

# Research Infrastructures in Horizon 2020

**Dr Tatyana Lyadnova**  
**BELISA**

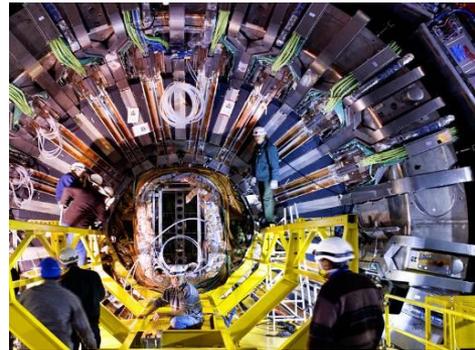
**HORIZON 2020 Infoday**  
**24.02.2014, Minsk**

# Research Infrastructures

Research infrastructures are *facilities, resources and services* that are used by the research communities to conduct research and foster innovation.

Major scientific equipments

Knowledge-based resources



e-infrastructures

# Why an EU approach for Research Infrastructures?

- To **address collectively** the complexity and cost of the design and development of new world class research infrastructures
- To **open access** to the research infrastructures existing in the individual Member State to all European researchers
- To **avoid duplication of efforts** and to coordinate and **rationalise the use** of these research infrastructures
- To trigger the **exchange of best practice**, develop **interoperability** of facilities and resources, develop the **training** of the next generation of researchers
- To connect national research communities and **increase the overall quality of the research and innovation**
- To help **pooling resources** so that the Union can also develop and operate research infrastructures **globally**

# From FP7 to Horizon 2020

- More focused support to the implementation and operation of world-class infrastructures such as **ESFRI projects**
- Broader **access** to and deeper **integration** of European research infrastructures
- Foster the **innovation potential** of research infrastructures
- **Widen** the participation to pan-European research infrastructures
- More support to **e-infrastructures**
- Reinforce policy support to **European strategy on research infrastructures**
- Develop **international dimension** of the actions

# Horizon 2020– Framework Programme for Research and Innovation (2014-2020)

## Excellent science

- European Research Council
- Future and Emerging Technologies
- Marie Curie actions
- **European Research infrastructures (including e-infrastructures) – 2.488 M€**

## Societal challenges

- Health, demographic change, wellbeing
  - Food security, sustainable agriculture, marine - maritime research, bio-economy
  - Secure, clean and efficient energy
  - Smart, green, integrated transport
  - Climate action, resource efficiency, raw materials
  - Inclusive, innovative and reflective societies
  - Secure societies
- Spreading excellence & Widening Participation  
- Science with and For Society

## Industrial leadership

- Leadership in enabling and industrial technologies (ICT, space, nanotechnologies, advanced materials and advanced manufacturing and processing, biotechnology)
- Access to risk finance
- Innovation in SMEs

**1 Design studies of infrastructures (European dimension and interest)**

**2 Construction of new infrastructures (ESFRI roadmap)**

- Preparatory phase
- Implementation phase

**3 Integration activities**

- Cooperation network
- Sharing of infrastructure (**Transnational Access**)
- Research

**4 e-Infrastructure**

**5 Specific support actions**

# Integration activities (1)

**3 mandatory elements of the project:**

- **Cooperation in the network (Networking):** coordination, complementarity, shared resources
- **Transnational access** to infrastructures
- **Research activities (Joint Research Activities):** eg building a new generation of equipment, testing new techniques and methods

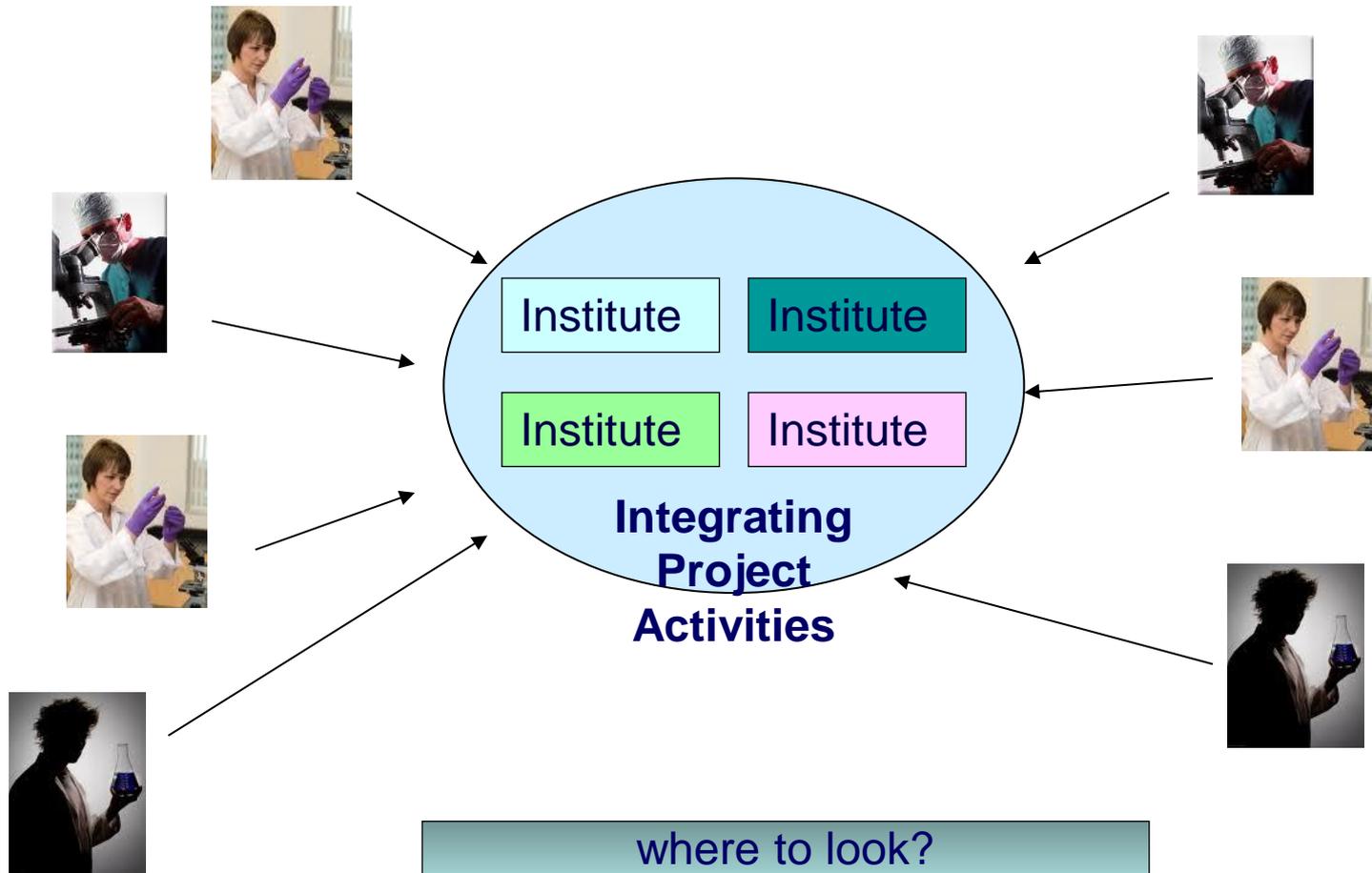
# Integration activities (2)

## Free access to infrastructure - rules:

- the need to travel to another country (Transnational Access)
- length of stay - from 1 week to 3 months
- project covers the costs of:
  - research 
  - travel 
  - stay 
  - access to e-infrastructure 

# Access to infrastructure or Transnational Access

Free research in the best centers



where to look?

<http://www.euroris-net.eu/>

# <http://www.euroris-net.eu/> Transnational Access open calls in one database



European Network of National Contact Points  
for Research Infrastructures moving forward

Home About EuroRIS-Net+ News RI Calls Information E-Newsletter Success Stories Events Related projects & links

Network Area

Login Area

RI Knowledge Repository

Stakeholders' Forum

Transnational Access Opportunities

RI Policy News

FP7 NCP networks' corner

## Welcome to EuroRIS-Net+

EuroRIS-Net+ builds on the Network of National Contact Points for the Research Infrastructures programme (RIs NCPs) to provide value-added services, which will facilitate transnational cooperation of NCPs, promoting the effective implementation of the RI programme, highlighting opportunities offered by Research Infrastructures - at the European and international level - and their impact on e-science.

The Network develops **observatory** functions for EC and national Research Infrastructures policies, programmes and initiatives, supported by an efficient dialogue scheme for RI NCPs with the RI ecosystem and a sustainable and comprehensive RI Knowledge Repository.

You can find more information on EuroRIS-Net+ new services through the twin leaflets of the project.



One-stop shop

### RI Events Calendar

« Prev April 2012 Next »

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

RI Observatory

Transnational Access Opportunities

RI Policy

FP7 IICP networks' corner

FAQs

RI Events Calendar

« Prev November 2013 Next »

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Follow us on Twitter

Home » RI Calls Information

## Transnational Access Open Calls



Through this section, RI projects offering transnational access opportunities are presented (both I3 projects and e-infrastructures). Through our project team all data will be revised and updated at a regular basis, aiming to offer the most up-to-date information on the opportunities offered through the existing infrastructures of pan-European interest. This section will include open calls issued by I3 projects (existing infrastructures) for transnational access opportunities, based on the communication of our network with the I3 projects and constant updates of the relevant information.

There are 30 open calls right now.

Project Acronym <input type="text"/>	Transnational Access Info & Title <input type="text"/> Free Text Search	Current Call Open date Is equal to <input type="text"/> -Year <input type="text"/> -Month <input type="text"/>	Domain <input type="text"/> - Any -
Remote access <input type="radio"/> - Any - <input checked="" type="radio"/> No <input type="radio"/> Yes			<b>APPLY</b>

Project: diXa |

Contract No: 283775 | Website: <http://www.euroris-net.eu/RIA>

### Data Infrastructure for Chemical Safety

Transnational Access opportunities:

The main objective of the "Data Infrastructure for Chemical Safety" (diXa) project is to further develop and adopt a robust and sustainable service infrastructure (e.g. data infrastructure and e-science environment) for harboring multiplexed data sets as produced by past, current and future EU research projects on developing non-animal tests for predicting chemical safety, in linkage with other globally available chemical/toxicological data bases and data bases on molecular data of human disease.

Project: NMDB |

**Transnational Access is an open call within EUROCHAMP-2. Please submit your proposal [here](#).**

## Transnational Access (TA)

Within the EUROCHAMP-2 project we now offer transnational access to **15 chambers** at 13 different locations. This activity promotes scientific excellence through the mobility of experts and access of research scientists, in particular new users, to the high quality EUROCHAMP-2 infrastructure. Such users may be engineers or scientists who need support from the infrastructure to conduct research in various fields of atmospheric environmental chemistry. Access to the installations is offered free of charge and the cost of the chamber operation is covered through a **TA proposal** which was successfully reviewed by the **user selection panel (USP)**. A list of **successful TA proposals** provides an overview on the research fields and various groups using TA.

The call for the EUROCHAMP-2 TA activities is a continuous call; proposals are accepted at any time from any researcher or research team. **However, we expect the proposal at least one month in advance of the earliest start of the TA activity.** The proposals are subject to the **Transnational Access Evaluation Procedure** briefly outlined here:

1. An incoming proposal is verified by the EUROCHAMP-2 office for **formal compliance** with the EU regulations.
2. The proposal is examined by the corresponding access provider of the infrastructure for the **scientific quality** of the proposal and the **feasibility** for the use of the facility.
3. The proposal is forwarded to the **USP**, consisting of members from the EUROCHAMP International Advisory Committee (IAC) and from the Eurochamp consortium. The USP will judge the scientific content of the project and rank the proposals according to defined **selection criteria**.
4. The **final decision** is forwarded to the applicant by the EUROCHAMP-2 office.

**The user selection panel will review the proposals with respect to the following criteria:**

- Originality and scientific value of the proposal
- Interest to the scientific community
- Involvement of new users
- Training benefit to young researchers
- mobility of experts

Please download the **Transnational Access Evaluation Procedure**, **Transnational Access Proposal Guideline** and the **Transnational Access Proposal Form**. Please fill the form and submit through **upload web interface**. The proposal will be forwarded to the TA coordinator and the host. You will receive a Eurochamp TA reference number which we would like you to use for the correspondence, e.g. **update** of your existing proposal.

Each Group Leader of a user-project supported under an EC Research Infrastructure grant agreement is requested to complete the present **User Group Questionnaire**. The questionnaire must be submitted once by each user group on 08/08/08.

## Access to the best networks and resources

- **GEANT network**
- **Grid network**
- **digital scientific repositories**
- **scientific data infrastructure**



## The EarthServer Initiative

EarthServer is establishing open access and ad-hoc analytics on extreme-size Earth Science data, based on and extending leading-edge [Array Database](#) technology.

Database query languages serve as client/server interface for "mix & match" access to multi-source, any-size, multi-dimensional spatio-temporal data - in short: "Big Earth Data Analytics" - based on the open standards of [OGC](#) and [W3C](#). The platform technology, [rasdaman](#), gets extended with further spatiotemporal [coverage](#) data types. Highly effective optimizations - such as parallel and distributed query processing - ensure scalability to Exabyte volumes.

### Six [Lighthouse Applications](#)

with 100+ TB will demonstrate feasibility of this approach. Experience is being fed back into standardization to advance OGC specifications.

### Social media

Follow @EarthServer\_EU

Join the EarthServer User Interest Group



### Hits since 2013



### News

**2013-Nov-15:** EarthServer Climate Data Service integrated at the European Space Agency [more](#)

**2013-Oct-01:** EarthServer activities presented at the FOSS4G 2013 [more](#)

**2013-Oct-01:** EarthServer activities on standardization presented at the OGC TC Meeting [more](#)

**2013-Sep-26:** EarthServer 3D client presented on the

### Project Brief

**Title:** EarthServer

**Run time:** Sep 2011 - Aug 2014

**Budget:** 5.85 mEUR

**EU Contribution:** 4.00 mEUR

**Funded by:** EU e-Infrastructure

**Project Number:** 283610

**Cryospheric Science**  
landcover mapping

**Airborne Science**  
high-altitude long-endurance drones

**Atmospheric Science**  
climate variables

**Geology**  
geological models

**Oceanography**  
marine model runs + in-situ data

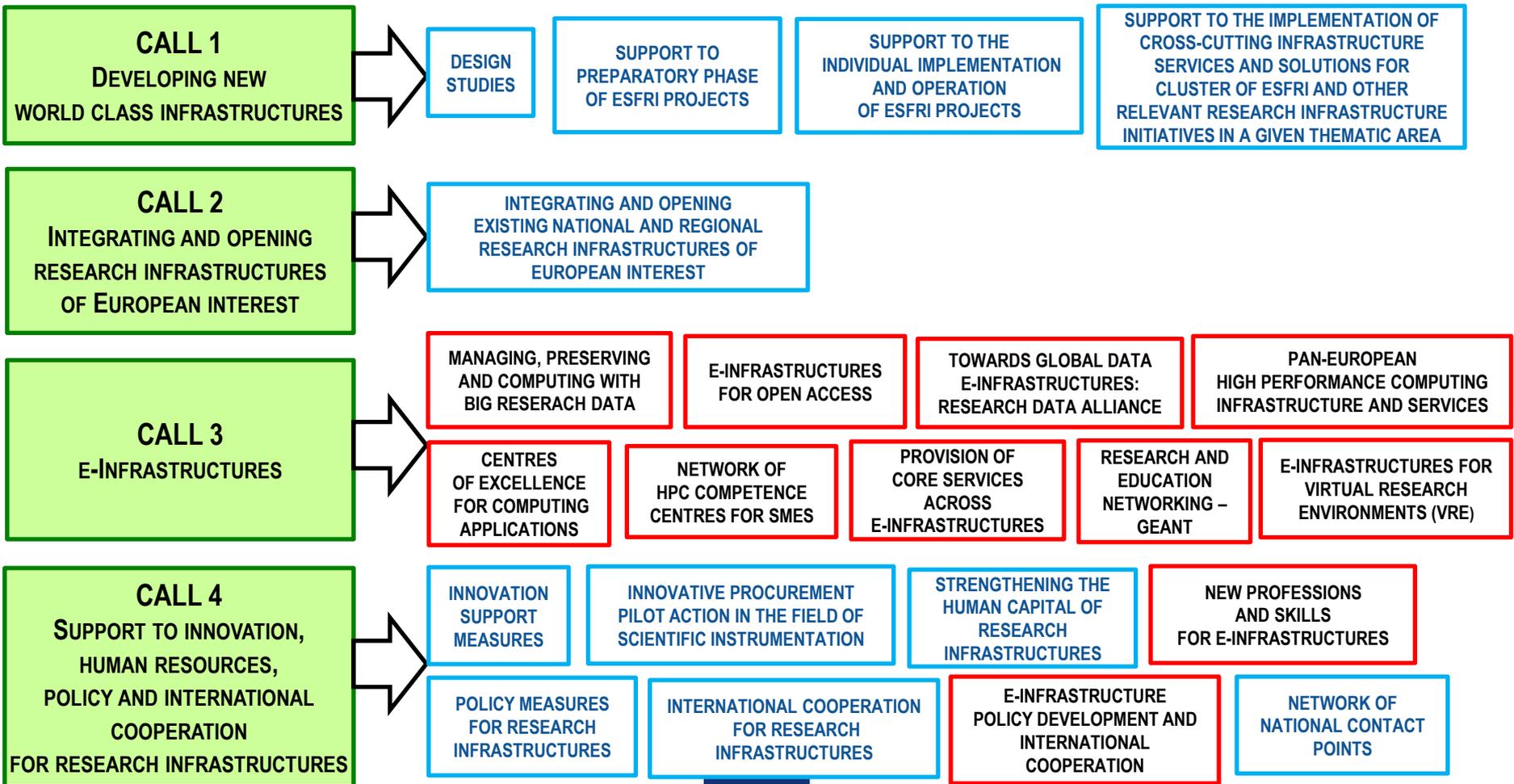
**Planetary Science**  
Mars geology

# Research Infrastructures – Calls

*4 Calls - 22 topics in total*

1. **Developing new world-class Research Infrastructures**
2. **Integrating and Opening RI of European Interest**
3. ***e-Infrastructures***
4. **Support to Innovation, Human resources, Policy and International cooperation**

# RESEARCH INFRASTRUCTURE Work Programme 2014-2015



## 1. Designing infrastructures

- INFRADEV-1-2014: Design Studies *2.09.2014, 17.00*

## 2. Construction of new infrastructures

- INFRADEV-2-2015: Preparatory Phase of ESFRI projects *14.01.2015, 17.00*
- INFRADEV-3-2015: Individual implementation and operation of ESFRI projects *14.01.2015, 17.00*
- INFRADEV-4-2014/2015: Implementation and operation of cross-cutting services and solutions for clusters of ESFRI and other relevant research infrastructure initiatives *2.09.2014, 17.00*

### 3. Integrating Activities

*INFRAIA-1-2014/2015: Integrating and opening existing national and regional research infrastructures of European interest*

2.09.2014, 17.00

### 4. e-Infrastructure

***EINFRA-2-2014 – e-Infrastructure for Open Access***

**15.04.2014, 17.00**

***EINFRA-1-2014 – Managing, preserving and computing with big research data***

***EINFRA-3-2014 – Towards global data e-infrastructures – Research Data Alliance***

***EINFRA-4-2014 – Pan-European High Performance Computing infrastructure and services***

**2.09.2014, 17.00**

***EINFRA-6-2014 – Network of HPC Competence Centres for SMEs***

***EINFRA-7-2014 – Provision of core services across e-infrastructures***

***EINFRA-8-2014 – Research and Education Networking – GÉANT***

***EINFRA-5-2015 – Centres of Excellence for computing applications***

**14.01.2015, 17.00**

***EINFRA-9-2015 – e-Infrastructures for virtual research environments (VRE)***

## Call 2 - Integrating & opening RI of Eur. interest

### *Distribution of targeted areas by domain and Summary*

Domain	Starting communities	Advanced communities	Number of areas
Bio Medical Sciences	5	4	9
Energy	2	1	3
Environment	4	5	9
ICT	1	1	2
Material and Analytical Facilities	1	6	7
Physics	4	3	7
Social Sciences and Humanities	2	2	4
<b>Total</b>	<b>19</b>	<b>22</b>	<b>41</b>

Research Infrastructures (RTD)	2014	2015	TOTAL	Single grant
CALL 2 - H2020-INFRAIA-2014/2015	90	50	140	Up to 5 or up to 10 M€

**Deadline: 2 September 2014**

# Call 4 - Support to Innovation, Human resources, Policy and International cooperation

## *8 topics*

- Innovation support measures (*RTD*)
- Innovation procurement pilot on instrumentation (*RTD*)
- Human Capital of research infrastructures (*RTD*)
- New professions and skills for e-infrastructures (***CNECT***)
- Policy measures for research infrastructures (*RTD*)
- International Cooperation for research infrastructures (*RTD*)
- e-infrastructure policy and international cooperation (***CNECT***)
- Network of national contact points - **NCP** (*RTD*)

# Call 4

## *International cooperation for RI (topic 6)*

Facilitate the development of **global research infrastructures** and the **cooperation of European RI with their non-European counterparts**, ensuring their global interoperability and reach, and to **pursue international agreements** on the reciprocal use, openness or co-financing of infrastructures.

- **Support to GSO activity on global research infrastructures**
- **Support bilateral cooperation with Africa, Russia (Mega Science projects)**
- **Support multilateral cooperation with ENP (mapping) and US, Canada, Russia etc... on Arctic research, Marine science and biodiversity**

# Call 4 Summary

Research Infrastructures (RTD / CNECT)	DG	2014	2015	TOTAL	Single grant
CALL 4 - H2020-INFRA supp-2014/2015	RTD	17	14	31	
	CNECT	5	2,5	7,5	
Innovation support measures	RTD	2		2	
Innovative procurement pilot on instrumentation	RTD		14	14	At least two proposals
Human capital of research infrastructures	RTD	2		2	
<i>New professions &amp; skills for e-infrastructures</i>	CNECT		2,5	2,5	
Policy measures for research infrastructures	RTD	4		4	Up to two proposals
International Cooperation for RI	RTD	7		7	
<i>e-Infrastructure policy &amp; internat. cooperation</i>	CNECT	5		5	
Network of National Contact Points	RTD	2		2	One proposal

**Deadlines:**

**14 May 2014**

**2 September 2014**

**14 January 2015**

# Time schedule

- Publication first calls: **11 December 2013**
- Deadlines in 2014:
  - 15 April 2014 :** e-Infrastructure for open access (13 M€)
  - 14 May 2014 :** NCP network (2 M€)
  - 2 September 2014:**
    - Design studies (15 M€), Clusters (80 M€), Integrating Activities (140 M€),
    - e-Infrastructures for Big Data (55 M€), RDA (4 M€), HPC (15 + 2 M€),  
Core services (6 M€), GEANT FPA
- Deadlines in 2015:
  - 14 January 2015 :**
    - *Preparatory Phase (14 M€), Individual support to ESFRI (90 M€), ,*
    - *Centres of excellence for computing applications (40 M€), VRE (42 M€),*
    - *PCP/PPI pilot for instrumentation (14 M€); e-skills (2,5 M€)*

**Thank you for your Attention!**



**HORIZON 2020**

**Contact person:**

***Dr Tatyana Lyadnova***

e-mail: [tlyadnova@belisa.org.by](mailto:tlyadnova@belisa.org.by)

**Tel: +375 172031016**

**Tel.m.: +38529 3359868**

**Fax: +375 17 2033139**