RICH Symposium

Fostering the Innovation Potential of Research Infrastructures – The case of e-Infrastructures

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e-IRG
e-Infrastructure Reflection Group

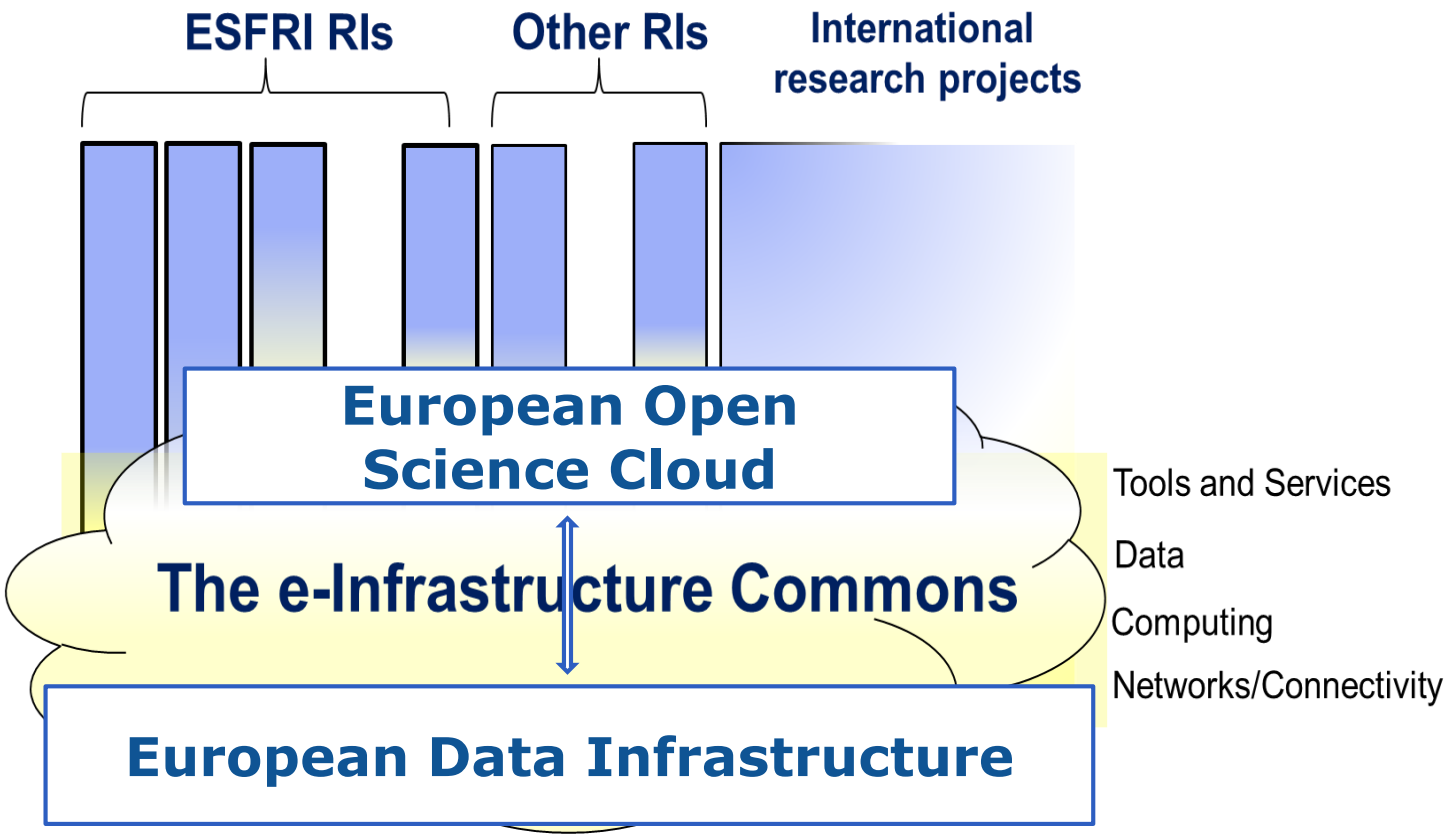
e-IRG is supported by e-IRGSP5

e-Infrastructure Commons by e-IRG

The vision of the e-Infrastructure Commons:

- reach an integration and interoperability in the area of e-Infrastructure services
- for knowledge, innovation and science as a living ecosystem
- which is open, accessible and adapts to changing requirements of research
- within and between member states
- on the European level and globally

e-Infrastructure Commons, EOSC, EDI

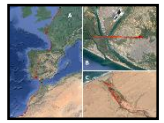
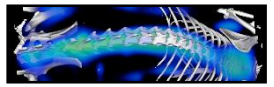


Innovation of e-Infras in production

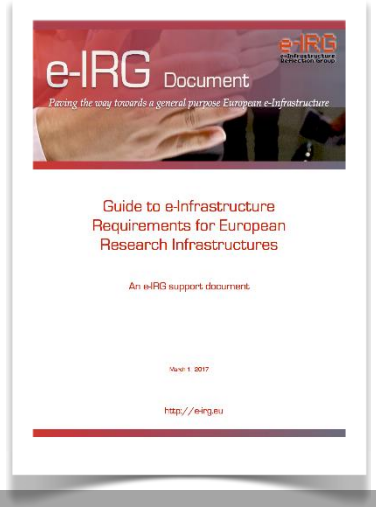
- GÉANT
  - EduROAM (education roaming): secure, free, world-wide roaming access service at any participating location to millions of students, researchers, academic staff worldwide (85 countries, in 2016 increase of about 25% in authentications)
  - eduGAIN: students, researchers and educators access online services while minimising the number of accounts users and service providers have to manage (reducing costs, complexity and security risks)
  - EUMETSAT and GÉANT: ensuring delivery of critical data

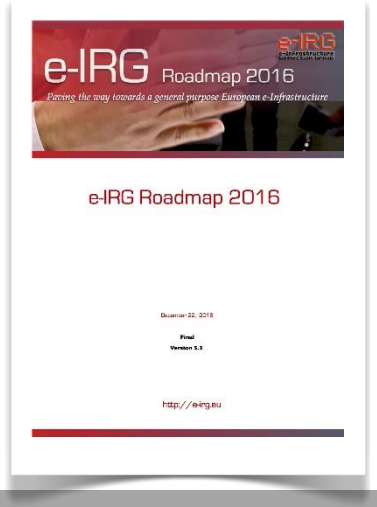
e-IRG supports large and small RIs

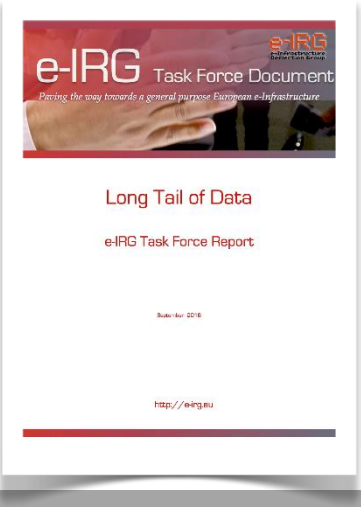

ESFRI supported RIs


Long tail of science







Innovation potential of data

- Data is the cross-section between RIs and e-Infrastructures
- RI data can be re-used to create new knowledge, new services, new products
  - with the support of e-Infrastructures and ICT tools (analytics, machine learning, etc.)
  - Example of innovation potential: big data analytics on research data and public sector information
  - This highlights the importance of data management and FAIR+R data (Findable, Accessible, Interoperable, Reusable + Reproducible)

Innovation in e-Infrastructures

- e-Infras: combination of innovation and operational aspect
  - e-Infrastructures should be at the edge of technology, and
  - ahead of commodity/commercial services (innovation aspect), and
  - provide stable, reliable, sustainable services (operation aspect)

- Digital innovation hubs to be used in e-Infrastructures (EGI – EUDAT – INDIGO-DataCloud)
  - Aim to bring all stakeholders together and promote innovation

Innovation of e-Infras and industry

- Pre-Commercial Procurement: develop innovative solutions for research/public sector
  - E.g. HelixNebula for innovative cloud solutions
- Contractual Public Private Partnerships:
  - E.g. PRACE cPPP on HPC brings together key stakeholders (Next generation technologies, Centres of Excellence for applications, Education/Training/Skills)
- Products/services to the market: start-ups, spin-outs, spin-offs, digital innovation hubs
  - Sixsq.com: start-up from CERN people on cloud middleware/services
  - Terradue.com: start-up from ESA people on earth sciences