Policy development relevant for EOSC and e-infrastructures: e-IRG perspective

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Disclaimer

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- They should not be taken as the position of the whole e-IRG or any other body or initiative in which the speaker participates.
A key document for the implementation of EOSC is the “Strategic Research and Innovation Agenda” (SRIA).

It states three General Objectives

- Ensure that Open Science practices and skills are rewarded and taught, becoming the ‘new normal’.
- Enable the definition of standards, and the development of tools and services, to allow researchers to find, access, reuse and combine results.
- Establish a sustainable and federated infrastructure enabling open sharing of scientific results.
e-Infrastructure Reflection Group (e-IRG) mandate

- **e-IRG**: independent policy advisory body composed of representatives from the Member States and Associated Countries
- **e-IRG vision**: inclusive and holistic e-Infrastructure ecosystem, spanning all areas of e-Infrastructures; research networking, high-throughput and high-performance computing, data infrastructures, and related services.
- **e-IRG mission**: support policy making within and between member states and associated countries and the Commission, and between thematic (vertical) and generic (horizontal) e-Infrastructures.
- **e-IRG mandate**: monitor the processes and developments towards a full implementation of the *e-Infrastructure Commons*. [https://zenodo.org/record/5567014](https://zenodo.org/record/5567014)
The term **e-Infrastructure Commons** was initially presented in the e-IRG Roadmap 2012, and further evolved in the e-IRG White Paper 2013 and the e-IRG roadmap 2016.

The e-Infrastructure Commons is the **political, technological, and administrative framework** for an easy and cost-effective **shared use of distributed electronic resources** across Europe.

The e-Infrastructure Commons can be defined as an **integrated living ecosystem of resources and services** that is open, user friendly and accessible to European researchers and scientists, and continuously adapts to the changing requirements of research and science.

https://e-irg.ifs.tuwien.ac.at/?page_id=450
According to the Guiding Principles of the SRIA, EOSC is seen as the European endeavour of sharing research data, complementing the European means to handle these data: the e-infrastructures in Europe.

EOSC has a much closer relation with the actual thematic RIs/disciplines, built around research data

- The data layer and the underlying e-Infrastructures are intertwined and need to work together.
- The links with the underlying networking and computing infrastructures need to be better elaborated.

The e-IRG is focused on e-Infrastructures and have worked on their policies with respect to Research Infrastructures.
Federation goes beyond coordination

- e-IRG has published in November 2021 a White Paper entitled “Good practices of coordination within and across e-Infrastructures and thematic Research Infrastructures“.

- It presents paradigms at institutional, national, and regional level
  - Main part: Analysis of institutional/national/regional contributions – link
  - Annexes: Individual institutional/national/regional contributions - link

- It presents a set of paradigms showcasing either integral and holistic views or highlighting specific aspects
  - Coordination is needed among generic e-Infrastructure providers and across generic (horizontal) and thematic (vertical) RI providers
  - Coordination should be expanded within and across countries at institutional, regional, and EU level.

https://zenodo.org/record/5741971
Sustainability of e-Infrastructures in the EOSC Context

▪ Sustainability of EOSC ecosystem is highly aligned with the sustainability of the e-Infrastructures and services supporting it.
▪ The e-IRG is working on the analysis of the sustainability at the institutional, national (regional) and EU levels.
▪ There is a need to have better understanding of the e-Infrastructure costs, CapEx and OpEx, as we are moving towards the next phase of the operationalized EOSC of the procurement.
▪ e-IRG can contribute to the EOSC sustainability and the required analysis, also at the costs level, including the underlying infrastructure CAPEX/OPEX costs (given also its links with the e-Infrastructures)
▪ For the cost estimation, an agreed methodology across data/computing centers in Europe is required, so that the cost aspects can be approached and better understood.
National Dimension

- The EOSC delivery model includes the **European, national & institutional dimensions**.
- e-IRG is a **country-based** advisory body, with representatives at ministerial level
  - So is the EOSC-SB.
  - EOSC-A has also Mandated Organizations with a wider national representation.
- **Coordination** and **mapping** of consultation activities at the national dimension can help **sharing information** and avoid duplication of efforts.
- The liaison should go beyond an informal dialogue, and attempt to influence and change the policies when needed.
  - Sharing and aligning the policy proposals could **maximise** the **impact** through the different national contact points and actors.
Target users

- Several countries’ e-Infrastructures are expanding their services beyond research, into the provision of services for the digital governance (education, health, culture, other public sector areas, etc.)
  - e-IRG is addressing issues which are related not only to research, but also to cultural and educational data, which is the mission of universities.
    - And NRENs are serving such domains, in some cases expanding also to digital governance and citizens.
  - Opening e-Infrastructures for other users of societal purposes is also a next topic for e-IRG.
    - Good practices on how this can be done properly, i.e. that this does not harm the original mission of e-Infrastructures, primarily serving the research domain.
- Those users are also of interest in the EOSC context.
e-IRG and the EOSC IF

- **The Minimum Viable EOSC (MVE) defines four layers(**)
  - **EOSC-Core**, which comprises the enabling services required to operate the EOSC.
  - **Federated data**, whereby metadata on research outputs is harvested into a cross-search to enable discovery and reuse of data residing in multiple institutional, domain-specific and national repositories.
  - **EOSC Interoperability Framework** which provides the guidelines, specifications, standards and APIs for the composition of EOSC services and resources.
  - **EOSC-Exchange**, which is composed of common and thematic services exploiting FAIR data and encouraging its reuse.

- The EC(**) proposed that the e-IRG conduct a bottom-up analysis (from the experience of RIs and e-Infrastructures to identify **good practices of coordination** within and across e-Infrastructures and thematic Research Infrastructures.


(*) EOSC Multi-Annual Roadmap 2023-2024
Conclusions

- **e-IRG** is focused on **e-Infrastructures** (networking, computing, data)
  - e-Infrastructures include data infrastructures and related services.

- Leverage a combination of top-down and bottom-up approaches for specific topics, such as
  - **Sustainability** and cost models.
  - Survey best practices from interoperability of e-Infrastructures through coordination.

- Further coordination needed at national level
  - Good practices needed.
  - Among e-Infrastructure providers & across generic and thematic providers.

- **Regional/cross-country level coordination is still challenging**
  - Federation chain is essential (institutional/national/regional/EU).

- **Coordination at EU level** also needed (i.e. GEANT, EOSC, EuroHPC)
  - See also Session 3.
  - e-IRG to work on this in the next topic in next White Paper 2022.
Thank you!

▪ Questions?

▪ Twitter: @eirgeu, #eIRG
▪ Zenodo: All recent e-IRG publications uploaded