

# INAF Computing Facility: DATA-STAR (IT evolution from 'project e-infra' to 'INAF e-infra')

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# Facilities aren't only “telescopes”

New exascale laboratories will significantly increase dynamic range (from galaxies to cosmological scales)



Essential for the scientific exploration of the large variety of data (observational and otherwise) !!!!!

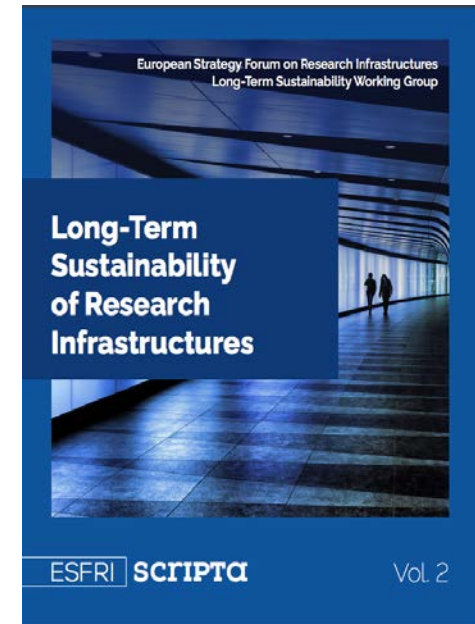
New experiments requires exascale capabilities.

*Will we be ready for this ?*

## There is no a UNIQUE e-infrastructure model

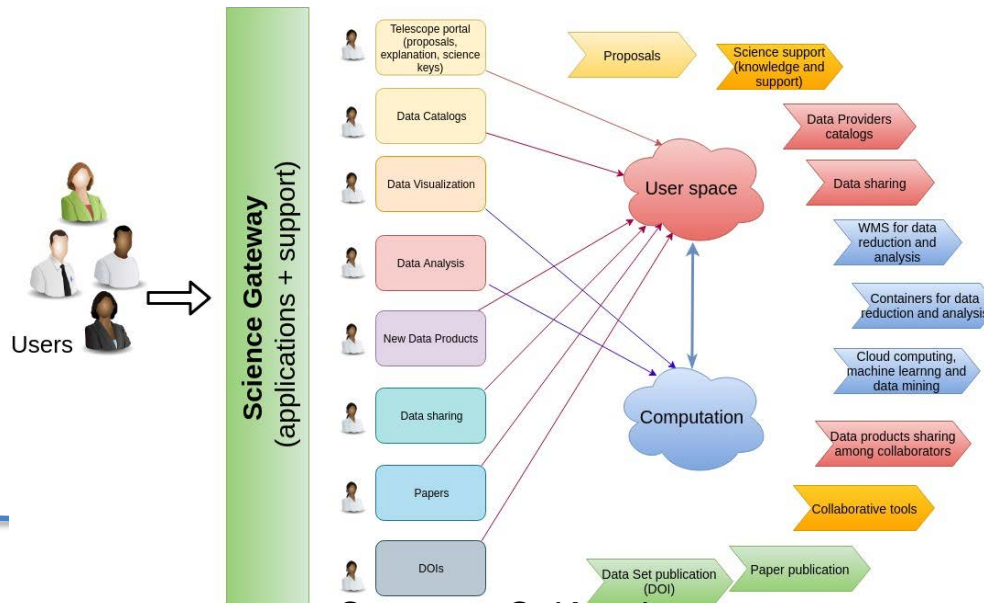
### There must be a unique interface to the community (internal and external)

- Computation, network, data.... ManPower  
Data Center → Research e-Infrastructure center
- IA2 is a the moment the only INAF e-infrastructure (PT 2019-2021)
- CHIPP: evolution  
→ from e-project to e-infra
- Commercial Cloud  
→ AWS, Google Cloud, ... → A good option as buffer
- SKA Regional Center // Tecnopolo  
→ Oppurunity



- **"e-infra Project" Vs "e-infra INAF"**

- A **quantul leap** from the national IT development.
- Build a vision of a National e-infra that will be a great added value for the institution itself.

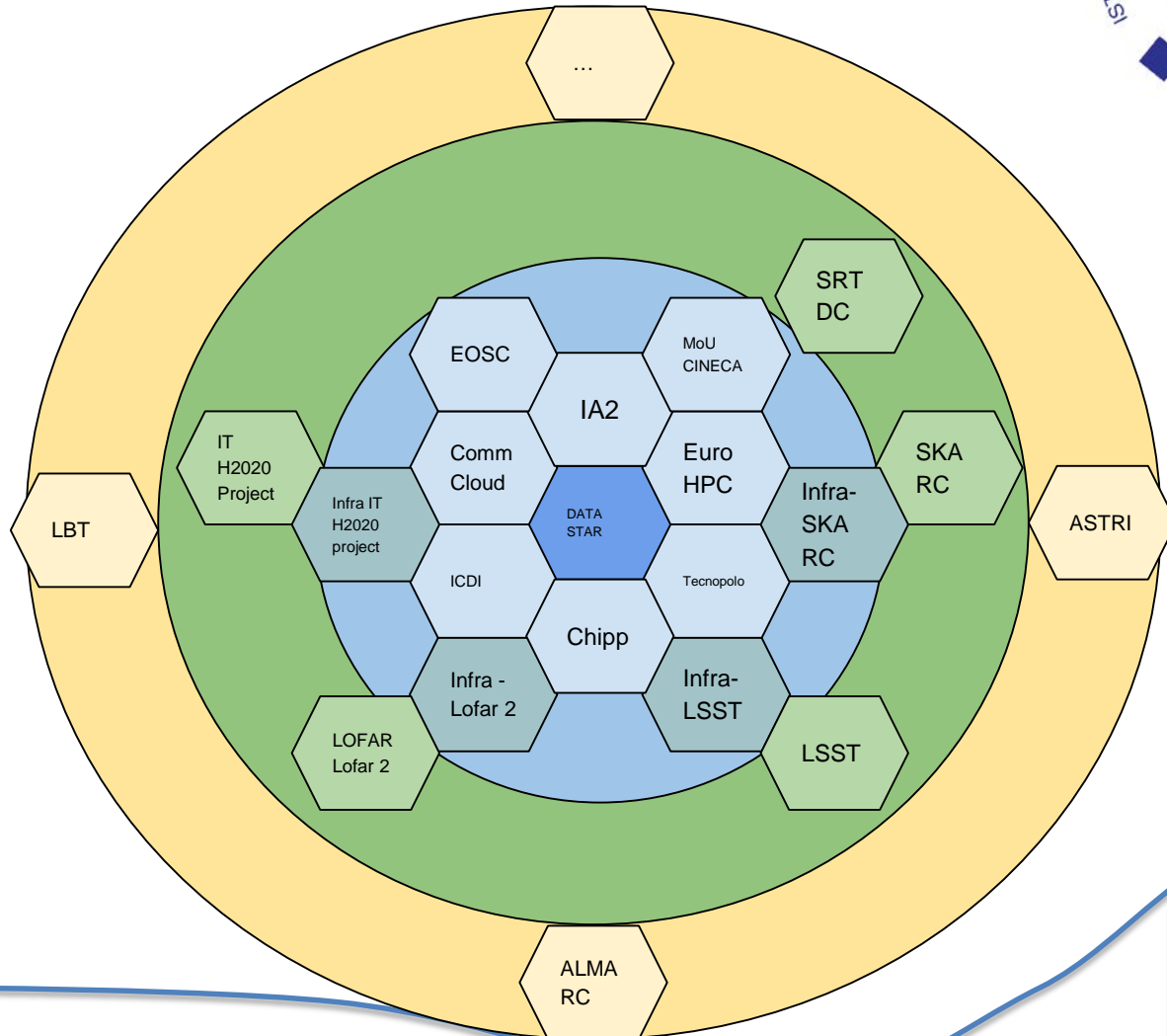


Courtesy: C. Knapic

- Facilitate to keep the INAF position in the international context in the light of the IT requirements presented by the new experiments on a global scale
- Support the development of innovative technologies, with synergies with national and international multidisciplinary communities
- **Primary interface** toward national and international institutions in the context of IT projects.
- Create/coordinate an e-infrastructure able to stimulate and attract all the IT expertises of our Institution.
- Enable the use of IT infrastructure suitable for the development and management of projects of different sizes
- Support the researcher (at granularity level) in the development and maintenance activities of IT stuffs for its requires for its researchl



# DATA-STAR: Organisation



Quindi...



→ **DATA-STAR**

- Monolithic system aren't the solution,  
→ but avoid to distribute too much...  
→ define a flexible "business model"
- Always check for partnership/suppliers..  
→ partnership have pros/cons
- The actual questions are: What INAF wants in the next years:
  - Create a «Big Data Analysis» culture to be ready in the next 5-10 (4-9) years ?
  - Develop the culture of the «Intellectual property» on SW and Data ?
  - Increase the value of technical and technological people's role.



*Josson Huerta*

**Grazie per l'attenzio**