

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

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- The ideas and opinions expressed in this presentation are related to the e-IRG members of the EOSC-SB / e-IRG collaboration activities and do not represent the view of other bodies.
- They should not be taken as the position of the whole e-IRG or any other body or initiative in which the speaker participates.



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### **EOSC General Objectives**

- 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)

- 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 highperformance 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





- 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



# EOSC and e-IRG: focus



- 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 <u>link</u>
  - Annexes: Individual institutional/national/regional contributions <u>link</u>
- 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.



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# 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.







- 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.



(\*\*) Michel Schouppe & Liina Munari, "e-Infrastructures coordination: EOSC implementation and ERA", 67th e-IRG Delegates Meeting, 9-10 December 2021.

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



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- 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: <u>@eirgeu</u>, <u>#elRG</u>

**Zenodo** - Zenodo: All recent <u>e-IRG publications</u> uploaded

