Deliverable Report

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REPORT OF THE FIRST RICH SYMPOSIUM

"SYMPOSIUM ON EUROPEAN FUNDING INSTRUMENTS FOR THE DEVELOPMENT OF RESEARCH INFRASTRUCTURES"

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1. CONCEPT

The design, buildup, operation and maintenance of new and existing European Research Infrastructures (RIs) has been established as essential for the completion of the European Research Area (ERA). Research Infrastructures (RIs), along with the human capital concentrated around

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them, are recognized as a prerequisite for excellence in science, an enabler for industrial application of scientific results and a way to address the weaknesses in science and innovation policy coordination and networking at the European and region level. Nevertheless, there is an imbalance when it comes to the understanding of the investment needed in these RIs and more concretely, to which financial instrument could be considered depending of the RIs developing phase and the specific expenses needs.

The goal of the ¨*Symposium on European Funding Instruments for the development of Research Infrastructures*¨, that took place in Madrid on April 19th 2016 at the ISCIII premises, was to provide a comprehensive view of the financial possibilities that the European RIs can consider in order to fully exploit their research capacities and services.

With this activity the RICH project aimed to facilitate information on the different funding instruments available and their connection to the RIs ecosystem, in particular the use of Structural Funds as well as EFSI, InnovFin and its synergies with H2020 funding, offering this way a complete view of how RIs can be managed and funded at global, EU, national and regional level.

The symposium consisted of a keynote lecture followed by three Plenary Sessions focusing on each financial tool identified (H2020, InnovFin, ESIF, EFSI..) plus case studies and supporting tools from each of them. It was attended by 150 people and followed on-line thanks to the live streaming by

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more than 200 persons. VIDEOS & presentations of the Symposium are available online: http://www.rich2020.eu/symposium2016/. This site that contains the videos/presentations has received 4233 unique visitors by the


"Symposium on European Funding Instruments for the development of Research Infrastructures"

Date: April 19th, 2016
Location: Institute of Health Carlos III, Avenida Monforte de Lemoc, 3. Pavilion 13, Ernest Lluch Auditorium, Madrid, Spain

9:00 – 9:30 Registration with coffee

9:30 – 10:00 Welcoming words and key objectives of the symposium

Welcome words from ISCIII's Director General, Jesús FERNANDEZ-CRESPO

Welcome words from EC representative, Philippe FROISSARD, Deputy HoU, Research Infrastructures, DG RTD, European Commission

Welcome words from the Symposium's Chair, Inmaculada FIGUEROA, Deputy Vice Director General for International Relations and Europeans Affairs, Spanish Ministry of Economy and Competitiveness, MINECO

10:00 –10:20 Keynote speaker: Octavi QUINTANA, Principal Advisor on Research Policy, DG RTD, European Commission

"Research Infrastructures and the European Research Area"

10:20 – 12:30 Plenary session 1 – Horizon2020 programme – the EU Framework Programme for Research and Innovation (2014-2020)

Moderator: Manfred HALVER, Austrian NCP for Research Infrastructures, Austrian Research Promotion Agency (FFG)

Speakers:

- Philippe FROISSARD – Deputy HoU, Research Infrastructures, DG RTD, European Commission
- A. BURGUEÑO ARJONA – HoU, e-infrastructures Unit, DG CNECT, European Commission

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- Sergi GIRONA – Operations Director, Barcelona Supercomputing Center (BSC): "PRACE: Example of beneficiaries"
- Marc D'HOOGE, InnovFin Programme Manager, EIB: "Objectives and Opportunities of the InnovFin Programme"
- Berenice BOULANGER, Head of Finance, European Synchrotron Radiation Facility, ESRF: "Example of beneficiaries, ESRF"

Support and Advisory Services (speakers):

- Monique BOSSI, Agency for the Promotion of European Research (APRE), RICH project coordinator: "The RICH project"
- Katarzyna WALCZYK-MATUSZYK, Institute of Fundamental Technological Research (IPPT-PAN), NCP WIDE.NET project coordinator: "The NCP WIDE.NET project"

Questions, answers and debate session

12:30 – 13:30 Lunch break

13:30 – 15:30 Plenary Session 2 - Structural Funds in support of Research Infrastructures – Synergies with Cohesion Policy and the role of Smart Specialization Strategies

Moderator: Fernando MÉRIDA, HoU, Programme Coordination, Spanish Ministry of Economy and Competitiveness, MINECO

Speakers:

- Katja REPPEL, Deputy Head of Unit, DG REGIO, European Commission
- Susana ELENA PEREZ - Joint Research Centre (JRC), European Commission: "Smart Specialization Strategies"
- Moisés BLANCO MACEIRAS - Deputy Vice Director General for European Territorial Cooperation and Urban Development – Spanish Ministry of Finance and Public Administration (MINHAB): "INTERREG Europe"

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body and European Investment Project Portal (EIPP) - potential investment opportunities in the EU"

Examples of beneficiaries (speakers):

- Fabio MAZZOLINI, Elettra International Relations Officer - Elettra Synchrotron: FERMI experiment, Beneficiary of a Risk Sharing Finance Facility from EIB

Questions, answers and debate session

17:00 – 17:15 Concluding remarks and Symposium closure

- Philippe FROISSARD – Deputy HoU, Research Infrastructures, DG RTD, European Commission
- Inmaculada FIGUEROA, Deputy Vice Director General for International Relations and Europeans affairs, Ministry of Economy and Competitiveness, MINECO

17:15 – 19:00 Cocktail reception

Support and Advisory Services (speakers):

- Susana ELENA PEREZ, Joint Research Centre (JRC), European Commission: "The Smart Specialization Platform: supporting regions and member states"
- Michael SCHALLER, Senior project engineer/SMART Division, EIB-JASPERS: "Joint Assistance to support projects in the European Regions".

Examples of beneficiaries (speakers):

- Juan Miguel GONZÁLEZ ARANDA, HoU, Ministry of Economy and Competitiveness of Spain: " LIFEWATCH - example of beneficiary"
- Jana KOLAR, Executive Director – CERIC-ERIC: "Use of Structural Funds in Poland, Czech Republic and Romania"
- Zlatuse NOVOTNA, Head of international relations and Grant Office CEITEC: "Success case: The South Moravian region"

Questions, answers and debate session

15:30 -16:00 Coffee break

16:00 – 17:00 Plenary Session 3 – The European Fund for Strategic Investment (EFSI) - Support strategic investments in key areas

Moderator: Luis GUERRA, Spanish NCP for SMEs and Access to Risk Finance, Centre for the Development of Industrial Technology (CDTI)

Speakers:

- Julia TADDEI, Seconded National Expert at the European Commission: "The EFSI Funds, EC perspective"
- Antonella CALVIA GÖTZ, European Investment Bank (EIB) - "Sustainability issues in funding research infrastructures"

Support and Advisory Services (speakers):

- Julia TADDEI, Seconded National Expert at the European Commission "The European Investment Advisory Hub (EIAH): technical assistance initiative – single entry point and coordinating

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date specified in this document.

Figure 1:Symposium´s Programme

2. REVIEW OF THE SYMPOSIUM´S PRESENTATIONS

2.1. Introduction

ISCIII´s Director General, *Jesús Fernandez Crespo*, on behalf of the RICH project, welcomes all participants to the symposium as well as those connecting through the web-streaming facility. He informed the audience that Spain participates to many of the current ESFRI projects and that the

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participation to these ESFRIs, more concretely the ones from the Health domain, is appointed to ISCIII, that acts as national representative. Such is the case of ELIXIR, ECRIN ERIC, EATRIS, and others that are in the preparatory phase, like ERINHA or EUROBIOMAGING, just to name a few. Beside this, he expressed Spain´s interest to continue contributing to the development of the best and most efficient research infrastructures in Europe.

Philippe FROISSARD, Deputy HoU, Research Infrastructures, DG RTD, European Commission, in his welcome speech highlighted that the symposium´s topic is indeed very important for the EC, not only because of the possible synergies with ESFI but for the other available financial instruments. He pointed to the fact that the event was very timely as ESFRI just launched an update of its RoadMap (2016), which means that there are now more projects on ESFRI. Precisely when looking at their budget one can realise that combination of funds is indeed an opportunity.

From her part, *Inmaculada FIGUEROA*, Deputy Vice Director General for International Relations and Europeans Affairs from the Spanish Ministry of Economy and Competitiveness, MINECO, explained how her unit is responsible for the Spanish participation in the European and large infrastructures. She also thanked ISCIII and the speakers and she took the role of Chair of the event.

2.1.1. Keynote speaker: Octavi QUINTANA, Principal Advisor on Research *Policy, DG RTD, European Commission*

¨Research Infrastructures and the European Research Area¨

Mr. Quintana started his talk recalling the definition of RIs, reminding that it includes cohorts and e-infrastructures. With this broad definition, the EC has very ambitious objectives but it is important to notice that European RIs are a story of success, as many of the objectives have been achieved what cannot be said for other programmes. The building up of RIs is a joint effort from many MS. When planning for RIs it is done in agreement with the

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Member States (MS) to avoid duplications and to fill in gaps, and this is what ESFRI has been doing thus far.

He took advantage to remind that if there is anything that has changed research these years is how to manage the data. This is addressed by interoperable RIs, which have been key pieces for the on-going progress in this field.

ESFRI: Strategic Forum on RIs. It is informal, which contributes to its success as decisions are not binding, which simplifies the operation making these decisions more flexible. It addresses to main issues: (1) Discuss the RoadMap and discuss on strategy and (2) providing guidance for the policy makers. Regarding this latter, it assists in the important task of translating research outcomes into messages that are useful for policy makers. The ESFRI RoadMap is mean to put a quality label in certain RIs, for their good science, good management and governance, therefore making them deservers of both political and financial support from the funders. Currently, there are 21 ESFRI projects and 29 Landmarks, with this latter being a distinctive of higher status. No more than 10 years they can be actively in the Road Map. The landmark are expected to be growing but the goal is not to increase the number of RIs in the landmark.

Another initiative is the ERIC (*European Research Infrastructure Consortium*) which provides a legal label to the RIs giving them a legal personality recognized by all MS that belong to them. There is an advantage associated to this status that is VAT exception, also recognized by all MS. Currently there are 12 ERICs awarded.

Also, the EC did a consultation on the Long-term sustainability of RIs. It is important to understand the best practices, encountered problems and solutions applied, all in terms of policy. Important to underline that the most important issues for the respondents were both to ensure scientific excellence and the funding of the construction and operation of the RIs. It seems that the socio-economic impact is not being considered very important at this

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stage, which means that there are still issues in which we need to work more on. Regarding the innovation potential and the funding, in terms of the former, 46% of the respondents do not have a business model that includes the development of innovation in terms of strategy to reach the market. 2/3 do not have an Advisory Committee that would facilitate a place this task. The industry has no clue on how this RIs work and which advantages they can take from them. In conclusion, there is a need to set up new methods that involve more funding mechanisms, mediator schemes and schemes that allows private researchers to go into the public RIs and vice versa (mobility schemes more important). In terms of funding, development of PPP is necessary for the private funding, so a much closer relation between the industry and the public sector for industrial applications.

Half of the RIs developed a business plan and in order to improve bankability for both the construction and operation funds, the is a need for the RIs to have a credible business model.

While some results confirmed current understanding, the consultation points to specific challenges that require attention:

- untapped **innovation potential** of RI and increase awareness of the RI operators;
- willingness to use **data repositories**, data management plans and **(open) access** to data;
- need of awareness on the importance of **RI bankability** (operators & funders);
- **limited awareness** of the importance of measuring **socio-economic impact** within the RI community;
- **increase visibility** of RIs and expand their services;
- **staff exchange** programmes for RI managers;

Quintana also informed the audience that the EC has produced a Charter of Access (not binding, just a guidance), that provides the conditions and

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models for access to RIs. It is intended to be use as reference for access and it is mean also to unify terminology and make available the transparent rules for access.

Regarding the funding, we can see that H2020 only funds a tiny percent of the whole RIs cycle. ESIF can contribute to fund and also, taking into account the 3 phases of the life cycle, we can see opportunities also from the EIB.

2.2. Plenary session 1 – Horizon2020 programme – the EU Framework Programme for Research and Innovation (2014-2020)

2.2.1. Philippe FROISSARD – Deputy HoU, Research Infrastructures, DG RTD, European Commission

The RIs programme is included under the Excellence Science Pillar of H2020, with a budget of 2.5 billion aprox. (1/3 and 2/3 between DG CNECT and DG RTD respectively). There are 3 lines of actions in the RIs WP:

1. Developing the European RIs for 2020 and beyond
    - Developing new world-class RIs
    - Integrating and opening national and regional RIs of European interest
    - Development, deployment and operation of ICT based e-Infrastructures
2. Fostering the innovation potential of RIs and their human resources
3. Reinforcing European RI policy and international cooperation

Highlight the type of funding and activity that can be covered by this programme. There is a need to complement the funding received by H2020 with other sources of funding so as to tackle the whole life cycle of the RIs. This is because H2020 only covers a limited aspect of the life cycle. For all the phases there is a need look for other mechanisms. WP14-15 activities are shown to stress that there is a limited number of activities that H2020 can

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fund as the activities have to be fully aligned to the strategic priorities of the specific programme. Most of the 14-15 budget was allocated to the first pillar of activities related to ESFRI, as the prioritization of the ESFRI projects was addressed by this WP. Regarding innovation, there are a few examples of PPI but not on PCP as it is not a simple scheme.

The WP16-17 addresses PCP and PPI under INFRAINNOV. The update of the ESFRI Road Map has been took into account and the calls under INFRADEV are design to address this.

The future WP18-20 will still include commitments in support to ESFRI and also actions including innovation, taking into account the political situation for instance the European Open Cloud Initiative (EOSC). All these will have an impact in the WP.

2.2.2. BURGUEÑO ARJONA – HoU, e-infrastructures Unit, DG *CNECT*, European Commission

The European Cloud Initiative is fully aligned with the e-infrastructures part of the RIs programme. From the policy perspective, as it is understood in DG CONNECT, the role of e-ifrastructures are as important contributors to the wider policies in the content of the Digital Single Market. The European Cloud Initiative is a communication that the EC adopted on April 19 and it is prepared in close cooperation with DG RTD. The ECI is Part of the Digital single market priorities of the Commission and a package of policy has been prepared and grouping in 4 documents:

- *Digitising European Industry*
    - Advancing the Internet of Things
- *European Cloud Initiative*
    - High-Performance Computing
    - Quantum Technologies
- *Priorities for ICT Standardisation*
- *E-Government Action Plan*

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EOSC has a number of actions that are linked to the e-infrastructures programme, as it is the integration and consolidation of eRIs, the federation of existing research infrastructures and scientific clouds, the development of cloud-based services for Open Science and the connection of ESFRIs to the EOSC.

The European Data Infrastructure is also linked to the EOSC with the development and deployment of large-scale European HPC, data and network infrastructure.

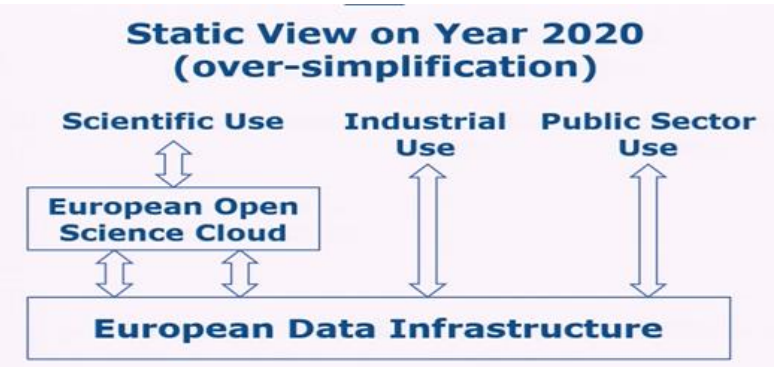

Figure 2. Static view of year 2020 (DG CONNECT)

e-infrastructures like PRACE, GEANT, EGI, OpenAire are currently in transition from e-infrastructures providers to service providers and would be desirable that they would contribute to the development of the EOSC. There are efforts that require coordination and convergence. Same while, there are calls on the WP16-17 that are already preparing the basis for the EOSC as EINFRA-22-2016 and EINFRASUPP-03-2016. Also, INFRADEV-04-2016, EINFRA-12-2017 and EINFRA-21-2017.

The EOSC is a very important concept that we expect will shortly star aligning efforts and we anticipate that is will be very useful for the European researchers.

2.2.3. Sergi GIRONA – Operations Director, Barcelona Supercomputing Center (BSC): ¨PRACE: Example of beneficiaries¨

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PRACE is a research infrastructure that provides services on High Performance Computing for European scientists and that it is no longer in the ESFRI Road Map. PRACE is an international not-for-profit association under Belgian law, with its seat in Brussels and that counts with 25 members and 2 observers. The PRACE Hosting Members are France, Germany, Italy and Spain. PRACE is governed by the PRACE Council in which each member has a seat. The daily management of the association is delegated to the Board of Directors. PRACE is funded by its members as well as through a series of implementation projects supported by the European Commission.

The RI itself consists on HPC systems of different capacities and arquitectures. PRACE counted with 530 M€ of funding for 2010-2015 that came from the contribution of the hosting members and the EC. PRACE uses the criteria of excellence for opening their services to users.
This infrastructure also facilitate access to SMEs to HPC through ¨SHAPE¨, getting them access and helping in the development of their projects.

Financing: Hosting members contribute with 100M € TCO. All members contribute with membership fees for the office operation, including centralised peer review. The EC and members contribute via the Preparatory and Implementation Phase projects from the Framework Programme.

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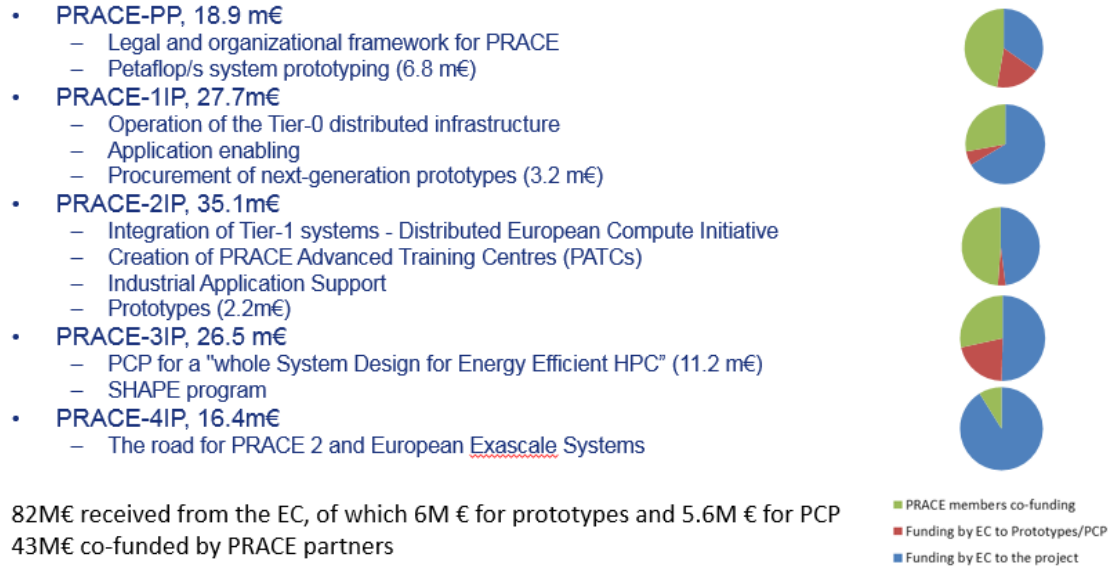

Figure 3. Preparatory and Implementation Projects for PRACE

Regarding the PCP, PRACE decided to design a system for energy efficient HPC with a 3 phases competitive process:

- Solution design (6 months, funding 10%)
- Prototype development (10 months, funding 30%)
- Pre-Commercial Pilot system (16 months, funding 60%)

Assessment on "real" application benchmark from PRACE (suitable for PRACE 2)

As conclusions, the key factors for the success of the PRACE financing model has been its ability to fast deliver services, only after 2 years of preparation and the commitment of members and EC. Now PRACE is developing a new model.

Also, PRACE holds the first pan-European PCP on HPC, which has successfully made it to Phase 3. In this project, 80 % of the R&D must be performed within Europe, and has more than 50% of the budget must be dedicated to R&D. Evaluation criteria focussed on specific technological aspects and (PRACE) real-world benchmark.

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The IPR management is critical and must be kept attractive for PRACE & vendors.

Work on Energy-efficiency measurement methodology will be useful beyond the PCP for other HPC and Data Centre procurement (TCO evaluation).

2.2.4. Marc D'HOOGE, InnovFin Programme Manager, EIB: ¨Objectives and Opportunities of the InnovFin Programme¨

Figure 4 shows an overview of all the products that InnovFin is currently offering to the market. It covers all types of promoters of R&I. The product designed for the financial support of Large Projects is InnovFin large projects, supporting not only industry but other innovation actors such as the RIs. InnovFin also offers advisory services through Advisory (by sectors). In general, it is used for projects facing difficulties to develop a financial plan or to propose financial projects to the bank. They can be therefore advised so they become ready for finance.

Long experience in finance RIs in EIB, as ISO and also Triestre. Last year EIB financed ESRF. These examples illustrates that EIB is a good partner for

Figure 4. InnovFin Product Overview

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offering financial support RIs. Therefore, the EIB can be considered as an additional financial support facility for the RIs landscape. It can be used to bridge the gap between the current MS and sponsors support during the investment phase.

2.2.5. Berenice BOULANGER, Head of Finnance, European Synchrotron Radiation Facility, ESRF: ¨Example of beneficiaries, ESRF¨

European Synchrotron Radiation Facilities (ESRF) are beneficiaries of the InnovFin programme. ESRF is a research centre composed by 13 countries. It counts with an amount of 100M€ of annual budget. It has a private status (company). Located in Grenoble, France, with other research centres. It holds 6500 scientist every year.

ESRF is member of the EIROForum, so it collaborates with different networks on technology transfer, instrumentation, international affairs, information technology and education and outreach. ESRF host many fields of science. In 2009 ESRF implemented the first phase on an ambition upgrade programme (180M€), which is now finished and resulted in the construction of 19 new-generation experimental stations to explore the nanoworld, the creation of a new ultra-stable experimental hall and improvement and refurbishment of most of the cutting-edge scientific equipment and accelerator infrastructure (2009-2015). ESRF is currently in its second upgrade phase (150M€), that renamed the RIs as ESRF-EBS and that is expected to finish in 2022 with the following outcomes:

- Construction of a new storage ring, inside the existing structure, with performance increased by a factor of 100
- Construction of new state-of-the-art beamlines
- Ambitious instrumentation programme (optics, high-performance detectors)
- Intensified big data strategy

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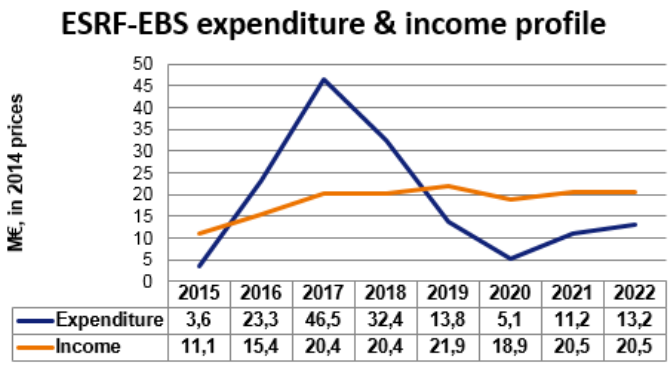
This ambitious upgrade project implies that in the period 2015 to 2019, ESRF will have more expenditure that income, reason why they seek support for external funding through the InnovFin programme at the EIB.



	2015	2016	2017	2018	2019	2020	2021	2022
Expenditure	3,6	23,3	46,5	32,4	13,8	5,1	11,2	13,2
Income	11,1	15,4	20,4	20,4	21,9	18,9	20,5	20,5

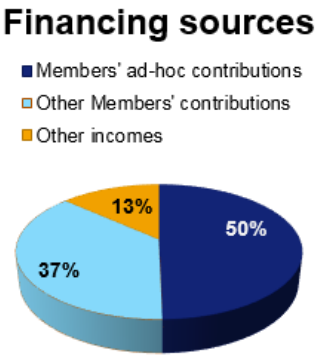


Figure 5. ESRF-EBS Project Budget profile

The EIB financing time schedule is shown in Figure 6:

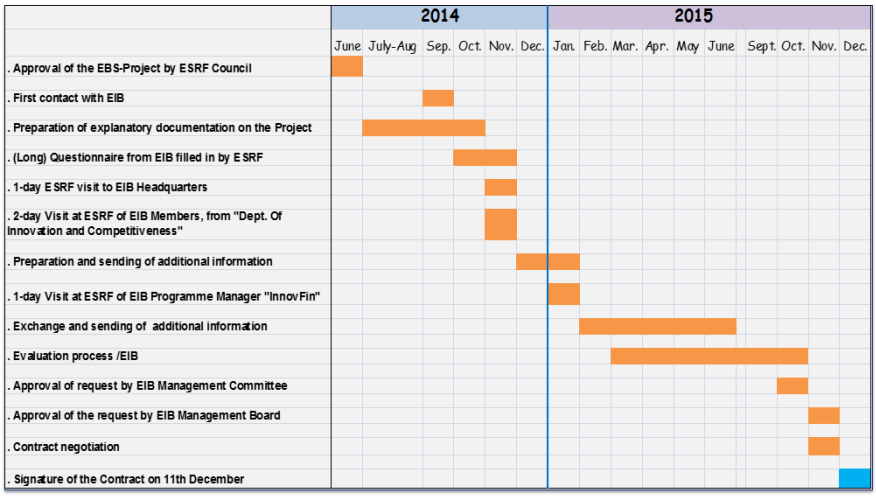


Figure 6. ESRF financing schedule

In summary, ESRF counted with 65 M€ total financed (50 % of the Project financed by our Members). The European banking instrument resulted to be very well adapted to scientific and technical projects. EIB is perceived well by the Institutes which finance the ESRF. EIB enables a global and

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complete approach of its project so there was no need for ESRF to look for additional sources of funding.

ESRF found that there is a high level of flexibility in the mechanism, which can eventually adapt to the evolution of the project and that the financial conditions are favorable and match expectations in terms of cash management of the project cost envelope.

2.2.6. Monique BOSSI, Agency for the Promotion of European Research (APRE), RICH project coordinator: ¨The RICH project¨

The RICH coordinator highlights the importance of working together, in this case with the Commission, in order to deliver this symposium. She mentions that the challenge that the NCPs face in their daily work has considerably increased from previous framework programmes to the present. She showed the videos that RICH made with the ultimate goal of promoting the European research infrastructures, highlighting the importance to talk to the users so that we can adapt the services that we can offer to them to their real needs. RICH also provides support to the NCP in Europe, the MS, AS and also Third countries so we can all provide the same level of services.

Also, it is important for RICH to work in synergy with other NCP networks such as Wide.NCP net.

2.2.7. Katarzyna WALCZYK-MATUSZYK, Institute of Fundamental Technological Research (IPPT-PAN), NCP WIDE.NET project coordinator: ¨The NCP WIDE.NET project¨

NCP WIDE.NET is a Network of the National Contact Points (NCPs) responsible for Spreading Excellence and Widening Participation, which is a horizontal progamme under H2020. The disparities in R&I performance and low participation of some countries in FPs and H2020 projects was analyzed and some barriers were identified, such as, the low expenditure on R&D, lack

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of synergies between national and EU policies and funds and insufficient internationalization of science. The EC has dedicated several financial sources for this purpose: Junker Plan, European Structural and Investment Funds, and under Horizon 2020 the programme of Spreading Excellence and Widening Participation. The main beneficiaries are the "Widening" countries have been selected between the countries that are below compound indicator the represents the research excellence below the 70% of the EU28 average in Research Infrastructures. These countries should exchange their potential.

The tools under NCP WIDE.NET project are: **Teaming** (for institutions building), **Twinning** (institutions networking) and **ERA Chairs** (bringing excellence to institutions). There are other tools also to support the communication and support of NCPs, Policy Support Facility for supporting R&I policy design and COST for stimulating cross-border science network. The main framework is about: transferring the knowledge, enhancement of the Institutions, and creating links with Smart Specialisation. Also important the synergies with ESIF to complement the interventions under H2020.

The main services of the NCP_WIDE.NET are; capacity building, reports (Benchmark report – Analysis of Centres of Excellence in a view of Teaming and Twinning potential avaliable at www.ncpwidenet.eu), cross boarder events to exploit synergies between H2020 and ESIF, brokerage joint and workshops, collaboration with other partners events on widening activities. The project portal offers the latest information on the network and news related to calls and events on funds for supporting Widening.

2.3. Plenary Session 2 - Structural Funds in support of Research Infrastructures – Synergies with Cohesion Policy and the role of Smart Specialization Strategies

Structural Funds

The Structural Funds and the Cohesion Fund are financial tools set up to implement the regional policy of the European Union. They aim to reduce

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regional disparities in income, wealth and opportunities. In the period 2007-2013, cohesion policy will benefit from 35.7% of the total EU budget or €347 billion (current prices). Out of that amount €86 billion have been allocated to innovation: Research and Innovation including infrastructures, Entrepreneurship, ICT development and human capital actions. Innovation is one of the key aspects in applying Structural Funds.

´Research and innovation strategies for smart specialization' (RIS3), will be the basis for investments in R&I under the European Structural and Investment Funds (ESIF) for the 2014-2020 period.

2.3.1. Katja REPPEL, Deputy Head of Unit, DG REGIO, European Commission

There has been a large investment of Structural Funds in Research and Innovation and among them in building up Research Infrastructures. The Cohesion Policy has demonstrated to have direct incidence in job creation and growth, contributing to the strengthening of research and innovation.
Some figures of the above results during the period 2007-2013 could be summarized as follows:

- Creation of 940.000 new Jobs
- Increase of income in the poorest EU regions (from 60.5% to 62.7%)
- Important investments of structural funds **in research and infrastructures** (114.000 Research Projects funded, 35.500 R&I co-operation projects, 41.600 new long-term research jobs created.
- 11.6 billion from ERDF co-financing research infrastructures.

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However, results during this period have also demonstrated that Investing in a research infrastructure in a country or a region does not necessarily lead to a large social and economic impact, this only works if it is connected to the local innovation ecosystem. For this, knowledge and technology transfer to firms is essential. Additionally, if we want infrastructures to be financially self-sustainable it is required to have a Business Plan for sustainability shall be implemented and not remain in a theoretical study. Since a research infrastructure is conceived a study should be completed taking into account what does already exists in terms of market potential, innovative potential and technological needs in the region.

This leads to the concept of Smart Specialisation (transforming the local economic context with more knowledge). To attain this, a specific Research and Innovation Strategy for Smart Specialisation (RIS^3) needed. In this sense, Member States and Regions were asked by the EC to develop an "Strategy", identifying their strengths and weaknesses in terms of infrastructures and industrial capacities in order to produce an agenda. This implies making choices in order to identify a limited set of priorities for development where to concentrate investment. Cooperation between different actors is also required (entrepreneurial Discovery Processes as an anchor point of RIS^3. Therefore, "smart specialisation priority" means developing new specialities based on regional concentration of knowledge, competence and market potential that has to be dynamic and forward looking.

Smart Specialization is an ex ante conditionality for investments from the European Regional Development Fund (ERDF) into research and innovation:

- Research and innovation infrastructure projects have to fit into RIS^3 (be part of the economic transformation agenda of the Region)
- Projects have to fit into an indicative multi-annual plan for budgeting and prioritisation of investments linked to EU priorities and, where appropriate, ESFRI

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RIs as part of RIS^3 should be an integral part of implementation roadmaps strategies, as crystallisation points form economic change and growth.

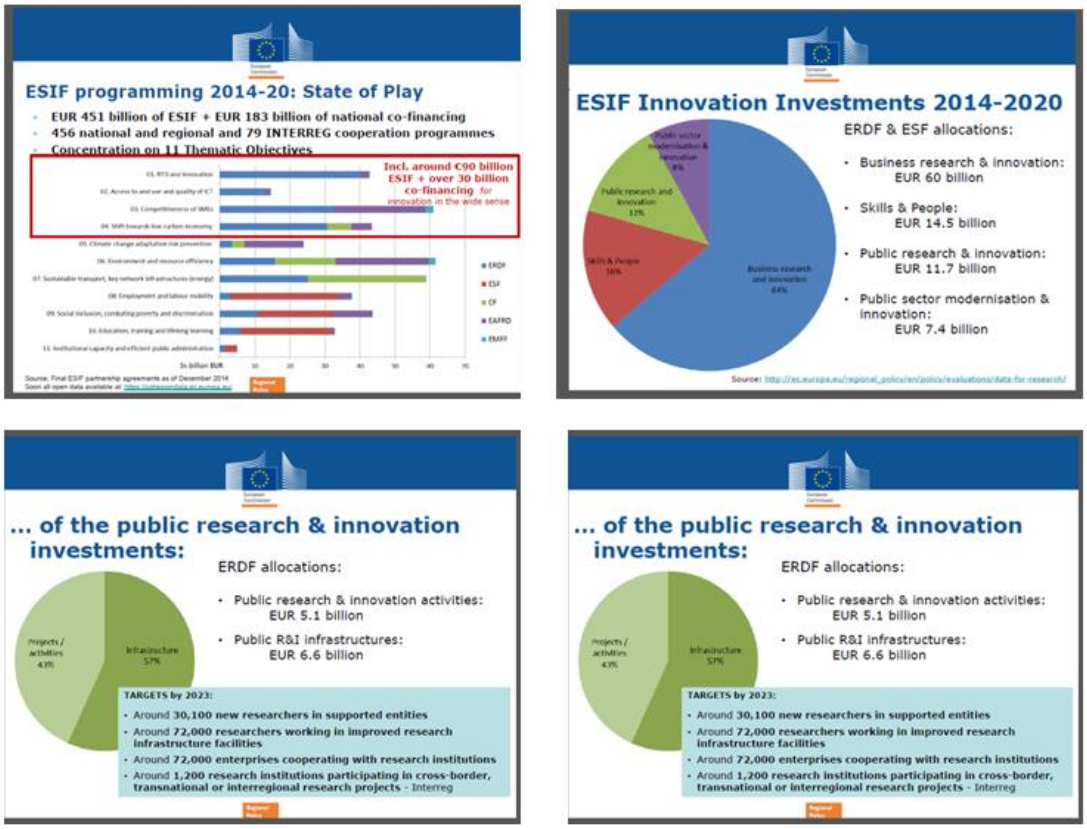

Figure 7. Opportunities for Research Infrastructures until 2020

The challenges for the future could be summarized as follows:

- Move from Programmes and strategies to viable and mature investment projects.
- Align RIs' business and financing plans to State Aid rules
- Make RIs work for smart specialisation and economic transformation: giving priority to strategic and transformative projects and overcoming fragmentation and duplication in order to build critical mass.

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2.3.2. Susana ELENA PEREZ - Joint Research Centre (JRC), European Commission: ¨Smart Specialization Strategies¨

JRC works with DG-REGIO in Smart Specialization Strategies.

The objective of the Smart Specialization policy is the promotion of inclusive and sustainable growth, mainly based on valorising the existing assets and specificities of different territories. It implies prioritization of the objectives for all the regions to be part of the strategy, involving stakeholders of the "quadruple helix".

The Smart Specialization Strategies (RIS3) have several goals promote the Smart Specialization policy and now is in the process of implementation.For the definition is needed:

- National or regional agenda for economic transformation
- Coordinate financial and entrepreneurial resources to support the selected economic activities
- Define governance and monitoring mechanisms

The strategy is persistent in time and a dynamic process.

Research infrastructures should be an Integral part of the RIS 3, and should be well integrated in the RIS 3, and they should have a positive impact in the territory. It is a must to preserve the bottom-up approach and the involvement of all the actors. Digital growth and ICT infrastructures is a crucial sector to be part of the RIS 3.

Regarding synergies, there are not recipes, just legal framework. Synergies examples were presented in which SF/ESIF and FP7/H2020 funds have been combined in order to amplify the R&I investments and their impact, using different forms of innovation and competitiveness support, or carrying innovative ideas further along the innovation cycle or value chain to bring them to the market. There are multiple examples in different sectors (Biotechnology, Health, Nanosciences and Nanotechnologies, and Materials)

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and the type of combination can be either Sequential or Parallel use of different Funding instruments.

It was explained in detail the case of the Central European Institute of Technology (CEITEC) from the Czech Republic and the funds obtained from different sources.

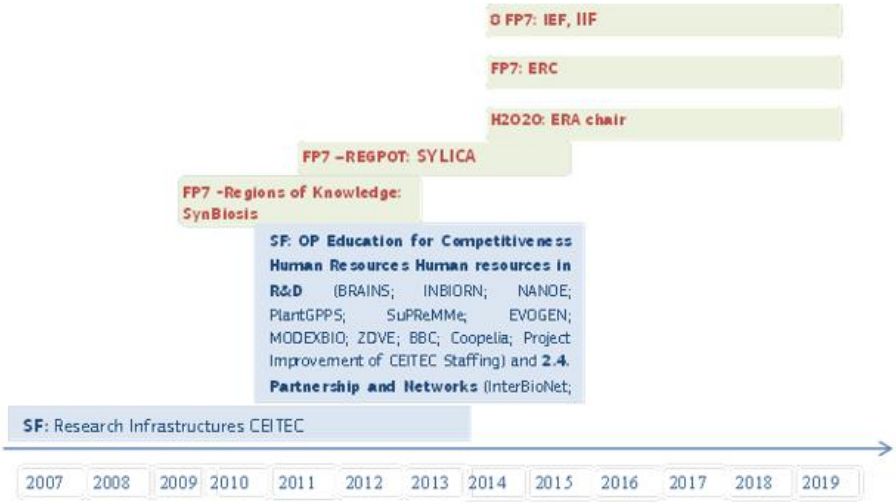

Figure 8. Diagram of chronology of the main projects involved in synergies

2.3.3. Moisés BLANCO MACEIRAS - Deputy Vice Director General for European Territorial Cooperation and Urban Development – Spanish Ministry of Finance and Public Administration (MINHAB): ¨INTERREG Europe¨

The objective of Interreg Europe Programme is to improve the work of the policy makers, and specially the services for the society. It covers the 28 MS plus Norway and Switzerland.

The Interreg Europe rationale is to **exchange of experience** to improve performance of policies for regional development, in particular **Structural Funds** (SF) programmes. The global funding is 359 M. €. The second call for proposals was closed the 13tn May 2016 with 238 M. € budget.

Interreg Europe covers four thematic programmes:

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1. **Research and Innovation**. The specific objectives are to improve the regional development policies:
   1.1 Research and innovation infrastructure and capacities notably in the framework of Smart Specialization Strategies
   1.2 Support the delivery of innovation by actors in regional innovation chains in areas of "smart specialization" and innovation opportunity
2. **SME cooperation**
3. **Environment and resource efficiency**
4. **Low-carbon economy**

The target groups to participate are the following, with the objective of learning from each other to improve policies:

- **Public authorities**: local, regional and national.
- **Managing authorities/intermediate bodies** in charge of the Investment for Growth and Jobs programmes or European Territorial Cooperation.
- Agencies, institutes, private non-profits organitations can also work with Interreg Europe by first engaging with their local policymakers in order to identify options for collaboration with Interreg Europe. There are.

In order to improve a policy, there are different possibilites: a) implement new projects, b) change programme governance and c) change programme content. In these two last possibilities, it may not require funding.

The two different actions to be carry out in the programme are:

- **Projects**:
  Involves a limited number of regions. It is carry out in two phases, where the implementation is not eligible. Stakeholders should be involved and produce an action Plan
- **Policy Learning Platforms**:
  It is open to all and should be closely related to projects

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There is a National Contact Point (NCP) in order to help you in the programme and also support tools like Partner search, project idea database, approved projects, idea assessment… all available in the Interreg Europe web page http://www.interregeurope.eu/

2.3.4. Susana ELENA PEREZ, Joint Research Centre (JRC), European Commission: ¨The Smart Specialization Platform: supporting regions and member states¨.

The speaker presented the Smart Specialisation Platform (S3P), created in 2011 to provide science-based professional advice to EU national and regional policy-makers for the establishment and implementation of their research & innovation strategies for smart specialisation (RIS3), make better use of the European Structural and Investment Funds (ESIF) and thus contribute to the Europe 2020 goals. It is maintained by the IPTS centre of the JRC.

Some achievements of the S3P are:

- Comprehensive guidance tools: RIS3 Guide, Digital Agenda Toolbox, FAQs
- S3 Publication series: contributing to conceptual and empirical developments of smart specialisation
- Supporting tools: S3 self-assessment; regional S3 priorities, regional benchmarking, regional trade flows

Stairway to Excellence (S2E) is a project launched in 2014 within S3P, with the aim to support EU 13 regions and countries in developing and exploiting the synergies between European Structural and Investment Funds (ESIF), Horizon 2020 (H2020) and other EU funding programmes. Its main activities consist of:

- National Events
- Production of Quantitative & qualitative Country & Region Information

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2.3.5. Michael SCHALLER, Senior project engineer/SMART Division, EIB-JASPERS: ¨Joint Assistance to support projects in the European Regions¨.

JASPERS stands for Joint Assistance to Support Projects in European Regions.

Since 2006, there is a technical assistance (TA) partnership between European Commission (DG REGIO), European Investment Bank (EIB) and European Bank for Reconstruction and Development (EBRD).

JASPERS is a department within the European Investment Bank with offices in Luxembourg (main office), Brussels, Vienna, Warsaw and Bucharest. Its main mandate is assistance to the Member States in the preparation of better quality projects for EU co-financing (structural funds) and ensures quicker funding approval.

JASPERS assistance is voluntary for the Member States and free of charge.

JASPERS provides Advisory Services in different sectors: Smart development, Water and Waste water, Energy and Solid waste, Rail Air and Maritime, Roads by around 120 staff (mainly engineers and economists, but also state aid and environmental experts).

Since 2006 around 1000 completed JASPERS assignments and 498 JASPERS-major projects supported applications submitted to the EC, of which 467 have been approved (January 2016)

JASPER provides:

- Targeted support for research projects listed in national operational programs for support from the structural funds
- Ideally for major projects: > 50 million EUR; Non-minor project support on a selective basis (> 20 MEUR)
- Technical assistance, meaning advising in projects development for EU co-funding (Feasibility Studies and EU Application forms)
- Focus on Socio-Economic impact, Technical feasibility, Option analysis, Demand analysis

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- Financial and Economic analysis, Risk assessment, Analysis of Environmental soundness and State Aid

JASPERS does not prepare projects on behalf of the beneficiary, but provides advice on how to bring projects in line with EC requirements

The Smart Development Division is composed by different areas:

- Research, Development, Innovation
- Information and Communication Technology (ICT)
- Health
- Education and Culture
- Urban Development (in the broad sense)
- Integrated or multi-sectoral projects (SMART CITIES and others)

It has 108 completed R&D assignments of which 22 major projects and there are 23 R&D projects in the JASPERS portfolio at the current moment.
In addition to TA for major and non-major projects, horizontal assignments:

- Assistance in the preparation of evaluation criteria selecting national projects
- Assistance in the screening of projects
- Review of policies and methodologies
- Workshops related to R&D

Some examples of projects were presented, such as Extreme Light Infrastructure.

There are different ways how JASPERS provides assistance:

- In the 2007-2013 period JASPERS support mainly new member states that joined EU after 2004.
- JASPERS is now in principle open for all EU and IPA countries, but requires a partnership agreement (examples are France, Greece, Italy and Turkey)
- Support can be initiated by national authorities or project promoters, but has to be managed by the national Managing Authority
- In case of potential projects, JASPERS technical assistance support can potentially be offered through the EFSI mechanism (Juncker plan):

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Requests should be submitted through the Advisory Hub (www.eib.org/eiah/) and will be channeled to EIB/JASPERS TA services.

2.3.6. Juan Miguel GONZÁLEZ ARANDA, HoU, Ministry of Economy and Competitiveness of Spain: ¨ LIFEWATCH - example of beneficiary¨

LifeWatch is a particularly relevant case of ENVironment ESFRI from the regional (among others: Andalusia, Extremadura-ES; Regione Puglia-IT; Région Auvergne-FR; Regiões Algarve, Alentejo, Central, CCDR-N Porto-PT; Crete-GR, etc.) perspective. As it is a distributed e-infrastructure, some regions are aware of its potential for: (1) Capitalizing already existing investments; (2) Improving ICT developments that may be useful for biodiversity research and for other purposes; (3) Special attention must be placed to the expected impact in the regional industrial sectors (Small and Medium Enterprises-SMEs). As a result, the existing knowledge and services related with biodiversity and environmental information from cooperating initiatives among territories should be better connected. This a real challenge for Environmental RIs which also includes specific topics such as shared ICT developments, Intellectual Property Rights (IPR), Open Access (Research Data Alliance-RDA) and European Open Science Cloud (EOSC) connections. All of these items demand the involvement of the interested regions. In that sense, above cited ongoing initiatives provide a common ground to reinforce the development of a shared distributed e-Infrastructure. They could be an example of good practices to integrate physical and virtual media through the LifeWatch ERIC.

However, the implementation of RIs would be at serious risk if RIS3 policies are not taken into account during Research Infrastructures construction phases. Their consideration would prevent H2020 funding instruments from being simple extensions of Preparatory Phase projects, enabling "realistic" constructions and granting the sustainable operation of new-born facilities. This a crucial issue as normally ESFRI Preparatory Phases are usually conceptual-based exercises and they do not take into

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consideration the actual commitments of the countries (including their regions). New "drivers/catalysts" should be appointed in order to integrate all the pieces of this complex jigsaw puzzle. As presented, concrete & practical case studies were presented based on LifeWatch ESFRI, to explore ways to promote and optimally combine local, regional, national and pan-European (ESIF and H2020) resources. All of these, in turn, in order to nurture innovation clusters (including ICT ones), as there is a clear connection with Europe 2020 Flagship initiative "Digital Agenda for Europe", especially into is Pillar V Research & Innovation (e.g., in Action 53), which emphasizes the important role of e-Infrastructures to equip competitive research environments (including research infrastructures). In fact, advanced ICT tools for compute- and data-intensive processing and management should be developed to this end (e.g., BIG DATA a Virtual Research Environments-VRE ones).

2.3.7. Jana KOLAR, Executive Director – CERIC-ERIC: ¨Use of Structural Funds in Poland, Czech Republic and Romania¨

CERIC-ERIC is a distributed RIs established as an ERIC in Central Europe. In 2012 the EC was asked for the formation of an ERIC for this distributed infrastructure in the field of advance materials, biomaterials and nanotechnology. Finally it was established in 2014.

CERIC-ERIC brings together a number of MS with complementary equipment in the field of advance nanomaterials.

The rationale for the establishment of this RIs is to optimize resources, optimize the use and increase the quality of the research by sharing performing it jointly and sharing the knowledge.

The funding for this ERIC is two-fold: for the Central administration is provided by IT, with each country contributing with funding for its own infrastructure, contributing in kind to be able to host the users. No preparatory phase.

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In 2013 CERIC-ERIC investigated the potential of co-funding of its activities with the cohesion policy funds for which the infrastructure prepared a report in which they explored the different possibilities for acquiring funding depending on the type of activity to be funded, in an effort to identify which funds could be either national, from Structural Funds like ERDF and also what was best for the EC to fund. The report emphasized the important of having incorporated these needs into the smart specialization strategies of the different participating countries in order to have the possibility for funding in the next funding period. All countries incorporated CERIC in their smart specialization strategies.

Several of the participating countries are from cohesion regions

Current situation: most of the national CERIC facilities are included in their respective national RIs roadmaps. CZ receive national funds for the operation and structural funds for upgrading the research facilities capacities.

2.3.8. Zlatuse NOVOTNA, Head of international relations and Grant Office CEITEC: ¨Success case: The South Moravian region¨

Zlatuse Novotna, shared with the audience what in her view has contributed to consider South Moravia as a success case. The secret can be summarized in combining excellence science with excellence innovation. Important factors to be highlighted are:

- The Region invested 3.4% of its regional GPD into Research & Development activities, including Research Infrastructures.
- There are 14 Universities and 86.000 students
- Concerning Smart specialization, the region is globally into Electron Microscopes and IT viruses.

In her opinion, behind these settings are the Regional Innovation Strategies and the Regional Innovation Centre. Another important aspect to take into consideration is that South Moravia was the first Region to have in place the Region Innovation Strategies in south-central & eastern Europe, it began in 2001. The entity behind this is the South Moravian Innovation

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Centre, that shall not be regarded only as an entity providing start-ups and incubators but as a promotor, putting the best people to work together into one innovation strategy and action plans. Also, political commitment has been crucial.

The CEITEC, the new emerging centre of excellence combining life sciences, advanced materials and technologies is a key player in this scenario. Sustainability of the Centre is the next goal.

Up to now, 3 generation of innovation strategies have been put in place:

1st Phase Strategic preparation for programming: The main point was to reach regional consensus among the 6 partners.

2nd Phase: during this phase, they built all the infrastructures. This was done through the combination of various funds.

When we speak of synergies we have speak about complementarities (no double funding).

3rd Phase: this phase is currently in place. Sustainability is the main goal. The main source of funds comes from the National Sustainability Programme provided by the Czech state Budget. There is also a National Road Map on Research Infrastructures. The focus is fixed on H2020 Programme due to a new idea developed by the government: each Euro received from the National Sustainability Programme must be complemented by 40 cents from H2020 or other external funds. This means 40% of cofinancing.

2.4. Plenary Session 3 – The European Fund for Strategic Investment (EFSI) - Support strategic investments in key areas

The European Fund for Strategic Investments (EFSI)

The EFSI aims to overcome the current investment gap in the European Union (EU) by mobilizing private financing for strategic investments which

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the market cannot finance alone. It will support strategic investments in infrastructure as well as risk finance for small businesses.

The fund will focus its financing on investments in infrastructure and innovation, as well as finance for Small- and Medium- sized Enterprises (SMEs).

2.4.1. Octavi QUINTANA, Principal Advisor on Research Policy, DG RTD, European Commission: ¨The EFSI Funds, EC perspective¨

Mr. Quintana starts his presentation with the statement that ¨Money is not a problem¨. An introduction to the content (Junker plan) is needed to approach the theme: the EU economic concept.

- The **European economic recovery** is now in its third year. It should continue at a **modest** pace in 2016 despite **more challenging conditions** in the global economy.
- Against a backdrop of declining oil prices and a relatively weak external value of the euro, the economic recovery this year has been resilient and widespread across Member States. It has, however, remained slow.
- **Labour markets** are gradually improving but unemployment remains high.
- **Euro-area real GDP** is expected to rise from 1.6% in 2015 to 1.8% in 2016, and 1.9% in 2017.
- **EU28 real GDP** is expected to rise from 1.9% in 2015 to 2.0% in 2016, and 2.1% in 2017.

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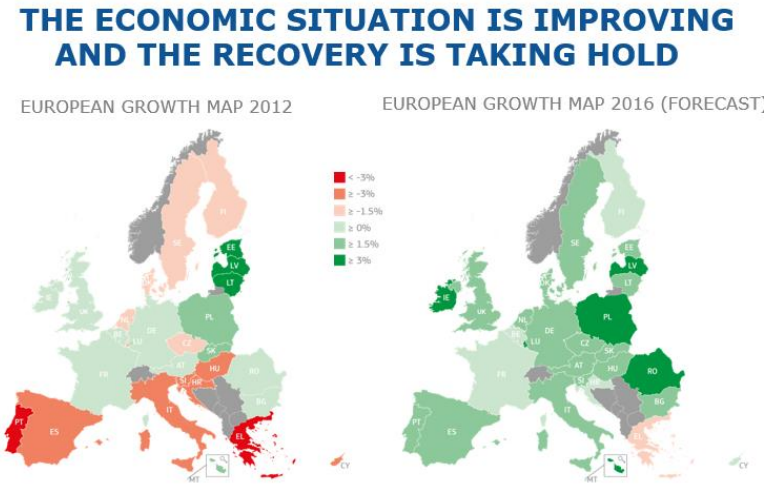

Figure 9. Evolving of the EU situation

The gap Europe with the US is increasing which means they are doing better than us, and also their productivity has been growing substantially more than in Europe. With this scenario, what needs to be done in order to sustaining and strengthening the recovery:

1. boost investment (without increasing the deficit)
2. pursue responsible public finances
3. carry out structural reforms to enhance competitiveness.

The crisis significantly decreased the European investment that comes now from the Juncker plan (EFSI). The rationale behind this investment plan is that we have a competitiveness GAP with the US, because of less investment in the market. The problem is not the money but where to invest it, as investors are frightened due to the crisis situation. The public budget had substantial constrains from the crisis as incomes decreased considerably. In some cases, the regulations have been the ones preventing those investments to happen. The EU Investment Plan counts with the EU/MS policy action plus EU budget plus the EIB capacity to mobilise private sector funds towards strategic investments.

We have 3 pillars:

1.MOBILISING FINANCE FOR INVESTMENT

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- Mobilise at least €315bn over 3 years for investment in strategic projects and access to finance via the European Fund for Strategic Investments (EFSI) within EIB/EIF
- Cooperation with National Promotional Banks

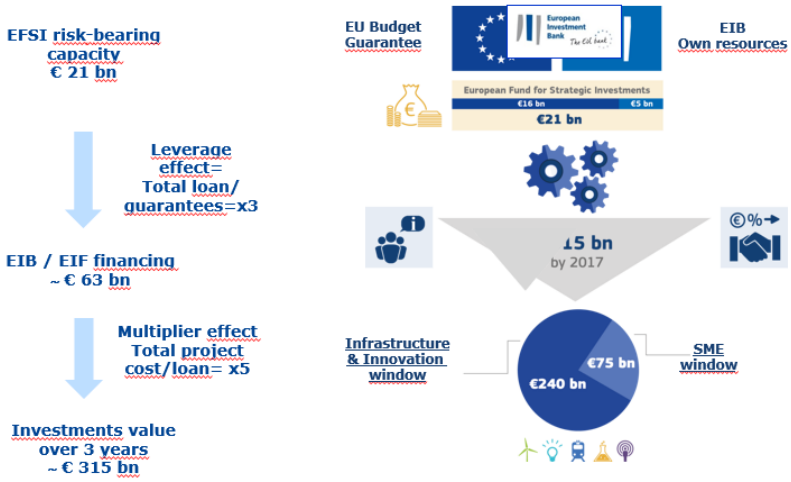

Figure 10. European Fund for Strategic Investment (EFSI)

The EFSI elegible sectors are:

1. Research, development and innovation
2. Energy (ref. Energy Union priorities)
3. Transport
4. Information and Communication Technologies
5. Environment and resource efficiency
6. Human capital, culture and health
7. Support to SMEs and mid-cap companies

And the criteria by which the projects are going to be assessed are the following:

- Focus on investments in **real economy** (real ¨impact¨)
  - Results on growth and jobs
  - Market-driven, no political interference
  - No geographic or sector pre-allocation
- Consistency with **EU policies**
- Leverage / crowd-in **private sector** and third parties

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- Economic and technical **viability**
- **Additionality** vs existing instruments
  - Market failures and sub-optimal investment
  - Higher risk-taking than EIB normal activity in EFSI timeframe

Regarding the size of investments, depending on the window:

- For the infrastructure and Innovation window: EIB uses min €25m for individual loans, smaller schemes can be grouped into framework loans
- For the SME window, no size restriction for operations via Financial Intermediaries

Regarding the geographic scope is everyone:

- EU28
- Projects involving an entity in a MS and extending to Enlargement (Western Balkans, Turkey), EU East/South Neighbourhood, EEA/EFTA (Norway, Switzerland, Liechtenstein), Overseas Countries and Territories.

MEMBER STATE	NPB[1]	FINANCING (UP TO)
Germany	KfW	€ 8,000m
Spain	ICO	€ 1,500m
France	CDC	€ 8,000m
Italy	CDP	€ 8,000m
Luxembourg	SNCI	€ 80m
Poland	BGK/PIR	€ 8,000m
Slovakia	SIH/SZRB	€ 400m
Bulgaria	BDB	€ 100m
United Kingdom		€ 8,500m
TOTAL		**€ 42,580m**

[1] National Promotional Banks

Figure 11. Co-financing by EFSI announced and committed by the MS

EFSI could also use other funds:

- MS may use EU funds to co-finance EFSI projects.

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- ESIF (EU Structural and Investment Funds) programmes may contribute to the achievement of the objectives of the Investment Plan and be complementary to EFSI support.
- ESIF may join EFSI supported projects where this would ensure a higher value added of EFSI support.
- Further guidance to be provided by the Commission.

All project will be evaluated by a scoreboard that will ensure that the EU Guarantee is directed to projects with high Value Added.

- Part of EIB due diligence -> Investment Committee
- Scoring of each project based on **4 pillars**
    1. Contribution to EFSI policy objectives
    2. Quality and soundness of the project
    3. Technical and financial contribution
    4. Complementary indicators
        - Additionality, Macro-economic indicators, Multiplier, Private finance, cooperation with NPBs, co-financing with EU funds, Energy efficiency, Climate action

2. MAKING FINANCE REACH THE REAL ECONOMY

- European Investment Project Portal
- European Investment Advisory Hub: technical assistance

Transparency on the investments in Europe

- European Investment Project Portal – will go live in 2016
- Matching investment opportunities proposed by project sponsors with investors' interest
- Pre-launch phase is now open – project promoters may submit projects @ http://ec.europa.eu/eipp

Strengthening advisory services

- European Investment Advisory Hub (EIAH) – EC/EIB

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- www.eib.org/eiah
- Technical assistance
- Pooling resources & expertise including from MS

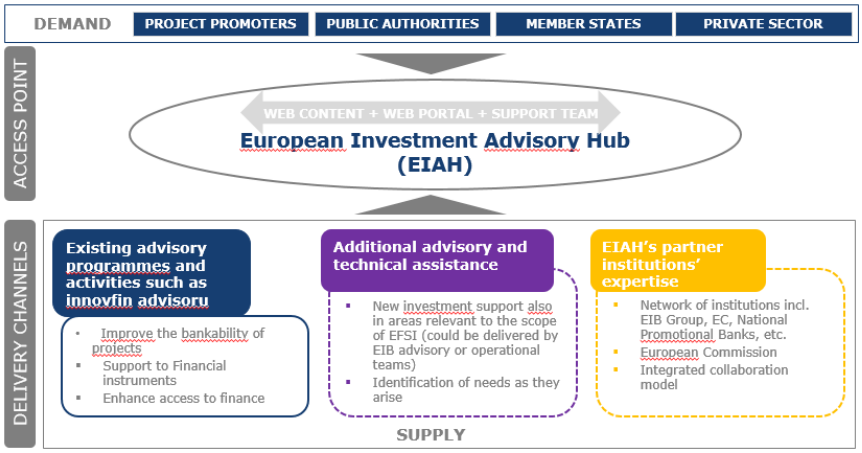

Figure 12. The Advisory HUB

3. IMPROVED INVESTMENT ENVIRONMENT

- Predictability and quality of regulation
- Removing non-financial, regulatory barriers in key sectors within EU Single Market
- Structural reforms at national level

2.4.2. Antonella CALVIA GÓTZ, European Investment Bank (EIB) - ¨Sustainability issues in funding research infrastructures¨

Antonella starts talking about the example of how Spain invited the EIB in the middle of the crisis in an effort of not stopping the investment in research and development, especially for the research personnel. This is now a success story as 3 years after we can say that in that situation a 100% of the employments were preserved thanks to the macro funding of the EIB to ISCIII.

Funding overview

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Following the information outlined in the previous talk, it is important to emphasize that the funds are not at this moment an issue to financially support a RIs, but rather addressing all the harbours that the managers should overcome to make sure that the project is a good research project.
Regarding the financial sustainability of RIs, the high level Assessment Expert Group (AEG), to which Antonella is part, shared the following findings after this expert´s assement, including the definition of ¨maturity¨:

- ✓ **AEG definition of a mature RI for funding**
  - Approved statutes and governance structure
  - Cost and financial plans are defined
  - Firm financial commitments for the relevant investments
  - Existence of a credible project organisation
  - KPIs are established and staff planning outlined
  - User strategy is well planned
  - Risk analysis is included

Findings after the review:

- Overall investment costs estimated over EUR 20 billions
- Research Infrastructures could receive funding by the EIB when they reach maturity
- **EIB funding can enable sustainability over time**

<u>Funding issues</u>

Deals with how to design projects so they deserve public funding from EIB. Also found in the previous exercise:

- ✓ Mismatch between long term funding needs and short term commitments at national level
  - Funding partners provide in-kind contributions and annual memberships
  - EU Horizon 2020 funds mainly support the Preparatory Phase
  - Long negotiation in the Preparatory/Approval stage for Structural Funds (only available in some regions)

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- High risks of delays in the approval stages: Business cases and Investment Decisions are very complex
- RIs have increasingly a "distributed" nature
- Validation of investment costs requires advanced work-packages, which need to be evaluated before being submitted to Funders
- Funding solutions have to be tailored to the needs of each RI, taking into account national partners' contribution and project considerations
- Securing funds require a partnership involving various actors

- There is a need to develop a common platform for optimising maturity
- The EIB is supporting this process by giving guidelines on BP

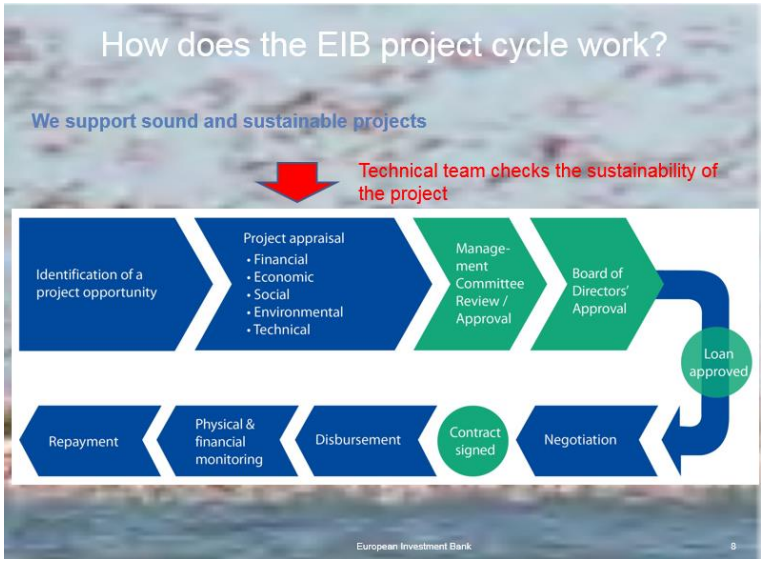

Figure 13. How does the EIB project cycle work?

Sustainable funding eco-system

EIB can provide loans to EU Member States (MS) and H2020 Associated countries (AC) and up to 50% of eligible costs which include Research staff, studies, infrastructure, and equipment, always on the condition of a technically and financially mature RI project.

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Governance of innovation

What does sustainability mean for EIB?

- ✓ Ensuring strong governance, transparency and accountability, for the use of public funds;
- ✓ Integrating high environmental, technical and social standards into business activities, by linking research to innovation outcomes;
- ✓ Minimising risks and delivering results

2.4.3. Fabio MAZZOLINI, Elettra International Relations Officer - Elettra Synchrotron: FERMI experiment, Beneficiary of a Risk Sharing Finance Facility from EIB

Elettra-Sincrotrone Trieste S.C.p.A is a nonprofit shareholder company of national interest Established in 1987 to construct and manage synchrotron light sources – international facility:

-> Promote cultural and socioeconomic growth at the regional, national and international level

-> State-of-the art research facilities, technical leadership, skill development and transfer

However, the Electtra-Sincrotrine is currently in danger of losing its competitive edge due mainly to new top-up operating sources coming on line. For this reason, major infrastructure upgrades are needed but insufficient national resources were available to face them. **Elettra Synchrotron** then decided to start negociating with the EIB and finally enter the EIB through the FERMI @ Elettra Project, a major project for the construction of:

- *Fourth generation free-electron laser source*
- *Full-energy injector for Elettra*
- *New cogeneration power plant*
- *Site infrastructure improvements*

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The role of the EIB

FIRST CONTACT: INFRAERA Conference organized by ESFRI in Trieste (November 2003). Due diligence with site visits in 2004 and 2010.

FIRST FINANCE CONTRACT (2004)

- A fixed interest rate, 20-years, 60 million euro loan
- Guaranteed by the Italian Treasury ministry
- 5-year preamortization period (interest only)
- Interest fixed at 3.77% (40 M€) and 4.46% (20 M€)

SECOND FINANCE CONTRACT (2010)

- A floating rate, 20-years, 20 million euro loan to enhance performance
- Issued under the Risk Sharing Financial Facility (RSFF) Instrument
- Similar to what is expected for EFSI
- 5-year preamortization period (interest only)

EFSI DEFINITELY THE WAY TO GO!

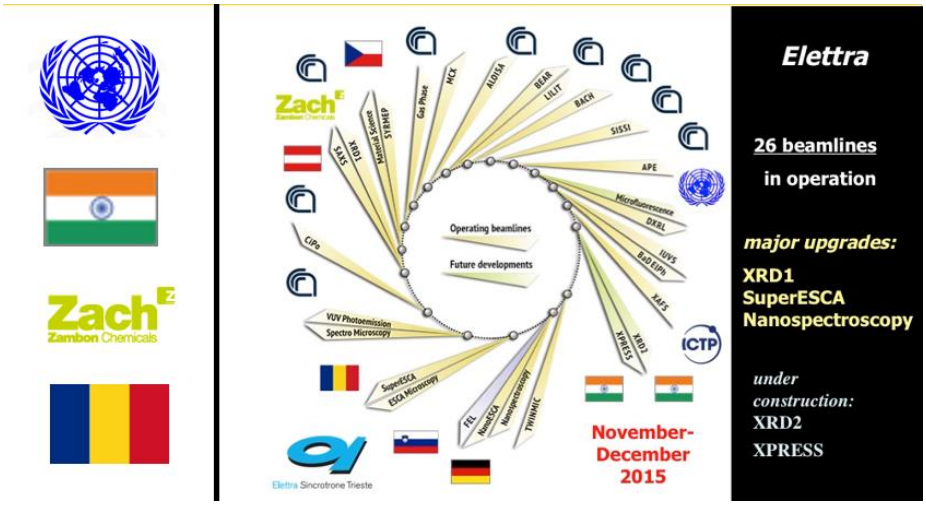

Figure 14. New international Elettra partners as consequence of the EIB funding

- The loans have been a determining factor for success: no cash flow limitations, better negotiation with providers, flexibility in planning and design changes

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- A major advantage has been flexibility and speed in the EIB –Elettra relationship (compared to other banks)
- RSFF or EFSI the way to go as compared to traditional loans

Increased number of international users at Elettra

A first-of-a-kind free-electron laser facility: FERMI

A new reputation of Elettra for project implementation

-> Participation in new international projects (ESS, ELI, etc.)

-> Increase in commercial income

-> New successful industrial initiatives (Kyma)

3. CONCLUSIONS AND RECOMMENDATIONS

Research Infrastructures are important for the progress of the European excellence in Science and Innovation, particularly those included in the ESFRI roadmap. The symposium confirms that there is a need to set up new methods that involve more funding mechanisms, mediator schemes and schemes that allows private researchers to go into the public RIs and vice versa, in order to complement the funding received by Horizon2020 so as to tackle the whole life cycle of the RIs. Apart from considering possibilities from EFSI, ESIF can contribute to fund as well and also, taking into account the 3 phases of the lifecycle, we can find opportunities from the EIB.

Research Infrastructures are also important for the development of the Regional and Innovation Strategies for Smart Specialization-RIS3 of the territories that have identified them in terms of economy, high-quality employment and trans-national cooperation (RIS3 as one of the "ex-ante" conditions for the use of Structural Funds). Therefore, RIs are important targets for both European Regional and RTD&I policies to in turn reinforce Cohesion Policy. RIs calls for a synergistic combination of European Structural and Innovation Funds (ESIF) and H2020 funds, as well as of other National and Regional funding. At the same time, this involves particularities related with the investment of ESIF in ESFRI that need to be specifically addressed.

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The InnovFin programme offers advisory services for projects facing difficulties to develop a financial plan or propose financial projects to the bank. It can be used to bridge the gap between the current MS and sponsors support during the investment phase. The European synchrotron radiation facility (ESRF) is an example of RIs beneficiary of the InnovFinn programme.

The EFSI aims to overcome the current investment gap in the European Union (EU) by mobilizing private financing for strategic investments which the market cannot finance alone. It will support strategic investments in infrastructure as well as risk finance for small businesses. The EU Investment Plan counts with the EU/MS policy action plus EU budget plus the EIB capacity to mobilise private sector funds towards strategic investments.

It is important to emphasize that the funds are not at this moment an issue to financially support a RIs, but rather addressing all the harbours that the managers should overcome to make sure that the project is a good research project.

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