



**EUROPEAN OPEN  
SCIENCE CLOUD**

# European Open Science Cloud: ISTI Contributions and Experiences



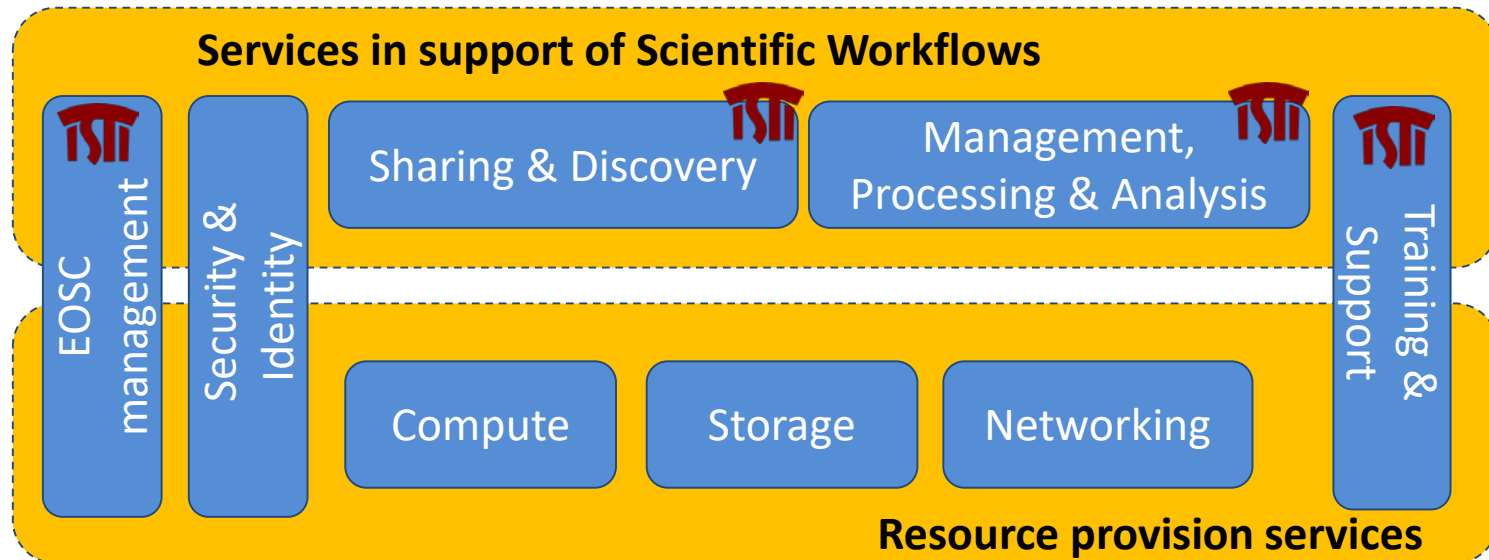
Paolo Manghi  
*ISTI, NeMIS Laboratory  
InfraScience Research Group*

# ISTI & EOSC services in support of Scientific Workflows

## A View from the Moon

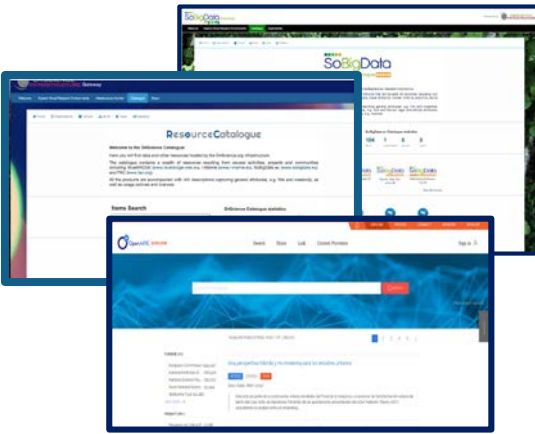


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# ISTI : Services for data management

*Discovery, curation, linking, analysis, reproducibility*



## Data Catalogue(s)

Retrieval

Access

*(Tables, Geo datasets, Texts, Statistics, Methods,...)*



## Harmonization & Integration

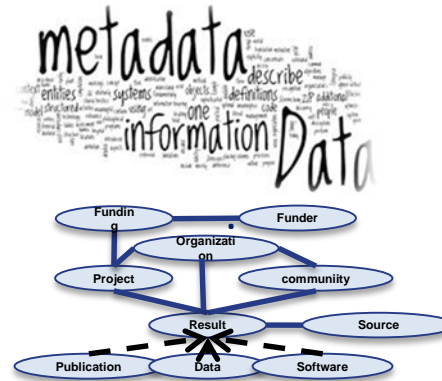
Disambiguation

Cleaning

Integration

Consistency Checking

Validation



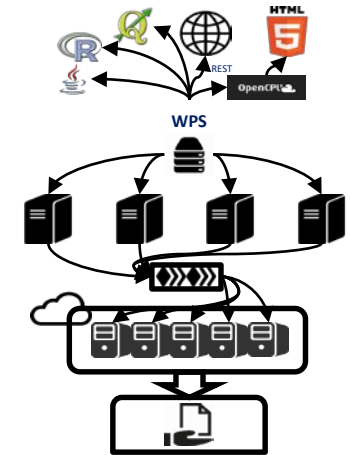
## Metadata Mgmt and linking

Mapping and

Transformation,

Automatic Metadata

Generation



## Big Data Analytics

*Transparent access to scalable data mining and statistical operations on heterogeneous data*

# ISI: Platforms in support of EOSC services

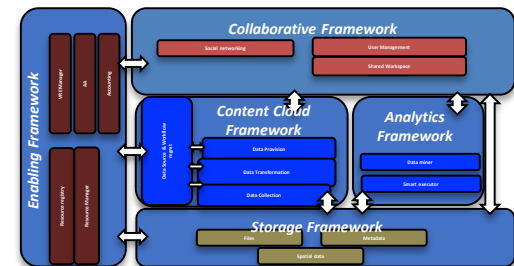


## gCube system

D4Science (<https://www.d4science.eu/>)

e-Infrastructures for science:

BlueBridge, AgInfra, Parthenos, SoBigData, ENVRI



## D-Net Software Toolkit

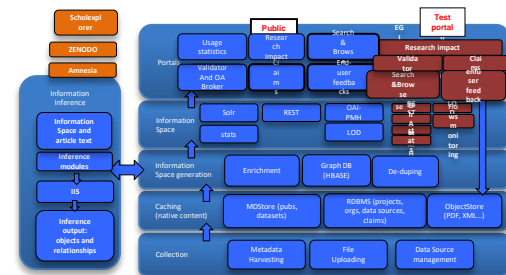
OpenAIRE (<https://www.openaire.eu/>)

National repository aggregation systems:

La Recolecta (Spain), CEON (Poland), Turkey, Argentina, Ireland (ongoing)

Community metadata aggregators:

EFG, HOPE, EAGLE



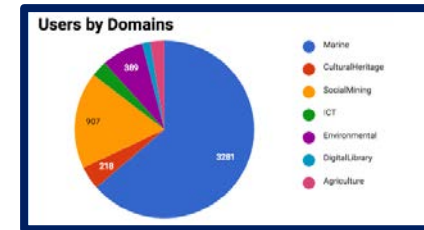


**D4SCIENCE  
INFRASTRUCTURE**

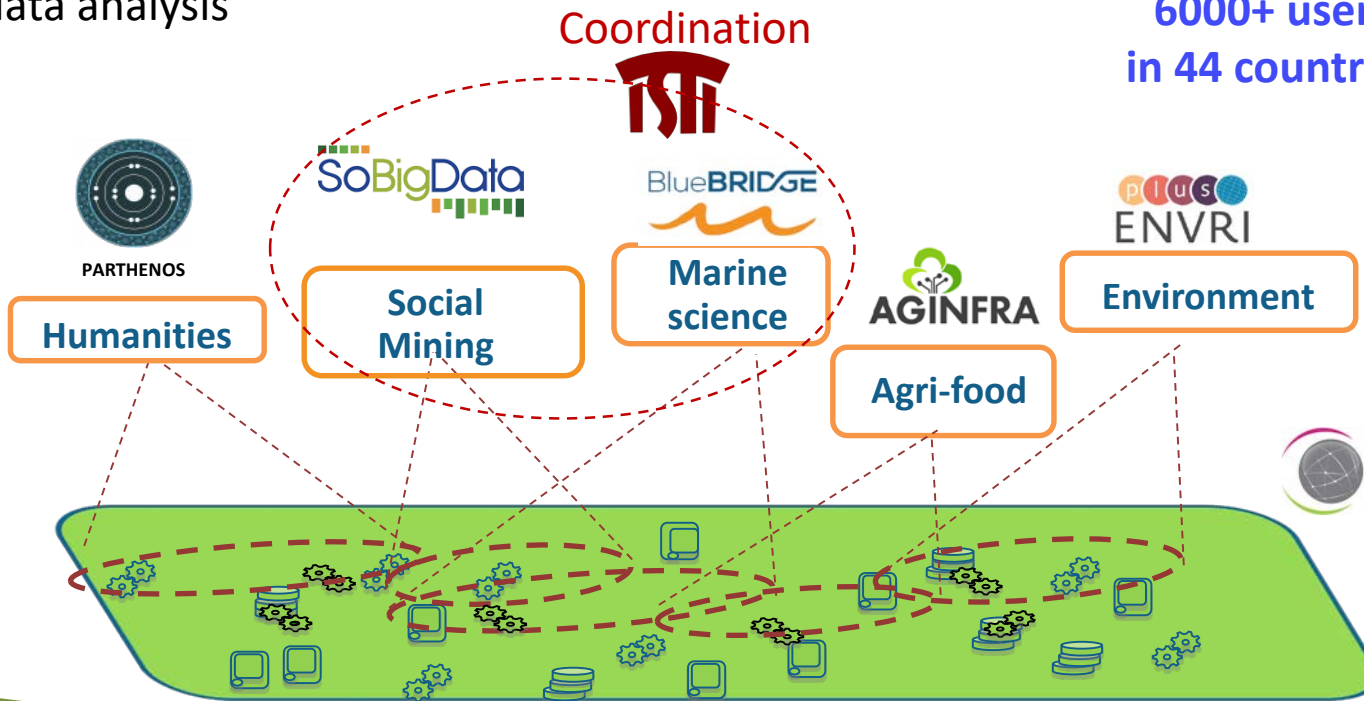
# ISTI :services in support of scientific workflows

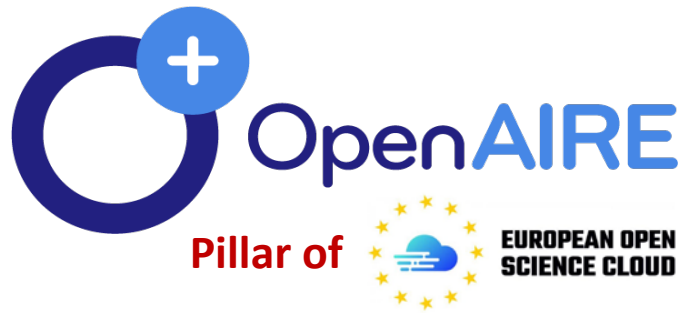
## Virtual Research Environments on demand:

- Integration of heterogeneous technologies
- Scientific interdisciplinarity and collaboration
- Digital scientific workflow and reproducibility
- Big data analysis



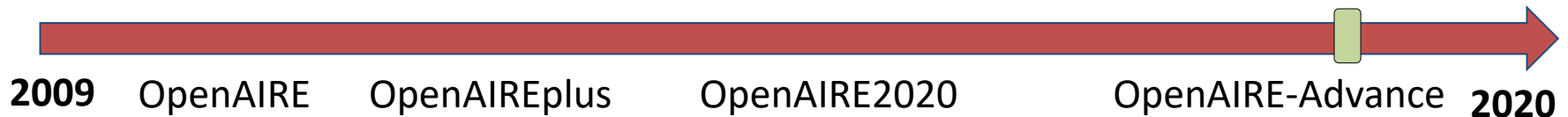
**6000+ users  
in 44 countries**





# Services in support of Open Science publishing

Sept 2018: Non-Profit Legal Entity



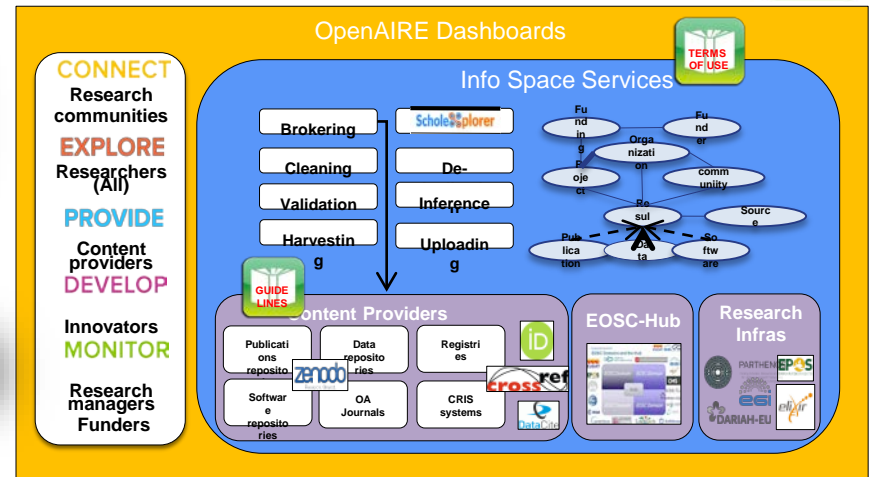
Consiglio Nazionale  
delle Ricerche

**Member of the LE  
(ongoing procedure)**

# Services in support of Open Science publishing



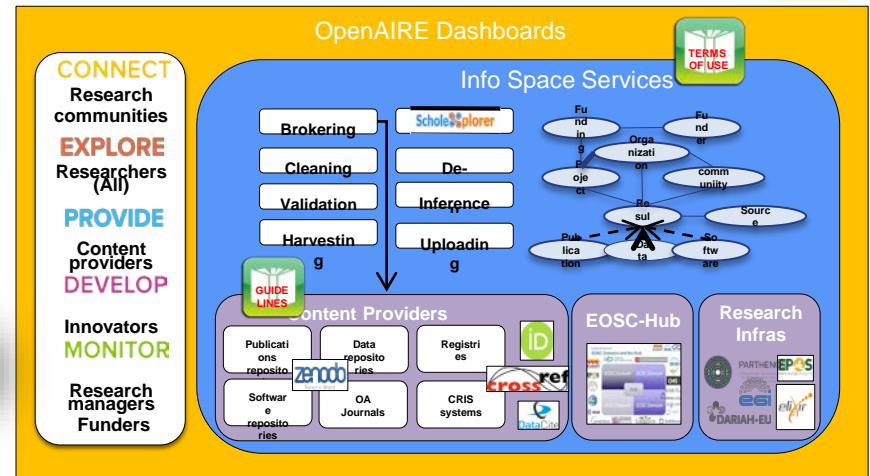
Networking infrastructure



Technical infrastructure



# Services in support of Open Science publishing

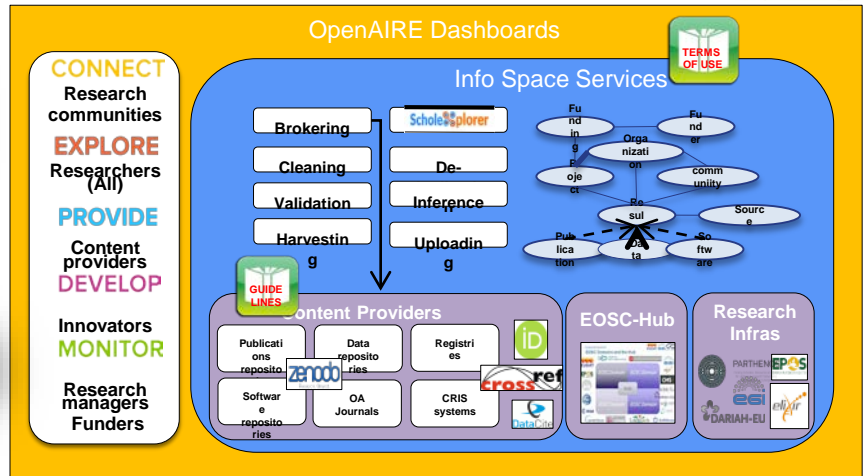


**35** National Open Access Desks (EU Members and Associated countries)  
**12** Research Community Open Science Desks

**24Mi** OA publications -> **120Mi**  
**700,000** datasets -> **10Mi**  
**43,000** software  
**38Mi** links  
 from **13,000** sources



# Services in support of Open Science publishing



 Italian NOAD with Uni Turin

Technical coordination 



# Designing and building services in support of EOSC management and identity



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EUDAT



INDIGO - DataCloud



EGI



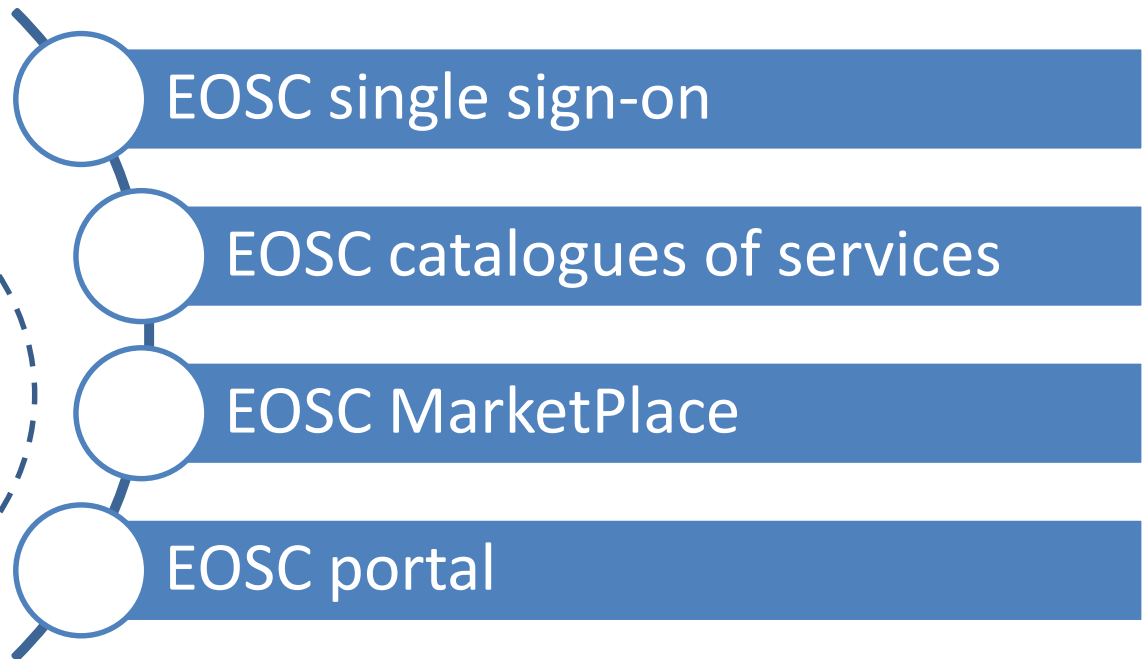
GÉANT  
Networks • Services • People



eInfra Central



OpenAIRE



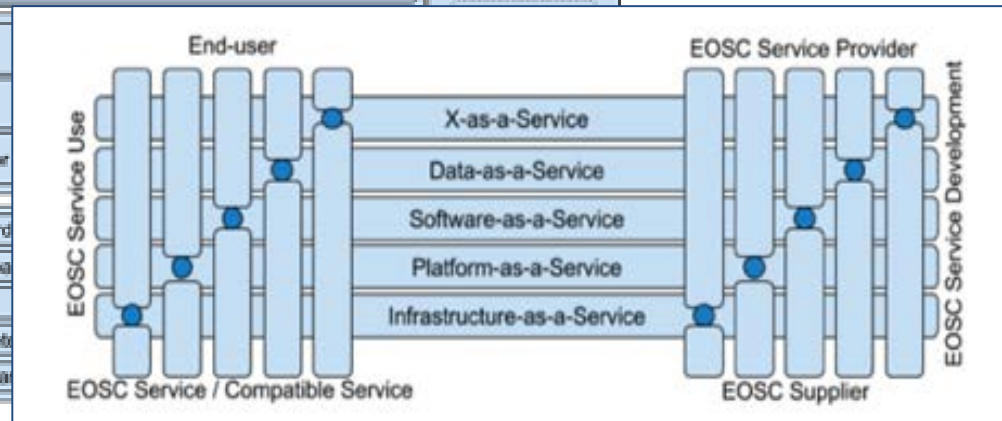
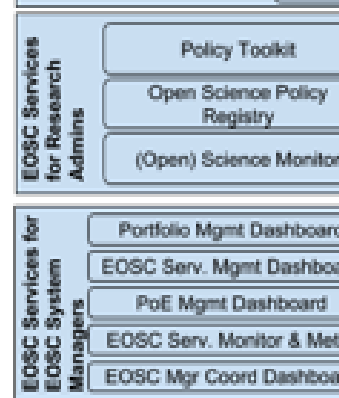
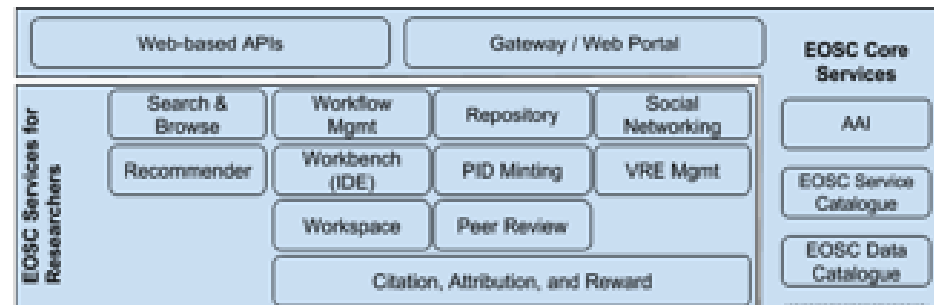
# EOSC Architecture

## *The EOSCPilot project*



**EOSC**pilot  
The European Open Science  
Cloud for Research Pilot Project  
[www.eoscpilot.eu](http://www.eoscpilot.eu)

- Policies
- Services
- Actors
- Provision
- ...




Setting up a complex “system of systems” consisting of interconnected and interoperating IT systems, policies, procedures, people and activities.

# Grazie!

**Paolo Manghi**

paolo.manghi@isti.cnr.it

 0000-0001-7291-3210

**Reference URLs:**

[www.d4science.org](http://www.d4science.org)

[www.openaire.eu](http://www.openaire.eu)

[www.sobigdata.eu](http://www.sobigdata.eu)

[www.parthenos.eu](http://www.parthenos.eu)