



## EXCELERATE Deliverable 10.5

Project Title:	ELIXIR-EXCELERATE: Fast-track ELIXIR implementation and drive early user exploitation across the life sciences	
Project Acronym:	ELIXIR-EXCELERATE	
Grant agreement no.:	676559	
	H2020-INFRADEV-2014-2015/H2020-INFRADEV-1-2015-1	
Deliverable title:	A Node report on regional priorities and channels to use	
WP No.	10	
Lead Beneficiary:	34 - UOCHB	
WP Title	ELIXIR Node Capacity Building and Communities of Practice	
Contractual delivery date:	28 February 2017	
Actual delivery date:	28 February 2017	
WP leader:	Jiří Vondrášek, Bengt Persson, Brane Leskosek	31- LIU
Partner(s) contributing to this deliverable:	MU, BSRCAF, UL, UTARTU	

### Authors and Contributors:

Ondřej Hradil (CZ), Jaako Vilo (EE), Babis Savakis (EL), Brane Leskosek (SI)

## Table of contents

1. Executive Summary	2
2. Project objectives	4
3. Delivery and schedule	4
4. Adjustments made	4
5. Background information	4
6. Appendix 1: This is the “main part” of the deliverable	9

### 1. Executive Summary

Sustainability of ELIXIR as a research infrastructure is a crucial objective. Besides the traditional research funding sources such as FP7 or H2020 projects on the EU level, new opportunities arise in the Structural funds. Task 10.5 “Supporting ELIXIR Nodes in Understanding Smart Specialisation Strategies and accessing EU Structural and Investment Funds” tries to establish a network of expert across ELIXIR nodes in selected countries and build on this expertise to successfully understand the priorities of local and regional (in some cases even national) opportunities for sustainable funding of national ELIXIR nodes in those countries.

As all regional priorities are different, and as the application process for funding is done in the local language and following local rules, target Nodes worked with their regional partners to understand the priorities. This task supports Nodes in understanding their local Smart Specialisation Strategy and the regional priorities relating to research and life sciences.

Supporting Nodes in actually developing the Business Cases and applications for Structural funds to support the construction and/or operation of the Node. The timing of this work depends on when the calls will be opened for each region.

#### Impact

Main impact of activities in the field of the structural funds is the number and financial volume of applications of targeted ELIXIR nodes for projects within structural funds.

#### Czech Republic:

2 projects submitted in 2 Operational Programs:

- 1) Project name: ELIXIR-CZ: Capacity Building, OP Research, Development, Education, Managing Authority: Ministry of Education of the Czech Republic, Total financial volume of the project: 2,5 mil EUR
- 2) Project name: RIAT-CZ Stimulation of innovation in Czech-Austrian cross-border region through use of available synergies in research infrastructures, OP Interreg CZ-AT, Managing Authority: Lower Austrian Government, Total financial volume of the project: 1,4 mil EUR

## Slovenia

There are several opportunities for ELIXIR-SI members in open and planned ESIF national and regional calls and connected international (EU) calls. One of important challenges is also how to establish cooperative RIs or facilitate cooperative projects across both Slovenian regions to optimally use all relevant opportunities and ESIF funds.

Examples of good practices and opportunities related to ELIXIR-SI:

1. Calls based on the Slovenian Research Infrastructure Roadmap update are being prepared by the Ministry of Science, Education and Sports. Funds that will support specifically ELIXIR Slovenia node are estimated to cca 3.5 mio EUR until 2020 with the call planned for 2017 being estimated to 1 mio EUR.
2. Application for RRI in chains and value networks from RS Ministry of Education and Science. The application was successful and would provide additional funds for the employment of 130K€ for a period of 3 years. ELIXIR-SI coordinator, UL MF would have to cofund 25% of total project amount from alternative sources.
3. H2020 Widespread Teaming for Excellence – Artemida, Centre of Excellence in Translational Medicine – 2<sup>nd</sup> stage application that was unsuccessful in H2020. This would have supported ELIXIR with about 500k€ for employment and 1M€ for equipment over 5 years.
4. Interreg Slovenia-Italy application was recently submitted.
5. Interreg Slovenia-Austria application as collaboration between ELIXIR-SI and BBMRI.at was not successful in the previous call in 2016 and is now being prepared again for the open call in 2017.
6. There are several preparations in progress for expected incoming calls. The most important are H2020 Widespread Teaming for Excellence stage 1 and stage 2, and several from RS SVRK agency which is the main coordinator of Slovenian cohesion policy.

## Greece

One project submitted in Operational Programme "Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK)"

Project name: ELIXIR-GR: Managing and Analysing Life Sciences Data

Managing Authority: Ministry of Economy, Development and Tourism

Total funding requested: 3,991,100 EUR for three years

## Estonia

Estonian Smart Specialisation Strategy (3S) focus is on 1) ICT, including horizontal applications in other fields; 2) Healthcare technology and services; and 3) More efficient use of resources. ELIXIR as health- and biotech related ICT falls directly in both first main two categories. Main applications to support ELIXIR, have been:

- 1) ELIXIR – the national research infrastructure roadmap project – to be funded 2017-2022 from ERDF (total funding: 1.352 million Euros)

- 2) Development of Estonian HPC server infrastructures; and the BBMRI ERIC infrastructure
- 3) ITEE – H2020 Teaming for Excellence – Digital Connected Economy – 2<sup>nd</sup> stage application that was unsuccessful in H2020 – this would have supported ELIXIR – Health/bioinformatics research with about 6-7M€ over 10 years.
- 4) University development – ELIXIR will benefit from a new ICT, business, and mathematics-statistics building Delta (within ASTRA measure). Overall cost, around 30M Euros. ELIXIR offices will move into these new facilities in 2019.
- 5) Funds to collaborate with industry; half contribution from industry and half from ERDF. These are open calls and depend on industry demand.

## 2. Project objectives

With this deliverable, the project has reached or the deliverable has contributed to the following objectives:

[this section is completed by project management]

No.	Objective	Yes	No
1	Implement a programme of organisational capacity building in newly formed ELIXIR Nodes, including sharing of best practice between partners in accessing EU Structural Funds (ESIF) for operating infrastructure.		x
2	Construct and coordinate ELIXIR-wide 'communities of practice' that support and develop the professionals who deliver advanced data and bioinformatics support and services in ELIXIR Nodes.	x	

## 3. Delivery and schedule

The delivery is delayed:     · Yes   X No

## 4. Adjustments made

No adjustments was made

## 5. Background information

Background information on this WP as originally indicated in the description of action (DoA) is included here for reference.

Work package number	10	Start date or starting event:	month 1
Work package title	<b>ELIXIR Node Capacity Building and Communities of Practice</b>		
Lead	Jiří Vondrášek (CZ) and Bengt Persson (SE)		
<p><b>Participant number and person months per participant</b>            1 – EMBL 6.00, 2 – UOXF 4.00, 5 – UTARTU 20.00, 7 – CNIO 1.00, 9 – CIPF 3.60, 13 – CSIC 2.00, 16 – FCG 2.00, 17 - INESC-ID 10.00, 20 – CSC 4.00, 21 – UiB 4.00, 23 – UiT 4.00, 26 – CNRS 5.00, 31 – LIU 24.00, 32 – UL 30.00, 34 – UOCHB 8.00, 35 – MU 26.60, 37 – VIB 10.00, 39 – BSRCAF 12.00, 40 – HUJ 8.00, 42 – FORTH 6.00</p>			
<p>This WP will address the issue of how to get people in Nodes coming together in capacity building, as detailed in the tasks below. There will be accompanying training needs in this capacity building and those training needs will be addressed in WP11. The training needs are in advanced training of the staff handling data and performing genome annotation and assembly. Other training needs for Use Cases will be in general addressed in WP11, but not specific to every Node. For Node capacity building, advanced training will be needed also in management and know-how on operating Nodes, performed in close collaboration with Task 10.1.</p> <p>A Community of practice is a group of people who share a craft or a profession, created to coordinate efforts to solve defined tasks and/or with the goal of gaining knowledge related to their field. ELIXIR is looking to establish such Communities of Practice of bioinformatics experts involved in advanced bioinformatics user support across the Nodes to effectively interact with bioinformatics infrastructure users at interfaces of different research fields. ELIXIR Communities of Practice would be the primary mechanism for ELIXIR to establish domain specific services, for example, forming a community of genome annotators across Nodes to meet the need from national researchers of ready access to genome annotation resources. Other examples could be to meet the needs of Rare Disease or Medical genomics research, agricultural or marine bioinformatics and chemical compounds for biology.</p> <p>ELIXIR will start to build these Communities of Practice to enable coordination and knowledge exchange in selected areas in tasks 10.2 and 10.3. Task 10.2 is directed to</p>			

create Good Practices in setting up data Nodes, of importance to create a sustainable and scalable data flow from laboratories to national Nodes and further to European or global databases. Task 10.3 is directed to coordinate and exchange expertise in the field of genome annotation and assembly and to create Good Practice in for this field. In the future, further communities of practice are envisioned, arising from needs identified by the Use Cases (WP6 to 9) and identified through community workshops and surveys (Task 10.4). The creation of a sustainable mechanism for establishment of communities of practice is also addressed in Task 10.4.

### Objectives

WP10 is focused on strengthening the ELIXIR infrastructure by supporting coordination of Node activities and increasing the organisational capacities of ELIXIR Nodes. ELIXIR Nodes are at very different levels of maturity, ranging from national infrastructures that have existed for over a decade to newly formed consortia. Activities will focus on spreading the knowledge and bioinformatics best practice that exists within ELIXIR's larger and more established Nodes, with newer or smaller ELIXIR Nodes in less research-intensive areas of the EU. This will help to create a stairway to excellence for partners involved, and support the creation of a true European Research Area. One of the deliverables will be a set of "Good practices" for setting up and running an ELIXIR Node, which will be of substantial value for both current and future Nodes.

Its two Objectives are:

1. Implement a programme of organisational capacity building in newly formed ELIXIR Nodes, including sharing of best practice between partners in accessing EU Structural Funds (ESIF) for operating infrastructure.
2. Construct and coordinate ELIXIR-wide 'communities of practice' that support and develop the professionals who deliver advanced data and bioinformatics support and services in ELIXIR Nodes.

Work Package Leads: Jiří Vondrášek (CZ) and Bengt Persson (SE)

Description of work and role of partners

#### **Task 10.1: ELIXIR Node Capacity Building (4,6PM)**

This task will support the formation of an ELIXIR community. There are significant differences between existing ELIXIR Nodes in their capacity, level of expertise and maturity of services/tools/data. We will increase the joint competence and capacity for Nodes lacking a large national user community, large-scale projects and big data or having a limited record of offered tools and services. These Nodes will benefit from mutual collaboration and connection with well-established and more advanced Nodes they can utilize their know-how for a more rapid Node development. Altogether, this will help shape ELIXIR as an efficient pan-European infrastructure.

The major aim of this task is to provide management knowledge transfer among Nodes to create a set of well-balanced, well-functioning and compatible Nodes. Support in coordinating national Nodes, including Skills and Knowledge exchange between ELIXIR Nodes. Nodes with different experiences will help to provide knowledge regarding good practice in different situations and providing direct support to implementation of national infrastructures (e.g. by national / regional workshops with external experts, support to national community building efforts). The heterogeneity of Nodes established will help providing multiple effective ways for coordination and to get funds from national providers and their commitments to the infrastructure. Knowledge exchange will be catalysed by workshops, staff exchange programme and visits. This activity is based on the ELIXIR community practice experience but it is more general and should cover some features brought by larger staff community.

Identify and apply technical solutions at/between Nodes. The reason for particular technical solution must be explicitly formulated and the solution must be applicable on more than 2 Nodes. The capacity building deliverables would be primarily workshops based on Technical Services and/or Training WP deliverables.

Partners: CH, CZ, EE, NO, PT, SE, SI, UK, ES, EL, IL, EMBL-EBI

#### **Task 10.2: Capacity Building in Data Nodes Network (34PM)**

One of the aims of ELIXIR is to establish a network of data Nodes (Nodes with large data collections and databases with established way of data deposition and curation) to enable scalable data storage and their transferability by means of standardised formats. In this task, we will focus on establishing guidelines and good practices to facilitate efficient data collection into core data resources (cf. WP3), primarily focusing on data needed for selected Use Cases (WP6 to 9). This is tightly linked with IT solution by means of storage, dedicated networks and connections (cf. WP4). A distributed network following the same standards will also simplify international sharing of datasets for which this is ethically permitted.

This task both includes creation of routes for data publishing in a uniform manner across ELIXIR with data Nodes in each country and includes data repositories for replication of reference data allowing for fast access. The setting up of a data Nodes network has been identified by the technical experts within ELIXIR as a prioritised area.

Task 10.2 also includes development of Good Practices in setting up data Nodes enabling secure storage of sensitive data, such as sequence data related to patients. The task is interfacing with WP4 regarding technical developments on AAI and data transfer. Furthermore, there are connections with WP4 on data interoperability and the Use Case in WP9 on sensitive data.

Partners: SE, FI, CZ, EMBL-EBI, SI, PT, ES, EE. In due time, all ELIXIR Nodes are expected to have an ELIXIR data Node.

#### **Task 10.3 – Capacity Building in Genome Assembly and Annotation (44PM)**

Specialised expert platforms for genome assembly and annotation are already

available in several ELIXIR countries. They provide critical support to complex genome projects and deliver annotations that serve as the basis for scientific inquiry into the genomics of newly sequenced organisms. The specialised expertise at multiple ELIXIR Nodes would benefit from capacity building through competence-spreading advanced workshops and staff exchange.

The capacity-building efforts will benefit the Use Cases in WP6 on marine organisms and in WP8 on plant Use Cases. The genome annotation groups will contribute with domain-specific knowledge about different species, e.g. marine organisms (SE, NO), woody plants (PT) and crop plants (SI).

Furthermore, in order to facilitate access to genome annotation to the users, we propose a deployment of web services to enable genome projects in the scientific community to efficiently interact with the data. The development of such web services is intended together with the EnSEMBL team to create a pan-European collaboration on genomics resources to provide researchers with a unified analysis platform carried by multiple partners.

Partners: SE, NO, FR, PT, EBI, SI, BE, CZ, ES.

#### **Task 10.4 – Sustainability of capacity building (30PM)**

The main goal of Task 10.4 is periodical and long-term discovery of users with specific capacity needs at ELIXIR Nodes and/or research groups within Nodes. This knowledge of capacity needs/gaps will be gathered through surveys and face-to-face meetings. With capacity needs identified the Task 10.4 team will connect users with WP11 groups that have at their disposal training infrastructure, learning materials and knowledge needed to implement the capacity building. In order to ensure the sustainable flow of knowledge and stable capacity maintenance we need to provide long-term networking of capacity seekers and providers. They will be focused to the great extent to the Good Practices from Task 10.2 and 10.3 (and WP6 to 9). With well-formed ELIXIR Communities of practice, the Task 6.4 will be able to lead the reuse or even suggest the adaptation of WP11 courses and training materials for specific capacity building needs.

**OBJ:** It is of great importance that capacity needs will be periodically (but in long-term perspective) tested through surveys, which will also contribute to the sustainability of training infrastructure and learning materials provided by WP11. Task 10.4 will monitor the implementation of capacity building in Tasks 10.1, 10.2 and 10.3 in order to extract good practices and compile good practice recommendations and guidelines which can be used in other capacity building contexts.

Partners: SE, SI, CZ, BE, EE, EL, IL, EMBL-EBI

#### **Task 10.5: Supporting ELIXIR Nodes in understanding Smart Specialisation Strategies and accessing EU Structural and Investment Funds (ESIF) (36.2PM)**

The potential for exploiting funding synergies between EU Research programmes and ESIF are well known. Those ELIXIR Nodes eligible for ESIF are therefore presented with a real opportunity for local funding of their Node, particularly in light of the proposed focus on ESIF and ESFRI that many Member States are making within their



national plans to the Juncker Investment Plan. However, understanding the local priorities for funding, rules, and application procedures presents is complex and time consuming and securing ESIF for operational costs of life science infrastructures is a real challenge. For ELIXIR Nodes to access ESIF in any meaningful way, support needs to be targeted at the local level, allowing scientists to build up an understanding of their local Smart Specialisation Strategy, which dictates the funding opportunities for that region, and then develop a strong business case that can be used for subsequent funding applications.

Partners: CZ, SI, EE, EL

#### **ELIXIR ESIF Task Force (Months 1-12)**

ELIXIR Structural Funds Task Force grouping funding specialists across ELIXIR Nodes will be established to share best practice in ESIF use for research infrastructures. The Task Force would also engage external experts such as ones from national managing authorities for ESIF, DG REGIO, DG EMPLOY, DG Enterprise and Industry and Jaspers and would make use of existing reports such as the ESPON KIT report ([www.espon.eu](http://www.espon.eu)).

An ELIXIR-wide Workshop early at start of the project to pool good practice on using Structural Funds to support research infrastructures and facilitate personal interactions. Meeting will be hosted and organised by CEITEC, who leads this task. This would include talks from ELIXIR Nodes with experience of accessing Structural Funds (Estonia, Czech Rep, Slovenia), as well as other ESFRIs such as ELI that have done this successfully in other disciplines

Local priorities and their overlaps identification towards Business Case (Months 6-24)  
As all regional priorities are different, and as the application process for funding is done in the local language and following local rules, target Nodes will work with their regional partners to understand the priorities. This task will support Nodes in understanding their local Smart Specialisation Strategy and the regional priorities relating to research and life sciences. Access support from Jaspers following the connections built up within Months 1-12.

Supporting Nodes in actually developing the Business Cases and applications for Structural funds to support the construction and/or operation of the Node. The timing of this work will depend on when the calls will be opened for each region.

Partners: CZ, SI, EE, EL

## 6. **Appendix 1: A Node report on regional priorities and channels to use**

D10.5 Main report

## EXCELERATE Deliverable 10.5

### A Node report on regional priorities and channels to use

#### Summary

This document shall give a basic guidance on the possibilities offered by the EU structural funds to national ELIXIR nodes in four countries – Czech Republic, Slovenia, Greece and Estonia.

#### Czech Republic

Structural funds have played an important role in the Czech Republic in the field of research in the last (2007-2013) as well as current (2014-2020) programming period. Member institutions of the Czech ELIXIR node have gained substantial funding in the last period. While the amount of funding available for research is not as high in the current programming period, there are still plentiful opportunities to benefit from.

##### Smart Specialisation Strategy

Czech Smart Specialisation strategy is formulated on the national level with 14 regional annexes, covering thus all regions of the Czech Republic. The Smart Specialisation Strategy was approved by the Czech government in summer 2016 and at a later stage accepted by the European Commission. It is available for consultation at: <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=741706>

The National RIS<sub>3</sub> Strategy regards the fields of information and communications technology, biotechnology and biomedicine as knowledge domains (p. 115).

The research fields of both computer and life sciences are defined by the National RIS<sub>3</sub> Strategy as fields which, in the Czech environment, has both capable research teams and potentially complementary companies; these companies operate in economic sectors that exhibit positive signs in the form of export and R&D investments and are expected to show interest in using results of research institutions.

At the same time, RIS<sub>3</sub> places IT services and software (e.g. network technologies and network security) among the areas of economic specialization in which the Czech Republic exhibits an above-average growth potential.

Biotechnology and microbiology can be also included among the application fields of the national economic specialization, especially in connection with agricultural and food production technologies and within the scope of the application topic Natural Resources, Agriculture and Food-Processing Industry.

Within the above-stated fields, the RIS3 strategy also defines a need to strengthen the mechanisms of knowledge transfer and to support practical and specifically oriented applications which would utilize the knowledge from the fields of biotechnology and biomedicine in other fields of the existing economic specialization.

In the field of research Smart Specialisation Strategy states several goals related to ELIXIR CZ activities

B.1: Improve quality and problematic orientation of research in domains of knowledge relevant to an intelligent specialization of the National RIS3 Strategy, which defines the need to fund excellent teams with regard to problematic orientation of research, provide high-quality research infrastructure and help to make the Czech research environment more open.

Within the scope of the B1.1 objective: Provide a stable environment for long-term development of high-quality research institutions, which involves e.g. improving the infrastructure of the Czech universities and departments of the Czech Academy of Sciences which collaborate on research-oriented programmes relevant to RIS3, and also hiring and keeping key researchers in excellent research teams.

Within the scope of the B1.2 objective: Increase the international character of the Czech public research which involves e.g. strategic research partnerships with renowned foreign institutions both in and outside EU and projects to create or develop selected research groups including groups linked to foreign researchers or reintegrating Czech scientists with regard to open competition for both domestic and foreign scientists.

#### **Relevant operational programmes:**

- Operational Programme Research, Development and Education (OP RDE)

<http://www.msmt.cz/strukturalni-fondy-1/aktualni-informace-op-vvv>

The key principle of the Operational Programme Research, Development and Education (OP RDE) is development of human resources for knowledge-based economy and sustainable development in a socially cohesive society, and is supported by interventions under more priority axes. That is followed up by the support of quality research for which qualified workforce represents a key input factor. Interventions in education will also be supported by system changes aimed at improving the Czech Republic's education system.

Insider note: This OP is best suited to projects of research organisations (e.g. universities and research institutes).

**Focus**

Strengthening capacities for research, development of universities and human resources for research and development, and equal access to high-quality primary and secondary education.

**Thematic objectives:**

1. Investment in research, development and innovations for practice (PA 1)
9. Functioning social system and combating poverty (PA 3)
10. Improving the educational system (PA 2 and PA 3)

**Supported areas:**

Priority axis 1: Strengthening capacities for high-quality research

Priority axis 2: Development of universities and human resources for research and development

Priority axis 3: Equal access to high-quality pre-school, primary and secondary education

Priority axis 4: Technical assistance

- **Operational Programme Enterprise and Innovations for Competitiveness**

[www.agentura-api.cz](http://www.agentura-api.cz)

The objective of the Operational Programme Enterprise and Innovations for Competitiveness (OP EIC) is to achieve a competitive and sustainable economy based on knowledge and innovation. The term “competitive” includes the ability of local companies to gain ground in world markets and create sufficient jobs. The term “sustainable” accentuates the long-term horizon of competitiveness, which also includes the environmental dimension of economic growth.

Insider note: This OP is best suited to projects of cooperation with industry as SMEs and companies in general have to be the main beneficiaries.

**Focus**

Promotion of research and development for innovation, development of SMEs’ entrepreneurship and competitiveness, energy savings and development of high-speed internet access networks and information and communication technologies

**Thematic objectives**

- 1. Investment in research, development and innovations for practice (PA 1)
- 2. Increased use of information and communication technologies (PA 4)
- 3. Support for SMEs (PA 2)
- 4. Reducing energy intensity of economy (PA 3)
- 7. Modernization of transport infrastructure and ecological transport (PA 3)

**Relevant cross border programmes with research or innovation component:**

A number of cross-border and international programmes are available and suitable for ELIXIR related activities. These programmes can be used for cooperation

projects among different ELIXIR nodes access EU. This type of programmes put emphasis on the impact of the projects on a particular territory.

- Interreg Czech Republic – Austria, [www.at-cz.eu](http://www.at-cz.eu)
- Interreg Czech Republic – Poland, [www.cz-pl.eu](http://www.cz-pl.eu)
- Interreg Czech Republic – Slovakia, [www.sk-cz.eu](http://www.sk-cz.eu)
- Interreg Czech Republic – Bavaria, [www.by-cz.eu](http://www.by-cz.eu)
- Interreg Czech Republic – Saxony, [www.sn-cz2020.eu](http://www.sn-cz2020.eu)
- Interreg Central Europe, [www.interreg-central.eu](http://www.interreg-central.eu)
- Interreg Danube, [www.danub-region.eu](http://www.danub-region.eu)

### Opportunities - past

Operational Programme Research, Development and Education (OP RDE), calls published and closed in 2016:

- Support to excellent research teams: The objective of the Call is to support problem-oriented research of an inter-disciplinary character, which shall assist the effective use of research centres and initiate the achievement of an internationally competitive quality of research from the perspective of its originality and practical impacts. The use shall take place via concentrated support for the research plan, the associated research team and the materially technical equipment.

<http://www.msmt.cz/strukturalni-fondy-1/vyzva-c-02-15-003-podpora-excelentnich-vyzkumnych-tymu-v>

Excellent research: This Call supports research infrastructure projects in research and investment activities. The objective of this Call is to complementarily support the construction, upgrade, modernization and research activities of large infrastructures for research, experimental development and innovation detailed in the Roadmap of Large Infrastructures for Research, Experimental Development and Innovation of the Czech Republic for the years 2016–2022, a document taken into account by the Government of the Czech Republic at a meeting on the 30th of September 2015, ref. no. 1150/15.

<http://www.msmt.cz/strukturalni-fondy-1/vyzva-c-02-16-019-excelentni-vyzkum>

Research infrastructures: The objective of this Call is to create in cooperation with leading international scientific capacities new research teams and equip them with material and technique. These teams will support effective use of infrastructures for research and development, their development for the benefit of region, Efficient transfer of knowledge from abroad and the ability to create international competitive quality.

<http://www.msmt.cz/strukturalni-fondy-1/vyzva-c-02-16-013-vyzkumne-infrastruktury>

## Opportunities - upcoming

Operational Programme Research, Development and Education (OP RDE):  
Calls to be published in 2017 are available in the Plan of OP RDE calls, which is available on the ministry website: <http://www.msmt.cz/strukturalni-fondy-1/harmonogram-vyzev-op-vvv>

Most relevant OP RDE calls for the Czech ELIXIR community are the following:

### Precompetitive research:

- Call aim: Implementation of research projects in the pre-application phase (leading to further commercial use of project outcomes)
- Call start: January 2017
- Call finish: May 2017
- Financial allocation: 2,1 mld CZK

### Long-term intersectoral cooperation

- Call aim: Preparation and implementation of projects of long-term intersectoral cooperation (research organisations with application sphere) leading to joint research activities
- Call start: January 2017
- Call finish: June 2017
- Financial allocation: 2 mld CZK

### International mobility of researchers

- Call aim: Support to international mobility of researchers – for Czech researchers stays abroad and for foreign researchers in the Czech Republic
- Call start: March 2017
- Call finish: September 2017
- Financial allocation: 760 mil CZK

### Open calls in cross border programmes:

Interreg CZ-AT, deadline for applications: 21.4.2017

## Slovenia

Structural funds have played an important role in Slovenia in the field of research in programme periods since 2007. Member institutions of the ELIXIR Slovenia node have gained important funding in the last period, but we are expecting better funding in the current (2014-2020) programming period.

In the period 2014-2020 Slovenia is eligible to approximately EUR 3.255 billion under the EU Structural Funds and the Cohesion Fund. The majority of the funds shall comply with the EU 2020 Strategy objectives thus giving priority to economic growth and new jobs. There are four priority areas and first three priority areas are relevant to ELIXIR:

- Research and innovation
- Information and communication technologies
- Enhancing the competitiveness of small and medium-sized enterprises
- Supporting the shift towards a low-carbon economy

In line with the EU methodology Slovenia is divided into two cohesion regions, namely the cohesion region Zahodna Slovenija (West Slovenia) and the cohesion region Vzhodna Slovenija (East Slovenia). The cohesion region Zahodna Slovenija will be eligible to EUR 855 million and the cohesion region Vzhodna Slovenija to EUR 1.27 billion, namely under the European Regional Development Fund (ERDF) and the European Social Fund (ESF). The Cohesion Fund (CF) will not be divided for the two regions and the whole of Slovenia will be eligible to EUR 1.055 billion for the construction of environmental and transportation infrastructure as well as for sustainable use of energy.

Approximately one third of the funds will be invested in research, development and innovation and especially their application (commercialisation) and invested into incentives for competitiveness of enterprises, especially small, medium-sized and micro enterprises, in all stages – from establishment to development. In the most part the incentives will be refundable and will enable access to financial resources.

Taking into consideration the above investments, it means that in Slovenia, the structural and cohesion funds plays a very important role in developing scientific excellence and research infrastructures, as well as facilitating collaboration between the academic institutions and companies. Use of funds for research and for research-connected infrastructures is all based on competitive calls for eligible organisations and is provided by different ministries and funding agencies based on Operational Programme Implementation Plan and its amendments. The main criteria is international research excellence and connection to the industry and/or

with end products.

Coordinator for all activities regarding Structural funds and the Cohesion Fund is [Government Office of the Republic of Slovenia for Development and European Cohesion Policy \(GODC\)](#). All strategic documents are available in the government office projects website: [http://www.eu-skladi.si/?set\\_language=en](http://www.eu-skladi.si/?set_language=en). Key strategic documentation is available in English, but more operational documents are available only in Slovene language.

Key strategic documents are:

- Partnership Agreement between Slovenia and the European Commission for the period 2014–2020
- Operational Programme for the Implementation of the European Cohesion Policy in the 2014-2020 period

### **Smart Specialisation Strategy of Slovenia (S4)**

Smart specialisation is a platform for concentrating development investments in areas where Slovenia has the critical mass of knowledge, capacities and competences and where there is innovation potential for placing Slovenia within global markets and thus enhancing its recognisability. Smart specialisation is a strategy aiming to:

- a) Strengthen the competitiveness of the economy by enhancing its innovation capacity
- b) Diversify existing industries and service activities
- c) Boost growth of new and fast-growing industries and enterprises

All aims are relevant to ELIXIR and ELIXIR-SI members are already actively participating in different projects that come from S4. The S4 is an implementing document relating to the already-adopted strategic documents. S4 addresses all four objectives set under the existing Slovenia's Development Strategy for the 2006-2013 period which pertain to establishing an "innovative knowledge society" for which Slovenia has already identified three key field-specific strategies, namely the Research and Innovation Strategy of Slovenia 2011-2020 (RISS), Slovenian Industry Policy (SIP) and Digital Agenda, as well as other specific and relevant strategies in the field of nature protection, energy, education, etc. Slovenia's guidelines are thus integrated and outlined in a more concrete manner within a single and a consistent framework facilitating the implementation of focused and synergistic measures.

### **S4 opportunities**

Current (and past) local calls important to ELIXIR-SI members too and including relevant documents are available at <http://www.eu-skladi.si/en/cohesion-by-2020->



[1/key-documents](#), direct link to the S4 (Smart Specialisation Strategy of Slovenia) is [http://www.svrk.gov.si/fileadmin/svrk.gov.si/pageuploads/SPS\\_predstavitev/S4\\_dokument\\_2015\\_october\\_eng\\_clean\\_lekt.pdf](http://www.svrk.gov.si/fileadmin/svrk.gov.si/pageuploads/SPS_predstavitev/S4_dokument_2015_october_eng_clean_lekt.pdf)

S4 priority areas were identified using the strong empirical bases with international benchmarking and an intense entrepreneurial discovery process. There are three main S4 priority areas:

- (1) Healthy working and living environment
- (2) Natural and traditional resources for the future
- (3) (S)Industry 4.0

with many subareas listed in the S4 document referenced above.

### **Relevant cross border programmes with research or innovation component:**

Slovenia lies at the crossroads of the current and the future EU macro-regional strategies, namely the EU Strategy for the Adriatic and Ionian Region (EUSAIR), EU Strategy for the Danube Region (EUSDR) and the EU Strategy for the Alpine Region (EUSAR) and its priority is to connect to the countries in above mentioned regions also in the area of research, development and research infrastructures. All this programmes are of interest also to ELIXIR Slovenia members too.

A number of cross-border and international programmes are available and suitable for ELIXIR related activities. These programmes can be used for cooperation projects among different ELIXIR nodes across EU. This type of programmes put emphasis on the impact of the projects on a particular territory. All programmes are coordinated by before mentioned Government Office of the Republic of Slovenia for Development and Cohesion Policy (GODC) – <http://www.svrk.gov.si/en/> The list of open calls can be found on links below and ELIXIR-SI is planning to actively apply or did apply on several of them:

- [Interreg Slovenia – Austria](#)
- [Interreg Slovenia – Italy](#)
- [Interreg Slovenia – Hungary](#)
- [Interreg Slovenia - Croatia](#)
- [Interreg Danube](#)
- [Interreg for the Adriatic and Ionian Region](#)
- [Interreg for the Alpine Region](#)

### **Research Infrastructure Roadmap 2011 – 2020, Revision 2016**

**Key document for research infrastructures including ELIXIR is Slovenian Research Infrastructure Roadmap update** which was accepted on 14<sup>th</sup> December 2016 which delivers (1) up-to-date overview of research infrastructures (RI) implementation in Slovenia, (2) updated list of international RIs and (3) connections between roadmap update and Smart Specialisation Strategy of Slovenia (S4). In the

document the priorities of Slovenia in the field of research infrastructures are presented. The financing of the construction and operation of every described research infrastructure is anticipated or ensured both by the European Structural Funds and by increasing the national integrated budget. In the area of Health and Food (Biological and medical sciences) beside well-established ELIXIR RI also joining of complementary RIs BBMRI and EuroBioImaging is anticipated. For three RIs among them also for ELIXIR it is especially mentioned the use of Structural Funds for financing as soon as possible. The calls that will target also ELIXIR are being prepared by the Ministry of Science, Education and Sports and it is expected that the funding will start in 2017.

The Slovenian Research Infrastructure Roadmap update can be found [here](#).

### Examples of good practices and opportunities related to ELIXIR-SI

1. Calls based on the Slovenian Research Infrastructure Roadmap update are being prepared by the Ministry of Science, Education and Sports. **Funds that will support specifically ELIXIR Slovenia node are estimated to cca 3.5 mio EUR until 2020 with the call planned for 2017 being estimated to 1 mio EUR.**
2. Application for RRI in chains and value networks from RS Ministry of Education and Science. The application was successful and would provide additional funds for the employment of 130K€ for a period of 3 years. ELIXIR-SI coordinator, UL MF would have to cofund 25% of total project amount from alternative sources.
3. H2020 Widespread Teaming for Excellence – Artemida, Centre of Excellence in Translational Medicine – 2<sup>nd</sup> stage application that was unsuccessful in H2020. This would have supported ELIXIR with about 500k€ for employment and 1M€ for equipment over 5 years.
4. Interreg Slovenia-Italy application was recently submitted.
5. Interreg Slovenia-Austria application as collaboration between ELIXIR-SI and BBMRI.at was not successful in the previous call in 2016 and is now being prepared again for the open call in 2017.
6. There are several preparations in progress for expected incoming calls. The most important are H2020 Widespread Teaming for Excellence stage 1 and stage 2, and several from RS SVRK agency which is the main coordinator of Slovenian cohesion policy.

## Greece

Structural funds have played a key role in Greece in the field of research in the last programming period (2007-2013) and will play an important role in the current (2014-2020) programming period. Member institutions of the Greek ELIXIR node have received substantial funding in the last period.

Although the new Research Policy puts special emphasis on innovation and on co-operation of public research-performing institutions with the private sector, structural funds will be key for financing Research Infrastructures in Greece: special reference is made by RIS3 to the Research Infrastructures of the National Roadmap (<http://archives.gsrt.gr/Home/getFile/3414>), which was approved by the Greek Government in 2014. ELIXIR GREECE is part of the Roadmap (page 41).

### Smart Specialisation Strategy

**The National Smart Specialisation Strategy** covers all 13 regions of Greece and was approved by the Greek government in summer 2015. It is available (in Greek) at [https://www.espa.gr/elibrary/KYA82193\\_Ethniki\\_RIS3.zip](https://www.espa.gr/elibrary/KYA82193_Ethniki_RIS3.zip); an executive summary in English is available at [http://www.gsrt.gr/News/Files/New1034/Executive\\_Summary-2015-09-17-v04.pdf](http://www.gsrt.gr/News/Files/New1034/Executive_Summary-2015-09-17-v04.pdf).

Three of the eight priority fields which are identified in the National RIS3 are relevant to ELIXIR, namely Agrofood, Life Sciences & Health, and Information and Communication Technologies.

In the Agrofood field, one of the subfields correlated to RI's in the National Smart Specialisation Strategy is *sustainable exploitation of marine living resources and protection of the marine environment in the Eastern Mediterranean region*. ELIXIR GREECE is expected to benefit from this action through one of its nodes, the Hellenic Centre for Marine Research (HCMR) is co-ordinating a Use Case on Marine Biology in the context of a 3-year grant for ELIXIR GREECE, which is expected to be active in mid-2017.

In the Life Sciences & Health field, the National Smart Specialisation Strategy has a special reference to the National Roadmap Research Infrastructures "*supporting effective management and maintenance of a great volume biodata (e-infrastructure and storage centers, bio-molecular data and animal models for human diseases)*". This is a direct reference to the ELIXIR-GR RI of the National Roadmap.

In the field of Information and Communication Technologies, a special reference is made to the National Roadmap Research Infrastructures targeted to "*effective support for research & innovation-driven needs for "big computing" and "big data"*".

**The relevant Operational Programme** is the Competitiveness, Entrepreneurship and Innovation OP of the 2014-2020 programming period. It is available (in Greek)

at

[https://www.espa.gr/el/Documents/Antagonistikotita\\_2014GR16M2OP001\\_1\\_3\\_el.pdf](https://www.espa.gr/el/Documents/Antagonistikotita_2014GR16M2OP001_1_3_el.pdf). A summary programme description in English is available for consultation at [http://ec.europa.eu/regional\\_policy/en/atlas/programmes/2014-2020/europe/2014gr16m2op001](http://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/europe/2014gr16m2op001).

As stated in the Summary, the OP *“should substantially contribute to the proposed shift in the growth model of the Greek economy from non-tradable into tradable sectors, and cluster development of innovative and out turned sectors with a sustainable competitive advantage”*.

The Thematic Objectives of the OP are

TO1 - Research and innovation

TO2 - Information and communication technologies

TO3 - SMEs competitiveness

TO4 - Low-carbon economy

TO6 - Environment and resource efficiency

TO7 - Transport and energy networks

TO8 - Employment and labour market

TO10 - Education and training

TO11 - Better public administration

ELIXIR-GREECE can benefit mainly from TO1, and it's members will benefit from TO1, TO2, TO3, TO6 and TO10.

One of the funding priorities of TO1 (Research and Innovation) is investment in supporting research infrastructures (p. 26 of the Greek text). It is recognised that RIs need to be upgraded in accordance with the National Smart Specialisation Strategy and the ESFRI Roadmap.

A targeted call for applications for grants to support Research Infrastructures of the National Roadmap was published in July 2016. ELIXIR GREECE was one of the RIs of the National Roadmap that were invited to apply.

## Estonia

In Estonia, the structural funds have played a crucial role in developing scientific excellence and research infrastructures, as well as facilitating collaboration in between the universities and companies. Structural fund involving funding schemes for research are all based on competitive calls where different institutions and scientific fields compete between each other, aiming at internationally most competitive projects to be funded. Therefore, for ELIXIR and related science (of bioinformatics) the most crucial aspect is international research quality and competitiveness.

Central website for structural funds is - <http://www.strukturifondid.ee/en/>

Investment priorities in research and development: **Enhancing research and innovation (R&I) infrastructure and capacities to develop R&I excellence**, and promoting centres of competence, in particular those of European interest. **Promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector**, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation, and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.

### Smart Specialisation Strategy

Smart Specialisation Strategy in Estonia was developed through quantitative and qualitative analyses – for the whole country. In Estonia, there are no regional level strategies as the 1.3 million people is in itself a relatively “small” region.

Materials are available in

<http://www.arengufond.ee/en/smart-specialization/overview/>

The core thematic subjects for the need to develop competitive products and know-how were identified as:

**1. Information and communications technology (ICT) horizontally via other sectors.** It is important to note that the development of this sector around the world has reached a stage where bigger opportunities can be found in the application of ICT technology in other sectors. The three sub-sectors of the highest priority are listed below, but in the case of ICT the sub-sectors should not be strictly limited to

the list and support may also be given to other sectors that cross paths with ICT.

Sub-sectors:

- a) use of ICT in industry (incl. automation and robotics);
- b) cyber security; and
- c) software development.

**2. Healthcare technology and services.** Demand for healthcare services is growing globally as the population ages. Estonia has the greatest potential in:

- a) biotechnology (a strong scientific basis); and
- b) e-health (use of IT for the development of medical services and products).

**3. More efficient use of resources.** The increasing global population is likely to increase the need to use resources more efficiently. Estonia's potential in this area is greatest in:

- a) materials science and industry;
- b) development of the 'smart house' concept (IT solutions and more efficient construction of houses (passive house)); and
- c) food that supports health.

The S3 strategy is an important aspect in most of the structural fund uses in Estonia. Below are examples of various measures by two core ministries – Education & Research and Economic Affairs. AS is seen, most funding is somehow linked to Smart Specialisation Strategy.

Measure	Budget from Structural Funds+ national co-financing (EUR)	Status: already made decisions (October 2016)	Proportion of made decisions	Of which in the area of Smart Specialisation	Proportion of decisions that are in Smart
<b>Total, including</b>	<b>306 048 465</b>	<b>186 125 797</b>	<b>61%</b>	<b>92 037 377</b>	<b>49%</b>
Support for Applied Research in Smart Specialisation areas (NUTIKAS)	26 586 466	1 073 646	4%	1 073 646	100%
Higher education scholarships in Smart Specialisation growth areas	25 269 320	3 232 000	13%	3 232 000	100%
Institutional package instrument for R&D centers and universities (ASTRA)	122 941 176	121 523 132	99%	45 395 096	37%
Centers of Excellence to increase international competitiveness and support excellence	39 117 647	39 117 647	100%	26 510 449	68%
National research infrastructures based on Infrastructure Roadmap	29 376 990	19 106 000	65%	14 656 000	77%
Support for R&DN in different areas (RITA) measures 1 and 2)	26 542 294	462 500	2%	97 500	21%
Internationalisation of science; mobility and sustainability (Mobilitas Plus) measures 1, 2, 3, 4)	33 026 691	1 201 000	4%	867 750	72%
TeaMe +	3 187 881	409 872	13%	204 936	50%
Internationalisation of higher education, mobility (Dora Plus)	22 017 790	236 383	1%	118 191	50%

Table 1: Various measures by Ministry of Education and Research using structural funds

Code of Measure Activity	Measure Activities	Budget (EUR)	Committed funds (EUR)	Budget of projects/activities related to Smart Spec. (EUR)	Committed funds of projects/activities related to Smart Spec. (EUR)	Share of Smart Spec. (%)
2014-2020.1.3.2	2014-2020.1.3.2 Schools' ICT infrastructure	13 235 294	5 000 000	13 235 294	5 000 000	100%
2014-2020.1.6.3	2014-2020.1.6.3 Increasing digital literacy	8 500 000	8 500 000	8 500 000	8 500 000	100%
2014-2020.4.2.4	2014-2020.4.2.4 State-funded cooperation structures (clusters and technology development centers)	50 000 000	44 878 154	50 000 000	44 878 154	100%
2014-2020.4.2.5	2014-2020.4.2.5 Demand-side policies (the state as a client of innovative solutions)	20 000 000	2 035 500	20 000 000	2 035 500	100%
2014-2020.4.2.6	2014-2020.4.2.6 Boosting start-up entrepreneurship.	7 000 000	2 755 343	7 000 000	2 755 343	100%
2014-2020.4.3.2	2014-2020.4.3.2 Conducting trainings on energy and resource management	400 000	800 000	400 000	800 000	100%
2014-2020.4.3.3	2014-2020.4.3.3 Raising awareness about energy and resource management	79 800	79 800	79 800	79 800	100%
2014-2020.4.4.1	2014-2020.4.4.1 Enterprise Development Programme	75 000 000	3 431 523	37 500 000	1 715 762	50%
2014-2020.4.4.2	2014-2020.4.4.2 Innovation and development vouchers	10 000 000	1 936 042	10 000 000	1 936 042	100%
2014-2020.5.1.2	2014-2020.5.1.2 Start-up assistance	8 100 000	2 194 471	3 240 000	877 789	40%
2014-2020.5.2.1	2014-2020.5.2.1 Issuing insurance for loans, security and export transactions	85 500 000	85 500 000	34 200 000	34 200 000	40%
2014-2020.5.2.2	2014-2020.5.2.2 Establishing an early-stage fund to provide venture capital	60 000 000	48 000 000	60 000 000	48 000 000	100%
2014-2020.6.1.1	2014-2020.6.1.1 Supporting the reconstruction of apartment buildings	102 000 000	18 056 796	51 000 000	9 028 398	50%
2014-2020.6.1.2	2014-2020.6.1.2 building	290 000	290 000	290 000	290 000	100%
2014-2020.6.4.1	2014-2020.6.4.1 sector	9 000 000	442 838	9 000 000	442 838	100%
2014-2020.11.1.1	2014-2020.11.1.1 Renewal of telecommunications infrastructure and construction of a new one	40 500 000	25 718 375	40 500 000	25 718 375	100%
2014-2020.11.2.1	2014-2020.11.2.1 Development of basic infrastructure of services supporting the creation and implementation of e-services	40 882 353	14 002 046	40 882 353	14 002 046	100%
2014-2020.11.2.2	2014-2020.11.2.2 Raising awareness of the information society	5 000 000	5 000 000	5 000 000	5 000 000	100%
2014-2020.12.3.1	2014-2020.12.3.1 Smart development (including analysis) of existing and new information systems	95 041 176	11 855 470	95 041 176	11 855 470	100%
2014-2020.12.3.2	2014-2020.12.3.2 Building of public services interoperability	3 529 412	3 529 412	3 529 412	3 529 412	100%
<b>Total</b>		<b>634 058 035</b>	<b>284 003 770</b>	<b>489 398 035</b>	<b>220 642 928</b>	

Notes:  
 Funds committed as of October 31 2016  
 Budget and committed funds include EU Cohesion Fund and Estonian national co-funding, excludes self-funding by third parties

Table 2: Various measures by Ministry of Economic Affairs using structural funds

Another take home message from the analysis of structural funds and opportunities for funding that we can see, is that the structural funds related to ELIXIR offer opportunities mainly in five categories:

- 1) **Infrastructure on national RI roadmap.** ELIXIR-Estonia has been successful in ensuring this status; and has obtained the positive funding decision (1.35 Million Euros). National membership fee is not eligible from structural funds. Ministry and Estonian Research Council have found additional resources to cover ELIXIR-EE membership fee. Another benefit from that measure is on HPC centre; so ELIXIR-EE is using mainly infrastructure/compute servers from national scientific infrastructure (managed by HPC centre of University of Tartu). Third link of benefit is with BBMRI-ERIC that is also hosted by University of Tartu.
- 2) **Excellent Science – Centres of Excellence.** ELIXIR-Estonia researchers have been successful in obtaining funding for research activities partly related to ELIXIR (EXCITE, the Estonian Excellence in ICT research).
- 3) **Mobility** – postdoctoral fellows, top researchers. This is an opportunity to attract internationally competitive researchers to Estonia; or educate Estonian PhD-s in postdoc in other countries.
- 4) **Collaboration with Industry** – The biotechnology related industry is emerging in Estonia; first grant calls have had ELIXIR / bioinformatics related proposals (no positive funding decisions yet)
- 5) **University strategic development** – University of Tartu obtained national funding to develop a new ICT, business, mathematics and statistics building Delta (within ASTRA measure). Overall cost is estimated at around 30M Euros. ELIXIR offices (for around 10 people) will move into these new facilities in fall 2019.