



una **comunità**
aperta per definire gli
standard di
interoperabilità
dei dati in astrofisica



Marco Molinaro
[INAF – OATs]

Open Science @ INAF
14-15 Dicembre 2023, Roma

image by: opensource.com

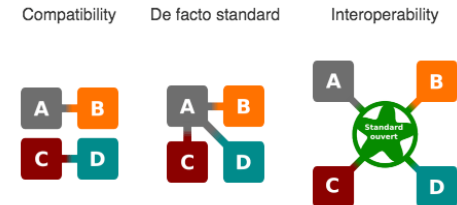
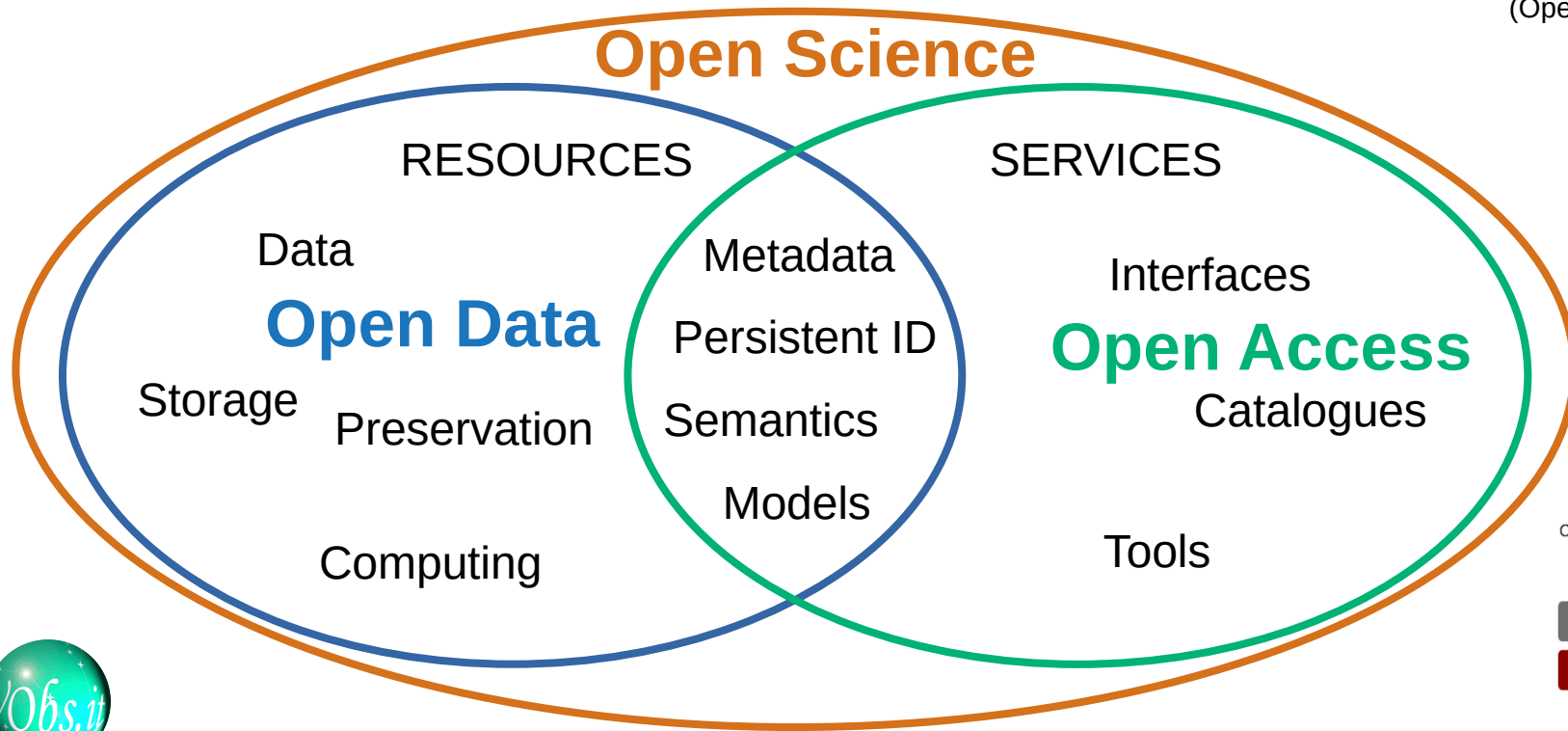


- **IVOA**
- **INAF @ IVOA**
- **uno sguardo in avanti**

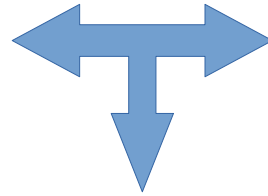


Open Science involves transitioning from a system in which it is **difficult** to access and locate the results of scientific research to one that **openly** distributes results to all kinds of end users [...]

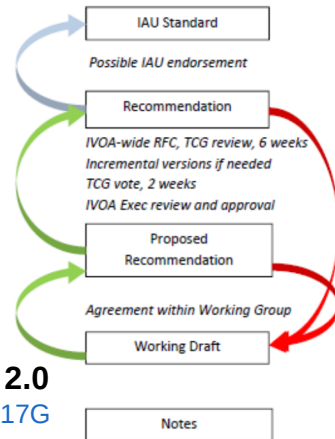
(Open Science Conference, EU 2016)



International Virtual Observatory Alliance

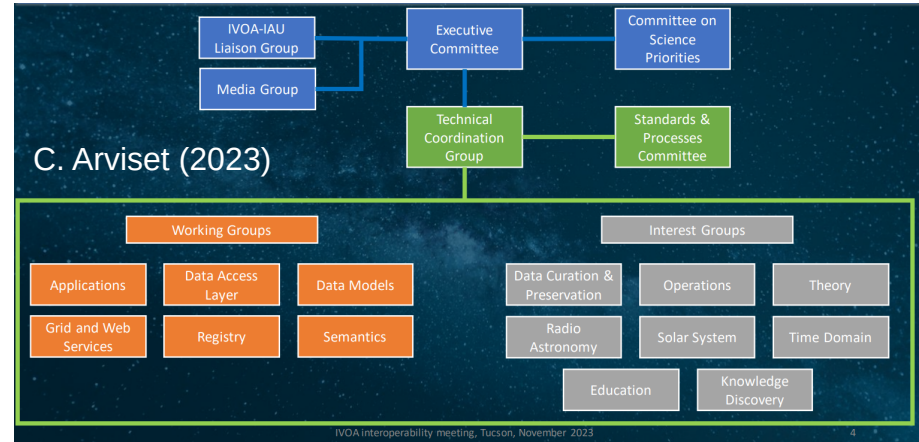


IVOA Recommendation Process



<https://www.ivoa.net>

IVOA Document Standards 2.0
10.5479/ADS/bib/2017ivoa.spec.0517G

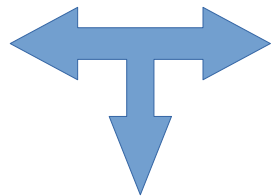


Community Open Standards
Marco Molinaro

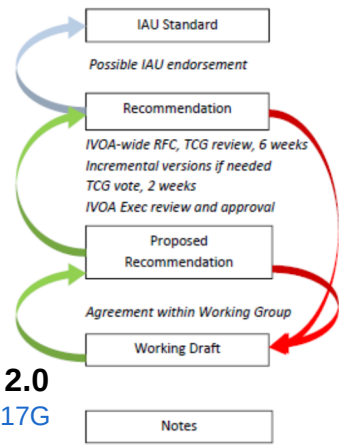
Open Science @ INAF
14-15 Dicembre 2023 – INAF HQ



International Virtual Observatory Alliance

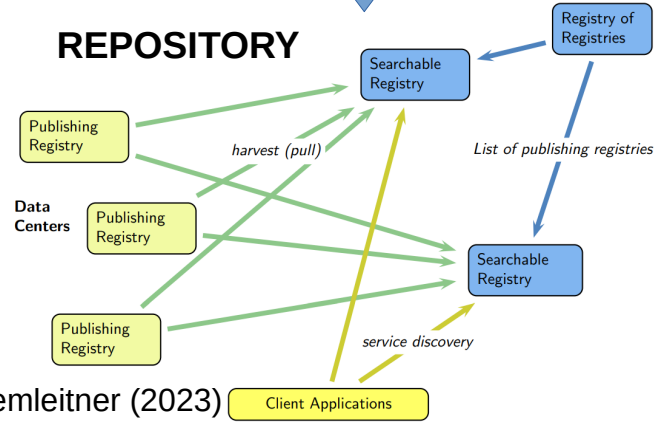
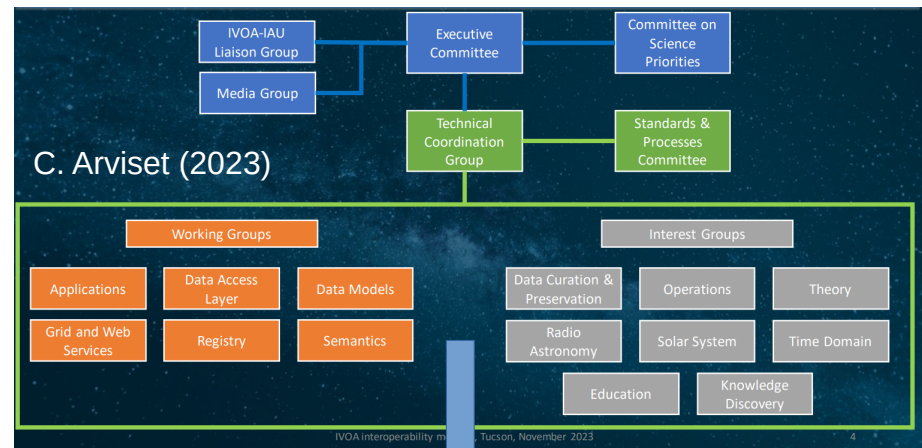


IVOA Recommendation Process



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IVOA Document Standards 2.0
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M. Demleitner (2023)

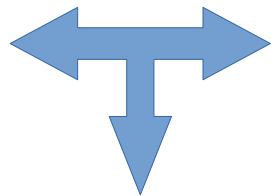


Community Open Standards
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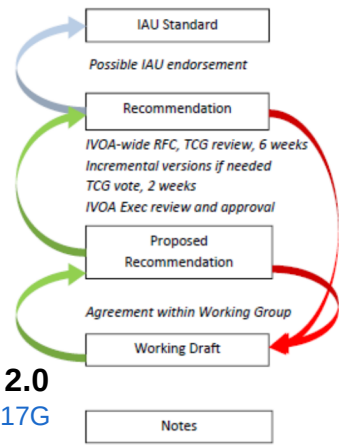
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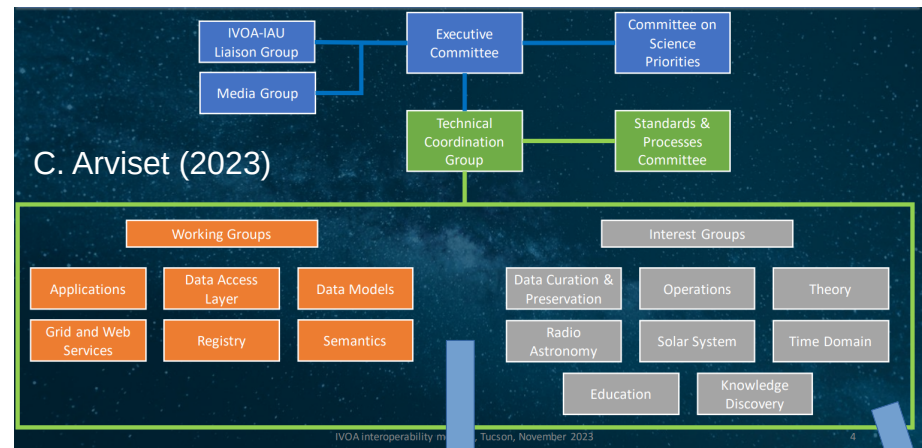


IVOA Recommendation Process

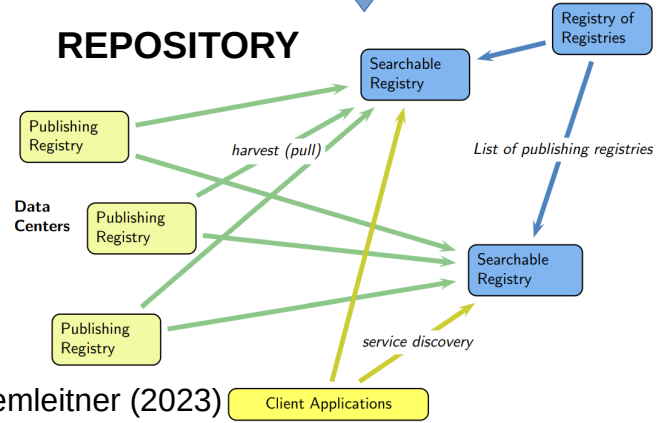


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REPOSITORY



M. Demleitner (2023)

IVOA Vocabulary	
Name	Last Change
Content levels for VO resources	2016-08-17 http://www.ivoa.net/rdf/voresource/content_level
Content types of VO resources	2016-08-17 http://www.ivoa.net/rdf/voresource/content_type
DALI Examples	2023-05-07 http://www.ivoa.net/rdf/examples
SEMANTICS	
Datalink core	2022-01-27 http://www.ivoa.net/rdf/datalink/core

<https://www.ivoa.net/rdf>

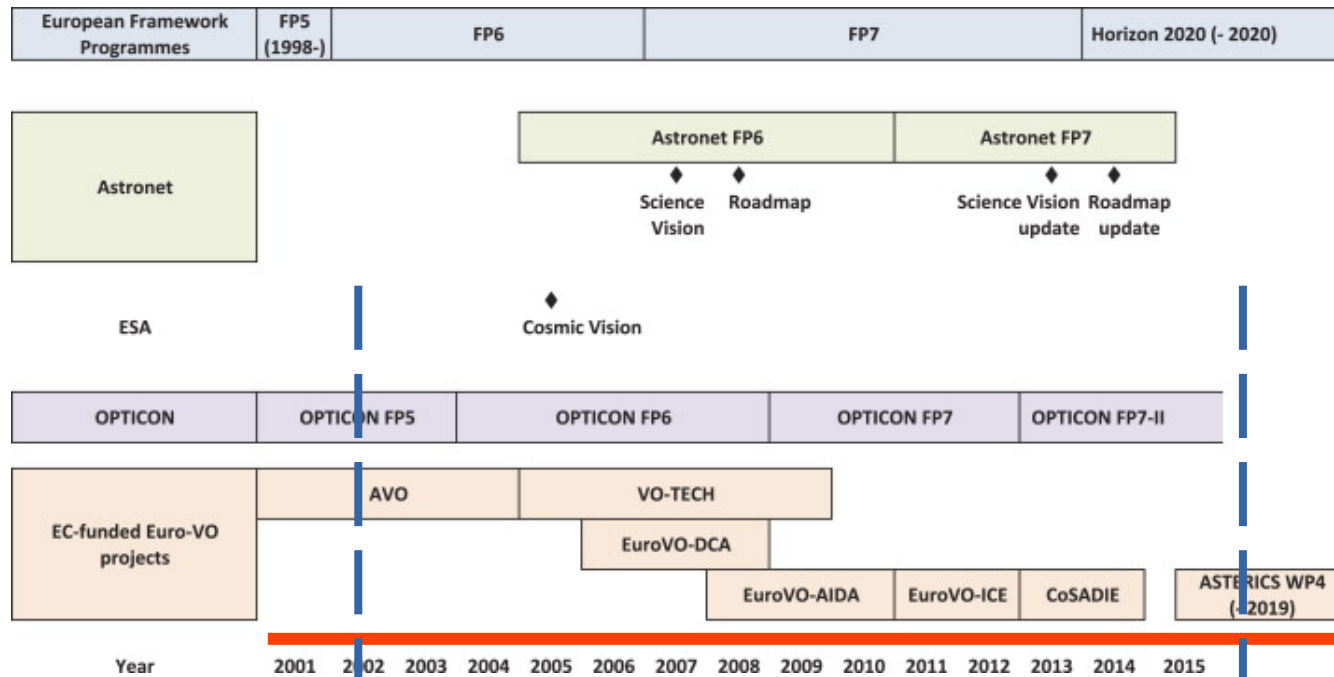


Community Open Standards
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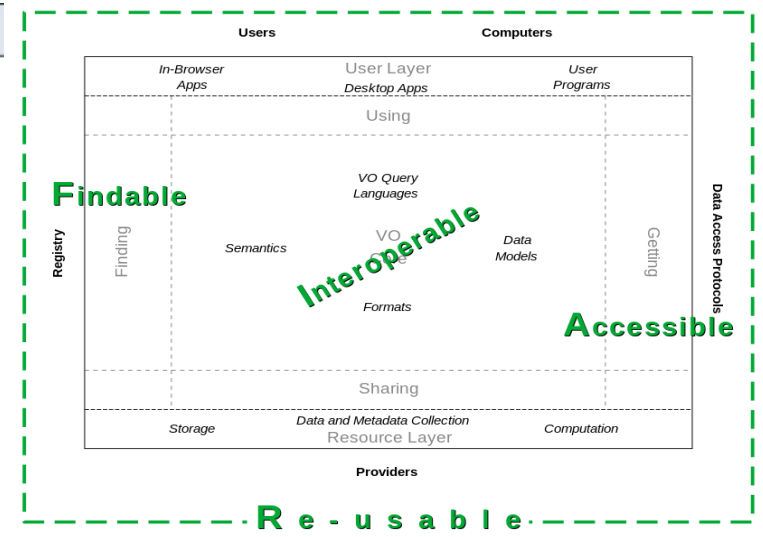
IVOA – history & FAIR



IVOA established

FAIR principles – formalisation

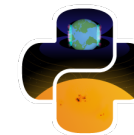
M. Wilkinson (2016)
<https://doi.org/10.1038/sdata.2016.18>



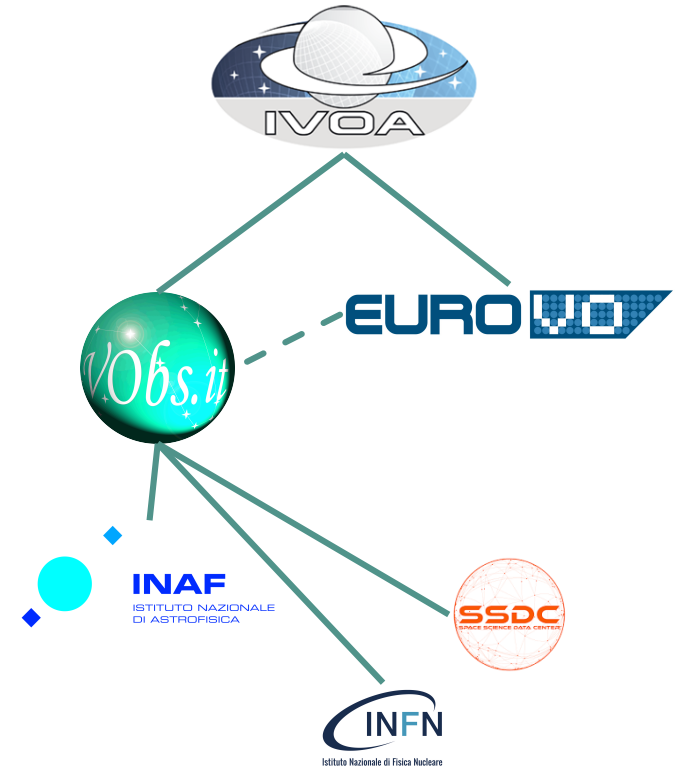
una costellazione di comunità

image: Flaticon.com

data steward?




- ruoli di coordinazione
- partecipazione attiva in
 - Radioastronomia
 - integrazione di requisiti negli standard
 - Science Platforms
 - interoperabilità di piattaforme di calcolo
 - standardizzazione
 - guida tecnica nello sviluppo
 - implementazione
 - software / risorse dati



~40 risorse nel Registry IVOA
2 risorse nell'EOSC MarketPlace

Title	Capabilities	▲	Compliance
Planck Early Release Compact Source Catalog (100GHz) @ IA2	SCS		Compliant(A++)
WINGS V surface photometry	SCS		Compliant(A++)
WINGS morphology	SCS		Compliant(A++)
[TEST] DAbrusco et al 2009 Catalogue of SDSS Quasar candidates	SCS		Compliant(A++)
Laurino et al 2011 Catalog of WGE photometric redshifts for SDSS candidate quasars	SCS		Compliant(A++)
Laurino et al 2011 Catalog of WGE photometric redshifts (optical+UV) for SDSS candidate quasars	SCS		Compliant(A++)
WINGS local densities (Mv<-19.5)	SCS		Compliant(A++)
WINGS J photometry	SCS		Compliant(A++)
WINGS K photometry	SCS		Compliant(A++)
WINGS Optical photometry	SCS		Compliant(A++)
WINGS redshift	SCS		Compliant(A++)
WINGS star formation histories	SCS		Compliant(A++)
Planck Early Release Cold Core Catalog @ IA2	SCS		Compliant(A++)


Approved



Istituto Nazionale di Astrofisica
 Provider Status: **Approved**
 First Service Status: **Approved**

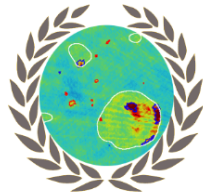
[Update Provider](#) [More](#)

Approved

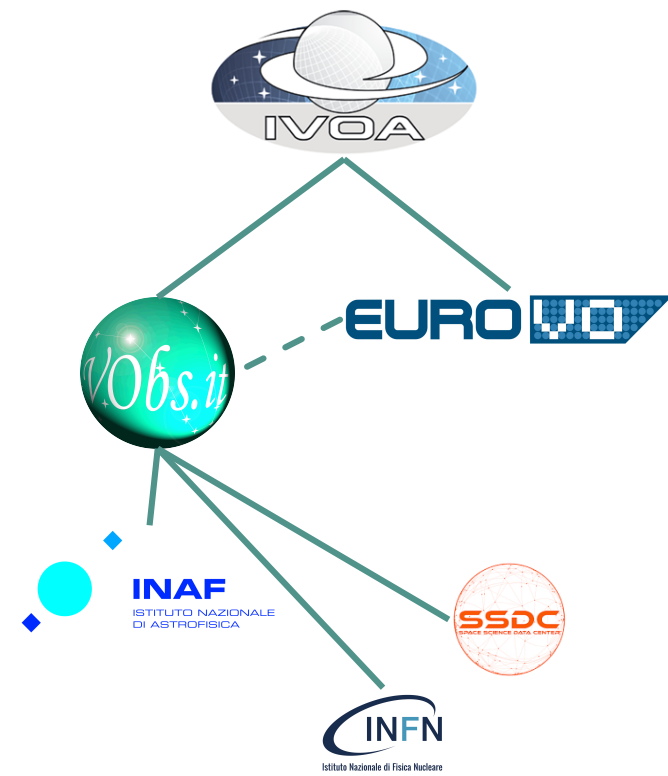


SPACE-VIS

Approved



CAESAR
 Compact And Extreme Source Analysis REcognition



- **integrazione su suolo nazionale**
 - **sotto-domini**
 - “astrophysics”
 - **gravitational waves**
 - **planetary sciences**
 - **helio(spheric)physics**
 - **space weather**
- **vari stati di maturità in diversi FAIR**



- **gestione meta/dati distribuita**
 - sistema di sistemi
- **repository istituzionale per i meta/dati**
 - metadata schemata
 - federazione a livello nazionale/sovrannazionale
- **consapevolezza della comunità**
 - *“le vogliamo mettere le ruote al carretto?”*
- **integrazione fra domini diversi**
 - grande complessità = grande potenzialità



Grazie!

