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Research Infrastructures in Horizon 2020

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Facilities, resources, organisational systems and services that are used by the research communities to conduct research and innovation in their fields

This includes:

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

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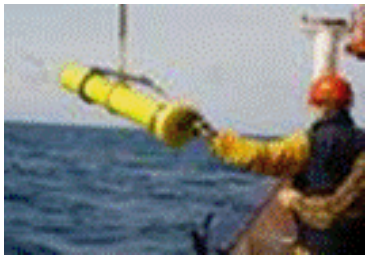
An 'eco-system' of Research Infrastructures

- Large single-sited facilities
- Distributed European Facilities
- Regional Partner Facilities
- Network of national facilities
- Linked with local platforms, universities & schools
- Networks of users and industrial suppliers, etc.



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Staying Competitive in Science

- Collaboration between European and worldwide research teams
- Access to exceptional/remote resources
- Global Virtual Research Communities
- Data-intensive science and innovation
- Use and manage exponentially growing sets of data
- Experimentation in-silico, simulation
- Use of high-performance computing

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Global Virtual Research Community

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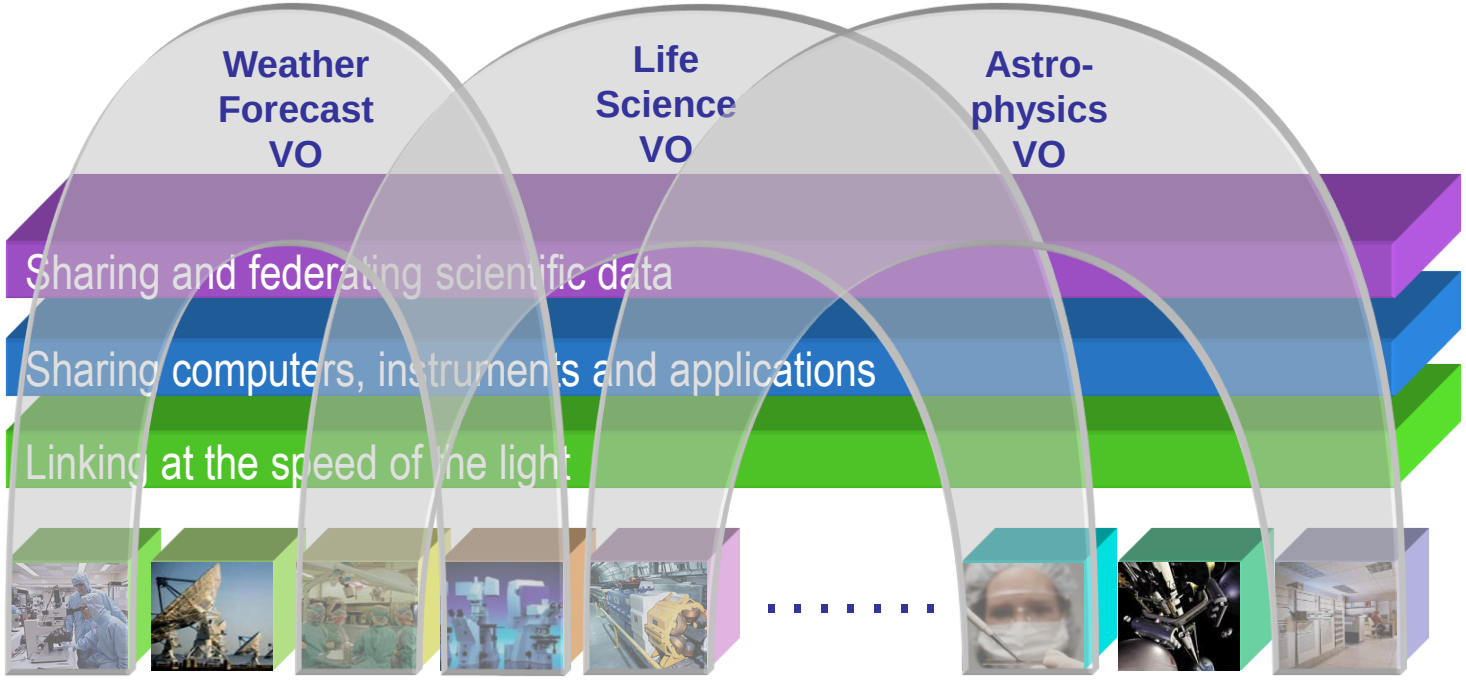
Virtual Organizations Formed

Connecting the finest minds
Sharing the best scientific resources
Building global virtual communities



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Why a EU approach?

- To support **open access** to existing RIs in individual Member States for all (non-)European researchers
- To **avoid duplication of effort** and to coordinate and rationalise the use of these RIs
- 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 acquire and operate RIs at **world level**

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FP7 Research Infrastructures (1.7 B€)

- **Preparatory phases** of ESFRI projects (210 M€)
- Support to the **construction** of ESFRI projects (90 M€)
- **Integrating Activity** (670 M€) focussed on access
- **e-Infrastructure** projects (410 M€)
- **Design studies** for new RIs (45 M€)
- **Policy support and coordination** measures (75 M€)
- Contribution to **RSFF** (200 M€)

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Impact assessment - Some findings

- **Research infrastructures generate**:
  - **Few short-term direct impacts**, through their suppliers
  - Medium to **longer-term indirect impacts**, more **difficult to monitor**: research results, training of people and skills, organizational changes, opportunities given to regions, etc.

- **Some of the factors for impact**:
  - Established **user-supplier relationships**
  - **Good outreach policy**
  - Data **policy for knowledge and technology transfer**

- **Efforts to be continued under Horizon 2020**:
  - Further work is needed, especially to **gather more empirical data** (surveys, case studies, etc.) and **develop monitoring and evaluation guidelines**

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Lessons from FP7

- FP7 plays a leading role in supporting, **structuring and integrating** European RIs and, thus, for building the ERA
  - A trigger for longer-term cooperation
  - A broad scientific coverage
  - A broad geographic coverage
  - An increased and facilitated access
- Some future **challenges**
  - Address **thematic gaps**
  - Address properly the **data challenge**
  - **Reinforce cooperation with other actions**, for instance FET Flagships, Structural Funds and JPIs
  - Develop **international cooperation**
  - Better measure and **communicate** the impact of the programme

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Current Policy Context (1)

- **Europe 2020 Strategy**
  - **Smart, sustainable and inclusive growth**
    3% of the EU's GDP to be invested in R&D
  - **7 flagship initiatives**
    Innovation Union, Digital Agenda
    Detailed commitments relevant to RIs

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Commitments within Innovation Union

- *By 2015* […] *have completed or launched the construction of 60% of the priority European research infrastructures currently identified by ESFRI* […]
- […] *opening of Member State operated research infrastructures to the full European user community* […]
- *The European Union should step up its cooperation on the roll-out of the global research infrastructures* […]

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Current Policy Context (2)

- **European Research Area**
  - Commission Communication on 17/07/2012 COM(2012)392
  - RIs: "[…] *constructing and running effectively key research infrastructures on a pan-European basis.*", and one section dedicated to Ris (p.9)
- **EU Multiannual Financial Framework** (2014-2020)
  - Commission Proposal COM(2011)500 29/06/2011 for "*A Budget for Europe 2020*"
  - Key extraordinary EU Council Summit 22-23 November 2012: "*Presidency's suggestion that eventually there will have to be spending cuts in all MFF headings*"
- **Horizon 2020** (2014-2020)
  - EU Framework Programme for Research and Innovation Commission Proposal COM(2011)808 30/11/2011

From FP7 to Horizon 2020

An **increased budget**

New activities to support the **implementation** and **operation** of world-class infrastructures such as **ESFRI** infrastructures

Continuation of the successful FP7 **Integrating Activities**

Reinforcement of the support to **e-infrastructures**

New objective of better exploiting the **innovation potential** and **human capital** of infrastructures

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What is Horizon 2020

Commission proposal for a 80 billion euro research and innovation (including EIT activities) funding programme (2014-2020)

Part of proposals for next EU budget, complementing Structural Funds, education, etc.

A core part of Europe 2020, Innovation Union & European Research Area:

- Responding to the economic crisis **to invest in future jobs and growth**
- Addressing peoples' concerns **about their livelihoods, safety and environment.**
- Strengthening the EU's global position **in research, innovation and technology**

Horizon 2020, three priorities:

1. Excellent science
2. Industrial leadership
3. Societal challenges

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Priority 1. Excellent science

Why:

- World class science is the foundation of tomorrow's technologies, jobs and wellbeing
- Europe needs to develop, attract and retain research talent
- Researchers need access to the **best Research Infrastructures**

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Horizon 2020

Excellent science (24 598 M€, constant 2011 prices)

- European Research Council (13 268 M€)
- Future and Emerging Technologies (3 100 M€)
- Marie Curie actions (5 752 M€)
- **European Research infrastructures (including e-infrastructures) (2 478 M€)**

Societal challenges (31 743 M€)

- Health, demographic change and wellbeing (8 028 M€)
- Food security, sustainable agriculture, marine - maritime research, bio-economy (4 152 M€)
- Secure, clean and efficient energy (5 782 M€)
- Smart, green, integrated transport (6 802 M€)
- Climate action, resource efficiency, raw materials (3 160 M€)
- Inclusive, innovative and secure societies (3 819 M€)

Industrial leadership (17 938 M€)

- Leadership in enabling and industrial technologies (ICT, space, nanotechnologies, advanced materials and advanced manufacturing and processing, biotechnology) (13 781 M€)
- Access to risk finance (3 538 M€)
- Innovation in SMEs (619 M€)

EIT (1 364 B€ + 1 461 B€)

JRC (non-nuclear: 1 961 M€)

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Research Infrastructures

4.1. Developing the European RIs for 2020 and beyond

- 4.1.1 Developing **new world-class RIs**
- 4.1.2 **Integrating** and **opening national RIs** of **pan-European interest**
- 4.1.3 Development, deployment and operation of ICT based **e-Infrastructures**

Main actions

4.2. Fostering the **innovation** potential of RIs & their **human capital**

Specific actions

4.3. Reinforcing European RI **policy** and **international cooperation**

Policy actions

1.1 Developing new world-class RIs

- **Objective:** to ensure the implementation, long-term sustainability and operation and operation of the ESFRI and other world-class RIs
- **EU funding will support:**
  - The **preparatory phase** of future RIs (for instance detailed construction plans, legal arrangements, multiannual planning…)
  - The **implementation phase** (for instance R&D and engineering work, development of regional partner facilities...)
  - The **operation phase** (for instance access, data handling, outreach, training and international cooperation activities)
  - **Design studies** for new RIs through a bottom-up approach

1.2 Integrating and opening existing national RIs of pan-European interest

- **Objective:** to **open up key national RIs** to all European researchers and to ensure their **optimal use** and **joint development**
- **EU funding** supporting **European Research Infrastructures Networks** that bring together RIs in a given field covering:
  - **Transnational** and **virtual access** activities
  - **Networking** activities to foster a culture of cooperation
  - **Joint research** activities to **improve the services** provided by the infrastructures

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1.3 Development, deployment and operation of ICT based e-Infrastructures

- **Objective:** to achieve by 2020 a single and **open European space** for online research
- **EU funding** will support:
  - Global research and education networks
  - Grid and cloud infrastructures
  - Ecosystem of supercomputing facilities progressing towards exa-scale
  - Software and service infrastructure for visualisation and simulation
  - Real-time collaborative tools for virtual research communities
  - Interoperable, open and rich scientific data infrastructure

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2. Fostering the innovation potential of RIs and their human capital

- To stimulate **innovation** both in the RIs themselves and in their supplier and user industries
  - R&D partnerships with industries to develop Union capacities in high-tech areas such as scientific instrumentation
  - Pre-commercial procurement by RI actors
  - Stimulate the use of RIs by industry
  - Encourage the integration of RIs into local, regional and global innovation ecosystems
- To strengthen the **human capital** of RIs
  - Support for the training of staff managing and operating RIs, exchanges of staff and best practices between facilities

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3. Reinforcing European RI policy and international cooperation

- Reinforcing **European policy** for RIs
  - Partnerships between relevant policymakers and funding bodies
  - Surveys, monitoring and assessments of RIs at Union level
  - Policy studies and communication tasks
- Facilitating strategic **international cooperation**
  - Cooperation for global RIs
  - Cooperation of European RIs with their non-European counterparts:
  - Ensuring their global interoperability and reach
  - Pursuing international agreements on the reciprocal use, openness or co-financing of RIs

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Integrating and Opening existing National RIs of pan-European Interest

- To open up key national research infrastructures to all European researchers and to ensure their optimal use and joint development
- Support to "European Research Infrastructures Networks" bringing together infrastructures in a given field
- Continuation of the FP7 Integrating Activities and I3s

Activities will cover: Transnational and virtual access; Networking to foster a culture of cooperation; Joint research to improve the services provided by the infrastructures

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Priorities and Vision

- Support international collaborations that are strategic for European scientific partnerships
- Consolidate RIs as a multi-disciplinary platform for regional/global collaborations
- Pool and reinforce regional capacities
- Adopt suitable organisational and governance models

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Next steps for Horizon 2020

Ongoing	Parliament and Council negotiations on the basis of the Commission proposal
Ongoing	Parliament and Council negotiations on EU MFF 2014-2020 (including Horizon 2020 budget)
Mid 2013	Adoption of legislative acts by Parliament and Council on Horizon 2020
1/1/2014	**Horizon 2020 starts, launch of first calls**

LATEST NEWS: at Competitiveness Council in Luxembourg on 10/10/12, EU Research Ministers reached agreement (Partial General Approach) on the Rules for Participation and Dissemination for Horizon 2020

Structural Funds

- Developing **synergies between the Structural funds and Horizon 2020** is a priority of the European Commission
- More specific reference to RIs "of European interest" is made in the European Commission proposal for the European Regional Development Fund
- Also, Horizon 2020 foresees support to activities dedicated to developing cooperation between RIs and other Union policies, such as Cohesion, through relevant studies and communication tasks

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Management Challenges Under FP7

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Participant Portal Changes

The major objective of the new version is **to simplify the role management and make it more flexible**.
In that perspective, the following changes are made:

1. The **uniqueness of the Coordinator and Participant Contacts disappear:**

➔ one **Primary Coordinator Contact** as the main contact for the European Commission;
➔ **more Coordinator Contacts** can be nominated per project;
➔ **more Participant Contacts** can be nominated per organisation in a project.

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Changes in the new version of IAM

✓ The main principles of the identity and access management (IAM) do not change:

- Access rights of a person are based on an **ECAS account**
- The unique identifier of the **organisation** is the 9-digit **PIC number**
- The Commission/Agency can approve/modify the top roles within the consortium, but the **granting of access** rights to projects and **provisioning of roles** within a project is delegated to **the members of each consortium**
- Access can be granted to the project-related actions such as negotiations, amendments and/or financial and scientific reporting following a multi-level «pyramid» of rights

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Changes in the new version of IAM

2. Task Managers and Team Members are **no longer restricted to specific scope(s)**.

3. The roles of **Named Representatives are automatically redistributed**:

Financial Named Representative	→	**Coordinator/Participant Contact**
Scientific Named Representative	→	**Coordinator/Participant Contact**
Authorised Representative	→	**Coordinator/Participant Contact**
Administrative/Legal Named Rep.	→	**Task Manager**
Authorised Signatory	→	**Coordinator/Participant Contact**

4. Those who register(ed) their organisation to obtain a PIC will have a **self-registrant** role.

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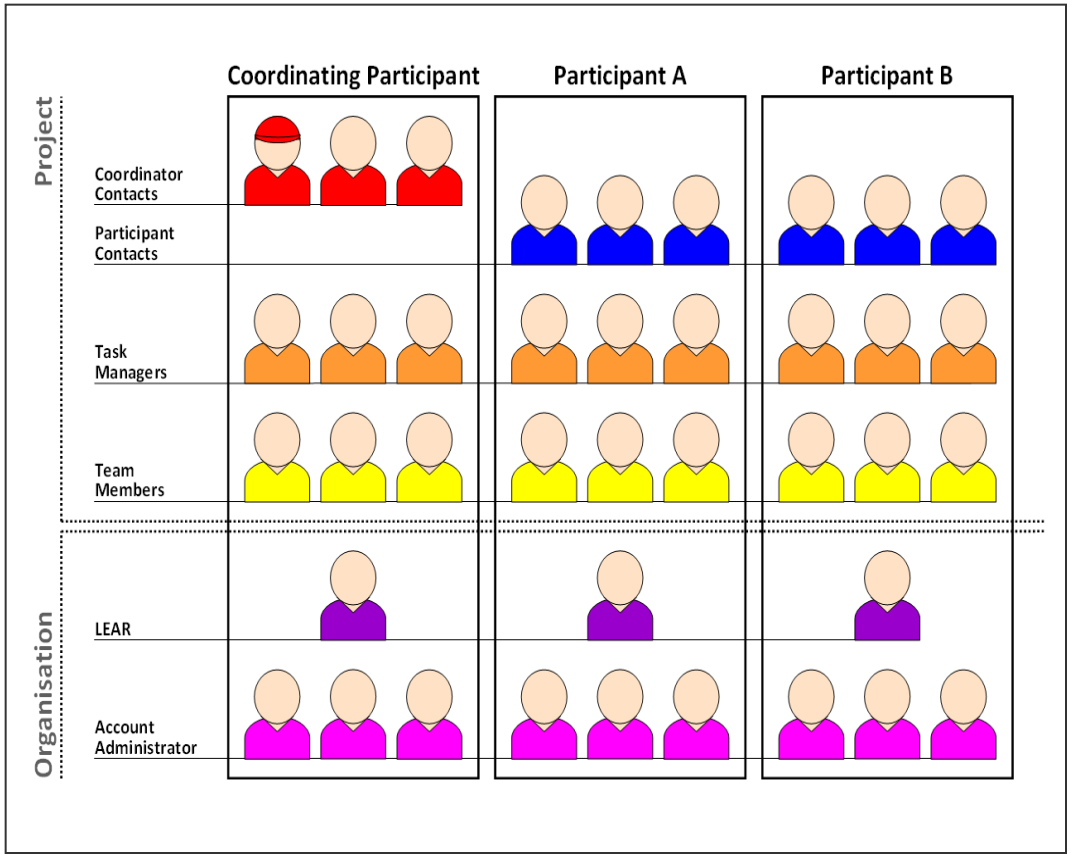
Roles in the Participant Portal after February 2012

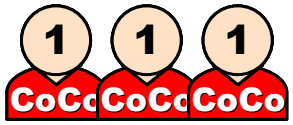


Transfer of roles

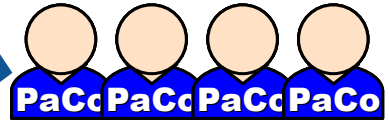
- The **Primary Coordinator Contact**: a unique role.

Coordinator contact		➔	***Primary Coordinator contacts***

- More **Coordinator contacts** can be nominated by the Primary Coordinator contacts.

Coordinators' contacts as Scientific/ Financial Repr.; Authorized Signatory		➔ 	***Coordinator contacts***

- More **Participant contacts**

Participants' contacts as Scientific/ Financial Repr.; Authorized Signatory		➔ 	***Participant contacts***

- ## Task Managers

Task Manager with a scope; Admin./Legal Repr.		***Task Managers***

- ## Team Members

Team Members with a scope		***Team Members***

Access rights: Project roles

- Nominate and revoke Participant Contacts for any participating organisation.
- In addition, all rights listed under the Coordinator Contacts.

- Nominate and revoke other Coordinator Contacts;
- Read/write access to own forms;
- Submit to European Commission/Agency;
- In addition, all rights listed under the Participant Contacts.

- Nominate and revoke Participant Contacts, Task Managers and Team Members within their organisation;
- Read/write access to own and common forms;
- Submit to the Coordinator Contacts;
- In addition, all rights listed under the Task Managers.

- Create and update forms;
- In addition, all rights listed under the Team Members.

- Read-only access.

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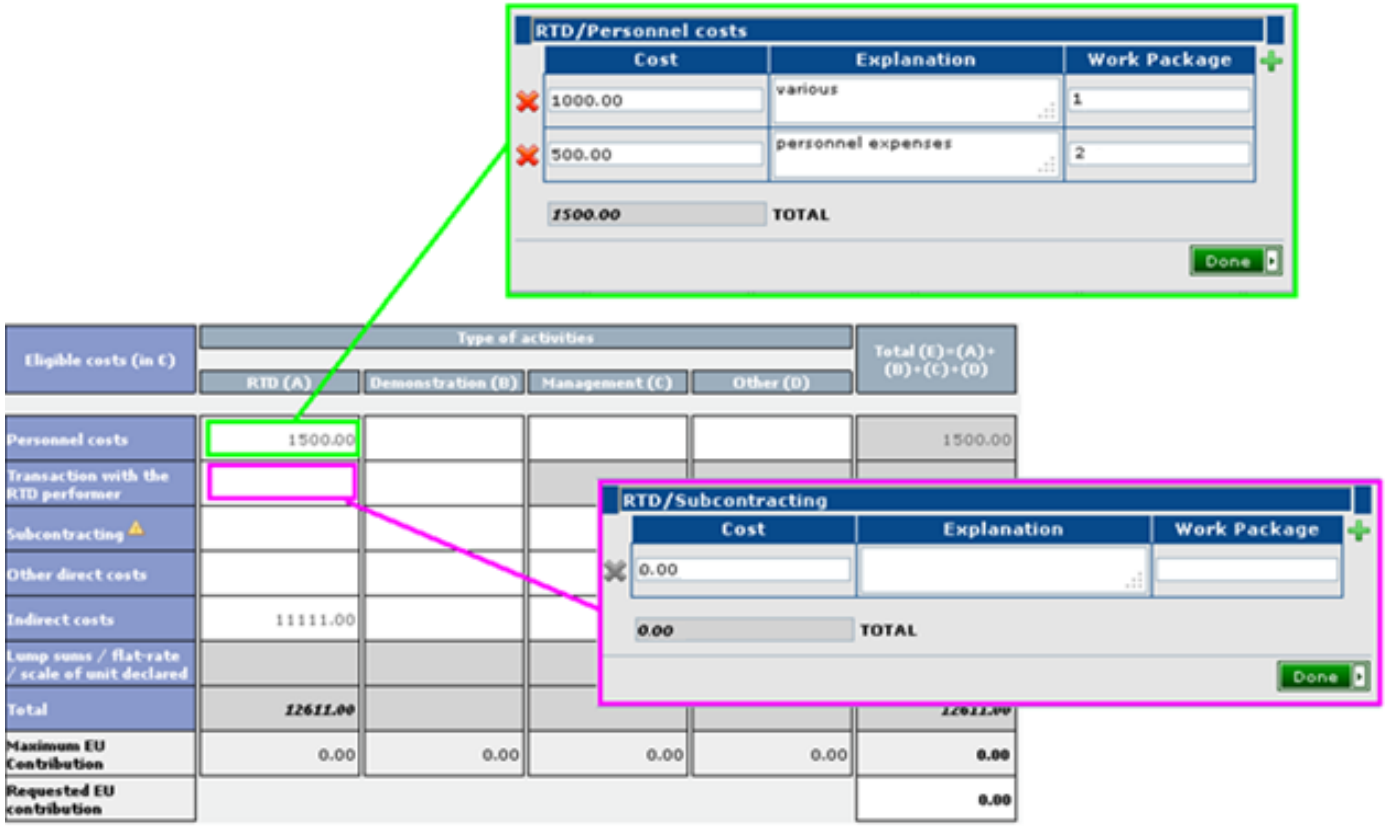
FP7 project reporting technical modifications for the "Explanation on the use of resources"

- From **21st May 2012** the «Explanation of the use of the resources» will be **part of the financial reporting functions** (accessible for beneficiaries via the Participant Portal FR or PR icons)
- This change does not imply any changes to the rules and requirements for reporting, is purely a **technical modification**
- The explanations on the use of the resources will be integrated into the **online Form C**.

Just clicking on a cell in the Form C will open a table, where breakdowns by major cost items and WPs and the related explanations can be introduced.



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- *A **transitional period** during which users having already started drafting reports will be able to access the function **both** the **scientific** and the **financial reporting functions***
- *For **newly** created scientific reports, the section will be available **only** in the **financial reporting function***
- *The **periodic** scientific reports **already submitted** to the Commission or rejected /requested to be reviewed **do not change**.*

Further information:
https://webgate.ec.europa.eu/research/participants/portal/page/faq

Thank you for your Attention!

Find out more:

www.ec.europa.eu/research/horizon2020

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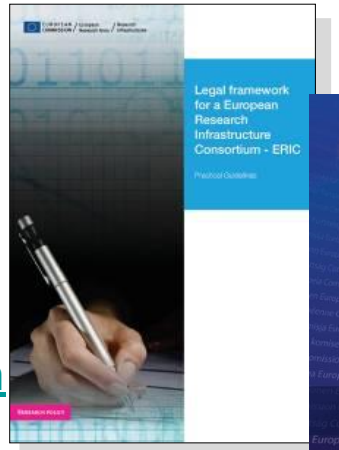
For further information



- **Europe 2020**
  http://ec.europa.eu/eu2020
- **European Research Area – ERA**
  http://ec.europa.eu/research/era/index_en.htm
  http://ec.europa.eu/research/era/pdf/era-communication/era-communication_en.pdf
- **Innovation Union**
  http://ec.europa.eu/research/innovation-union
- **Horizon 2020**
  http://ec.europa.eu/research/horizon2020
- **EC Research Infrastructures and ESFRI**
  http://ec.europa.eu/research/infrastructures
- **FP7 and Participant Portal**
  http://ec.europa.eu/research/participants/portal/page/home
- **EC Regional Policy**
  http://ec.europa.eu/regional_policy