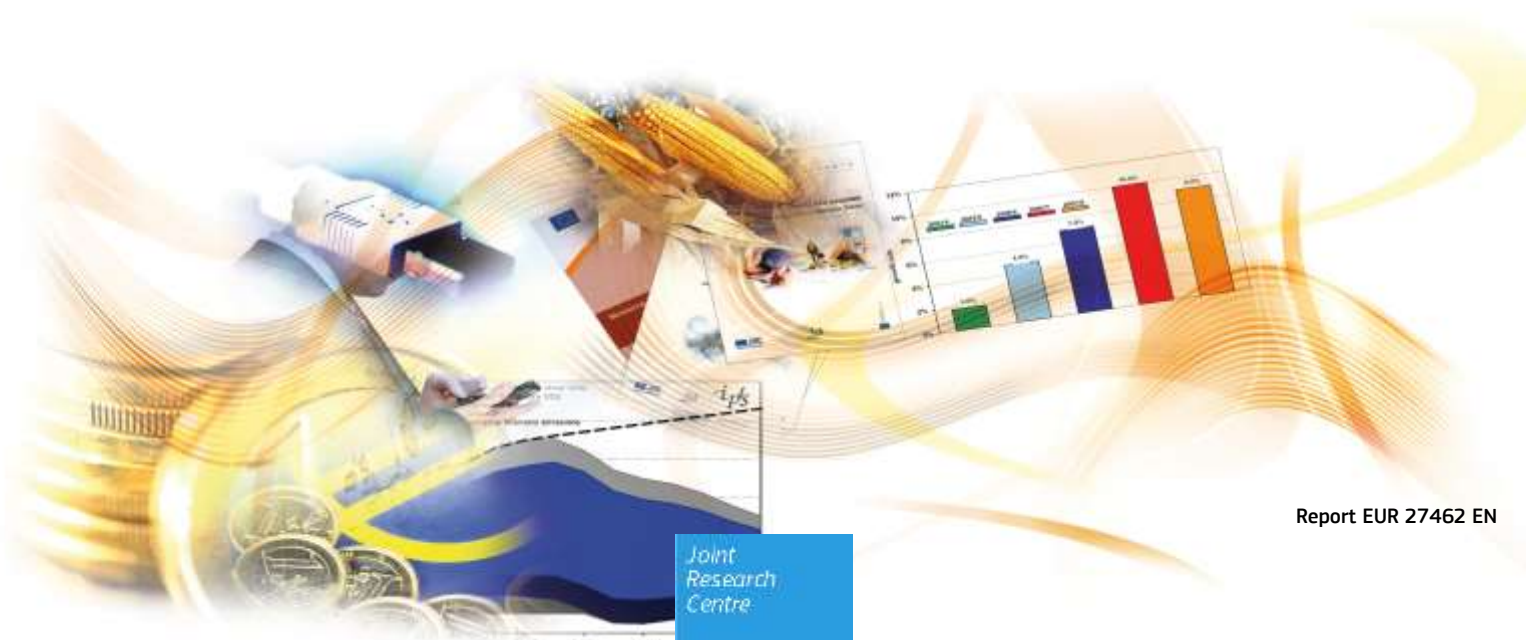
## JRC SCIENCE AND POLICY REPORT

# Stairway to Excellence Country Report: Czech Republic

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**Abstract**

In the frame of the Stairway to Excellence project, complex country analysis was performed for the EU MS that joined the EU since 2004, with the objective to assess and corroborate all the qualitative and quantitative data in drawing national/regional FP7 participation patterns, understand the push-pull factors for FP7/H2020 participation and the factors affecting the capacity to absorb cohesion policy funds. This report articulates analysis on selected aspects and country-tailored policy suggestions aiming to tackle the weaknesses identified in the analysis.

The report complements the complex qualitative/ quantitative analysis performed by the IPTS/KfG/S2E team. In order to avoid duplication and cover all the elements required for a sound analysis, the report builds on analytical framework developed by IPTS.

# CONTENTS

Executive summary .....	2
1. Introduction .....	8
2. Quality of the governance .....	9
3. Factors that support or limit the national participation in R&D calls funded by SF/ESIF .....	17
4. Push – pull factors for R&I performers to participate in FP7/H2020.....	19
5. Policy instruments facilitating the participation in FP7/H2020 .....	22
6. Evaluation and monitoring mechanisms .....	26
7. Enhancing or limiting the synergies? .....	29
8. Take-up of public sector research results .....	32
9. Country tailored policy suggestions.....	34
10. Regional analysis.....	37
11. Abbreviations .....	39
References .....	40
Appendix.....	42

## EXECUTIVE SUMMARY

This report is part of the “Stairway to Excellence (S2E) project” which is centred on the provision of support to enhance the value of the key European Union (EU) funding sources for research, development and innovation.

In the frame of the project, complex country analysis is performed for all 13 EU MS with the objective to assess and corroborate all the qualitative and quantitative data in drawing national/regional FP7 participation patterns, understand the push–pull factors for FP7 participation and the factors affecting the capacity to absorb cohesion policy funds. This report articulates analysis on selected aspects and country-tailored policy suggestions aiming to tackle the weaknesses identified in the analysis.

### Governance of RDI system

The research, development and innovation system of the Czech Republic (CR) went through a major transformation in the early 1990s. Since then it has been evolving slowly, without major disruption or changes until the year 2008 when the Reform of the System of RDI was launched. The reform has profoundly changed the governance of the RDI policy and the responsibilities of the main bodies.

Czech Republic has currently **two-pillar system of RDI support and financing**. On one side there is basic research support mainly through the Ministry of Education, Youth and Sports, Czech Science Foundation and the Grant Agency of the Academy of Sciences. The other side of the system is represented by a support for applied research provided mainly by the Ministry of Industry and Trade and the Technology Agency of the Czech Republic

Generally, there are two key sources for the support of RDI now (2015) – national funds and European funds (Structural Funds / ESIF). Their governance is relatively different, with different stakeholders being involved, playing often a distant role.

Despite the changes and the reform that has taken place recently, thy RDI system still suffers from several weaknesses. They can be summarized in the following points:

- Strong institutional inertia, the allocation of institutional funding towards the best performing
- Activities of particular stakeholders and support in the area of RDI are complementary and in some cases even overlapping.
- Unclear role and competencies of the R&D&I Council.
- Strict distinction between basic and applied research that has no support in reality.
- Weak cooperation between research institutions and private sector, knowledge transfer remains weak
- Lack of co-ordination among the key stakeholders of the RDI system.
- Missing strategic intelligence and limited evaluation culture.
- Missing priorities and common vision for the RDI system or the economy as a whole. Need to adopt more targeted approach, especially as regards the identification of research priorities in line with RIS3 to better reach critical mass
- Missing support for the key R&I hub – the region of Prague – from SF / ESIF.
- Limited links to and synergies of the ESIF programmes with the programmes at the EU level, particularly H2020 and COSME programmes.

### ESIF for RDI activities in 2014-2020

There are two key OPs financed from ESIF and providing support to RDI in the programming period 2014-2020. They are the **OP Research, Development and Education (OP RDE)** and the **OP Enterprise and Innovations for Competitiveness (OP EIC)**.

In addition to them, Prague as a more developed region falling into category “2” of the ESIF support<sup>1</sup> will manage its own OP – the **OP Prague – growth pole of the Czech Republic (OP Prague)**.

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<sup>1</sup> More developed regions (Europe's more prosperous regions- GDP is 90% or more of EU average).

All these three OPs are also linked to the RIS3/S3 strategy. The guarantor of the RIS3 agenda in the Czech Republic was the MEYS – Managing authority of OP RDE, since the end of 2014 it is the Office of the Government – section responsible for RDI activities.

In order to coordinate the preparations of RIS3 strategy for the Czech Republic, MEYS established a S3 Coordination Board, bringing together representatives of relevant institutions active in shaping Czech economic policy in the areas of competitiveness, regional development, R&D, innovations and information technology: AK, AVO, CRC, HK, MEYS, MRD, MIT, MI, RVVI, SPO, TA CR, and others.

The strategic document of RIS3 consists of a national RIS3 strategy and 14 regional RIS3 annexes. Given the still relatively limited level of development of the innovation system in CR at both the national and the regional level, CR introduces the following approach to the RIS3 prioritization:

- Horizontal (cross-cutting) = new types of activities supporting the enhancement of the innovation system.
- Vertical = focus on specific competitive, progressive sectoral / subsectoral R&D areas – “domains” with strong growth potential.

RIS3 implementation is linked mainly to the 3 OPs 2014-2020 – namely OP RDE (MEYS), OP EIC (MIT) and OP Prague.

### **Factors that support or limit the national participation in R&D calls funded by SF/ESIF**

Based on the desk research analysis and interviews performed by the author with key RDI stakeholders, several factors limiting the participation in SF/ESIF RDI calls have been identified. Most of the factors are not unknown and are repeatedly mentioned in similar studies. These factors include:

- Very high administrative burden related to the whole project cycle.
- Repeated and frequent controls / audits with disunited interpretation of the rules and regulations.
- Changes of the rules during the whole project cycle impacting the implementation of the supported projects.

In addition to these barriers there are some specific factors identified during the desktop and field research. These factors include:

- Sustainability period of existing projects that may affect negatively the absorption capacity in the 2014-2020 programming period.
- Lack of information / awareness of planned interventions given by relatively limited discussions with potential beneficiaries or their representatives.

On the other hand, several factors and interventions have been identified that may lead to a more effective management of the ESIF funds and support successful participation in ESIF calls in future. These however need to be fully implemented and bring a significant change and not only proclaimed in the programming documents. This relates particularly to the first one mentioned below.

- Significantly lower the administrative burden.
- Increase the efficiency of controls / monitoring through, for instance, limitation of those controls to a more rational, less frequent period, sharing control results among various organizations and/or through taking into account the internal and external audits obligatory for most of the projects.
- Improve and make more efficient the public procurement process.
- Improve the dialogue with potential beneficiaries so that it represents a two-way communication and dialogue where the MA listens carefully what the beneficiaries have to say.

### **Push – pull factors for R&I performers to participate in FP7/H2020**

The Seventh Framework Programme for Research and Technological Development (FP7) of the EU represented a significant source of funds for excellent researchers, research organizations and RDI projects. In terms of prior experience of the CR with FPs, it may be noted that Czech teams participated for the first time in the 3rd FP, starting in 1993. The participation of Czech teams has significantly increased since, nevertheless there are still significant barriers that limit their participation and cause that CR lags behind similar EU-15 member states.

The key barriers hindering the participation of Czech teams in FPs and H2020 programme identified during the desk research analysis and interviews performed by the author with key RDI stakeholders can be summarized into the following ones.

- Competition with national opportunities (funded by both national funds and ESIF) and funding (particularly SF programmes).
- Lack of awareness of the EU level programmes and their opportunities.
- Lack of experience as evaluators/participants in FP schemes.
- Lack of awareness of the CR / new MS among the EU programmes evaluators and managers.
- Lack of personal expert network.

The interviews carried out during the field analysis aimed also to find out why the Czech teams actually (should) participate in the EU programmes – what are the key benefits they may gain if they are directed towards these opportunities. The key „**Push-Pull factors**” identified are as follows:

- **Larger funding opportunities**  
ESIF funds are currently relatively large source of funding too but it is more or less sure that this programming period offers such an opportunity for the last time. Starting in 2021 CR can expect lower allocation for these programmes while EU-level programmes will very probably maintain theirs. The fact that in future less funding from the ESIF will be available should be therefore a significant push factor for the participation in EU-level programmes such as H2020 – experienced participants have higher probability to succeed.
- **New partners, new opportunities**  
Participation in the EU-level programmes is as such an interesting opportunity that can help to push the research teams further in their efforts. In addition, every participation brings new partners, new contacts, new discussion, hence creating additional opportunities for research projects or other forms of cooperation.
- **Reputation**  
All the stakeholders interviewed agreed that participation in FP / H2020 programmes increases the awareness about the research team and the research organization on EU research map. It increases (if the projects are successfully completed) its reputation, improving its position for possible future calls and projects.
- **Easier implementation**  
All the participants in FP/H2020 programmes interviewed agreed that the administrative burden of these programmes is much lower than in case of SF (potentially also ESIF) programmes. Further, the regulations and rules are also simpler because the national states do not add additional requirements to them, and their changes are less arbitrary and frequent.

#### **Enhancing or limiting the synergies?**

One of the key objectives of the country analysis was to identify what are the key factors that limit potential synergies between national ESIF programmes and EU-level programmes, particularly H2020.

In general, one of the key factors that limit these synergies, are existing EU regulations related to ESIF and H2020 programmes. It is not the rules themselves, but particularly the differences between each group of the programmes and some specifics in the rules and eligibility criteria that make it tough to combine them or link them. These rules have been also the key limiting factor mentioned by the stakeholders interviewed by the author while, according to them, country-specific factors do not play an important role.

More in detail, the following factors can be summarized as the **key factors limiting the synergies between ESIF and H2020**:

- **Lack of co-ordination between national ESIF programmes and EU level programmes**  
Despite the fact that Article 96(6)a of the common provision sets that ESIF programmes are to set out the mechanisms that ensure coordination between ESIF and other EU and national funding instruments, there is very limited co-ordination mechanism set at this moment.
- **Lack of information and data sharing among the authorities in charge of ESIF programmes and those authorities in charge of EU-level programmes**  
The MAs for the individual OPs and the bodies responsible for the EU-level programmes should share more data and information related to their programmes implementation, applicants, beneficiaries or evaluations. As of now, such data and information sharing is at its minimum.
- **Different eligibility rules of ESIF and H2020 programmes**

ESIF programmes are aimed at relatively different types of activities than H2020 programmes, e.g. funding of research infrastructure in ESIF and research activities under H2020. These different types of activities could effectively complement each other<sup>2</sup> – under the condition that an applicant could apply for funds from both of these programmes at once and the funds would be provided jointly. This would require very detailed co-ordination of the concerned funding schemes and conditional agreement of financing<sup>3</sup>. Particularly the second factor currently represents a factor that the national MAs do not know how to deal with.

- **Uncoordinated timing of potentially linked calls**

Timing of the calls in ESIF and H2020 that may create important synergies is currently not anyhow coordinated. ESIF programmes MAs plan their calls only within their own OPs with no link to the calls planned under H2020 programme. On the other hand, information regarding the plan for particular calls under H2020 is also limited and so the MAs do not have often enough information to effectively coordinate the timing of their particular calls.

- **Geographical focus difference – country-specific (territorial) vs. EU wide (space blind) programmes**

ESIF programmes are primarily aimed at support within a particular country. Although part of the funds can be spent within a territory other than the one eligible / programme territory within the particular OP, the volume of these funds is limited<sup>4</sup>. In case of the Czech OPs, this share is further decreased by the fact that they aim to invest in the region of Prague – a region that is outside the programme territory of the OPs.

### **Country tailored policy suggestions**

To sum up, the country report offers several country-tailored policy suggestions aiming to tackle the weaknesses identified in the analysis.

The following **suggestions for the Czech Republic** have been identified. Though the recommendations have been designed on country specific analysis, most of them can be thought of general recommendations that should be considered at the EU level too. This aspect can be attributed to the fact that most challenges and barriers for the synergies between the various funding instruments are perceived at the level of the programme management and regulations guiding its implementation. Most of these come from the EU level and individual MAs responsible for the particular programmes.

### **Communication and co-ordination between national authorities responsible for the ESIF programmes and authorities responsible for the EU level programmes**

- The particular authority in charge of ESIF programme should actively communicate with authorities in charge of EU programmes in order to receive more detailed information related to the planned implementation of these programmes. It shall also request more information sharing about the participation of national teams so that it can plan its own calls and instruments aimed at supporting synergies between these two programmes.
- The authorities in charge of EU programmes can take an initiative too – they may take charge to initiate formal changes that need to be taken care of at the level of EC (e.g. difference in eligibility criteria or the unavailability of H2020 (or other programmes) calls results, evaluations and implementation). A shared information database could be one approach to improve the co-ordination between the two types of programmes, another could be a more detailed guidance how to deal with particular specifics of the different eligibility criteria related to the various programmes from the EC level.

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<sup>2</sup> Article 65(11) provides for a possibility of cumulating grants from different EU funding instruments (or from one or more ESI Fund through one or more programmes and other Union instruments) for the same beneficiary or the same project, provided that the same expenditure/cost item does not receive support also from another EU fund (from the same Fund under different programmes, from another Fund or from other Union instruments).

<sup>3</sup> For instance, given the fact that most H2020 grant agreements are signed a certain time after the deadline for proposal submission, the MA could set up a conditional approval for ESIF grants that allows reserving ESIF budgets until the results of the evaluation of the H2020 project proposals are known.

<sup>4</sup> Article 70(2) stipulates a possibility of up to 15% of the support from the ERDF, Cohesion Fund and EMFF at the level of the priority (up to 5% of the support from the EAFRD at the level of the programme), and up to 3% of the budget of a ESF operational programme (Article 13(3) ESF) to be allocated to operations located outside the programme area

### **Communication and co-ordination between NCPs and ESIF MAs within the national level**

- If one is to support higher participation of Czech research teams through ESIF programmes or improve the market application of R&D results achieved in H2020 programme through their particular instruments, each party needs to share actively their know-how.
- Activities that are being planned under each programme should be communicated and co-ordinated with the other party so that possible synergies can be actually facilitated already at this stage. NCP network should be invited to participate in specific events organized as part of the preparation of the OP and its funding instruments. On the other hand, the NCP network should actively share its knowledge about what is being prepared in the H2020 programme, how this could be complemented by the ESIF instruments or what problems are the Czech teams facing that could be fought with through the ESIF support.

### **Capacity building**

- Another key barrier for the possible synergies between ESIF and H2020 programmes is relatively low participation of Czech teams in the FP/H2020 calls. In order to support the participation of Czech team in H2020, there is a need to support their absorption capacity and administrative capacity to prepare the project applications. National programmes could be therefore used to help create such capacities at the level of research organizations in a form of a “grant / project office”.

### **Guidelines, methodologies, calls and other documents in national languages**

- Most of the researchers nowadays is able to communicate in English. The programme and calls for proposals documents on the other hand use a very specific terminology, often with specific legal and technical vocabulary and formulations that are difficult to understand. Some of the stakeholders interviewed confirmed that availability of the programme and calls documents only in English represents a potential barrier, particularly for new participants who are not familiar with the rules and procedures.



## **Acknowledgements**

Participation of all the interviewees is gratefully acknowledged. All usual caveats apply.

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# 1. Introduction

## Background of Stairway to excellence project

The European Commission Framework Programme (hereinafter referred to as “FP”) for research and technology development has been vital in the development of European knowledge generation. However, there is considerable disparity across EU countries and regions in terms of FP participation and innovation performance.

Horizon 2020 will continue to provide funding on the basis of excellence, regardless of geographical location. However, it will also introduce novel measures for "spreading excellence and widening participation" by targeting low Research & Innovation (R&I) performing countries - most of whom are eligible for innovation funding under Cohesion Policy for the period 2014-2020.

In addition, the new regulations for ESIF aim to use funds more effectively to build regional/national excellence and capacities. By doing so, the key funding sources (ESIF and Horizon 2020) can complement one another along the entire innovation process.

## Objective of S2E

The Stairway to Excellence (S2E) project is centred on the provision of support to enhance the value of the key European Union (EU) funding sources for research, development and innovation: European Structural and Investment Funds and Horizon 2020 but also the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME), Erasmus+, Creative Europe, European Union Programme for Employment and Social Innovation ("EaSI") and the digital services part of the Connecting Europe Facility by actively promoting their combination. The project has two main objectives, namely:

- Providing of assistance to regions and countries that joined the EU since 2004 in closing the innovation gap, in order to promote excellence in all regions and EU countries;
- Stimulating the early and effective implementation of national and regional Smart Specialisation Strategies.

## Main purpose of the document

In the frame of the project, complex country analysis is performed for all 13 EU MS with the objective to assess and corroborate all the qualitative and quantitative data in drawing national/regional FP7 participation patterns, understand the push-pull factors for FP7 participation and the factors affecting the capacity to absorb cohesion policy funds. This report articulates analysis on selected aspects and country-tailored policy suggestions aiming to tackle the weaknesses identified in the analysis.

The report complements the complex qualitative/ quantitative analysis performed the IPTS/KfG/S2E team. In order to avoid duplication and cover all the elements required for a sound analysis, the report builds on analytical framework developed by IPTS.

## 2. Quality of the governance

The research, development and innovation (hereinafter referred to as “RDI”) system went through a major transformation in the early 1990s. Since then it has been evolving slowly, without major disruption or changes until the year 2008 when the Reform of the System of RDI was launched. The reform has profoundly changed the governance of the RDI policy and the responsibilities of the main bodies. Competences of particular governmental bodies are currently given by the Act No. 130/2002 Coll. on the Support of Research and Development from Public Funds and by the Reform amendment announced as Act. No 211/2009 Coll.

### Policy making

The Czech Republic (CR) has currently **two-pillar system of RDI support and financing**. On one side there is basic research support mainly through the Ministry of Education, Youth and Sports, Czech Science Foundation and the Grant Agency of the Academy of Sciences. The other side of the system is represented by a support for applied research provided mainly by the Ministry of Industry and Trade and the Technology Agency of the Czech Republic (. Activities of particular stakeholders and support in the area of RDI are complementary and in some cases even overlapping.

Generally, there are two key sources for the support of RDI now (2015) – national funds and European funds (Structural Funds / ESIF). Their governance is relatively different, with different stakeholders being involved, playing often a distant role.

### National RDI funds

As for the **national funds**, the main body responsible for the formulation of RDI policy is the **Council for Research, Development and Innovation** (hereinafter referred to as “**CRDI**”). The CRDI is an expert and advisory government body with 17 members chaired by the Vice-premier. The CRDI was established in 1992 and fulfilled the role of a coordinating body which strived to strengthen the complementarity between the various bodies that manage R&D budgets and implement their respective R&D programmes. Its role has been significantly widened by the reform. The CRDI has centralised principal activities, become effectively responsible for setting the entire national R&D budget and de facto assumed the role of a science ministry. However, the CRDI formally continues to be an advisory body of the government only.

The **Ministry of Education, Youth and Sports** (hereinafter referred to as “**MEYS**”) is the central administrative authority for R&D programmes in the public sector, particularly institutional funding for public universities. The MEYS primarily provides institutional funding for public higher education institutions, public research institutions and special groups of legal entities and organisations where the present share of R&D in overall activity is low and results in applied R&D not too satisfactory. These are organisations of the Ministry of Labour and Social Affairs, Ministry of Environment, Ministry of Transport and organisation of the Czech Office for Surveying, Mapping and Cadastre.

The MEYS is also responsible for international R&D collaboration, the support to large R&D infrastructures and fulfilling administrative function of a central administration body for R&D, e.g. maintaining registers of public research organisations.

The **Ministry of Industry and Trade** (hereinafter referred to as “**MIT**”) is responsible for policies in the domain of business R&D and innovation. Currently (2015) it provides such a support through EU SF / ESIF and not through national funds anymore. Nevertheless position of MIT is rather disputable. MIT should be responsible for the domain of business R&D and innovation; however its official position in the system is not rather clear<sup>5</sup>.

The responsibility for administrating competitive funding for applied research and innovation has moved under the umbrella of the **Technology Agency of the Czech Republic** (hereinafter referred to as “**TA CR**”), which gradually takes over this responsibility from ministries and other state institutions.

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<sup>5</sup> According to information available from CRDI web site, national RDI policy is prepared only by CRDI in cooperation with MEYS.

The legal statute of TA CR was adopted by the government in 2009, the first programme ALFA was launched in March 2010 and the first projects started at the beginning of 2011. Its budget has grown significantly from €34m in 2011 to €110m in 2014.

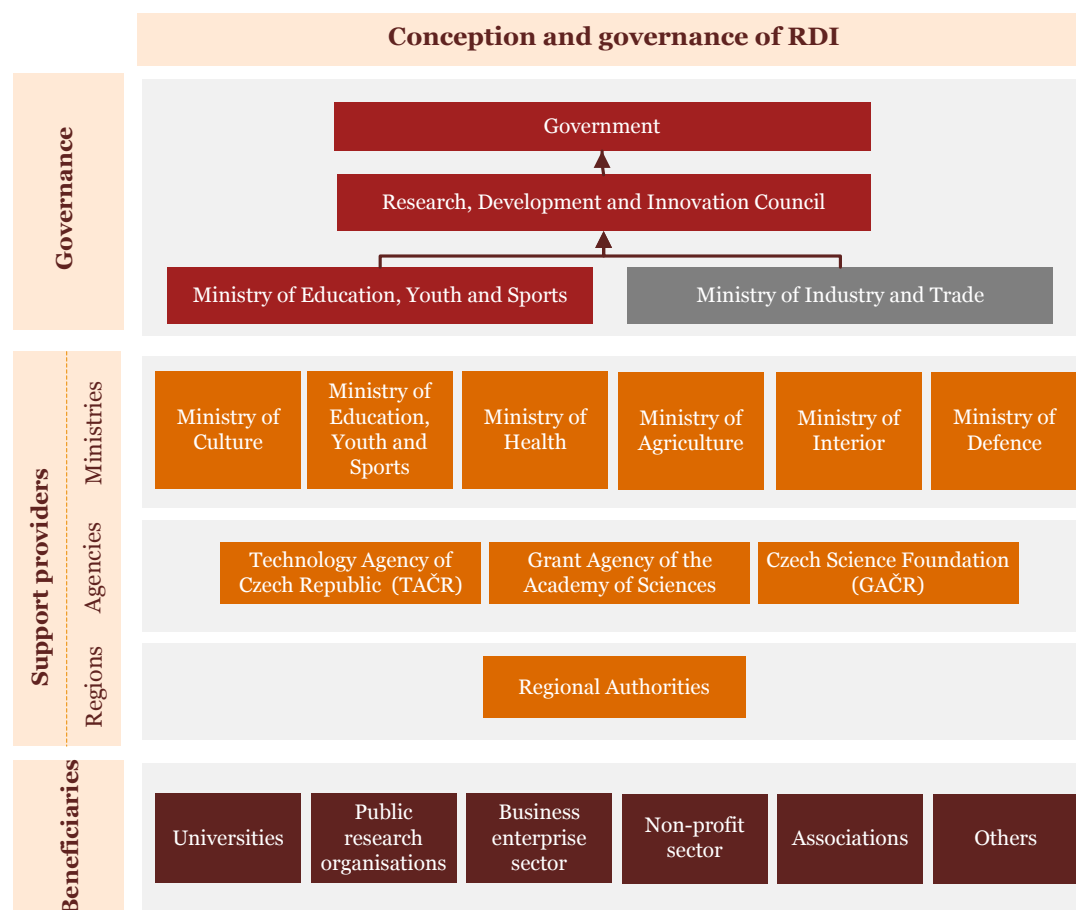
The **Czech Science Foundation** (hereinafter referred to as “**GA CR**”) provides funding for competitive grants in basic research. GA CR, established in 1992, had an annual budget of €130m in 2014. The main funding instrument is a standard grant project. Other funding instruments include postdoctoral grants, projects for excellence in basic research and international bilateral grants.

In addition, there are six ministries responsible for preparation of **cross-sectional and sectoral programmes**. These include the MEYS, Ministry of Interior, Ministry of Culture, Ministry of Defence, Ministry of Agriculture and Ministry of Health. The programmes fall under the competence of a responsible department, but before their implementation a draft version needs to be submitted to the government for an approval accompanied with a compulsory opinion by the CRDI, and newly by the TA CR, as well.

In addition to the above mentioned institutions, the **Academy of Sciences of the Czech Republic** (hereinafter referred to as “**ASCR**”) has its specific budget chapter and is responsible for institutional funding for its 54 research institutions.

For the national funding RDI system overview see **Figure 1**.

**Figure 1 Organogram – governance of R&D&I national funds**



### Key weaknesses and challenges

#### Role of CRDI

- High-level advisory body to the government, setting overall directions and priorities across the national R&I system – „virtual science ministry“

- Acts as executive body – assumes lot of tasks and micromanagement of the R&I system

#### **Strict distinction between basic and applied research**

- Lack of support in reality
- Lack of funding for mixed projects

#### **Lack of co-ordination**

- CRDI does not have capacity / authority to fully co-ordinate R&I policies and programmes of the various actors
- Lack of involvement of the broad stakeholder communities

#### **Strategic intelligence and evaluation**

- Limited analytical and strategic information used for policy preparation (no hard evidence and facts)
- Limited evaluation culture
- focus in simple, quantitative evaluation methods comparing inputs and outputs
- Missing ex-post evaluations and impact assessments – at policy, programme and institutions level

#### **Missing priorities and common vision**

- CR has no clear strategy / vision what the country wants to achieve, including in terms of R&I system
- No clear priorities on what, who, how to support

*Source: Klusáček et al. (2005), Klusáček et al. (2008), MPO (2011), NERV (2011), Technopolis Group (2011), Čadil (2014), interviews with key stakeholders*

## **RDI funds coming from the SF/ESIF**

Support provided from the **EU funds** (Structural funds / ESIF) in the Czech Republic is coordinated by the **Ministry of Regional Development** (hereinafter referred to as “MRD”) as a National Coordination Authority (hereinafter referred to as “NCA”).

The NCA is the authority co-ordinating all of the operational programmes in the Czech Republic financed from the structural funds and the Cohesion Fund. The MRD covers mainly methodological and coordination function. In terms of content, the governance of RDI support is managed by the **Ministry of Education, Youth and Sports, Ministry of Industry and Trade** and also by the **City of Prague**.

MEYS, MIT and the City of Prague act as the managing authorities responsible for the preparation and implementation of the **Operational Programmes** through which support for RDI is provided, namely OP Research, Development and Education (hereinafter referred to as “OP RDE”) (MEYS), OP Enterprise and Innovations for Competitiveness (hereinafter referred to as “OP EIC”) (MIT) and OP Prague - growth pole in the Czech Republic (the City of Prague). The City of Prague has its own support schemes due to partial exclusion of the capital city from the support provided by MEYS and MIT<sup>6</sup>.

Each of the managing authorities can delegate part of its responsibilities to an **intermediary body** that usually deals with activities such as management of the calls, selection and evaluation of project applications, consultations with applicants etc.

MIT traditionally delegates such responsibilities to the agency **CzechInvest**. Given the new rules related to the civil service act, a new agency, falling under the scope of the civil service act will act as the intermediary body under the OPEIC. This agency will be created by dividing the current Czechinvest in two parts. The new Agency will be responsible for the communication with the applicants and the beneficiaries as well as all the tasks delegated by the MA to the intermediary body. In the programming period 2007-2013, the agency partially implemented OP Entrepreneurship and Innovations (OP EI), in the new programming period it will very probably<sup>7</sup> implement OP EIC.

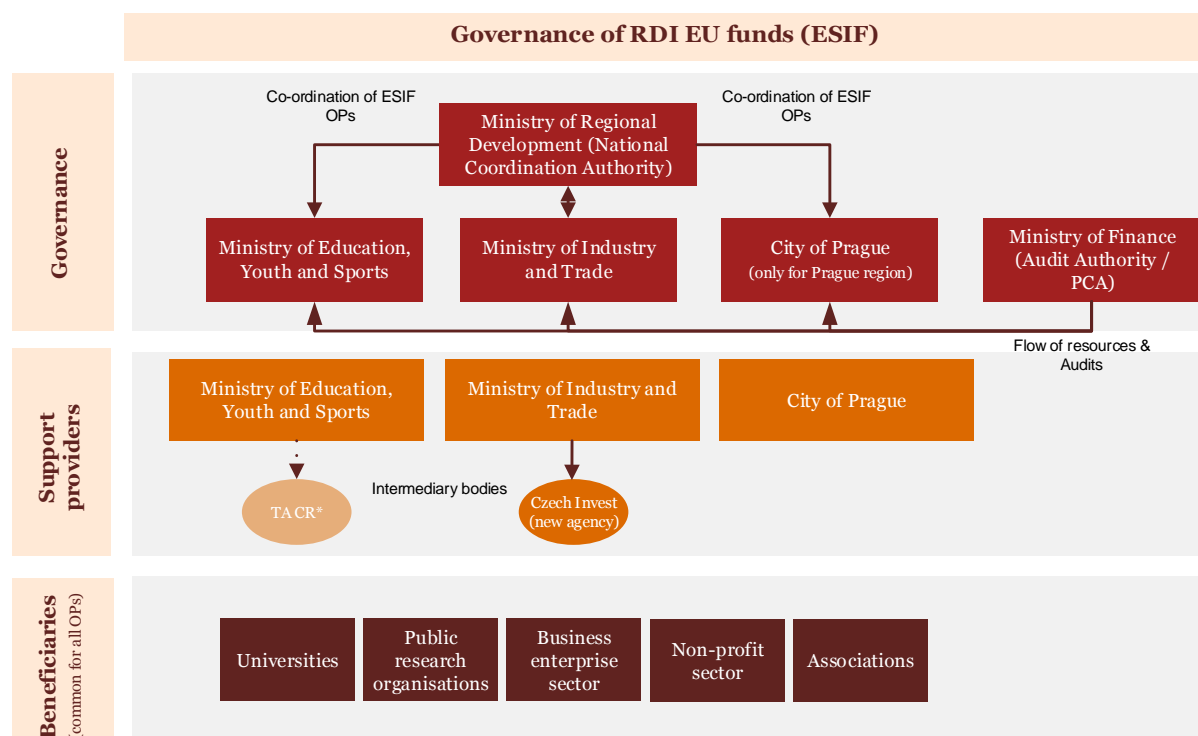
MEYS will probably co-operate for part of its OP newly with TA CR, yet its role is not absolutely clear at the time of writing this report. The City of Prague will provide all services within its own capacities, similarly to the previous programming period.

<sup>6</sup> The region of the capital city of Prague is a more developed region.

<sup>7</sup> This information is only preliminary at the time of writing this report (June 2015).

For the European funding RDI system overview see Figure 2 **Error! Reference source not found.** For more details about the support and beneficiaries of individual OPs, please see Appendix 1.

**Figure 2: Organogram – governance of R&D&I EU funds (ESIF)**



Note: \* TA CR may be an intermediary body, its role is not finalized yet.

As mentioned above, MEYS and MIT participate on the preparation and implementation of RDI support schemes financed by both national and European resources. The concept of support schemes financed from the ESIF is considered as the key one, regarding the amount of financial resources available.

Coordination of activities between OPs managed by MEYS and MIT has been ensured by a memorandum signed between these organizations. This memorandum sets a general coordination mechanism to reach synergies in provided interventions by these OPs. More detailed information how the coordination will be ensured and carried out is not apparent.

In addition to authorities mentioned above, the **Ministry of Finance** (hereinafter referred to as “MoF”) also plays an important role in the management and control of the ESIF. The National Fund Department within the MoF ensures the flow of resources from ESIF to all the OPs. Moreover, Audit Authority – Central Harmonisation Unit for Financial Control under the MoF is centrally responsible for conducting audits to verify the effective functioning of the managing and control system applicable to the implementation of support from EU funds.

Regarding the **form of support** provided from the ESIF, grants represent the most frequent form which completely prevailed in the past. In the period 2014-2020 the role of so called financial instruments (hereinafter referred to as “FIs”) – revolving instruments (loans, guarantees, equity etc.) shall increase. Both tailor-made and off-the-shelf financial instruments can be used. The expected lower allocation from ESIF in the future (after 2020) renders Czech ability to make the best possible use of the 2014-2020 allocation all the more important. Therefore, all OPs include a plan to use FIs at least in some priority axes.

Nevertheless, given the delay in preparation of the Czech OPs, the required ex-ante assessment for the use of FIs within the OPs related to RDI are still missing at the time of writing (April 2015) and no details are known to what extent and how particularly the FIs will be used and implemented.

## Key weaknesses and challenges

### Lack of co-ordination and synergies between the key OP

- The 2 key OPs related to RDI set clear boundaries between their support yet the links and synergies between them seem very weak. There is no clear information, for instance, that a follow-up support programme such as applied research followed by pre-seed activities and commercialization / start-up financing have been planned and coordinated.

### Missing support for the key RDI hub

- In 2007-2013, unlike other EU MS, CR did not support RDI investment in Prague though the investments here would prove very probably more efficient than investments carried out in less developed regions with very limited RDI potential. Further, the investment in Prague RDI infrastructure would have very probably broader impact on the whole Czech economic and innovation system.
- This will change in 2014-2020 when OP RDE plans to support Prague RDI infrastructure, nevertheless only with a very limited funding.

### Traditional approach

- MAs choose and implement rather tried, traditional instruments. They lack innovative and more creative approach with instruments that would be really evidence-based and tailored to Czech specific needs.
- FIs represent a push factor in this sense, unfortunately their implementation is still an open question and doubts arise that they will be used only to a limited extent.

### Limited links to programmes at the EU level

- The OPs in 2007-2013 missed a clear link towards other EU level programmes. The new OPs envisaged for 2014-2020 include such links in their texts. The description of these links and possible synergies is still very formal and general, a more detailed description is to some extent present only in OP RDE.

*Source: interviews with key stakeholders*

## Lessons learnt from the 2007-2013 period

In the programming period 2007-2013, the role of the EU structural funds in the funding of RDI has grown enormously. Public RDI activities were financed particularly by two OPs administered by the MEYS: **OP R&D for Innovation** (hereinafter referred to as “OP RDI”) (ERDF) and **OP Education for Competitiveness** (hereinafter referred to as “OP EC”) (ESF). The combined allocation of these two OPs equalled approximately €3.8b.

Business RDI activities were financed through the **OP Enterprise and Innovation** (OP EI) administered by the MIT with a total budget of approximately €3bn for RDI relevant activities. Innovation activities with only a small fraction of possible R&D financing were also supported by the **OP Prague –Competitiveness**.

During the programming period 2007-2013, several problematic areas were registered. On the basis of these lessons learnt, new approaches will be adopted for the programming period 2014-2020.

Key changes for the 2014-2020 programming period include:

### Concentrated thematic focus of the OPs

- **OP EIC** focuses on less priority axis (4 compared to previous 6) and has higher budget (€4.3b compared to €3.1b). The biggest financial allocation will be focused on the boost of investment in RDI and the creation of links between companies and R&D institutions<sup>8</sup>.
- Based on experiences from the previous programming period, support to innovative SMEs will play more important role again and will be newly concentrated into only one priority axis of the OP EIC.
- **OP RDE** has 4 priority axes (compared to 5 PA in both OP RDI and OP EC) and combines areas from both previous OPs.

### Promise of lower administrative burden

- Key issues and weaknesses experienced in the past programming period according to the official OP documents include mainly managerial and administrative issues.

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<sup>8</sup> The second biggest allocation directs at energy issues.

- All the 3 OPs related to RDI activities as well as the national Partnership Agreement promise that the administrative burden will be lowered, mainly thanks to
  - Integrated methodological environment (set of methodological documents published by the NCA).
  - Integrated monitoring and management information system for the ESIF in CR<sup>9</sup> for all the OPs.
  - New public procurement legislation<sup>10</sup>.
  - Specific measures implemented by the individual MAs.

Nevertheless, the information on lowering the administrative burden and simplifying the management of ESIF remain rather general and weak.

### Higher use of FIs

- OP EIC and OP Prague both plan a higher use of **financial instruments** (FIs) to finance their activities. Their MAs are currently preparing the obligatory ex-ante assessment, nevertheless more detailed information on particular implementation is still not known. Further to their efforts, MoF prepared a study that evaluates various possibilities of implementation structures for the FIs in CR, with a centrally managed variant being preferred.

Additional weaknesses and barriers recognized by the OPs within the 2007-2013 period and to be faced in the 2014-2020 period include:

- Delayed preparation and approval of the OP RDI – this is, however, current state of all the Czech OPs that has not been approved by the EC yet<sup>11</sup>.
- Complicated implementation structure of the OP EC (with 13 intermediary bodies).
- Lengthy preparation and approval of the large projects within OP RDI.

### RDI activities in the programming period 2014-2020

There are two key OPs financed from ESIF and providing support to RDI in the programming period 2014-2020. They are the **OP Research, Development and Education (OP RDE)** and the **OP Enterprise and Innovations for Competitiveness (OP EIC)**.

In addition to them, Prague as a more developed region falling into category “2” of the ESIF support<sup>12</sup> will manage its own OP – the **OP Prague – growth pole of the Czech Republic (OP Prague)**.

Nevertheless, part of the support within the OP RDE will be provided in the whole Czech Republic, including the city of Prague.

The 3 OPs related to RDI are briefly described in the **APPENDIX 1**, the section below describes how the OPs are linked to RIS3/S3 strategy.

### RIS3 strategy = Research and Innovation Strategy for Smart Specialization

The concept of smart specialization is a new element of pro-growth economic policies for regional development, targeted at supporting R&D&I, with a strong emphasis on:

- collaboration between local business, academic and research communities (similar to EIT),
- concentration of limited human and financial resources to the comparative strengths of the region, to new economic opportunities and emerging trends,
- "bottom-up" approach - on the basis of entrepreneurial discovery).

Guarantor of the RIS3 agenda in the Czech Republic was originally (on the basis of national consensus of relevant authorities and EC approval) Ministry of Education, Youth and Sports (MEYS) – Managing authority of OP Research and Development for Innovation (OP co-funded by ERDF).

At the end of 2014, the responsibility was taken over by the Office of the Government – the section responsible for RDI activities where a special new Department for S3 strategy was established.

<sup>9</sup> The IS is unfortunately still not working at the time for writing this report (April 2015).

<sup>10</sup> The new law on public procurement will come into force in January 2016.

<sup>11</sup> At the time of writing this report – April 2015.

<sup>12</sup> More developed regions (Europe's more prosperous regions- GDP is 90% or more of EU average).



In order to coordinate the preparations of RIS3 strategy for the Czech Republic, MEYS established a S3 Coordination Board, bringing together representatives of relevant institutions active in shaping Czech economic policy in the areas of competitiveness, regional development, R&D, innovations and information technology: AK, AVO, CRC, HK, MEYS, MRD, MIT, MI, RVVI, SPO, TA CR, and others.

The Office of the Government followed this procedure and established a Steering Committee in February 2015 consisting of representatives of the Office, MEYS, MIT and the city of Prague.

The strategic document will consist of a **national RIS3 strategy** and **14 regional RIS3 annexes**.

Given the still relatively limited level of development of the innovation system in CR at both national and regional level, CR introduces the following **approach to the RIS3 prioritization**:

**Horizontal (cross-cutting)** = new types of activities supporting the enhancement of the innovation system, e.g.:

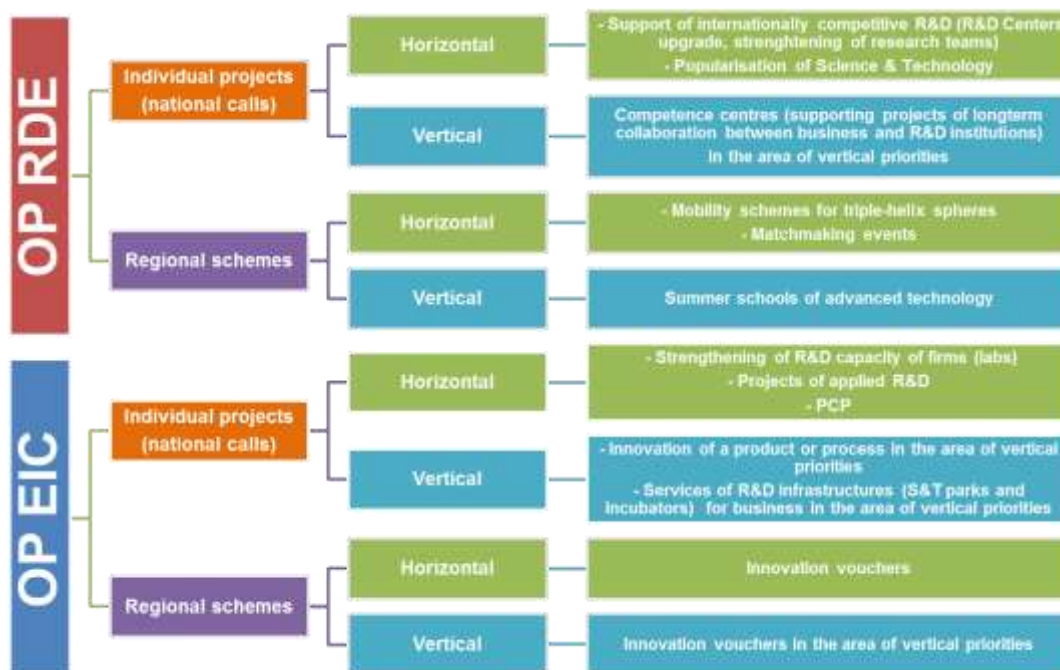
- introduction of pro-innovation support schemes to strengthen cooperation between research organizations and corporate sector (innovation vouchers, mobility support schemes between the triple-helix spheres, technology transfer)
- support of education in technical fields (support of talents),
- spin-off, start-up, incubation support, etc.

**Vertical** = focus on specific competitive, progressive sectoral / subsectoral R&D areas – “domains” with strong growth potential.

*Source: interviews with key stakeholders, www.msmt.cz*

**RIS3 implementation** is linked mainly to the 3 OPs 2014-2020 – namely OP RDE (MEYS), OP EIC (MIT) and OP Prague. Identification of proper policy instruments is considered an important component of entrepreneurial discovery process, which should follow the selection of priorities. Given the current state of RDI in CR, the RIS3 puts an initial emphasis upon the horizontal measures (see box above) in order to (i) fix at least the major bottlenecks within the innovation system and (ii) form a basis for mutual understanding by finding common problems and joint solutions.

**Figure 3: RIS3 implementation scheme draft**



## RIS3 implemented in and by Czech regions

In addition to individual projects and supportive regional schemes funded via the OPs (co-financed by national/regional funding), a special tool is planned within the OP RDE – **“smart accelerator”**.

This tool will facilitate not only preparation of various regional support schemes/prioritised individual projects, but also the capacity to implement RIS3 strategy at national as well as regional level (stronger support to S3 managers, support for implementation structures, monitoring and evaluation, facilitation of entrepreneurial discovery process).

## RDI expenditures

In 2013 gross domestic expenditure on R&D (GERD) amounted to €2.82b<sup>13</sup> (1.91% GDP) and increased by about 7% as compared to the previous year, driven mainly by the expansion of business funding. In 2013, business expenditure on R&D represented with €1.08b<sup>14</sup> the largest funding source. However, if domestic and foreign funds are combined, public sector represents the largest funding source (51% of GERD) – while the domestic public expenditures remain at the same level for the last 3 years the foreign public funds have increased from €220m in 2011 to €456m<sup>15</sup>, predominantly thanks to the EU funds

The largest provider of state budget expenditures and subsidies in the area of RDI is the MEYS, followed by the Agency of the AS CR and GA CR (see Table 1 **Error! Reference source not found.**).

**Table 1: State budget expenditures and subsidies in the area of RDI according to the main providers in 2013 (thousands Eur<sup>16</sup>)**

	Ministry of Education, Youth and Sports	Grant Agency of the Academy of Sciences	Czech Science Foundation (GACR)	Technology Agency of Czech Republic (TACR)	Ministry of Industry and Trade	Others
<b>State budget expenditures (ths. EUR)</b>	349 066	161 155	118 010	95 111	92 305	151 650

Source: Czech Statistical Office

For the development of expenditure on R&D (both public and business) allocated in the Czech Republic in the period 2005-2013 see the table in Appendix.

<sup>13</sup> According to the average exchange rate as of February 2015 (27,608)

<sup>14</sup> According to the average exchange rate as of February 2015 (27,608)

<sup>15</sup> According to the average exchange rate as of February 2015 (27,608)

<sup>16</sup> According to the average exchange rate as of February 2015 (27,608)

### 3. Factors that support or limit the national participation in R&D calls funded by SF/ESIF

There are several factors limiting the participation in SF/ESIF RDI calls that have been mentioned by the key stakeholders interviewed or that are identified by the programme documents themselves. Most of the factors are not unknown and are repeatedly mentioned in similar studies. These factors include:

- **Very high administrative burden related to the whole project cycle.**

The administrative burden related to any of the stages of the project cycle is very high. At the proposal stage it means that the RDI organizations often need to hire an external firm that will support them in preparing the application. This bears the risk that the application will not be prepared full in line with the RDI organization objectives and capacities and the organization will run into problems when carrying out the project and trying to fulfil all the promised activities and results.

In case of SF programmes – particularly the OP RDI – large part of the administrative requirements needed to be met with paper documents, personally delivered to the MA. This further increases the administrative workload as well as costs related to the project management.

- **Control / audit mechanism**

There are repeated and frequent controls by various stakeholders, often aimed at similar project details that the projects implemented under SF / ESIF need to undergo. These controls can be as frequent that mostly each month the projects undergo an audit / external control. The controls are very detailed, often repeatedly control similar aspects of the projects, yet they do not take into account any previous control and its results.

Though the projects are required to establish a system of internal audit and undergo an external audit, these do not seem to be taken into account in case of controls by other actors / organizations.

- **Changes of the rules during the whole project cycle**

The interpretation of the rules set by the programmes, EU regulations and national legislation has not been often unequivocal and detailed at the beginning of project cycle – during the proposal stage. Some particular regulations have been detailed and re-interpreted during the implementation which has created unexpected conditions for the projects, already in the implementation phase and difficulties for instance to fulfil now newly interpreted eligibility criteria. Part of the eligible costs may have not been considered as eligible any more.

In addition to these barriers there are some specific factors identified during the desktop and field research. These factors include:

- **Sustainability period of existing projects**

Most of the research organizations has implemented or are still implementing projects supported by the 2007-2013 OPs. All these projects have already come into or will soon come into the so called “sustainability period” that lasts usually 5 years. Most of the project parameters need to be sustained during this period in order to fulfil the conditions under which the grant was provided. Sustaining these parameters will require further financial resources that will not be covered through the SF, but the research organizations need to find within other programmes or their own resources.

As the rules for co-financing change in the period 2014-2020, even research organization will be required to ensure at least 5 % co-financing from their own resources.

Given their burden linked to the sustainability of current projects, many of them relatively large ones, their absorption capacity can be harshly limited. Such a situation definitely represents a potential barrier for the overall absorption capacity for the ESIF programmes related to RDI activities in 2014-2020 and should be properly dealt with, starting with a proper analysis of absorption capacity and its possible barriers.

- **Lack of information / awareness of planned interventions**

Another barrier stressed by the potential applicants lies in relatively limited information they have available about what is being prepared in the 2014-2020 OPs. The preparation of OPs is dealt mainly within the responsible MAs with limited discussions with potential beneficiaries or their representatives and hence there is still only little awareness of what will be actually supported, who will be able to apply for support from the programmes, what will be the conditions or what type of projects are actually expected by the MAs.

The overall uncertainty is worsen by the problems linked to setting up a single methodological environment prepared by the Ministry of Regional Development, particularly the still not-functioning<sup>17</sup> monitoring system 2014-2020 through which all calls, applications and projects should be managed. Without this system, no call can be actually launched; no application can start to be collected.

As a result, potential beneficiaries are still waiting for more precise information to prepare potentially eligible projects, lowering the possible absorption capacity for the already delayed start of the 2014-2020 period.

On the other hand, several factors and interventions have been identified that may lead to a more effective management of the ESIF funds and support successful participation in ESIF calls in future. These however need to be fully implemented and bring a significant change and not only proclaimed in the programming documents. This relates particularly to the first one mentioned below.

- **Significantly lower the administrative burden**  
Such a decrease in the administration burden needs to be real and significant otherwise it will not have any significant impact on the absorption capacity and the smoothness of the implementation.
- **Increase the efficiency of controls / monitoring**  
This barrier is closely linked to the overall administrative burden – project managers, administration staff but even researchers need to deal too much time with various controls. Limiting those controls to a more rational, less frequent period and sharing control results among various organizations may provide an important decrease of the overall burden. Further, the details of the controls may be thought of and they may take into account the internal and external audits obligatory for most of the projects.
- **Improve and make more efficient the public procurement process**  
Public procurement legislation is currently being under “reconstruction” – a new legislation is being prepared and should come into force in 2016. The new legislation is closely linked to the new EU regulation in this area. The aim is, inter alia, to simplify some of the procedures and rules and increase the criteria with which the tender ‘s offers can be evaluated so that the tenderer can better evaluate which offer fits best their needs.

What will be the real effect is currently hard to predict as the preparation of the new legislation is at the very beginning and its final shape is uncertain.

- **Improve the dialogue with potential beneficiaries**  
Lack of communication with the potential beneficiaries already in the phase of the programme preparation has been cited by most of the interviewed stakeholders as one of the barrier for efficient RDI funds governance. Hence, the dialogue between the MA and the potential beneficiaries should be improved so that it is not only one-way information provision from the MA towards the beneficiaries about what has been prepared but it is a two-way communication and dialogue where the MA listens carefully what the beneficiaries have to say.

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<sup>17</sup> Situation as of end of April 2015.

## 4. Push – pull factors for R&I performers to participate in FP7/H2020

The Seventh Framework Programme for Research and Technological Development (FP7) of the EU represented a significant source of funds for excellent researchers, research organizations and RDI projects. In terms of prior experience of the Czech Republic with FPs, it may be noted that Czech teams participated for the first time in the 3rd FP, starting in 1993. The participation of Czech teams has significantly increased since, nevertheless there are still significant barriers that limit their participation and cause that the country lags behind similar EU-15 member states.

The participation of Czech teams in FPs has been subject to various studies, while it is not subject to this analysis. To provide a short context for the identification of the key barriers, it can be summarized into the following points<sup>18</sup>:

- The reaction of the CR to calls for active participation in FP7 is relatively low.
- Project proposals prepared by Czech coordinators contain more formal errors than all FP applications on average. Coordinators from the CR submitted proposals to coordinate 863 projects, i.e. less than 1% of all submitted project proposals.
- In terms of the total participation and financial success rate values, the CR is approximately in the middle of the other EU member states. However, the CR is one of the countries whose financial success rate is significantly lower than the participation success rate – it may be partly due to the lack of quality of project with Czech coordinators, but partly also due to the lower significance of Czech partners in the project consortia.
- Czech teams have contracted EC contributions in the amount of EUR 209 million from the budget of FP7. This amount accounts for only 0.72% of the total EC contributions to the EU-27 countries. On the other hand, CR contributes to the EU budget with an amount equivalent to about 1% of its total budget.

The key barriers identified during this analysis hindering the participation of Czech teams in FPs and H2020 programme can be summarized into the following ones.

- **Competition with national opportunities**  
Programmes implemented at the national level, including both those financed by national funds as well as those financed by SF / ESIF are more easily accessible and the researchers are definitely more familiar how to apply for them and implement the projects funded by them. Further, in this case they can always look for help in national language that was still confirmed as an important aspect.

EU-level programmes often offer larger (financially) opportunities, longer funding and funding for some specific activities not covered by the national programmes. At the same time, most of the activities they support are similar to those supported by national programmes, including ESIF OPs. Combined with a higher success rate in the national programmes calls, the motivation of the researchers to go for EU-level programmes is unfortunately limited.

This may be also further supported by the S2E Facts&Figures<sup>19</sup> which show clearly the discrepancy between the location of RDI capacities and the RDI support from EU funds. The key RDI centre of the Czech Republic – the capital city of Prague – receives only a fragment of the EU funds<sup>20</sup> compared to other Czech regions, with lower capacities and potential. The Prague region therefore did not dispose with such funds to for instance build excellence research infrastructure or to finance internationalization of RDI. Nevertheless, Prague is by far the most successful region in FP. This may be also attributed to the fact that there is only a limited competition with national funds in Prague.

- **Lack of awareness of the EU level programmes and their opportunities**  
The statistics of the Czech participants in EU-level programmes show that there are many organizations that are repeatedly successful in applying for these funds. This confirms the fact that

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<sup>18</sup> Based on: Albrecht, et al. (2014).

<sup>19</sup> European Commission, JRC-IPTS (2015): Stairway to Excellence Facts and Figures: Czech Republic

<sup>20</sup> Prague is not a convergence region.

once an organization learns how to access these programmers, it is much easier to apply and succeed for the calls repetitively.

One of the barriers that limit the participation of Czech teams in FP / H2020 is, hence, relatively low familiarity with them among many of the Czech research organizations and low awareness what it actually entails to participate. Linked to this, there is partly a bias that the EU-level programmes are very administratively demanding and time consuming. This is contrary to what the experience of the interviewed stakeholders is revealed. Absolute majority of the interviewed representatives of the research organizations that have experience with FP and h2020 declared that administration related to these programmes is significantly lower than the administration related to SF programme. Further, they also mentioned that the rules are less complicated and less arbitrary. Hence, the implementation of FP / H2020 projects is relatively easier, though the competition is fierce.

- **Lack of experience as evaluators/participants in FP schemes**

In relation to the previous point, lack of experience with participation in FP programmes is obviously an important barrier – representing somehow a vicious circle. It can be tackled probably by a directed support and sharing of practical and detailed experience from those who are successful participants.

- **Lack of awareness of the Czech Republic / new Member States among the EU programmes evaluators and managers**

Another specific barrier mentioned repetitively during the interviews performed is a “bias” towards old EU MS among the evaluators. This bias stems from their better awareness and knowledge of the teams, organizations and institutions from the old MS who are thus more “readable” for the evaluators, while many of the organizations and teams from the new MS are completely new for them. Hence, it is more difficult for them to assess their quality, expertise and guarantee that they will fulfil what is promised in the application.

- **Lack of personal expert network**

FP / H2020 support mainly consortia projects that must be composed of at least three partners from at least three EU Member States or Associated countries. Czech teams have still limited networks and links to foreign organizations and researchers which disadvantages them in creating opportunities for the calls and finding relevant partners.

This barrier is probably difficult to overcome through external support – the links and networks need to be personal, based on mutual trust and often previous cooperation. Hence, the researchers themselves must primarily aim to overcome this barrier and look actively for every opportunity to make new contacts.

The interviews carried out during the field analysis aimed also to find out why the Czech teams actually (should) participate in the EU programmes – what are the key benefits they may gain if they are directed towards these opportunities. The key „**Push-Pull factors**” identified are as follows:

- **Larger funding opportunities**

H2020 represents definitely an important source of funds for financing research activities, offering definitely larger opportunities than the national programmes. Further, the ESIF funds are currently relatively large source of funding too but it is more or less sure that this programming period offers such an opportunity for the last time. Starting in 2021 CR can expect lower allocation for these programmes while EU-level programmes will very probably maintain theirs.

Once the research teams learn how to participate in these programmes already now, they will have a good advantage for future and may not face such a risk that there will not be enough resources for their funding in the national programmes.

- **New partners, new opportunities**

Participation in the EU-level programmes is as such an interesting opportunity that can help to push the research teams further in their efforts. In addition, each participation brings new partners, new contacts, and new discussions, hence creating additional opportunities for research projects or other forms of cooperation.

- **Reputation**

All the stakeholders interviewed agreed that participation in FP / H2020 programmes increases the awareness about the research team and the research organization on EU research map. It increases (if the projects are successfully completed) its reputation, improving its position for possible future calls and projects.

- **Easier implementation**

Administrative and regulatory burden was already mentioned earlier – partly surprisingly, all the participants in FP/H2020 programmes interviewed agreed that the administrative burden of these programmes is much lower than in case of SF programmes. Further, the regulations and rules are also simpler because the national states do not add additional requirements to them, and their changes are less arbitrary and frequent.

## 5. Policy instruments facilitating the participation in FP7/H2020

The Czech Republic spends about 200m CZK (€7.2m<sup>21</sup>) per year in support measures that are aimed at promoting the participation of Czech teams in EU level programmes such as FPs, Horizon 2020 and others.

### EUPRO programme

The largest support is implemented through the **programme EUPRO** that includes several sub-programmes. EUPRO Program was approved by the Government in 1999 for the period until 2006 and was subsequently extended until 2012. Currently, EUPRO II programme is being carried out.

Program EUPRO was focused only on the FPs while EUPRO II is focused also on supporting the infrastructure for international cooperation in R&D support. Given that the rules of large international research and development programs are very complex and there are significant differences between programs and between countries, it is necessary to ensure the dissemination of the information in the scientific and professional community. Further, it is necessary to ensure sufficient and efficient information inflow from advisory bodies of individual programmes. EUPRO II program is aimed to support such projects that adequately ensure actions in both directions.

Hence, EUPRO and EUPRO II have supported several projects that fulfil its objectives and goals. These projects include NINET, NICER III, CZELO or EURAXESS Centre. These programmes are briefly described in Appendix 5. The following text is focused on the “best practice” examples identified during the interviews with key stakeholders.

### SUPPORTING CZECH TEAMS PARTICIPATION IN EU LEVEL PROGRAMMES: EXAMPLES OF GOOD PRACTICES

#### **NINET - Czech National Information Network for Framework Programmes EU**

NINET is a national information network bringing together regional and professional contact organizations in the CR, which provide information and consulting services primarily to the FP and Horizon 2020. Currently, the network is financially supported by the MoEYS and aims to contribute to the support of Czech research institutions to increase participation in international research and development programs and in bilateral activities. It consists of several levels of contacts:

- National contact organizations.
- Regional contact organizations.
- Professional contact organizations.

#### **COST CZ – European Cooperation in Science and Technology**

COST is a European cooperation in scientific and technological research (COST, *European Cooperation in Science and Technology*). Czech and Slovak Federative Republic became a member in 1991 and the Czech Republic in 1993. COST CZ Support Programme, which ran from 1993 to 2012, supported the research and development activities of Czech research organizations in this collaboration. In 2013 it was replaced by a similar COST II project.

COST does not fund research itself, but provides support for networking activities carried out within so called „COST Actions“ – pan-European, bottom-up networks of scientists and researchers across all science and technology fields that promote international co-ordination of nationally-funded research.

This aspect is a particular barrier for Czech teams participation in FP or similar EU-level RDI programmes and hence was mentioned as an example of how to overcome it.

Though this programme offers an interesting opportunity for Czech researchers to increase their personal network to be leverage for participation in FP / H2020 (or other EU-level) programmes the actual use is relatively limited. It hits similar buffers as the H2020 programmes itself:

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<sup>21</sup> According to the average exchange rate as of February 2015 (27,608).



- The awareness of this programme among researchers is low.
- The promotion and publicity is not effective.
- The administrative burden linked with the use of the programme funds is high and the rules are too complicated.

As a result, many researchers do not know at all about this programme or are discouraged by its difficulty to even try to apply for any funding.

Source: <http://www.ninet.cz/>, <http://www.evropskyvyzkum.cz/cs/cr-a-era/narodni-programy-podpory/cost-cz>, <http://www.cost.eu/>

## National Contact Points

Another important support for FP / H2020 participation comes through the European **network of “National Contact Points”** (NCPs). NCPs are national structures established and financed by governments of the 28 EU member states and the states associated to the FP / H2020<sup>22</sup>. The NCP systems can vary from one country to another, nevertheless their key aspects and services provided are similar.

The network of NCPs in the CR is patronaged by the Technology Centre of the Academy of Sciences CR (TC AV) and it offers the following services to potential participants of FP / H2020 programme:

- Guidance on choosing relevant topics and types of action.
- Advice on administrative procedures.
- Legal advice on contractual issues.
- Assistance on proposal writing – assistance with formal criteria and eligibility.
- Distribution of documentation (forms, guidelines, manuals etc.).
- Assistance in partner search.
- General publicity of the programme – newsletter and events for potential participants and beneficiaries.
- Issue of the journal ECHO.
- Operation of websites “h2020.cz” and “fp7.cz” dealing with all aspects of the programs.
- Work in expert groups and programme committees of the EC.

There are currently about 25 NCPs in the Czech network.

The support for participation of Czech teams in FP / H2020 was also subject to the interviews carried out for this analysis. The following barriers have been identified that hinder a more effective and efficient support to Czech researchers and research organizations.

- Rather general focus of most of the promotional and publicity activities that lack a necessary detail and very practical guidance.
- Lack of experience of the NCPs – many of the NCPs are young people, often university graduates that cannot have necessary experience to competently advice on such a complex issues as participation in H2020 calls or consortia preparation.
- Turn-over of the NCPs is very high which further limits their experience and competency for complex advice. Neither is there probably a functioning system for their development, motivation and sustaining within their position, nor is there a necessary mechanism in place to effectively transfer the know-how and experienced gained between the leavers and joiners.

## SF/ESIF initiatives supporting participation in EU-level programmes

<sup>22</sup> [http://ec.europa.eu/research/participants/portal/desktop/en/support/national\\_contact\\_points.html](http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html)

In addition to these programmes and in contrast to the previous EU programming period 2007-2013, all the **3 current OPs related to RDI activities envisage some kind of synergies with the EU level programmes such as Horizon 2020 and COSME.**

**OP Research, Development & Education (OP RDE)**

OP RDE foresees complementarities with the Horizon 2020 program within the **PA1 (priority axis)** “Strengthening capacities for quality research”. The OP RDE will support teams applying for the Horizon 2020 programme (mainly within pillar Excellent Science, Joint Programming Initiatives, Joint Technology Initiatives, Teaming and Twinning schemes, ERA Chairs etc.). Projects in the H2020 can be complemented with financing from this OP, or quality projects that successfully passed through assessment but at last will not be supported due to lack of financial resources can also be supported within this OP.

Overview of support for EU-level programmes participation provided within OP RDE is presented below (see **Table 2**). Activities to promote the participation in the H2020 will be supported in both PA1 and PA2. More detailed information (e.g. regarding the form of support, activities, eligible beneficiaries etc.) is not available yet.

**Table 2: Overview of support for EU-level programmes participation**

Priority axis	Support
PA 1	<p>Strengthening of the involvement of the Czech teams into projects within:</p> <ul style="list-style-type: none"> <li>• Excellent Science pillar of H2020.</li> </ul> <p>Provision of grants for activities within H2020 (see more details in the box below):</p> <ul style="list-style-type: none"> <li>• European Research Council (ERC) - The ERC complements other funding activities in Europe such as those of the national research funding agencies, and is a flagship component of Horizon 2020</li> <li>• Marie Skłodowska-Curie actions - grants for all stages of researchers' careers (within H2020),</li> <li>• ERA Chairs - enable institutions to attract top academics so that they can compete with centres of excellence elsewhere in the European Research Area (ERA).</li> </ul>
PA1 + PA 2	<p>Support of activities to promote the absorption capacity of participation in the H2020:</p> <ul style="list-style-type: none"> <li>• international grants preparation,</li> <li>• preparing the participation and involvement of stakeholders from the Czech Republic in projects of: <ul style="list-style-type: none"> <li>○ European Institute of Innovation &amp; Technology,</li> <li>○ joint programming,</li> <li>○ joint technology initiatives, etc.</li> </ul> </li> </ul>

Source: OP RDE

However, how and if really will this support be provided is still an open question. The key drawback lies, according to the interviews carried out with the MA, in differences between the OP RDE and H2020, their specific regulations and eligibility criteria. Another drawback mentioned by the MA is related to still only general guidance provided from the level of the EC.

On the other hand, there is already one instrument envisaged within OP RDE that can be considered as a “good practice” example for planned support for absorption capacity, not only for H2020 programme, but any programme supported by the EU funds, including ESIF.

This is the **“smart accelerator”** envisaged as part of the RIS3 implementation in Czech regions. This tool will facilitate not only preparation of various regional support schemes/individual projects for these programmes, but also the capacity to implement RIS3 strategy at the national as well as the regional level (stronger support to S3 managers, support for implementation structures, monitoring and evaluation, facilitation of entrepreneurial discovery process).

**OP Enterprise and Innovation for Competitiveness (OP EIC)**

The text of the OP EIC mentions generally link to two community programs:

- Horizon 2020, and

- Cosme.

Most of activities of both specific objectives (SOs) within the PA1 have potential complementary links to these two community programs. However, at the moment<sup>23</sup> the text of the OP EIC does not provide sufficient detail how actually such complementary links and potential synergies may be supported – it does not detail for instance whether there will be direct support provided within the OP EIC to apply for these community programs or whether other forms of support are considered.

### **OP Prague – Growth pole of the CR (OP Prague)**

The text of the OP Prague currently references a link to both H2020 and Cosme programmes. There is a complementary link to activities within both SOs of the PA1 (Strengthening research, technological development and innovation).

SO1 within the PA1 considers a “downstream sequential financing” – i.e. further development of R&D outputs of projects that have been supported by the H2020 and are successfully completed – proof-of-concept activities supported by the OP Prague. MA considers in this area specific calls only for H2020 projects or a bonus for H2020 projects in general calls.

However, similarly to the OP EIC, there is no detail regarding this support and how it will be actually implemented. The key problem is that it is very difficult to combine these two programmes as the rules, regulations and legislation related to ESIF and H2020 are very different and there is no direct coordination of these programmes.

### **Research organisations support**

In addition to the nationally organized support for FP / H2020 participation, there is a support at the level of research organisations. Contrary to the national support, this is a relatively new activity of only some of the Czech research organization that offers an interesting opportunity to further boost the participation of Czech teams in these EU-level programmes.

To provide an example how this support can be organized, the following box introduces a relatively successful grant office of one of the Czech public universities that includes such a support.

#### **University of Chemistry and Technology, Prague – support for FP/H2020 participation**

Office for administrative and management support (Office) at the University of Chemistry and technology (UCT) supports among others the participation of researchers teams in the 7th FP and newly also in the H2020 programme. The Office, financed since 2007 by the MEYS EUPRO program, was established to cover administrative activities for a high number of projects at UCT and financed with RP and other international cooperation programs.

As a result of the successful operation of the Office, UCT shows one of the highest numbers of participations in international research programs of Czech research organizations.

The Office is built on experience of successfully operating departments for the administration of international projects at selected universities and research institutions in the "old" EU member states.

The Office is responsible for administrative, legal and financial issues of projects applied and implemented within FP / H2020. Simultaneously, it represents a communication platform between researchers, administrative departments of the UCT (especially financial and personal department), UCT management, public administration, European Commission and coordinators of the EU-level programmes.

Source: [http://old.vscht.cz/homepage/veda/index/Profil\\_vav/kampus](http://old.vscht.cz/homepage/veda/index/Profil_vav/kampus), Kostic, M. (2014)

<sup>23</sup> April 2015

## 6. Evaluation and monitoring mechanisms

The system of evaluation and monitoring of the **national RDI programmes** is managed individually by each body responsible for the particular programme. There is no central evaluation unit or any centrally prepared evaluation and monitoring guide.

As stressed also by the International Audit of Research, Development & Innovation in the Czech Republic Final Report, the interpretation and use of evaluation in RDI is increasingly narrow, in particular, it focuses on measuring the immediate outputs of the research system rather than whether it produces the expected societal effects.

As for the **SF / ESIF**, the evaluation and monitoring principles are given by the EU regulations. The evaluation and monitoring of each OP is designed in several levels and reflects the experience gained from the implementation in the 2004–2006 and 2007–2013 programming periods.

The key bodies involved in the implementation, evaluation (of results) and monitoring of the individual OPs are the following:

- **Managing Authority (MA)**

The MA is responsible for the management of the operational programme and performs the functions in compliance with the provisions of the general regulation, in particular Art. 125.

The Managing Authority is responsible in particular for the following activities:

- management of the operational programme,
- selection of operations,
- financial management and control of the operational programme,
- evaluation and monitoring of the OP.

- **National Coordination Authority (NCA)**

Pursuant to Czech Government Resolution No. 867 of 28 November 2012 on the preparation of programmes co-financed from the funds of the Common Strategic Framework for the 2014 - 2020 programming period in the conditions of the Czech Republic the Ministry of Regional Development was appointed to be the central methodological and coordination authority of the Czech Republic for the preparation and implementation of programmes co-financed from the European Social and Investment Funds for the 2014–2020 programming period.

The NCA shall be responsible in particular for the following activities:

- setting up of a single methodological environment for the implementation of operational programmes by the managing authorities;
- providing for cooperation with the European Commission and being its partner on behalf of the Czech Republic;
- providing for the management of the Partnership Agreement at national level;
- being the monitoring system manager;
- being the methodology body in the area of implementation;
- being the central body for the area of publicity and absorption capacity building.

- **Paying and Certifying Authority (PCA)**

The PCA is responsible for overall management of funds provided by the Czech Republic from the EU budget. The functions and responsibilities of the PCA are set out by the general regulation, in particular Art. 126.

- **Audit Authority (AA)**

The AA is responsible for regular execution of audits in order to verify effective functioning of the management and control system of the programme and for performing activities in compliance with Art. 127 of the general regulation.

More detailed plan and principles how the OPs will be monitored and individual projects selected is in hands of the MAs – they decide for the whole OP or individual calls the detailed procedures of the selection of the project applications, for instance whether the applications will be evaluated following and international peer review or whether only Czech reviewers will be selected, how many reviewers will review each project

application or who is responsible for the final decision on which projects will be funded within the particular calls.

Similarly, each MA has also its procedures how the evaluators are selected if their work is actually evaluated too.

Details on how this processes will be organized are unfortunately currently<sup>24</sup> not available as the OPs are still being prepared and in many cases it is not even known who all will be part of the implementation structure – for instance if the MA will use an intermediary body or how the envisaged FIs will be used and how projects applying for this kind of support will be evaluated.

### **OP RDE**

OP RDE aims to arrange the evaluation process through its own external network of evaluators similarly to the previous programming period 2007-2013. The evaluators will be selected through a 3-step selection procedure based on qualification criteria, general testing and specialized testing consisting of training and final test where a model project will be evaluated by the candidates. All successful candidates will receive a certificate for evaluation in a specific priority axis and specific objective of the OP RDE.

The OP aims to employ both national and international evaluators, yet their share is not given anywhere and is completely in the hands of the MA and its future decisions. At this moment, due to the setting of the national monitoring system that will be used centrally for all the OPs – it is available only in Czech version – all the applications will be submitted only in Czech language and hence evaluated only by national evaluators. In future, for some specific calls, when English version of the system will be available, international evaluators will be engaged.

All certified evaluators will be obliged to pass specific training sessions focused on specific conditions of the call(s), criteria, evaluation of applications, timetable for evaluation, formal procedures and aspects and submission of evaluation results.

The MA is also open to the possibility of using a common pool of experts, open to all EU MS. Nevertheless, they foresee some specific aspects that such a database would need to meet. First of all, when using a joint group of experts it is necessary to ensure interconnection of the systems for the selection of experts at the national level (or at the level of individual OPs) with a common database of experts at the EU level. Further, it would be necessary to integrate such a possibility into existing methodological environment – set the guidelines (at the national level, the methodological guidance do not recognize such a possibility) and integrate the technical solution into the national monitoring system.

### **OP EIC**

In the previous programming period 2007-2013, the OP EC used only national evaluators for all the projects – all the applications were submitted only in Czech and this praxis will continue in the current programming period in OP EIC.

The MIT used its own external evaluators database where the evaluators were selected based on the CVs – qualifications and experience and their previous experience with similar project evaluations. The projects were assigned by their focus and fields and evaluators are assigned “automatically”, fulfilling certain criteria Each project application was assessed by at least 2 evaluators, in case of strongly contradicting evaluations a third evaluator might have been chosen.

Next, all the project applications that passed the formal criteria and were assessed by the evaluators were evaluated by an assigned commission which makes the final decision which projects are to be supported within the particular call.

The intention for the OP EIC is slightly different – no external evaluators should be used, the MIT plans to employ full-time **internal evaluators** that would be responsible for evaluations for all the project applications in the OP. The evaluation process would be otherwise relatively similar to the one described above, using at least 2 evaluators for each project application and leaving the final decision for a specifically assigned commission. To prevent limited technical and professional qualifications of the internal evaluators, given the possible wide scope of projects applying for support from the OP, the evaluators could consult specific external technical experts. Nevertheless, how this consultations will be organized, when they will be chosen or for instance whether there will be some clear criteria when an internal evaluator needs to use such

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<sup>24</sup> April 2015

expert consultations is yet not planned. Similarly, the internal evaluation capacities has yet not been created and there are still a lot of questions open with regard to particular details of the evaluation procedures.

### **OP Prague**

Similarly to the OP RDE, OP Prague aims to arrange the evaluation process through its own external network of evaluators as in the previous programming period 2007-2013. The evaluators will be selected through an open call at the beginning of the implementation of the OP.

To become an evaluator of the OP Prague, the external evaluator must be registered to the call for project evaluation. Then they must fulfil the minimum requirements (e.g. at least 5 years of professional experience, knowledge of Czech language, successful training of external evaluators etc.). Basic group of evaluators will be selected that will then serve for the selection of specific evaluators for individual calls and projects – they will be selected based on their professional qualification, availability, rating and results of the draw in the information system MS2014+.

The OP aims to employ both national and international evaluators, yet their share is not given anywhere and is completely in the hands of the MA and its future decisions.

The MA is also open to the possibility of using a common pool of experts, open to all EU MS. Nevertheless, they foresee that evaluators selected elsewhere, by different authorities possibly need to meet different requirements that the MA requires in case of OP Prague.

## 7. Enhancing or limiting the synergies?

Existing EU regulations related to ESIF and H2020 programmes represent an important factor that limits the possible synergies between these two programmes or ESIF and EU-level programmes in general. It is not the rules themselves, but particularly the differences between each group of programmes and some specifics in the rules and eligibility criteria that make it tough to combine them or link them. These rules have been also the key limiting factor mentioned by the stakeholders interviewed while, according to them, country-specific factors do not play an important role.

The following factors can be summarized as the **key factor limiting the synergies between ESIF and H2020**:

- **Lack of co-ordination between national and EU level programmes**

Despite the fact that Article 96(6)a of the common provision sets that ESIF programmes are to set out the mechanisms that ensure coordination between ESIF and other EU and national funding instruments, there is very limited co-ordination mechanism set at this moment. The MAs need to actively search for ways how to co-ordinate their calls and support within the particular OP with the calls and support planned under e.g. H2020. When preparing the individual funding instruments and calls, MAs should envisage implementation modalities and selection methods that allow them to align the timing of funding decisions under the relevant PA / SO to the H2020 time-line (e.g. open calls with cut-off dates, preference to projects with international outlook, etc.).

If needed, they should even actively ask for information and data sharing from the H2020 programme so they dispose of enough information, with necessary details and with enough time in advance to plan their actions.

- **Lack of information and data sharing**

The MAs of the individual OPs and the bodies responsible for the EU-level programmes should share more data and information related to their programmes implementation, applicants, beneficiaries or selection of projects. As of now, such data and information sharing is at its minimum.

However, there are some technical and regulations limits that make it relatively difficult to set up such an effective data exchange.

For instance, each MS, including CR, has its own specific Monitoring System that is highly probable not compatible with the one of H2020 or other EU-level programmes. Next, H2020 programme does not and cannot provide project evaluation to external parties which make it difficult for the MAs to set support schemes for applicants of H2020 projects that received a positive evaluation but cannot be co-financed under H2020 due to unavailability of budget. The MAs would need to carry out the full evaluation again which prolongs the timing of the possible funding, requires further, yet repetitive, administrative procedures and there is a risk that different evaluator can come to a different evaluation of the project.

Accessibility of data is also important for “downstream sequential funding” where ESIF could finance the take-up of FP/H2020 results into the market. To implement such a funding scheme, the MAs would need to monitor the success of participants from their region / country and to understand what the results from the projects are. The accessibility of the FP/H2020 project results for third parties is currently limited – the information is provided to programme committee representatives who are individually committed to confidentiality rules and do not have enough resources to fully exploit the results and disseminate them to MAs.

- **Different eligibility rules of ESIF and H2020 programmes**

ESIF programmes are aimed at relatively different types of activities than H2020 programmes, e.g. funding of research infrastructures in ESIF and research activities under H2020. These different types of activities could effectively complement each other<sup>25</sup> – under the condition that an applicant could apply

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<sup>25</sup> Article 65(11) provides for a possibility of cumulating grants from different EU funding instruments (or from one or more ESI Fund through one or more programmes and other Union instruments) for the same beneficiary or the same project, provided that the same expenditure/cost item does not receive support also

for funds from both of these programmes at once and the funds would be provided jointly. This would require very detailed co-ordination of the concerned funding schemes and conditional agreement of financing<sup>26</sup>. Particularly the second factor currently represents a factor that the MAs do not know how to deal with.

When providing funding for the successful yet not financed proposal from the H2020 programmes, there is another set of rules and regulations that need to be considered by the MAs – that of the state aid framework for research and development and innovation. While H2020 and its rules have been prepared in accordance with the EU state aid rules, MAs need to review their specific funding scheme to see whether it is in accordance with the General Block Exemption Regulation (GBER) or whether they need to search for other ways how to support the activities. The disadvantage is that both GBER and the RDI state aid Framework are relatively new<sup>27</sup>. Based on the interviews performed by the author with the MAs, the EC has not provided so far detailed and clear guidance how to apply them, particularly for specific situations. As a result, the MAs feel there is a relatively high uncertainty how the rules will be interpreted in particular situations and they are cautious to go into an unknown territory by themselves. The MAs are therefore afraid that they will need to find a more complicated way how to support RDI projects under ESIF than is offered by the H2020 programme.

- **Uncoordinated timing of potentially linked calls**

Timing of the calls in ESIF and H2020 that may create important synergies are not currently anyhow coordinated. ESIF MAs plan their calls only within their own OP with no link to the calls planned under H2020 programme. On the other hand, information regarding the plan for particular calls under H2020 is also limited and so the MAs do not have often enough information to effectively coordinate the timing of their particular calls.

- **Uncoordinated focus of potentially linked calls**

Similarly to the timing, calls under SF have not been specifically designed to complement thematically FP calls in the past. The current OPs nevertheless plan more actively possible synergies between ESIF and H2020 (though without much details yet) and some of the MAs are already considering specific calls that would thematically complement H2020 call – e.g. OP Prague considers a specific call only for successful H2020 participants aimed at pre-seed / proof-of-concept activities for R&D results achieved in H2020 projects.

However, to be able to effectively coordinate such a call, the respective MA would need more detailed information about the H2020 calls planned, the projects supported, their timing, evaluations as well as possible results and their owners. The last factor is also related to the limited possibility of information sharing from the side of H2020 programme (see above).

- **Geographical focus difference – country-specific (territorial) vs. EU wide (space blind) programmes**

ESIF programmes are primarily aimed at support within a particular country ("programme area"<sup>28</sup>). Although part of the funds can be spent within a territory other than the one eligible / programme territory within the particular OP, the volume of these funds is limited<sup>29</sup>. In case of Czech OPs, this share is further decreased by the fact that they aim to invest in the region of Prague – a region that is outside the programme area of the OP.

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from another EU fund (from the same Fund under different programmes, from another Fund or from other Union instruments).

<sup>26</sup> For instance, given the fact that most H2020 grant agreements are signed a certain time after the deadline for proposal submission, the MA could set up a conditional approval for ESIF grants that allows reserving ESIF budgets until the results of the evaluation of the H2020 project proposals are known.

<sup>27</sup> New Framework for State aid for research and development and innovation was adopted by the EC in mid-2014.

<sup>28</sup> It does not always mean the country – in many cases it is a category of region in a given country.

<sup>29</sup> Article 70(2) stipulates a possibility of up to 15% of the support from the ERDF, Cohesion Fund and EMFF at the level of the priority (up to 5% of the support from the EAFRD at the level of the programme), and up to 3% of the budget of a ESF operational programme (Article 13(3) ESF) to be allocated to operations located outside the programme area



Further, if the MA decided to support only the Czech team within the H2020 consortia projects, i.e. only a part of the project submitted and successfully evaluated within the H2020 call, it cannot be considered as a similar project. Once one would take only a small part and activities of one team of the larger consortia project submitted in the H2020 call, one would need to consider it as a new, different project. As such, the project would need to undergo a full application and evaluation process as any other project.

It would be probably better to ensure complementary financing for the whole projects consortia – yet that would often require co-ordination among various MS and various OPs.

## 8. Take-up of public sector research results

Up to relatively recent time, the support and instruments bridging the gap between research and innovation, i.e. market application has been almost missing within the Czech innovation system. There have been programmes and instruments supporting basic and/or applied research, some of them focussing on the cooperation between academia and industry, but particular programmes and instruments designed to promote the take-up of public sector research results has been omitted.

This has been changed by the programming period 2007-2013 where the **OP RDI** included support for the technology transfer activities – mostly focused on the establishment of specialised technology transfer offices at research organization within its **PA3 “R&D Commercialisation and Popularisation”**. The objective of this instrument was to support projects that will set up processes for technology transfer and then the development of technology transfer organizations (TTOs) among research institutions and the application sector. Projects focused on setting up new TTOs as well as on the development and stabilization of the existing ones were supported. In total, 9 projects were supported.

Another funding scheme of the OP RDI more directly linked to actual take-up of research results and their market application were two calls aimed at support for pre-seed activities. This scheme was also prepared under the PA3 of the OP RDI. The main objectives of the calls were to support the preparation of commercialization of promising technologies and inventions with high application potential, which are developed at universities and research institutions. Specific objectives included, in particular:

- Searching for and evaluating the commercial potential of R&D results and their preparation for commercialization. The results of R&D must be 100% owned by the applicant and potential project partners.
- Market survey on the applicability of existing research results 100% owned by the applicant and potential project partners.
- Incorporating results of the survey:
- Preparation of commercialization by means of (only preparatory works are funded):
- Development of capacities for technology transfer structures and capacities.

The project implementation activities were carried out in two key phases:

- A. Proof of Concept  
The Proof of Concept phase output primarily included (i) verification of technical feasibility and (ii) verification of commercial aspects:
- B. Preparation of commercialization – excludes main commercial activities (e.g. contractual cooperation, license sale, operation of the new company, etc.).  
The expected outputs of this phase were mainly the following completed commercialization preparation activities:
  - a. final commercialization plan;
  - b. prepared method of IPR protection and its access enabling conditions (patent, utility/industrial design, filed patent/design application, license preparation, co-operation agreements regulating the terms of ownership of the outcomes, etc.);
  - c. completed preparatory commercialization works and their outcomes in selected areas of commercialization.

The 2 calls supported in total 31 pre-seed projects carried out by 15 research organizations, both public and private.

The projects are to be completed during this year (2015) so it is still too early to evaluate properly what has been achieved and whether this scheme has been successful in supporting the commercialization of R&D results.

In the current **programming period 2014-2020** the pre-seed type of support has been overtaken by **the OP EIC and the MIT** – how such activities will be actually supported by this programme is unfortunately not detailed in the text of the OP. One needs to wait for a particular programme and call announced to see the detailed criteria of this support.

Another important funding scheme aimed to promote the take-up of the R&D results and their market application is a programme managed by the TACR – **programme GAMA**.

GAMA is a programme of applied research, experimental development and innovation approved by the Government Resolution No. 455 of the 12th of June 2013.

The programme aims to support the verification of the results of applied research and experimental development in terms of their practical application and to prepare their subsequent commercial use. The main objective of the programme is to support and significantly streamline the transformation of RDI results achieved in research organizations and/or in collaboration between research organizations and enterprises into practical applications to enable their commercialization and support their implementation.

The programme is divided into two sub-programmes with different methods of implementation and recipients.

Sub-programme 1 is aimed at supporting verification of the practical use of R&DI results that were created in research organizations and have high potential for application in new or improved products, manufacturing processes or services with high added value and high probability of competitiveness.

Sub-programme 2 is aimed at supporting projects of applied research and experimental development especially leading to the commercialization of the achieved results, which the programme will not support.

The planned duration of the programme is 6 years (2014-2019). The first public tender was announced in 2013, with the provision of support commencing in 2014. In 2015 TA CR announced a second call of this programme. Subsequently, public tenders should be announced annually for Sub-programme 1 till 2016 and for Sub-programme 2 from till 2017. The continuation of the programme is also subject to a similar support scheme to be launched within OP EIC – in such a case, programme GAMA will be stopped.

A total of 31 projects were submitted in the framework of the first tender, 10 of which were supported. The average cost per project was over €0.70m.

Total expenditure on the programme will be 2,770m CZK / €100.3m, of which 65 % will be covered from the state budget. The expenditure shall be provided for each year of the duration of the programme in accordance with the expected announcement of the individual public tenders.

## 9. Country tailored policy suggestions

Based on the analysis carried out in the previous chapters, this chapter offers specific changes and policy suggestions aiming to tackle the identified weaknesses and challenges in supporting the synergies between ESIF and EU-level programmes.

The following **suggestions for the Czech Republic** have been identified based on the analysis carried out. Though the recommendations have been designed on country specific analysis, most of them can be thought of general recommendations that should be considered at the EU level. This aspect can be attributed to the fact that most challenges and barriers for the synergies between the various funding instruments are perceived at the level of the programme management and regulations guiding its implementation. Most of these come from the EU level and individual MAs responsible for the particular programmes.

### **Communication and co-ordination between national authorities responsible for the ESIF programmes and authorities responsible for the EU level programmes**

- Currently, there is almost no active communication between national authorities responsible for the ESIF and the authorities responsible for the EU programmes on how to more closely co-ordinate the implementation of the individual programmes and align its calls regarding timing, thematic focus and eligibility criteria.
- It is obvious that such coordination cannot be dealt only on a bilateral basis – coordination between all individual authorities in charge of ESIF programmes and EU programmes (H2020 mainly) programme and alignment of these needs to be coordinated. The national state and the particular authority in charge of ESIF programme should, however, take the initiative into its own hands and actively communicate with authorities in charge of EU programmes in order to receive more detailed information related to the planned implementation of these programmes. It shall also request more information sharing about the participation of national teams so that it can plan its own calls and instruments aimed at supporting synergies between these two programmes.
- At the same time, The authorities in charge of EU programmes can take an initiative too – they may take charge to initiate formal changes that need to be taken care of at the level of EC (e.g. difference in eligibility criteria or the unavailability of H2020 (or other programmes) calls results, evaluations and implementation). A shared information database could be one approach to improve the co-ordination between the two types of programmes, another could be a more detailed guidance how to deal with particular specifics of eligibility criteria from the EC level.

### **Communication and co-ordination between NCPs and ESIF MAs**

- NCPs and ESIF MAs target usually different categories of beneficiaries. So far, they have not actively coordinated their activities and shared actively knowledge and experience. Hence, the awareness of the other programmes and support, including the barriers for implementation and participation has been limited. Even nowadays the particular responsible authorities have difficulties when asked about the other topic.
- However, if one is to support higher participation of Czech research teams through ESIF programmes or improve the market application of R&D results achieved in H2020 programme through ESIF particular instruments, each party needs to share actively their know-how.
- Similarly to the previous suggestion, a shared information database could be created so that both parties have continuous access to information related to the other programmes.
- Activities that are being planned under each programme should be communicated and co-ordinated with the other party so that possible synergies can be actually facilitated already at this stage. NCP network should be invited to participate in specific events organized as part of the preparation of the OP and its funding instruments. On the other hand, the NCP network should actively share its knowledge about what is being prepared in the H2020 programme, how this could be complemented by the ESIF instruments or what problems are the Czech teams facing that could be fought with through the ESIF support.

### **Capacity building**

- Another key barrier for the possible synergies between ESIF and H2020 programmes is relatively low participation of Czech teams in the FP/H2020 calls. In order to support the participation of Czech

team in H2020, there is a need to support their absorption capacity and administrative capacity to prepare the project applications. Research organizations are overwhelmed with public funds administration lack of experience with administration of EU-level programmes means a barrier to actually even try to apply for such a grant.

- National programmes could be therefore used to help create such capacities at the level of research organizations in a form of a “grant / project office”.
- Activities of such an office should be set in detail to ensure that it will really overtake the administrative burden from the researchers and prepare formally eligible project applications.
- The support for these offices and capacities should be also closely coordinated with other programmes aimed at supporting participation in H2020 programme, particularly the activities carried out by the NCP network.

#### **Guidelines, methodologies, calls and other documents in national languages**

- Most of the researchers nowadays is able to communicate in English. The programme and calls for proposals documents on the other hand use a very specific terminology, often with specific legal and technical vocabulary and formulation that are difficult to understand. Some of the stakeholders interviewed confirmed that availability of the programme and calls documents only in English represents a potential barrier, particularly for new participants who are not familiar with the rules and procedures.
- Therefore, another suggestion is aimed at the provision of the key documents related to EU-level programmes in all the official EU languages as it is common for many other regulations, strategies etc.

Most of the challenges for the synergies between ESIF and H2020 has been identified at the level of formal regulations, rules and eligibility criteria that are very difficult (or almost impossible) to fight with at the national level. The country-level suggestions are therefore complemented by a few **measures to be implemented that could be initiated at the EU level to facilitate the synergies** between the various funding instruments.

#### **“Brokerage” events for various implementing organizations and MAs of the ESIF and H2020 programmes**

- Such an event should contribute to bridge the current gap between these programmes and their implementation bodies and improve the existing lack of information exchange. Further, it would help to build mutual trust and personal networks that are almost always better than any formal communication and information exchange.
- In addition to more general brokerage events focused on networking and information exchange, **“clinic” type workshops** could be organized. These very practically oriented workshops would be focused on solving some of the challenges and barriers identified that hinder the synergies between ESIF and H2020. The participants would come from within the individual MAs to ensure good knowledge of the ESIF and H2020 programmes, its regulations, eligibility criteria and planned funding instruments and would jointly brainstorm and suggest what needs to be done to facilitate the synergies.

#### **Capacity building for RDI stakeholders**

- The research teams from post 2004 countries have limited experience with the EU-level programmes and they are lacking expertise to prepare high quality project applications.
- At the same time, the post 2004 countries themselves lack proper experience with the EU-level programmes though there are definitely some experts and research organizations that could provide examples of a good practice.
- Therefore, the effort of the post 2004 countries to support the actual capacity of the RDI stakeholders to prepare quality project applications for the H2020 programme could be supported by an initiative at the EU level.
- The key characteristics that such activities should have in order to be effective include:
  - Closely tailored for a specific group (e.g. specific scientific field research organizations).
  - Practically oriented – they should not provide only general information, but presentation of particular examples, tips and very detailed guidance.
  - Tailored to the specific parameters and characteristics of the particular country.
- Such events could also include presentation of selected „good practices“ – case studies, again with particular and detailed examples why and how they have succeeded, what are the benefits of

participating in H2020 programmes instead of participating only in national programmes and how these examples can be followed, with very particular benefits

- Another example to include in such event could be a presentation of a “simple” instructions / manual for the participation in H2020 programme that would be later available also in the national language.

## 10. Regional analysis

The Czech Republic consists of 14 self-governing regions at NUTS III level. The Czech regions have relatively limited responsibilities, concentrating in the fields of primary and secondary education, transport, health sector and in regional policy. They do not have any legally binding responsibilities in the field of RDI, but at the same time the law does not prevent them from being active in this area.

In most cases, the lack of funding means that the regions have been largely passive participants in RDI policies and support so far and their role has been often limited to that of a catalyst for Structural Funds-funded projects in the field of RDI. In the past programming period (2007–2013) regional governments had virtually no direct involvement in RDI, except for Prague, which managed two Operational Programmes partly relevant to RDI.

Further, co-ordination between the national and the existing regional level innovation strategies has been weak so far, if not missing altogether. National Innovation Strategy (similarly to National R&D policy) takes into account the regional dimension only to a limited extent (ERAWATCH Country Reports 2013: Czech Republic).

R&D activities in the Czech Republic are highly unevenly distributed among regions with the greatest concentration in the second largest city of Brno with the surrounding region of South Moravia (Jihomoravský), in the capital city of Prague (Praha) and the surrounding region of Central Bohemia (Středočeský).

**Figure 4: Gross domestic expenditure on research and development and number of R&D personnel in NUTS III regions in the Czech Republic in 2013**

Region	GERD as a percentage of regional GDP in 2013 (%)	Total number of R&D personnel (FTE) per 1000 employees
Praha	2.56	25.4
Středočeský	2.16	10.2
Jihočeský	1.21	7.3
Plzeňský	2.01	9.7
Karlovarský	0.14	1.0
Ústecký	0.44	3.0
Liberecký	1.78	11.0
Královéhradecký	1.00	7.8
Pardubický	1.86	10.7
Vysočina	0.69	3.9
Jihomoravský	3.67	19.1
Olomoucký	1.60	10.5
Zlínský	1.04	7.3
Moravskoslezský	1.19	7.1

Source: Czech statistical office, February 2015

Nevertheless, it has been changing in the past few years when more and more regions started to prepare (and implement) their own regional innovation strategies. This change has been pushed further by the S3 strategy initiative of the EC.

MEYS has accepted the responsibility for designing the RIS3 strategy. MEYS appointed a national RIS3 facilitator and 14 regional RIS managers for each of the NUTS III regions. Only South Moravia and the Capital City of Prague have started to work on their RIS3 strategies in a bottom-up manner, independently of the centralized national initiative.

The national RIS3 was prepared by MEYS in cooperation with representatives of the new OP RDE and OP EIC (among others) and on the basis of this strategy, support of the RDI will be provided from these OPs. After approval of the RIS3, the responsibility for the management of the National RIS3 has been passed at the Government Office – Section for RDI, where national RIS 3 facilitator, as the leading representative of the implementation of RIS3, operates.

In the middle of the year 2015, the Implementation plan of the RIS3 for the period 2015-2016 will be drawn up by national RIS3 facilitator and his team using information and documentation of OPs and national programs that contribute to the objectives of RIS3. The Implementation plan of RIS3 will summarize information about interventions planned for at least one year and will include interventions planned in the calls of OPs and national programs of RDI support. The link of OPs on the national RIS3 is described in previous chapters.



## 11. Abbreviations

AA	Audit Authority
CR	Czech Republic
EC	European Commission
ESIF	European Structural & Investment Fund
EU	European Union
FIs	financial instrument
FP	framework programme
GA CR	Grant Agency of the CR
GBER	General Block Exemption Regulation
H2020	Horizon 2020 programme
MA	managing authority
MEYS	Ministry of Education, Youth and Sport
MoF	Ministry of Finance
MIT	Ministry of Industry and Trade
MRD	Ministry for Regional Development
NCA	National Coordination Authority
NCP	National Contact Point
OP	Operational Programme
OP EC	OP Education and Competitiveness
OP EIC	OP Entrepreneurship and Innovation for Competitiveness
OP RDE	OP Research, development and education
OP RDI	OP Research and Development for Innovation
PA	priority axis
R&D	research and development
RDI	research, development and innovation
SF	Structural Funds
SO	Specific objective
TA CR	Technology Agency of the CR

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### List of organizations / institutions interviewed

Charles University in Prague, Faculty of Science

City of Prague

Czech Technical University – UCEEB research center

CzechGlobe research center

Government office – Science, Research and Innovation section

IT4Innovations research center

Ministry of Education, Youth and Sport – RIS3 management

Ministry of Education, Youth and Sport – OP RDE management

Ministry of Education, Youth and Sport – national support for international cooperation in R&D

Ministry of Industry and Trade – OP EIC and RDI activities management

Ministry for Regional Development / National Coordination Authority – Partnership Agreement, Evaluation and Strategy department

National Contact Point

Technology center of ASCR

VSB – Technical University Ostrava

## APPENDIX

### APPENDIX 1: OPERATIONAL PROGRAMMES 2014-2020 RELATED TO RDI

#### OP Research, Development and Education (OP RDE)

The latest version of the OP with integrated comments of the European Commission (EC) was once again sent to the EC on the 13 March 2015. According to information provided by MEYS, it is expected the OP to be approved by the end of June 2015. Based on information available from this official version sent to the EC, the OP will be focused mainly on the following RDI areas:

- development of human resources in the RDI area,
- elite research and its international competitiveness and
- use of research potential for society.

Two out of three<sup>30</sup> priority axes (PA) put emphasis on the RDI. PA1 is oriented solely on the RDI, while PA2 aims mainly at support of higher education with only one of five specific objectives (SO) related to RDI. To see clearly more detail of the structure of support within the key PA1, the overview is presented in the table below.

**Table 3: Overview of support within PA1 of the OP RDE**

Specific objective	Types of activities to be supported
1. Increase of the international quality of research and its results	<ul style="list-style-type: none"> <li>• Increase of the capacities of research teams (personal and material)</li> <li>• Modernization of research infrastructure</li> <li>• "Open access" to scientific information</li> <li>• Strategic partnerships and programs of research cooperation with foreign institutions</li> <li>• Involvement of research teams in international projects etc.</li> </ul>
2. Building up capacities and strengthening of long-term cooperation of research organizations with application sphere	<ul style="list-style-type: none"> <li>• Preparation and realization of projects of long-term cooperation of research organizations with enterprises and interdisciplinary partnerships</li> <li>• Capacity building and realization of projects in pre-application phase</li> <li>• Preparation support of international research projects Future emerging technologies</li> </ul>
3. Improvement of the quality of infrastructure for research and educational purposes	<ul style="list-style-type: none"> <li>• Modernization of infrastructure for education related to research</li> <li>• New infrastructure for development of study programs related to research</li> </ul>
4. Improvement of the strategic management of the research on the national level	<ul style="list-style-type: none"> <li>• Development of strategic management of RDI policy</li> <li>• Implementation of new motivational system of evaluation and institutional financing of research organizations</li> <li>• Creation and implementation of mechanisms for coordination of support of international RI activities</li> <li>• RIS3 management on the national level</li> <li>• Creation, development and implementation of system for centralized access to information resources for research and development (databases, registers etc.)</li> <li>• Creation, development and implementation of system for integrated communication of research and development results</li> </ul>

Source: OP RDE

<sup>30</sup> The fourth PA focuses on the technical support.

Within PA2, one of five SO is oriented on the RDI area (SO5). Specifically the fifth specific objective aims at improvement of conditions for education related to research and for development of human resources in the area of research and development. Examples of activities to be supported are as follows:

- creation and modernization of study programs related to research,
- intersectoral (private – public) mobility of researchers,
- international mobility of researchers,
- strategic management of research and development and higher education institutions,
- popularization of research and development etc.

Eligible beneficiaries applying for support within activities listed above are:

- subjects complying with the definition of organization for research and dissemination of knowledge (universities, public research institutions, corporations (incl. business), contributory organization of state and local government units and governmental departments),
- other entities conducting research,
- bodies of public administration and local governments,
- other entities involved in management and implementation of RIS 3.
- The OP RDE will also support teams applying for international research programs, primarily the Horizon 2020 programme. For more details, see section “Support for the participation of national teams in EU research cooperation” below.

#### **OP Enterprise and Innovations for Competitiveness (OP EIC)**

The official version of the OP sent to EC was approved by the government on the 14th July 2014. The latest version available is from January 2015 and it shall be, according to the MIT, in fact the final one, awaiting now only the approval of the EC of one of the Czech Republic’s ex-ante condition (Civil Service Act).

In the new programming period, the OP EIC emphasizes specific needs of particular regions, higher use of financial instruments and higher support for SMEs (mainly innovative) as the key group of beneficiaries. Intensive cooperation with business and social partners is expected as well.

OP EIC has 4 thematic PAs<sup>31</sup>, where 1 of them is oriented on the RD. PA1 of the OP EIC focuses on the “Development of research and development for innovations”. Within the PA1, two specific objectives has been defined, within which various types of activities are expected to be supported, as you can see in following table.

**Table 4: Overview of support within PA1 of the OP EIC**

• <b>Specific objective</b>	• <b>Types of activities to be supported</b>
<ul style="list-style-type: none"> <li>• 1. Increase of innovative efficiency of enterprises</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment and development of corporate research and development centres</li> <li>• Introduction of innovations of products and services into production and placing them on the market, implementation of process and marketing innovations</li> <li>• Protection of intellectual property in enterprises, including pilot projects of modern methods of treatment of intellectual property</li> <li>• Industrial research and development</li> <li>• Pre-commercial public procurement</li> </ul>
<ul style="list-style-type: none"> <li>• 2. Increase of intensity and efficiency of cooperation in RDI</li> </ul>	<ul style="list-style-type: none"> <li>• Creation of new and expansion and improvement of the quality of existing services support infrastructure (ie. technology parks, business innovation centres, business incubators)</li> <li>• Development of cooperation networks, inc. clusters and technological platforms</li> <li>• Creation of partnerships for knowledge transfer between businesses and universities</li> <li>• Activities leading to the commercialization of research results (“proof - of -</li> </ul>

<sup>31</sup> The fifth PA focuses on technical support.

concept")

Source: OP EIC

Eligible beneficiaries to be supported are:

- business entities (mainly SMEs, in justified cases also large enterprises),
- subjects complying with the definition of organization for research and dissemination of knowledge,
- bodies of state and local governments,
- NGOs.

The OP EIC is linked to two European programs (Horizon 2020 and COSME). In case of both programs there are complementary bindings to the majority of the activities of the PA1 (Research and development for innovation) of the OP EIC. For more details see section regarding "Support for the participation of national teams in EU research cooperation" below.

### **OP Prague - pole of the growth in the Czech Republic**

Based on latest information available (Autumn 2014) the OP Prague will devote one priority axis solely to the support of RDI activities in the city of Prague. The objective is to support activities that will lead to creation of strong position of the City of Prague in the development of innovative environment. The City of Prague aims at reaching higher quality of intersectoral partnerships (through intervention) and initiation of innovative activity for the needs of the public sector.

The first of four PA<sup>32</sup> of the OP Prague is oriented solely on the strengthening of research, technological development and innovations. Support will be focused on the following areas:

- higher degree of intersectoral collaboration stimulated by the regional government,
- easier creation and development of knowledge-intensive companies.

### **Table 5: Overview of support within PA1 of the OP Prague**

Specific objective

Types of activities to be supported

**1. Higher degree of intersectoral collaboration stimulated by the regional government**

- Activities leading to commercialization of research results by the verification of the feasibility and commercial potential (proof-of-concept)
- Projects of pre-commercial public procurement and innovative demand of public sector
- Projects of cooperation between research and industry sectors

**2. Easier creation and development of knowledge-intensive companies**

- Improving the quality and efficiency of the functioning of science parks including incubators
- Emergence and development of capabilities that provide advanced services for entrepreneurs (SMEs) (IP, technology transfer etc.)
- Development of innovative companies in the early stages of their life cycle

Source: OP Prague

Eligible beneficiaries applying for support within activities listed above are:

- The City of Prague and its city districts,
- organizations established by the City of Prague and its city districts,
- research organizations,
- business entities,
- nongovernment organizations,
- Professional and interest groups.

The OP Prague also includes possible synergies with Horizon 2020 and COSME programmes. For more details regarding coordination of support within the OP and EU research programmes see section "Support for the participation of national teams in EU research cooperation" below.

<sup>32</sup> The fifth PA focuses on technical support.

## APPENDIX 2: RIS3 IMPLEMENTATION ENVISAGED BY THE 2014-2020 OPS

**OP RDE** has been prepared in line with the RIS 3 and interventions within **PA 1** are crucial instrument to fulfil the priorities of the RIS 3 in the sphere of increasing the quality of public research:

- SO 1 is focused on the strengthening of quality and excellence of the research using higher concentration of both financial and human resources into R&D areas, where Czech teams have preconditions for realization of internationally competitive research and where the Czech Republic, in line with RIS3, has potential to contribute to solving of social-economic challenges.
- SO2 primarily supports strengthening capacities for strategic cooperation of the public and private sector in the RDI area when preparing and implementing research with high potential of application – particularly in dealing with societal needs in accordance with RIS3. Activities for creation and development of strategic partnerships of public and private sector on the regional, national and international level (in accordance with RIS 3) will include (i) preparation and development of instruments on the regional level to support long-term research partnerships in accordance with RIS 3 and (ii) preparation and realization of projects for the development of innovative environment, implemented in cooperation of public and private sector.
- SO3 of the PA1 is in line with RIS3 oriented on the creation of quality infrastructural conditions for preparation of new generation of researchers and SO4 of the PA1 focuses on improvement of management of research on the national level.

Selection of projects within PA 1 will include several criterions, including compliance of the focus of the research with the RIS3 vertical priorities.

Measures supported within PA 2 – development of human resources in the RDI area - will be implemented in accordance with RIS 3 as well. Support will focus on increasing the qualification of researchers and other employees in the RDI area. Other areas to be supported within PA 2 in accordance with RIS 3 include for example sufficient amount of qualified graduates of universities with practical experience with research activities, support of the entrepreneurial spirit of students etc. Implemented activities will be in line with priorities of the RIS3.

**OP EIC** will be one of the key instruments contributing to the fulfilment of the relevant objectives of the RIS 3. Implementation will be carried out mainly in PA 1. The emphasis within OP EIC is put on greater concentration of financial resources, in line with RIS 3.

Within PA 1, all planned activities within both SO of the PA are based on needs defined in RIS 3. Intervention will target at increase in expenditure of private sector. In line with RIS, it's crucial to support (i) investments into improving the quality of infrastructure for research and technological development (modernization of research equipment), (ii) financially demanding investments into business RDI, development of products and services and (iii) trading in research results.

Special attention will be paid to research in the area of industrial challenges and key technologies, particularly in the area of nanotechnologies; micro- and nanoelectronics, including semiconductors; photonics; advanced materials and industrial biotechnology, ICT.

Emphasis will be put also on development of activities of mature clusters. Clusters will be important actors in regional RIS 3, which can use critical mass of enterprises and knowledge base to strengthen position of the region in established industries or technology areas.

Support to SMEs provided through PA 2 will be targeted on interventions reacting to specific needs of regions in the Czech Republic, instead of extensive support of projects. Within SO1 of the PA 2, provision of support to starting SMEs (up to 3 years) using financial instruments will be based directly on the needs taken into account in RIS 3 and the like provision of consulting services and services for start-ups throughout the Czech Republic (excluding Prague) is also based on the RIS 3.

Similarly as in OP RDE, selection of projects within PA 1 and PA 2 will include several criterions, including compliance of the focus of the project with the RIS 3.

**OP Prague** will be one of key instruments to fulfil objectives of the regional RIS 3 of the City of Prague. Specific objectives of the PA 1 are directly based on the Regional RIS 3. All activities of both SO 1 and SO 2 are in fact adopted from parts of sections A and B of the RIS 3.

Specifically, all three key activities of the SO 1 (Higher degree of intersectoral collaboration stimulated by the regional government) are therefore directly based on the RIS 3. These activities focuses on (i) support of activities leading to commercialization of research results by the verification of the feasibility and commercial potential (proof-of-concept), (ii) projects of pre-commercial public procurement and innovative demand of public sector and (iii) projects of cooperation between research and industry sectors,

Similarly SO 2 (Easier creation and development of knowledge-intensive companies) has been defined in accordance with regional RIS 3 and specializes on (i) improving the quality and efficiency of the functioning of science parks including incubators, (ii) emergence and development of capabilities that provide advanced services for entrepreneurs (SMEs) and (iii) development of innovative companies in the early stages of their life cycle.



### APPENDIX 3: RDI EXPENDITURES IN THE SECTORS OF PERFORMANCE ACCORDING TO THE SOURCE OF THE FINANCES (THS. EUR<sup>33</sup>)

#### Sector of R&D&I performance

Source of finances (sector)	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Business</b>	818 745	935 870	1 062 918	1 059 447	1 041 102	1 107 078	1 257 495	1 405 034	1 526 028
Czech business	634 913	740 698	824 447	786 930	710 100	756 388	832 071	924 130	1 025 300
Foreign business	34 956	36 395	67 615	102 720	135 454	147 160	180 053	215 645	255 405
Czech public	139 073	153 057	163 060	159 772	177 891	170 679	197 438	192 976	176 745
Foreign public	9 026	4 153	6 174	8 407	15 988	31 752	47 299	71 692	67 381
Other Czech	776	1 567	1 622	1 618	1 670	1 099	634	590	1 197
<b>Government</b>	305 739	337 179	409 537	410 200	428 714	415 427	449 246	482 548	516 429
Czech business	28 181	25 953	27 354	24 126	17 826	19 720	15 457	19 360	16 853
Foreign business	15 104	11 368	30 264	22 741	25 024	38 968	45 893	42 730	53 627
Czech public	250 264	285 658	337 306	344 584	366 438	340 691	348 516	343 494	342 241
Foreign public	8 136	9 361	11 748	11 571	14 393	15 295	38 828	76 730	103 044
Other Czech	4 054	4 839	2 865	7 179	5 033	753	552	233	665
<b>Higher education</b>	250 198	286 813	331 730	329 247	363 014	384 528	553 767	720 028	767 812
Czech business	2 107	1 979	2 425	2 057	3 830	4 104	5 650	5 738	15 099
Foreign business	310	763	181	120	22	216	163	109	616
Czech public	229 665	259 546	303 799	299 040	328 733	333 834	396 509	421 625	453 828
Foreign public	6 599	12 072	14 694	14 163	15 407	31 894	131 719	269 593	283 607
Other Czech	11 517	12 453	10 631	13 867	15 023	14 481	19 726	22 963	14 662
<b>Private non-profit</b>	7 009	7 374	7 206	7 538	9 919	11 742	12 507	13 380	9 688
Czech business	709	491	301	684	849	2 055	3 373	4 411	2 913
Foreign business	36	36	0	0	2	573	0	0	517
Czech public	5 755	6 070	5 817	5 869	7 149	7 407	5 778	5 989	4 689
Foreign public	349	527	895	780	1 488	1 326	2 857	2 950	1 477
Other Czech	161	250	193	206	431	381	499	29	93
<b>CR total (GERD)</b>	1 381 692	1 567 236	1 811 391	1 806 432	1 842 749	1 918 776	2 273 015	2 620 991	2 819 957
Czech business	665 910	769 122	854 527	813 796	732 604	782 268	856 551	953 640	1 060 165
Foreign business	50 407	48 562	98 060	125 581	160 502	186 917	226 109	258 484	310 164
Czech public	624 756	704 331	809 981	809 265	880 211	852 611	948 242	964 085	977 503
Foreign public	24 111	26 113	33 511	34 920	47 276	80 267	220 704	420 965	455 509
Other Czech	16 508	19 108	15 312	22 869	22 157	16 714	21 410	23 816	16 617

Source: Czech Statistical Office

<sup>33</sup> According to the average exchange rate as of February 2015 (27,608).

**APPENDIX 4: RDI EXPENDITURES IN SECTORS OF PERFORMANCE ACCORDING TO THE TYPE OF RESEARCH (THS. EUR<sup>34</sup>)**

<b>Sector</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Type of research</b>									
Business sector total	818 745	935 870	1 062 918	1 059 447	1 041 102	1 107 078	1 257 495	1 405 034	1 526 028
Basic research	41 037	81 920	59 908	71 557	59 112	50 410	33 054	46 856	42 431
Applied research	250 987	270 124	302 977	318 255	255 132	391 914	511 425	583 761	583 236
Experimental research	526 721	583 826	700 034	669 636	726 859	664 753	713 017	774 418	900 361
Government sector total	305 739	337 179	409 537	410 200	428 714	415 427	449 246	482 548	516 429
Basic research	233 369	255 060	320 723	328 359	333 132	308 362	332 381	383 466	403 519
Applied research	60 677	68 429	80 122	73 843	88 537	94 181	94 737	92 825	108 502
Experimental research	11 693	13 690	8 693	7 998	7 044	12 884	22 128	6 257	4 408
Higher education sector total	250 198	286 813	331 730	329 247	363 014	384 528	553 767	720 028	767 812
Basic research	147 348	176 577	203 537	188 629	218 502	213 203	286 333	353 553	478 852
Applied research	87 243	92 261	110 800	121 835	131 249	148 927	206 613	265 934	216 876
Experimental research	15 607	17 975	17 392	18 783	13 263	22 398	60 820	100 541	72 085

Source: Czech Statistical Office

<sup>34</sup> According to the average exchange rate as of February 2015 (27,608).

## APPENDIX 5: NATIONAL PROGRAMMES AIMED AT EU-LEVEL PROGRAMMES PARTICIPATION

### **National information centre for European Research (NICER)**

Centre provides comprehensive support for the participation of national teams in international research cooperation, especially in the EU Framework Programmes.

The National Information Centre for European Research (NICER) organizes information events about the opportunities involved in EU Framework Programmes for research and development, publishes specialized publications and an electronic newsletter and operates an information portal [www.fp7.cz](http://www.fp7.cz) about the 7th Framework Programme for Research and Development and also about the successor EU Framework Programme for Research, Development and Innovation - Horizon 2020 - [www.h2020.cz](http://www.h2020.cz).

NICER provides professional consultations for anyone interested in participating in programs and projects to participants in all phases of the project cycle.

NICER provides advice on participation in grants from the European Research Council (ERC).

The department of NICER includes the team of thematically focused National Contact Points (NCPs) which offers research teams wide range of information and consulting services.

The activities listed above are a part of the NICER III project, which follows two preceding projects (NICER and NICER II). The project is supported by the MEYS as a part of the EUPRO programme.

### **Czech Liaison Office for Research, Development and Innovation (CZELO)<sup>35</sup>**

CZELO was established in Brussels in May 2005, is hosted by Technology Centre ASCR and financially supported by a grant (LE13018) from the Czech Ministry of Education, Youth and Sports. It provides free services to researchers from all fields and all research bodies in the Czech Republic.

The principal aim of CZELO is to support the successful integration of the Czech research community into the European research cooperation, particularly through the EU Framework Programmes for Research, Development and Innovation (Horizon 2020).

CZELO office is focused on activities related to presentation and promotion of Czech research abroad. Among the activities there are following:

- organizing information days (seminars) about Czech RDI for the EU institution, organizations based in Brussels and other partner institutions;
- promoting Czech science, research and innovation on to Brussels based partners and representatives to the EU institutions;
- organizing of larger events (conferences) with Czech researchers for promoting Czech research;
- regular cooperation with Brussels based colleagues from different RDI offices, Permanent Representation of the Czech Republic to the EU, European Commission, EUREKA Secretariat, Czech business representation, Czech regional representations, etc.;
- promote Czech speakers on European events;
- logistic support / assistance for Czech researchers in preparing meetings with potential project partners in Brussels.

### **EURAXESS Czech Republic**

It provides information and assistance to researchers who are coming to work in the Czech Republic, or who are moving to work in another European country — via its portal and via 3 EURAXESS Service Centres and 7 contact points in its national network.

The EURAXESS network in the Czech Republic is part of the wider EURAXESS network with hundreds of centres in 40 European countries.

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<sup>35</sup> Based on information published at: <http://www.czelo.cz/en>.

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## JRC Mission

As the Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners.

*Serving society*  
*Stimulating innovation*  
*Supporting legislation*

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