

# ESCAPE - Connecting ESFRI to EOSC

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**EOSC Services, Collaborations and RDA**  
**RDA Plenary 14 co-located event, 21 October – Helsinki**

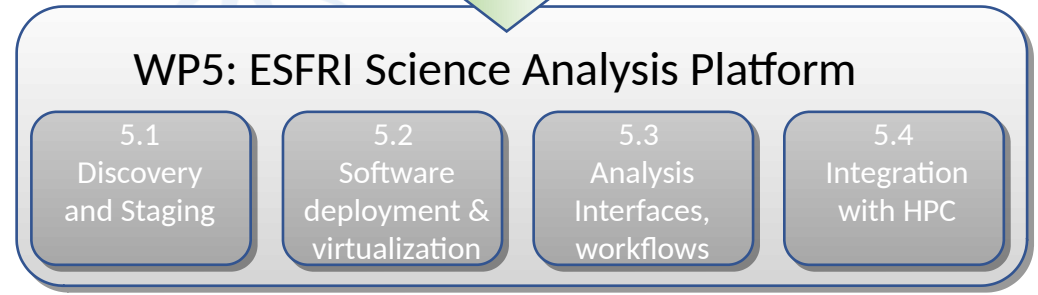
ESCAPE - The European Science Cluster of Astronomy & Particle Physics ESFRI Research Infrastructures has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement n° 824064.



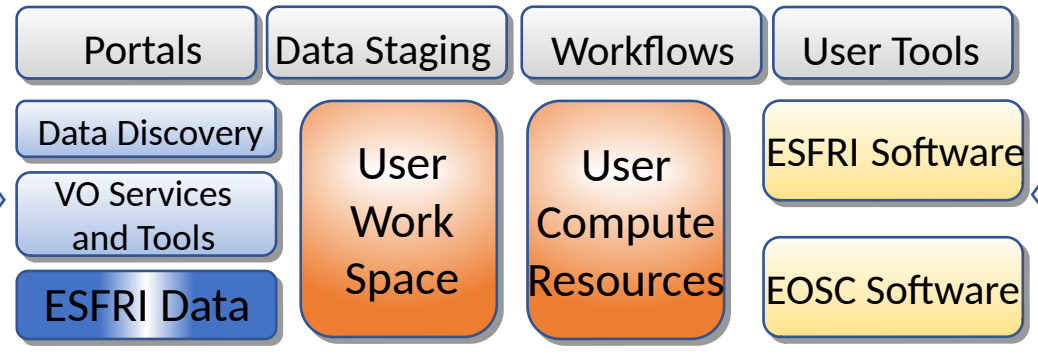
# The European Science Cluster of Astronomy & Particle Physics ESFRI Research Infrastructures



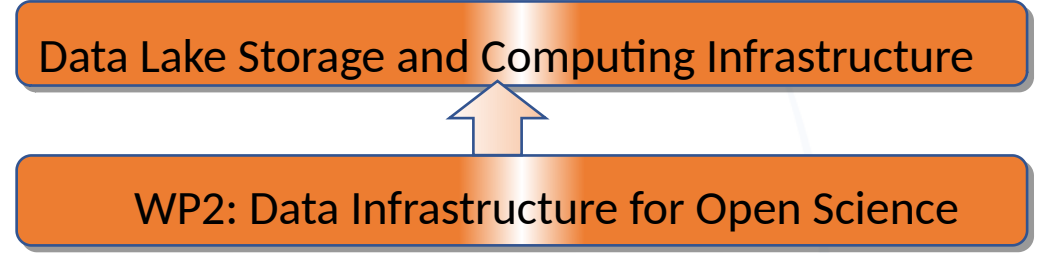
EOSC and ESFRI Science Communities



WP4  
Virtual Observatories

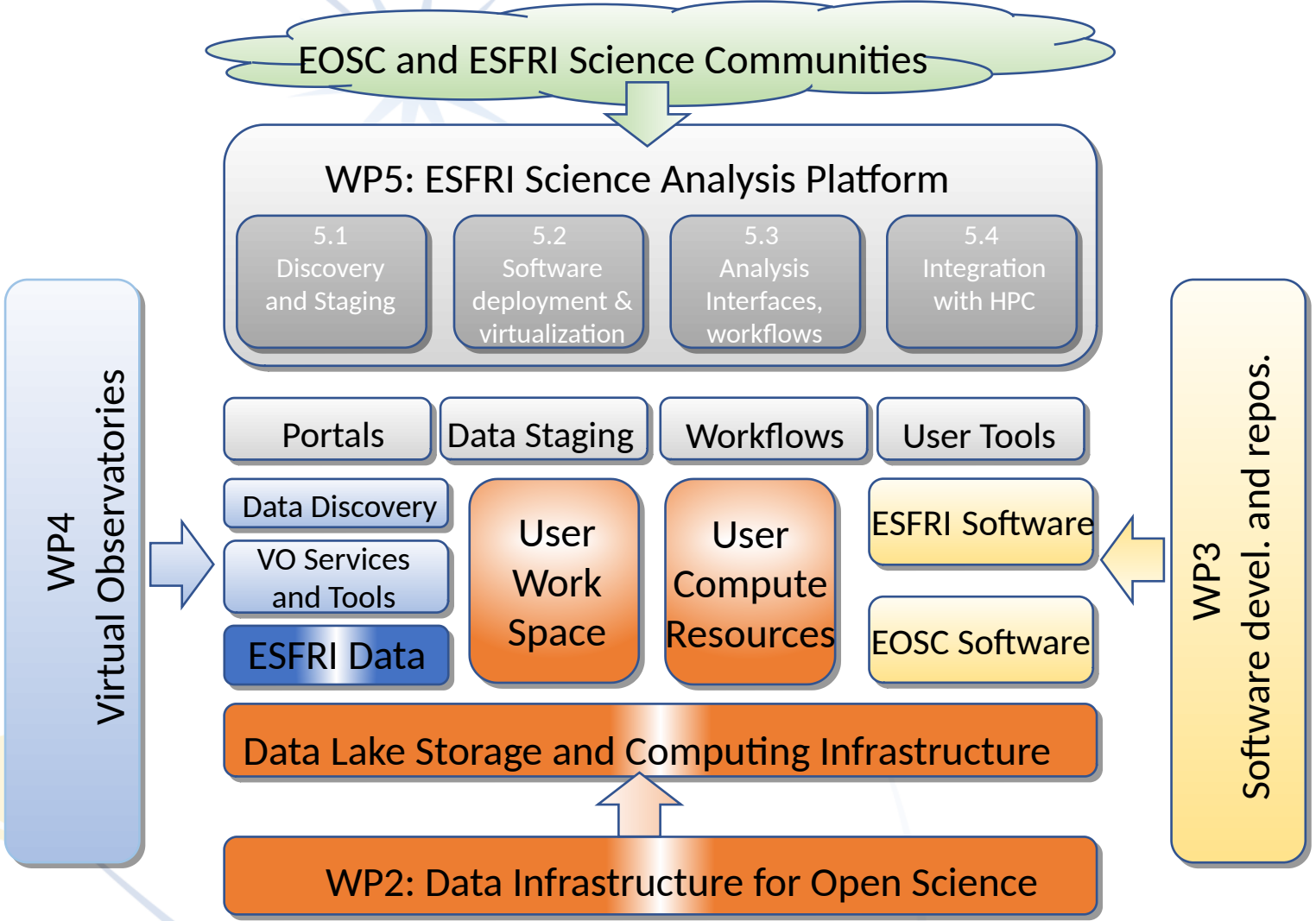


WP3  
Software devel. and repos.



# The European Science Cluster of Astronomy & Particle Physics ESFRI Research Infrastructures

- **Multi Messenger Astronomy**
  - **Radio**
    - SKA (Square Kilometre Array)
    - JIVE VLBI (Very large Baseline Instrument)
  - **Visible Light**
    - European Extreme Large Telescope (ELT)
    - European Solar Telescope (EST)
  - **Gamma Rays**
    - CTA
  - **Cosmic Rays: Neutrinos**
    - KM3Net
  - **Gravitational Waves**
    - EGO-VIRGO
- **High Energy Physics**
  - HL-LHC
    - High Energy Particle
  - FAIR
    - High density exotic matter physics



# International Virtual Observatory Alliance



Gathering and coordinating the **European contributions** to the Virtual Observatory (see also next slide).

Supporting the actors with community actions:

→ **Data Providers, VO developers, Science Users.**

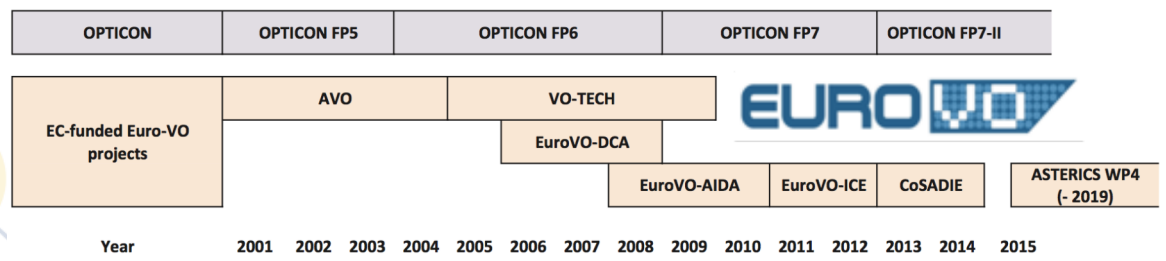
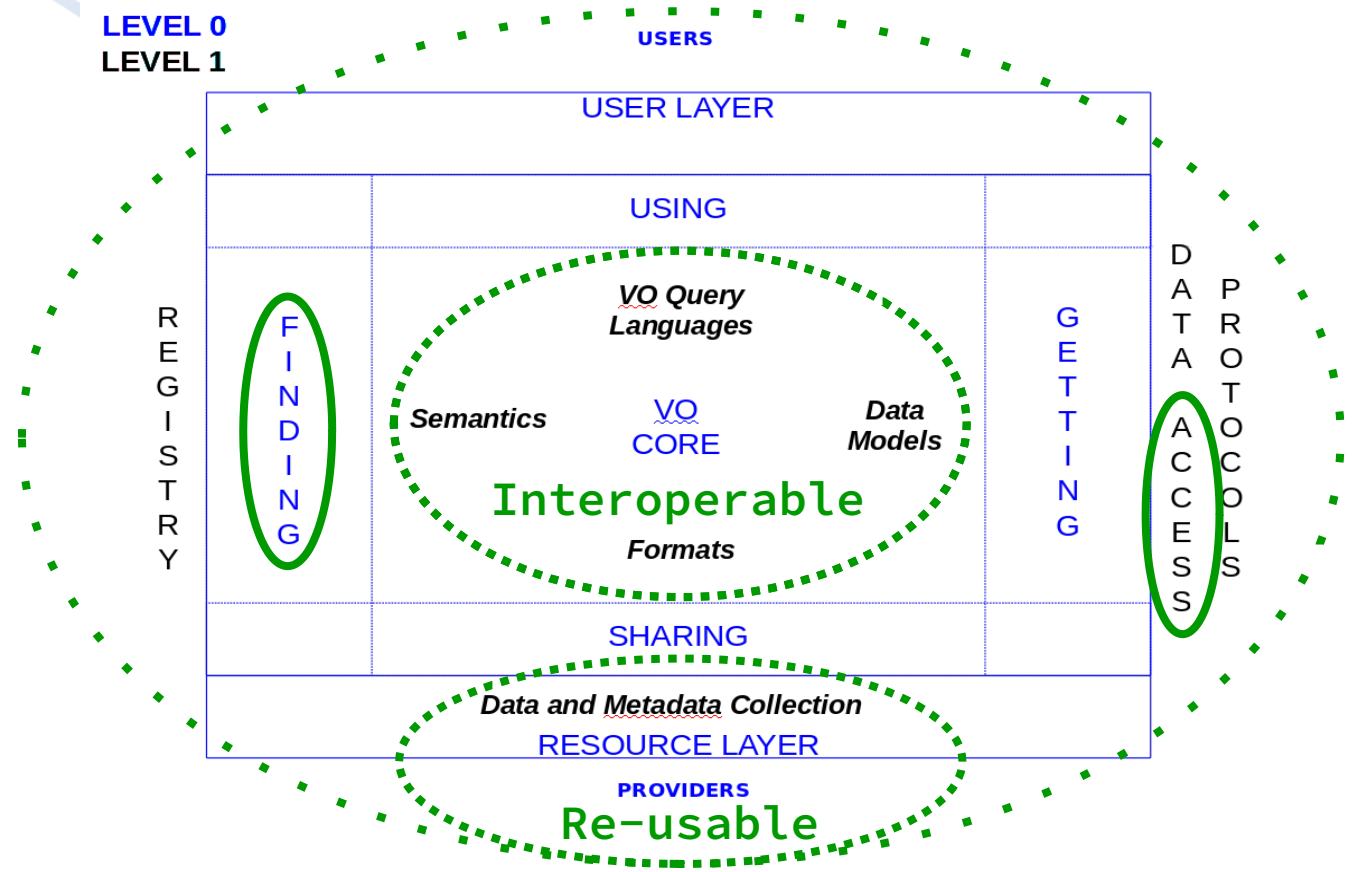
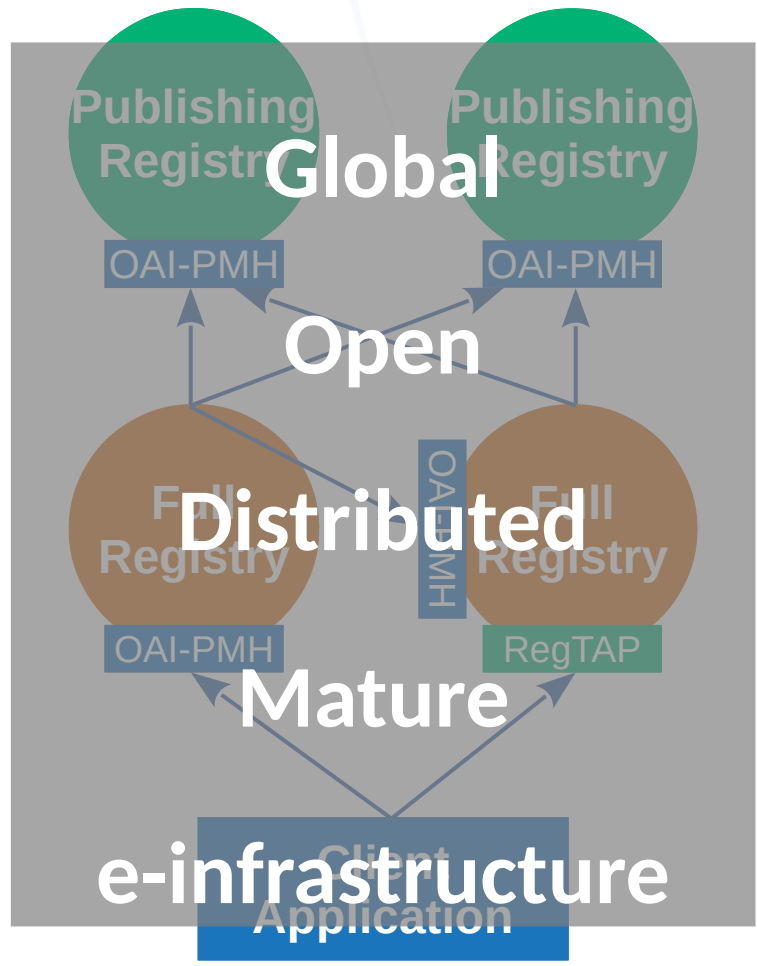
Continuing impact for “all-sky” astronomy.

The Virtual Observatory (VO) is the vision that **astronomical datasets and other resources should work as a seamless whole.**

The IVOA is an **organisation that debates and agrees the technical standards** that are needed to make the VO possible.



# IVOA FAIR Architecture

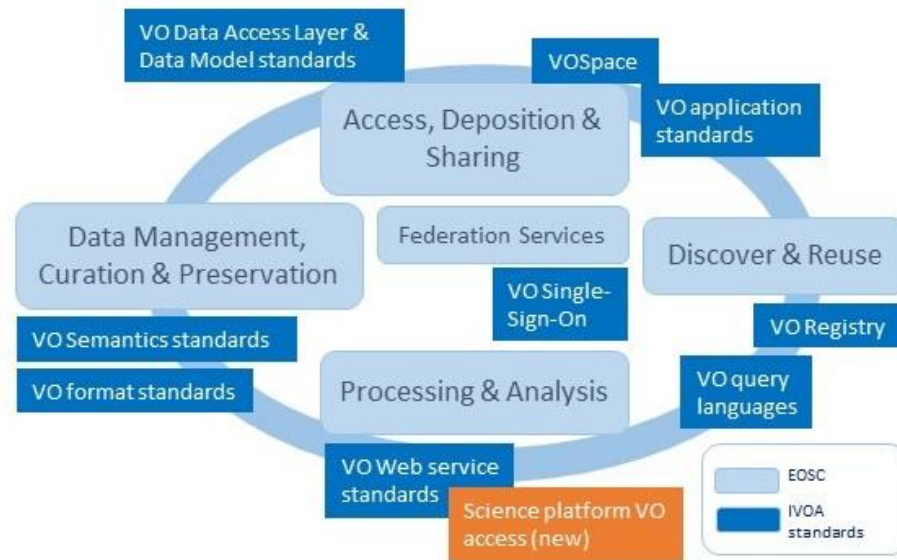


Genova et al. 2015



# Connecting ESFRI projects to EOSC through VO framework CEVO (WP4)

- Connect the ESFRI and other astronomy RI to the EOSC through the VO framework
- Refine and further implement FAIR principles for astronomy data through common standards for interoperability
- Establish data stewardship practices to add value to the scientific content of ESFRI data archives



- **WP2 DIOS**
  - Contribute to the **federation of global EOSC resources** through an implementation of the Data-Lake concept to **manage extremely large volumes of data** up to the multi-exabyte scale
- **WP3 OSSR**
  - **Support for "scientific software"** as a major component of the ESFR-RI “data” to be stored and displayed **in EOSC** via dedicated **community-based catalogues**
- **WP5 ESAP**
  - Implementation of **scientific analysis platforms enabling EOSC researchers** to organize data collections, analyse them, access ESFRI's software tools, and provide their own customized workflows



## Storage, computing, applications...

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**Interoperability of these goals connected to CEVO activities!**

