EUROPEAN RESEARCH INFRASTRUCTURE
Work Programme 2014-2015

Adapted from presentations of the ERI Programme Committee

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Research &
Innovation

I. *Excellent Science (Bottom – Up)*

1.   **European Research Council**

2.   **Future and Emerging Technologies**

3.   **Marie Skłodowska-Curie actions**

4.   **European Research Infrastructures, including e-Infrastructures**

II. *Industrial Leadership*

1.   **Leadership in Enabling and Industrial Technologies**

1.1.*Information and Communication Technologies*

1.2.Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology

1.3.Space

2.   **Access to risk finance**

3.   **Innovation in SMEs**

III. *Societal Challenges*

1.   **Health, Demographic Change and Wellbeing**

2.   **Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy**

3.   **Secure, Clean and Efficient Energy**

4.   **Smart, Green and Integrated Transport**

5.   **Climate Action, Environment, Resource Efficiency and Raw Materials**

6.   **Europe in a changing world - Inclusive, innovative and reflective societies**

7.   **Secure societies – Protecting freedom and security of Europe and its citizens**

•*Spreading Excellence and Widening Participation*

•*Science with and for Society*

•*European Institute of Innovation and Technology (EIT)*

•*Euratom*

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Research
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(**Eurpean**)**Research infrastructures (ERI)** are facilities, resources and services that are used by the research communities to conduct (excellent) research and **foster innovation** in their fields.
-Where relevant, they may be used beyond research, e.g. for education or public services.
They include:

- major scientific equipment (or sets of instruments);
- knowledge-based resources such as collections, archives or scientific data;
- e-infrastructures, such as data and computing systems and communication networks;
- and any other infrastructure and capacities of a unique nature essential to achieve excellence in research and innovation.

-Because of their ability to assemble a 'critical mass' of people, knowledge and investment, they contribute to national, regional and European economic development.
Such infrastructures may be 'single-sited', 'virtual' or 'distributed'.

NOTE: Just as public legal bodies, European research infrastructures are the backbone of scientific communities in public and economic (industries and SMEs) sector as well. **There is the Community legal framework for a European Research Infrastructure Consortium (ERIC)!!**

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The ERI programme is guaranteed by:
➢ **DG Research and Innovation**
➢ **and DG CONNECT (Communications Networks, Content & Technology).**
Relation to H2020:
 Research infrastructures are also <u>key factor in helping Europe lead a global movement towards open, interconnected, data-driven and computer-intensive science and engineering</u>. (Big Research Data /BRD and Open Access to data, information and knowledge)
<u>E-Infrastructures will make every European researcher digital</u>, increasing creativity and efficiency of research and bridging the divide between developed and less developed regions.

Types of (E)RI activities / projects:
 (DG Research and Innovation and DG CONNECT as well**).**
A. Preparatory / design phases – proposals of new ERIs;
B. Individual implementation and (starting) operation of ESFRI projects or other world class research infrastructures
C. Implementation and operation of clusters of ESFRI and other relevant research infrastructures initiatives
D. Integrating Activity and established ERI (B and C) shall cover three types of activities (I3):
 1. Networking activities,
 2. Transnational and/or virtual access activities,
 3. Joint Research activities.
With emphasis on: management efficiency, innovation capacity (technology transfer, participation of SMEs, instrumentation development), international cooperation, management of generated data….
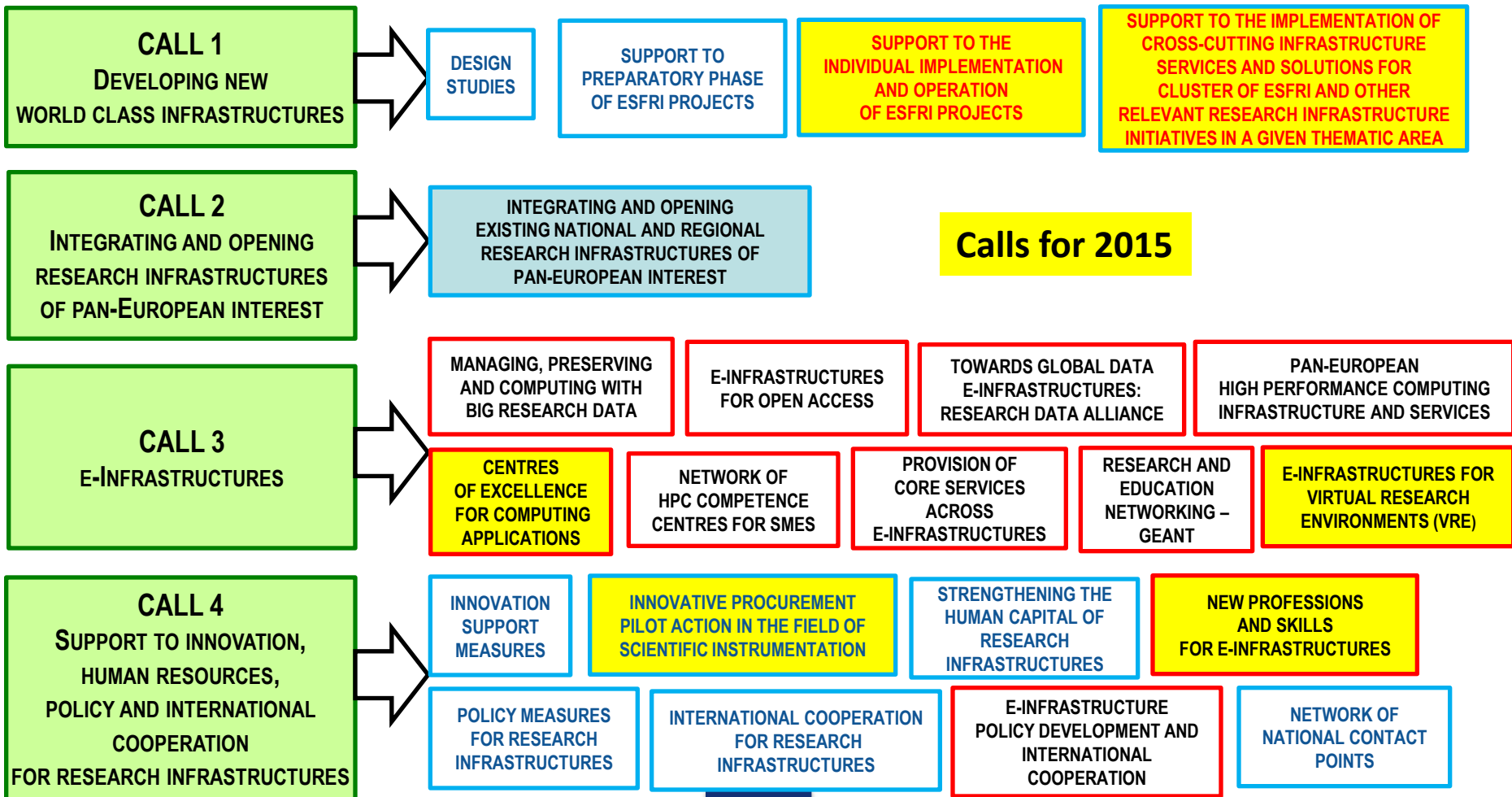
E. e-Infrastructures   (DG CONNECT)
(i) Networking activities. To foster **a culture of co-operation between the participants** in the project, the scientific communities benefiting from the e-infrastructures, industries, SMEs and other stakeholders, and to help developing a more efficient and attractive European Research Area
(ii) Service activities. To provide **specific e-infrastructure related services to the scientific community** (DB, Knowledge bases, analytical and experimental facilities and SWs …. E-Science …)

PS: If combined support with the European Structural and Investment Funds (ESIF) is foreseen for such infrastructure, the proposal should specify which activities will not be funded by Horizon 2020, but by ESIF (and by which Operational Programme of ESIF).

Research &
Innovation

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CALL 1
DEVELOPING NEW WORLD CLASS INFRASTRUCTURES

- DESIGN STUDIES
- SUPPORT TO PREPARATORY PHASE OF ESFRI PROJECTS
- SUPPORT TO THE INDIVIDUAL IMPLEMENTATION AND OPERATION OF ESFRI PROJECTS
- SUPPORT TO THE IMPLEMENTATION OF CROSS-CUTTING INFRASTRUCTURE SERVICES AND SOLUTIONS FOR CLUSTER OF ESFRI AND OTHER RELEVANT RESEARCH INFRASTRUCTURE INITIATIVES IN A GIVEN THEMATIC AREA

CALL 2
INTEGRATING AND OPENING RESEARCH INFRASTRUCTURES OF PAN-EUROPEAN INTEREST

- INTEGRATING AND OPENING EXISTING NATIONAL AND REGIONAL RESEARCH INFRASTRUCTURES OF PAN-EUROPEAN INTEREST

Calls for 2015

CALL 3
E-INFRASTRUCTURES

- MANAGING, PRESERVING AND COMPUTING WITH BIG RESEARCH DATA
- E-INFRASTRUCTURES FOR OPEN ACCESS
- TOWARDS GLOBAL DATA E-INFRASTRUCTURES: RESEARCH DATA ALLIANCE
- PAN-EUROPEAN HIGH PERFORMANCE COMPUTING INFRASTRUCTURE AND SERVICES
- CENTRES OF EXCELLENCE FOR COMPUTING APPLICATIONS
- NETWORK OF HPC COMPETENCE CENTRES FOR SMES
- PROVISION OF CORE SERVICES ACROSS E-INFRASTRUCTURES
- RESEARCH AND EDUCATION NETWORKING – GEANT
- E-INFRASTRUCTURES FOR VIRTUAL RESEARCH ENVIRONMENTS (VRE)

CALL 4
SUPPORT TO INNOVATION, HUMAN RESOURCES, POLICY AND INTERNATIONAL COOPERATION FOR RESEARCH INFRASTRUCTURES

- INNOVATION SUPPORT MEASURES
- INNOVATIVE PROCUREMENT PILOT ACTION IN THE FIELD OF SCIENTIFIC INSTRUMENTATION
- STRENGTHENING THE HUMAN CAPITAL OF RESEARCH INFRASTRUCTURES
- NEW PROFESSIONS AND SKILLS FOR E-INFRASTRUCTURES
- POLICY MEASURES FOR RESEARCH INFRASTRUCTURES
- INTERNATIONAL COOPERATION FOR RESEARCH INFRASTRUCTURES
- E-INFRASTRUCTURE POLICY DEVELOPMENT AND INTERNATIONAL COOPERATION
- NETWORK OF NATIONAL CONTACT POINTS

Call 1 - Developing new world-class research infrastructures

INFRADEV-2-2015: Preparatory Phase of ESFRI projects 28/08/2014 - 21/04/2015 at 17.00.00 Brussels time]; **Coordination and support actions (CSA) or Research and innovation actions (RIA);**
~~14~~ **6** mill. EUR.

Preparatory phase type II: Proposals will target **new research infrastructures projects, already supported by EU through a first preparatory phase grant ended before the call closure, which, according to ESFRI Implementation report from 2012,** are have not yet entered in implementation phase **and which are not addressed by topic INFRADEV-3-2015 under this same work programme.**
These infrastructure projects **must demonstrate in the proposal their critical need and that are identified by ESFRI as requiring for an additional support** in order to complete their preparatory phase (up to ~~2~~ **1.5** mill. EUR).

NOTE: Outcomes: ....**the preparation of the legal agreements for establishing the implementing / operating consortium** will be completed, including the project's governance and appropriately detailed internal rules.

Call 1 - Developing new world-class research infrastructures

INFRADEV-3-2015: Individual implementation and operation of ESFRI projects 28/08/2014 - 14/01/2015 at 17.00.00 Brussels time; **Research and innovation actions (RIA)**; ~~90~~ **97 mil. EUR.**

Call correction (proposal): Following the specific conclusions by the Competitiveness Council on the priority list **identified by ESFRI (the Prioritisation of Support to ESFRI Projects for Implementation**) and the Council's call upon Member States to concentrate their national funding on these projects, **the EU will also focus the support available for this topic on the following prioritised research infrastructures: ELIXIR, EPOS and the European Spallation Source**.
The Commission considers that proposals requesting a contribution from the EU **of up to EUR 20 million** would allow this challenge to be addressed appropriately.

Nonetheless, this **does not preclude submission and selection** of proposals requesting other amounts.

Call 1   - Developing new world-class research infrastructures
Continuing INFRADEV-3-2015

In addition, under this topic **funding can also be provided to the other important ESFRI projects, which have been identified by ESFRI**:
BBMRI, CESSDA, CLARIN, CTA, DARIAH, ECCSEL, EISCAT-3D, ELI, EMSO, the European Social Survey (ESS/ERIC), SHARE and SKA ; (up to EUR 3 million ????). …….
Outcomes: …… establishing pan-European research infrastructures;
Podporené v "Návrhu implementácie národného akčného plánu budovania infraštruktúry výskumu a vývoja v Slovenskej republike " (príoha do SK RIS3) –"SK Roadmap ??"

ESFRI COMMENT: There are projects that require additional support, including very significant number of success stories on the ESFRI Roadmap: CESSDA, ESS-survey, SHARE, ESRF-Upgrade, XFEL, ILL 20/20, FAIR, SPIRAL2, PRACE, JHR, and E-ELT (support opportunity in IFRADEV-3, 4 and INFRAIA-1).

PS. ESFRI has in preparation a new roadmap which will be introduced at last quarter of 2016 !!!

Call 1 - Developing new world-class research infrastructures

INFRADEV-1-**2014**: Design Studies : **11/12/2013 - 02/09/2014 at 17.00.00 Brussels time** ; Coordination and support actions or Research and innovation actions; 15 mil.EUR

INFRADEV-4-2014/2015: Implementation and operation of cross-cutting services and solutions for clusters of ESFRI and other relevant research infrastructure initiatives 11/12/2013 - 02/09/2014 at 17.00.00 Brussels time ; Research and innovation actions (RIA); **55 mill. EUR / and 25 mill. EUR from 2015 budget**.

Recommendation of ESFRI for "Networking and Integrated Services for Distributed Research Infrastructures" (more for a next similar call ... recommendation was published too late):

- **In the bio-medical sciences**, three projects offer complementary processes and the development of **integrated services matched with BBMRI and ELIXIR** has the potential for very concrete benefits to the health of the European citizens. **These projects are: INFRAFRONTIER, EATRIS and ECRIN**.
- **In the environmental sciences there is similarly great potential** to link and network together the data from each of the distributed research infrastructures to create integrated services for greater impact and support research. **The additional projects in this area that are on track for implementation by 2015 (INFRADEW-3 and INFRAIA-1/2014-15) and should be linked with those listed already are: EURO-ARGO, IAGOS, ICOS and LIFEWATCH**

Call 2 - Integrating and opening research infrastructures of European interest

INFR AIA-1-2014/2015: **Integrating and opening existing national and regional research infrastructures of European interest; 11.12.2013 - 02/09/2014 at 17.00.00 Brussels time;** Integrated Activity, RIA; **90 mil. EUR and from 2015 budget 50 mil. EUR ??;**

This work programme calls for proposals addressing one or, where appropriate, more of the following areas listed under seven different domains (**42 areas**- at least one project in each domain ….see the list of topics in the WP):

1. Biomedical;
2. Energy;
3. Environmental & Earth;
4. Materials and Analytical Facilities;
5. Maths & ICT;
6. Physical sciences;
7. Social Sciences & Humanities

Guiding principles for selecting topics areas in Call2

➢ **Favourable evaluation in consultation**

➢ **At least 50% of topics to address new activities ('starting communities')**

➢ **At least 50% linked to focus areas / societal challenges**

➢ **Timing in relation to end of current projects**

➢ **Balanced distribution over disciplines**

➢ **Links to RI roadmaps (national/ESFRI)**

➢ **At least one project in each domain**

Call 3 - e-Infrastructures

EINFRA-1-**2014** – **Managing, preserving and computing with big research data; 11/12/2013 - 02/09/2014 at 17.00.00 Brussels time**; RIA; 55 mill. EUR;

EINFRA-2-**2014** – **e-Infrastructure for Open Access**; **11/12/2013 - 15/04/2014 at 17.00.00 Brussels time;** RIA; 13 mill. EUR;

EINFRA-3-**2014** – **Towards global data e-infrastructures – Research Data Alliance**; **11/12/2013 - 02/09/2014 at 17.00.00 Brussels time**; **CSA;** 4 mill. EUR;

EINFRA-4-**2014** – **Pan-European High Performance Computing infrastructure and services; 11/12/2013 - 02/09/2014 at 17.00.00 Brussels time; RIA**; 15 mill. EUR**; PRACE**

EINFRA-5-2015 – Centres of Excellence for computing applications; 28/08/2014 - 14/01/2015 at 17.00.00 Brussels time ?? ; RIA; 40 mill. EUR;

EINFRA-6-**2014** – **Network of HPC Competence Centres for SMEs; 11/12/2013 - 02/09/2014 at 17.00.00 Brussels time**; **CSA**; 2 mill. EUR;

EINFRA-7-**2014** – **Provision of core services across e-infrastructures; 11/12/2013 - 02/09/2014 at 17.00.00 Brussels time**; RIA; 6 mill. EUR;

EINFRA-**8**-**2014** - **Research and Education Networking – GÉANT; 11/12/2013 - 02/09/2014 at 17.00.00 Brussels time**; Framework Partnership Agreement with multiple beneficiaries (no funding) providing a framework for Specific Grants; **There is no budget associated to the establishment of a Framework Partnership Agreement.**

EINFRA-9-2015 – e-Infrastructures for virtual research environments (VRE); 28/08/2014 - 14/01/2015 at 17.00.00 Brussels time??; RIA; ~~42~~ 40.50 mill. EUR;

Call 4

Support to Innovation, Human resources, Policy and International cooperation / Coordination and Support Actions - CSA

INFRASUPP-1-2014 – **Innovation support measures** ; 11/12/2013 - **02/09/2014** at 17.00.00 Brussels time ;CSA; 2 mill. EUR

INFRASUPP-2-2015 – Innovative procurement pilot action in the field of scientific instrumentation;

> a. Feasibility studies,
> b. Pre-commercial procurement in the field of scientific instrumentation (PCP),
> c. Public procurement of innovative scientific instrumentation (PPI).

Type of action:

> a. Coordination and support actions
> b. Pre-commercial procurement co-fund actions
> c. Public procurement for innovative solutions co-fund actions

11/12/2013 -**14/01/2015 at 17.00.00 Brussels time 22;** RIA; 14 mill. EUR

INFRASUPP-3-2014 – **Strengthening the human capital of research infrastructures**; 11/12/2013 - 0**2/09/2014** at 17.00.00 Brussels time; CSA; 2 mil.EUR

INFRASUPP-4-2015 – New professions and skills for e-infrastructures ; 11/12/2013 -14/01/2015 at 17.00.00 Brussels time 22 ;CSA; 2.5 mil. EUR

INFRASUPP-5-2014 – **Policy measures for research infrastructures;** 11/12/2013 - **02/09/2014** at 17.00.00 Brussels time; CSA; 4 mil.EUR

INFRASUPP-6-2014 – **International cooperation for research infrastructures**; 11/12/2013 - **02/09/2014** at 17.00.00 Brussels time; CSA; 7 mil. EUR

INFRASUPP-7-2014 – **e-Infrastructure policy development and international cooperation;** 11/12/2013 - **02/09/2014** at 17.00.00 Brussels time; CSA; 5 mil. EUR

INFRASUPP-8-2014 – Network of National Contact Points; 11/12/2013 - 14/05/2014 at 17.00.00 Brussels time; CSA 2 mil. EUR

Research & Innovation

Problems in SK :
- **National strategy for RI and relevant "roadmap" of RI development – ??**
- **Active partnership in ERIC –(e.g. CERIC)**
- **Awareness of ERIs mission ... missing**

Thank you for your attention

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