

e-Infrastructure Project Area

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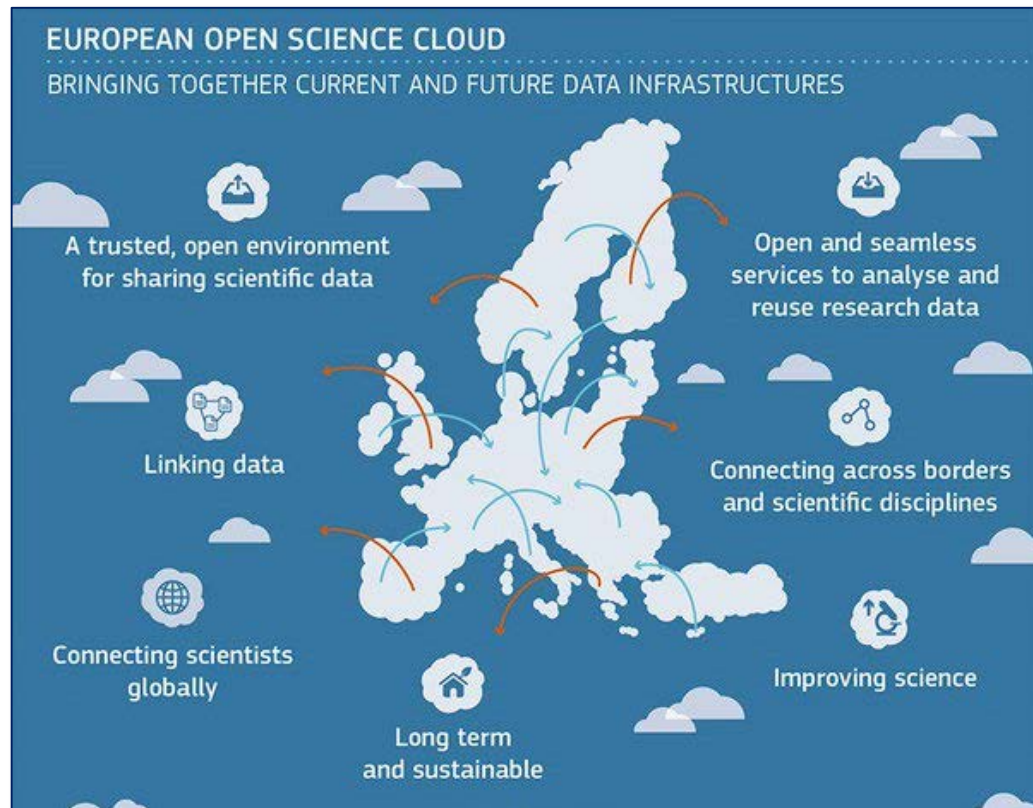
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e-Infrastructures

The comprehensive ICT infrastructures that are needed to enable the complex, multi-disciplinary and globalised practice of modern science

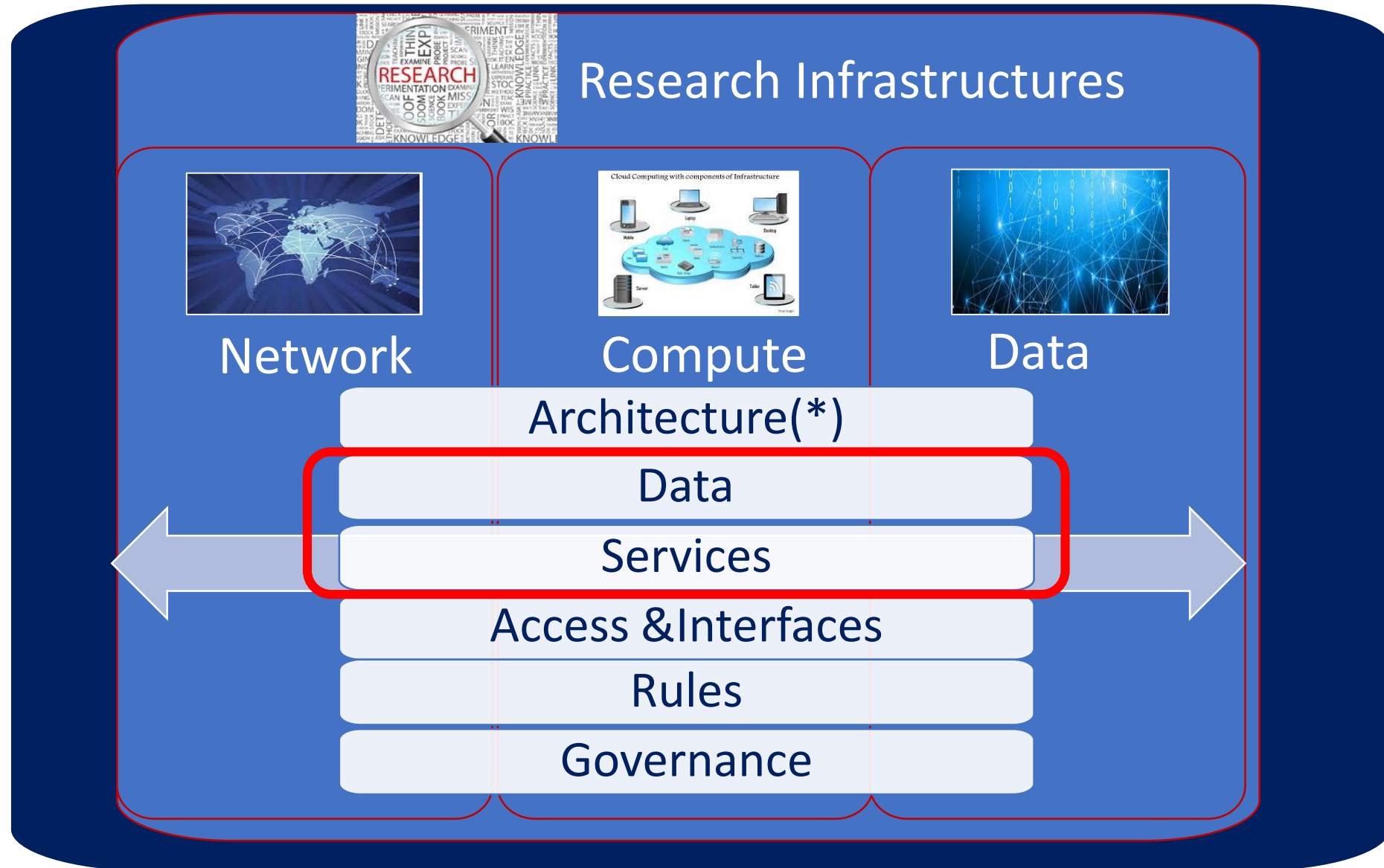
The European Open Science Cloud (EOSC)

A Pillar of the European Cloud Initiative



- **Open and evolving federation of existing research supporting infrastructures and other resources**
 - Generic network, compute and data infrastructures
 - Domain specific research infrastructures
 - Thematic platforms like, for example, the Copernicus Data and Information Access Services (DIAS)
- Supporting **multidisciplinary and cross-disciplinary research**
- Facilitating **FAIR data management**
- Enabling **cooperation** and as early as possible **sharing of research outcomes**

Project Area dimensions



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(*) Implementation Roadmap for the European Open Science Cloud https://ec.europa.eu/research/openscience/pdf/swd_2018_83_f1_staff_working_paper_en.pdf

Contributors and competences



Typologies of ICT infrastructures

Six action lines of EOSC development

	Network Infra	Computing Infra	Data Infra
Architecture	IIT	ISTI, ICAR	ISTI, IREA, IIT, ICAR
Data	IIT	ISTI, IREA, ICAR	ISTI, IREA, IMATI, IIT, ICAR
Services		ISTI, IREA, ICAR	ISTI, IREA, IMATI, IIT, ICAR
Access and Interface		ISTI	ISTI, IREA, ICAR
Rules	IIT	ICAR	ISTI, IREA, IIT, ICAR
Governance	IIT	ICAR	ISTI, IREA, IIT, ICAR

Data & Services

IMATI

- Methods addressing **provenance** provision for **reproducibility** and **dependability**.
- Efforts in standardization for **interoperability** and **information discovery**
- **Domain ontologies** definition
- Reuse and extension of **Linked Data** architectural
- **3D content search, processing , documentation**
- Access to **astrophysical data** and **hydrometeorological knowledge production** related services

ICAR

- **Reliable data infrastructure for user profiling**
- **Data extraction, transformation and loading for Big Data**
- **Behavioural analysis model** for shared data

IIT

- **Reliable, trustworthy, resilient and competitive complex Internet network** systems
- **Federated AAI**
- **.it Registry**
- **DSN anycast cloud**
- **Agrifood, ICT and Tourism Observatory**
- **Monitoring Registrars Services platform**

IREA and ISTI

See next presentations



Fostering eInfrastructure coordination at National Level

ICDI (Italian Computing and Data Infrastructure)

- Bottom up Forum created by representatives of major Italian Research Infrastructures and e-Infrastructures, with the aim of:
 - **promoting synergies at the national level**, and optimising the Italian participation to European and global challenges in the addressed fields
 - providing the national research community with opportunities to discuss, negotiate and put in place **common strategies for the participation in the EOSC and EDI**
 - ensuring a **coherent growth of national infrastructures**
 - **improve sustainability** by leveraging on existing human capitals, knowledges, experiences, etc.
 - fostering the **cross-fertilization of solutions** across multiple scientific domains
- Participants in the forum include ASI, Cineca, CNR, GARR, INGV, INAF, OGS and INFN
- The AP is represented in this initiative by ISTI and IREA

Concluding remarks

- **Our eInfras & services support the work of european scientists in multiple domains**
 - Open Science
 - Agro-climatic and economic modelling, food security, sustainable growth in the marine sector, aquaculture planning, geo-hazards, seismic risk, land-surface deformation, hydrometeorology, ecology, human mobility,
- **Collaboration through EU projects with other CNR departments**
 - Earth system science and environmental technologies
 - Biomedical Science
 - Social sciences and humanities, cultural heritage
- **Why not making available what CNR scientists have produced also to the other CNR scientists?**

More information

<https://goo.gl/BwviHj>

<https://goo.gl/27Mgor>

Grazie per
l'attenzione!!!

