

National Nodes – get organised

how far are we?

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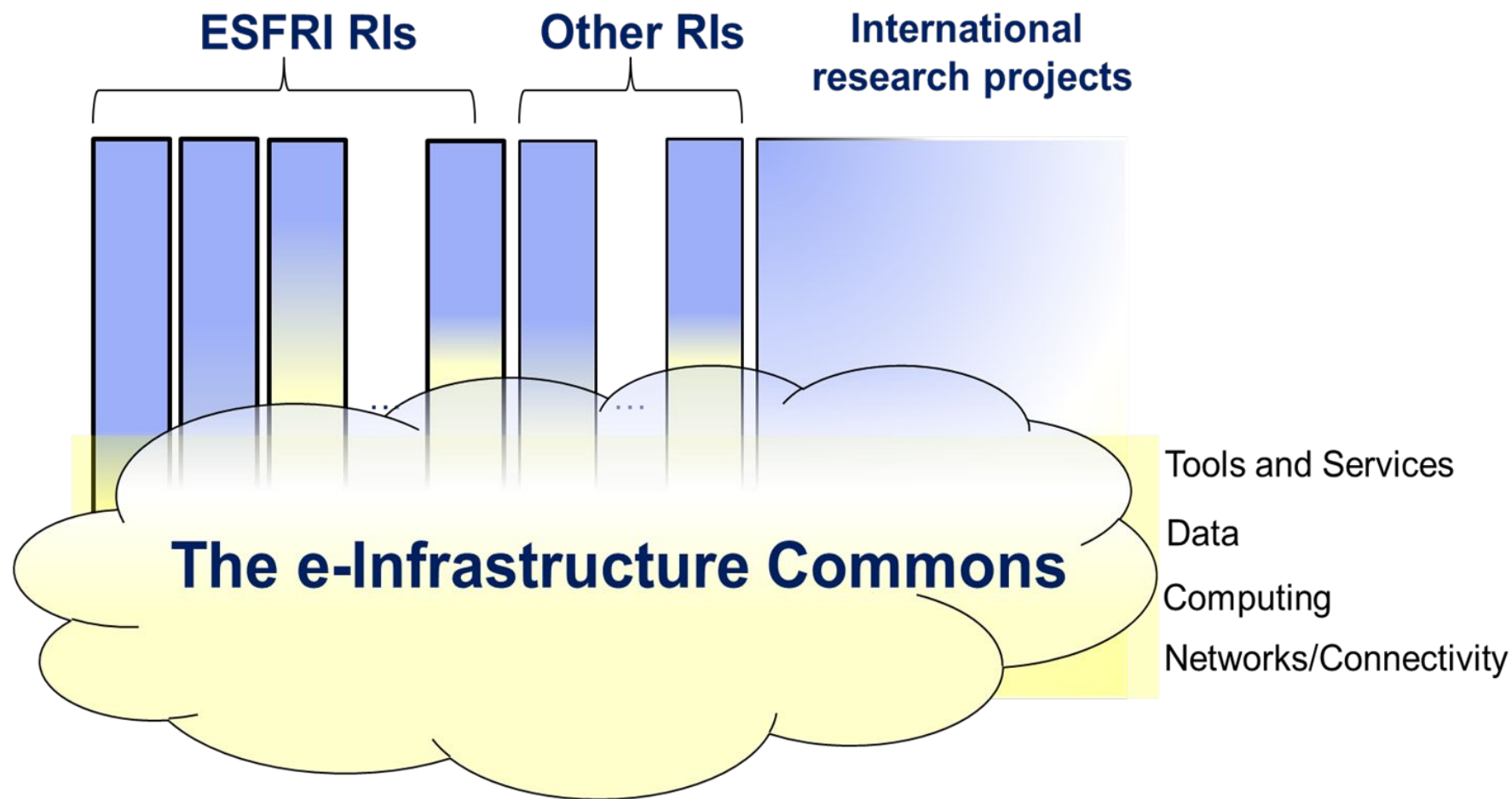


e-IRG Workshop (29. - 30. November 2023)

organised in the framework of the
Spanish Presidency of the Council of the Union



e-Infrastructure Commons (→ EOSC)



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In 2016, e-IRG defined the *e-Infrastructure Commons* as *the (future) integrated living ecosystem of resources and services (along with its policies and governance) that is open, user friendly and accessible to European researchers and scientists, and continuously adapts to the changing requirements of research and science.*

e-IRG Roadmap 2016

Three core functions:

1. **Community building, high level strategy and coordination:** a coherent governance model **with a central role for user communities**
2. **Service provisioning:** a **flexible, open, and competitive** approach to **national, European, and global service provision**; with advanced collaboration among the interested public and commercial service providers.
3. **Innovation:** Implementation of major **innovation projects through the best consortia** including e-Infrastructure suppliers, industry, users and academia.

e-IRG Roadmap 2016

Two **recommendations** are directed at **national governments** and **funding agencies**. They should reinforce their efforts to:

- *embrace **e-Infrastructure coordination at the national level** and **build strong national e-Infrastructure building blocks**, enabling coherent and efficient **participation in European efforts**, especially in alignment with the **FAIR principles concerning data and services***
- *together **analyze and evaluate their national e-Infrastructure funding and governance mechanisms**, identify best practices, and provide input to the development of the European e-Infrastructure landscape*

Competitive Council (28/29 May 2018)

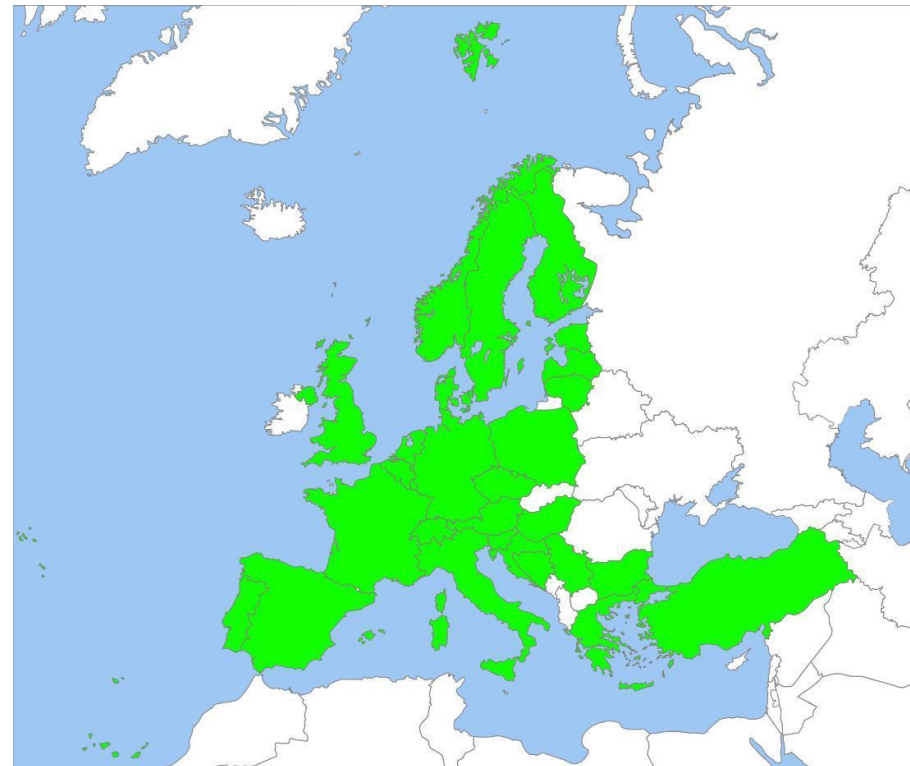
“AGREES that the EOSC model should be based on a pan-European **federation** of data infrastructures in order to be flexible and adaptable to changing needs of the stakeholders;

with regard to enabling this federation of national and European data infrastructures, ENCOURAGES **Member States** to invite their relevant communities, such as **e-infrastructures, research infrastructures**, Research Funding Organisations (RFO’s) and Research Performing Organisations (RPO’s), to **get organized** so as to prepare them for connection to the EOSC and

CALLS ON the Commission to make optimal use of ongoing projects, existing expertise and knowledge available via existing initiatives, such as **ESFRI, eIRG, GO FAIR** and others;”

National Nodes – Getting organised; how far are we?

In response to the CC
call for action: e-IRG
report published in
June 2019



Based on analysis of
the responses by 28
countries on
questionnaire with
three sets of
questions

[National Nodes - Getting organised; how far are we? \(zenodo.org\)](http://zenodo.org)

Observations (1) - Overall

- *The number of e-Infrastructure providers per country varies from a single organisation in a few countries to multiple providers of the different horizontal e-Infrastructure components.*
- *Large countries usually have multiple providers, while smaller countries have fewer.*
- *A situation of multiple providers may lead to competition, and in all cases requires coordination at the national level either bottom up (initiated by the providers themselves) or top-down (imposed by ministries or research councils).*
- *The more complex the national ecosystem is, the more challenging the coordination towards the European constituents and initiatives*

Observations (2) - Governance

- *The governance of e-Infrastructure providers varies significantly inside and across countries.*
- *The structural ownership of networking organisations usually lies with a higher-authority organisation such as a ministry, while for other e-Infrastructure providers the situation is more dispersed.*
- *The **strategic governance level is in many cases exercised by boards with representatives from universities or research centres or other experts.***
- *Once again, the more complex the governance at national level, the more challenging the coordination within the country and towards the European constituents and initiatives.*

Observations (3) - Funding

- *In most countries, networking and computing providers are funded by ministries (and research centres) given the high budgets involved, and in fewer cases, this involves user fees or EU structural funds. Data infrastructures involve more ad-hoc or project-based funding.*
- *Sustainability of national providers with more ad-hoc funding such as data infrastructures may be complicated, which may have an impact at their European constituents and initiatives.*
- *EU funding for specific projects -aside from networking/GEANT- is used for several components of the e-Infrastructure landscape, especially for the new components, such as data, and other services.*

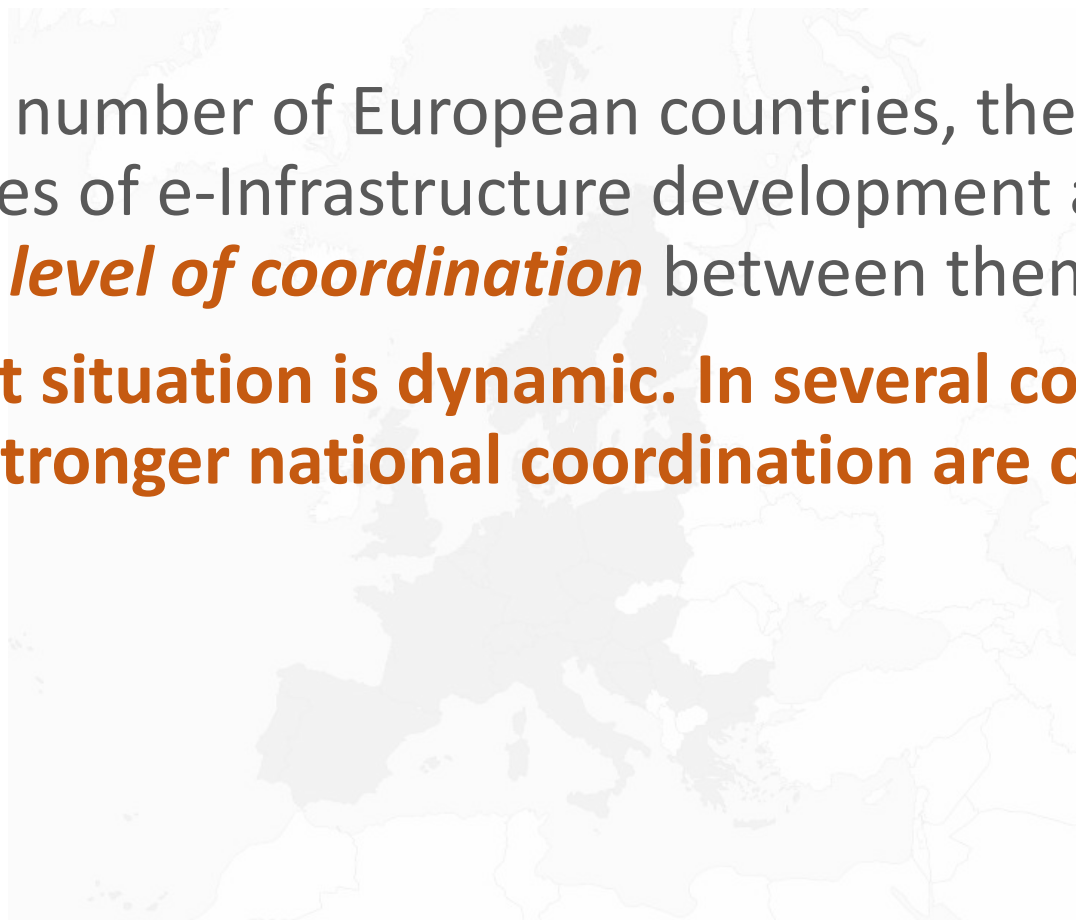
Observations (4) – Access policies

- *In most countries, access to the national resources is restricted to national users, while there are some cases, especially in computing, where a fraction of the resources is allowed to international users or collaborations (e.g. via peer-review).*
- ***This is seen to have a significant impact at the European constituents and initiatives.***



Observations (5) - Coordination

- In a sizable number of European countries, the various cornerstones of e-Infrastructure development and provisioning have *some level of coordination* between themselves.
- **The current situation is dynamic. In several countries, processes aiming at stronger national coordination are on-going**



Deliberations (1)

- Realising the e-Infrastructure Commons in Europe requires:
 - *coordination mechanisms among horizontal and vertical e-infrastructure service providers*
 - *easy access to data and interoperable services,*
 - *robust and sustainable (national and European) funding mechanisms* that can enable scalable and long-term development and operation of national and European e-Infrastructures and research infrastructures
- The EOSC should evolve into **an ecosystem of national and thematic views and abstractions** of the EU-level services
 - *with extra services available at national, regional or thematic levels*
 - *and/or a subset of the EU services based on the participation of a national constituent in EU or thematic initiatives and Research Infrastructures*
 - *or possible restrictions at national/regional/thematic levels*

Deliberations (2)

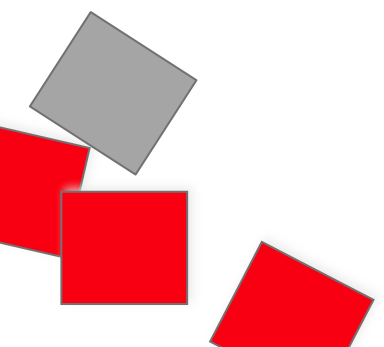
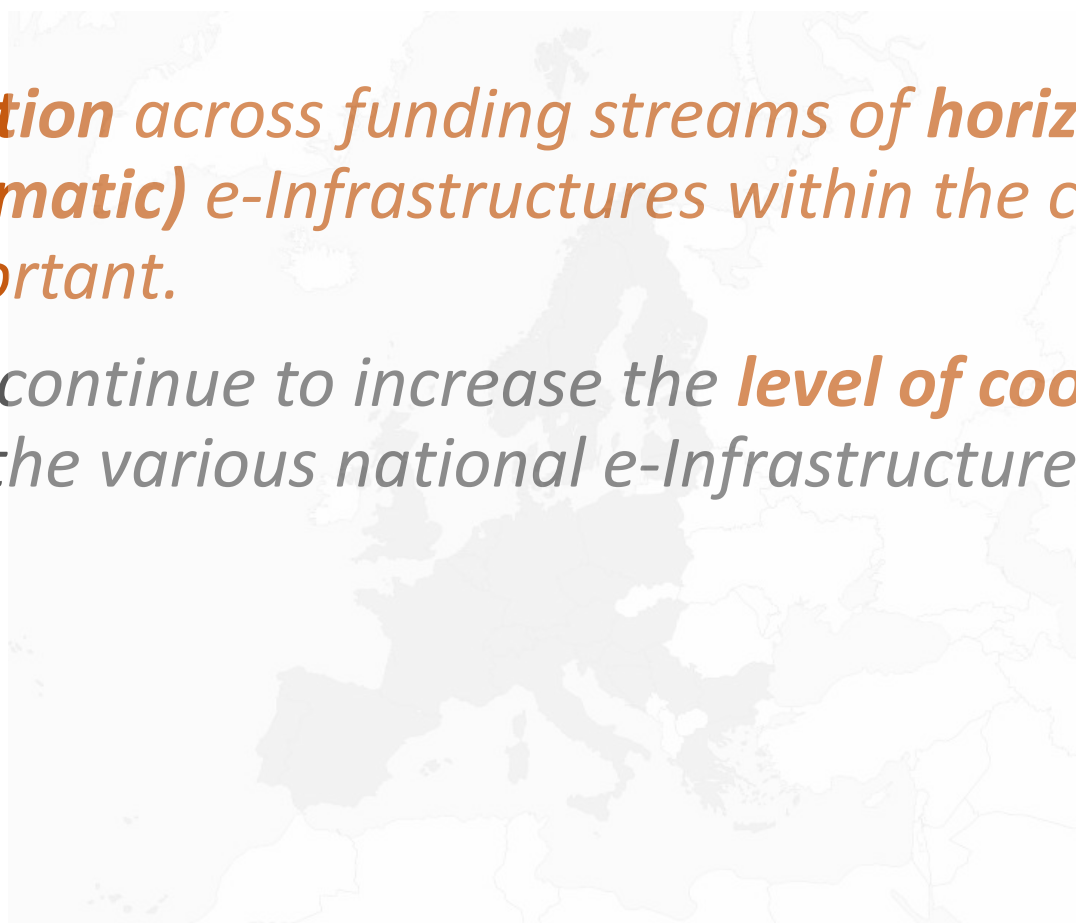
A **broad user involvement at the strategic governance level** of national horizontal e-infrastructures through representatives from the universities and research communities is needed.

- Processes and mechanisms to **coordinate the interplay and integration between national horizontal and vertical e-Infrastructures** are emerging in several e-IRG member countries **Structured and more conscious attempts** are needed.
- There are interesting mechanisms and ongoing processes on further national e-Infrastructure **landscape development and coordination mechanisms** The experiences should be **collected and shared to develop best practices [...]**.

Recommendations (MS/AC)

*Further **coordination** across funding streams of **horizontal (generic) and vertical (thematic) e-Infrastructures** within the countries appears increasingly important.*

*MS/AC should continue to increase the **level of coordination** and consolidation of the various national e-Infrastructure players.*



Recommendations (MS/AC)

- In the European context: **funding mechanisms** should include how to provide **access to the national services for cross-border research collaboration**.
- Member States and Associated Countries should explore, pilot and install **funding schemes**, which
 - a) give the **incentive to both research communities and provisioning organisations** to collectively optimize e-Infrastructure service development and provisioning;
 - b) **enable easy cross-border research collaboration**;

Recommendations (EC)

It is evident that in order to reach the goals of the EOSC *most of the resources need to be mobilised at the national level.*

This is why e-IRG considers it of the utmost importance to reach *strong national e-Infrastructure coordination*, because the EOSC will be most likely the federation of national (and thematic) Open Science Clouds.

- *e-IRG therefore recommends, that in future Work Programmes the EC provides strong incentives for further coordination and consolidation of e-Infrastructure service development and provisioning at the national and the European levels*

Overall Conclusions

- Today **some** countries have a **single coordinating e-Infra service entity**
 - data infrastructures are usually separate from computing and networking ones; sometimes even competing entities
- **Many** countries show **some level of coordination** – networking and computing
- **A number of** countries have **on-going processes aiming at coordination** of e-Infras and their interfaces to domain RIs
- **Some** countries describe interesting mechanisms to **channel funding streams to horizontal e-infrastructures**, with involvement of research communities and/or domain RIs



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