



INAF Landscape

Isabella Pagano
INAF Science Director

INAF Science

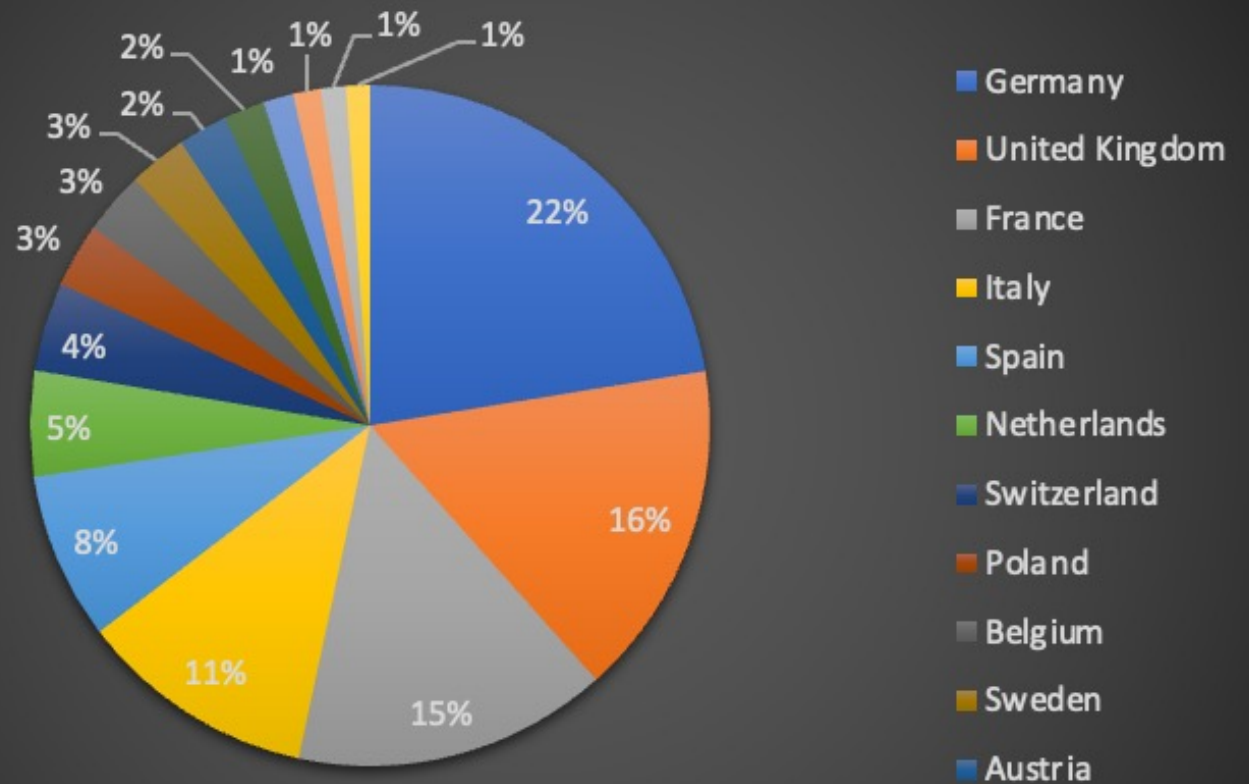


- Astrophysics and cosmology: from radio to gamma rays
- Solar System exploration
- GWs

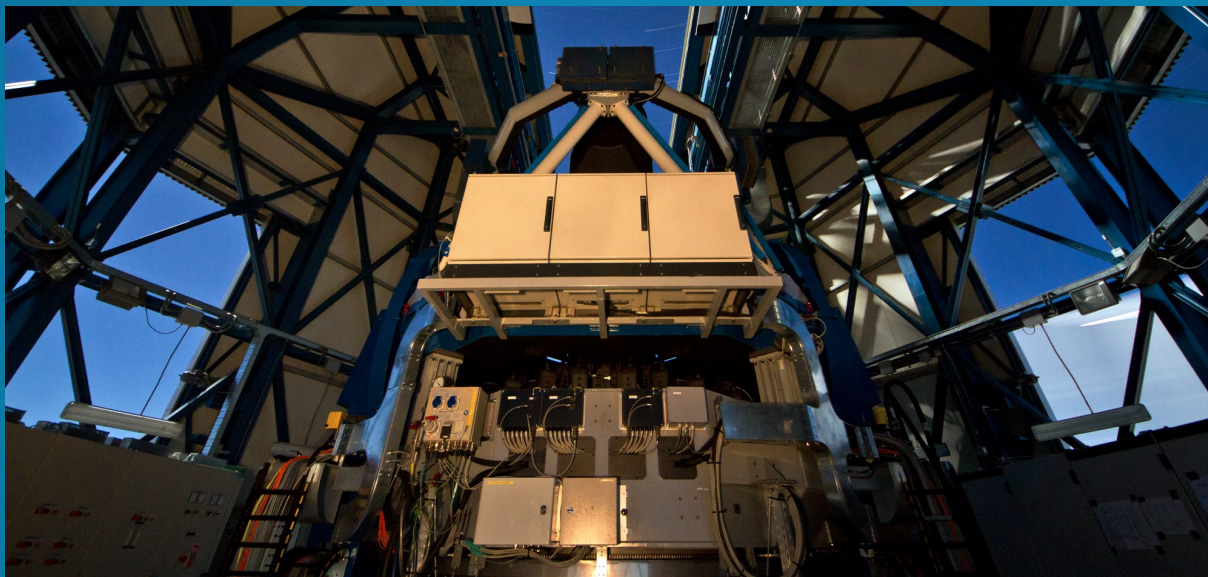
- Space and Ground Based Facilities and Observatories
 - SKAO, LOFAR, MEERKAT+, SRT, EVN, ALMA, ESO Instruments, LBT, TNG, ASTRI, CTAO, MAGIC,
 - ESA and NASA missions (with ASI) (and more)

Italy in ESO

INAF is the 4th financial contributor to ESO



Two Italian telescopes @ESO



VST



REM

We are working for future instruments (VLT & NTT)

- ERIS

- FORS Upgrade

- CUBES

- MAVIS

- GRAVITY+

- 4MOST

- SoXS (NTT)

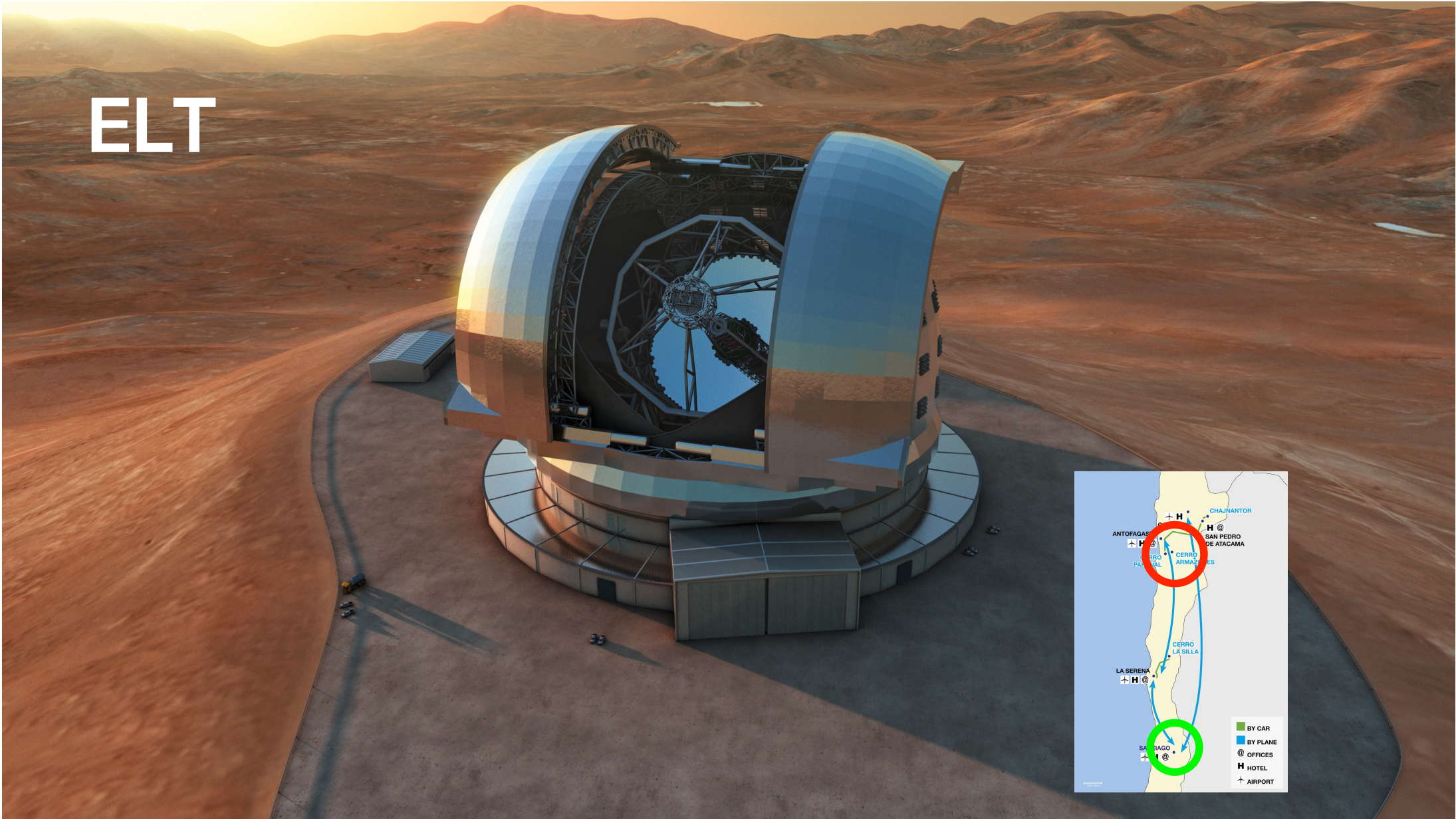
- MOONS

- BlueMUSE

PI

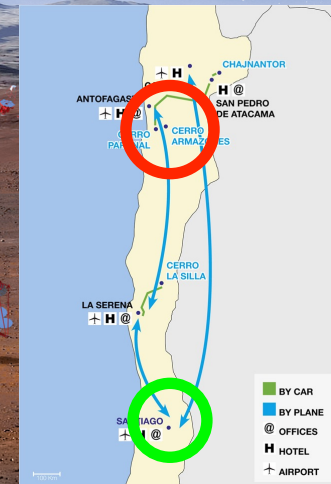
Relevant
Partner

ELT



Cerenkov Telescope Array – South site

Future



We are working for future ELT Instruments

METIS

MORFEO

HARMONI

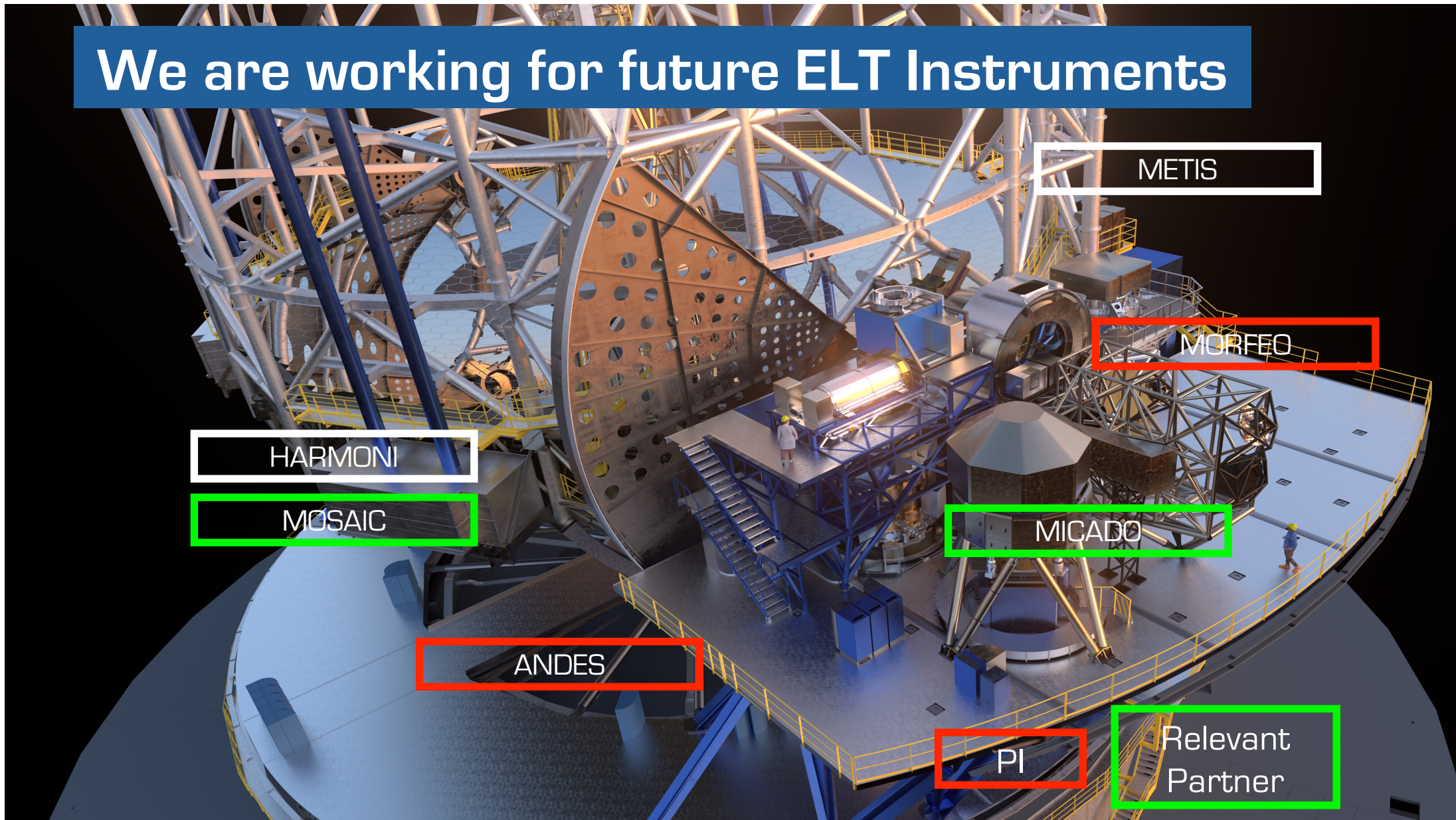
MOSAIC

MICADO

ANDES

PI

Relevant
Partner



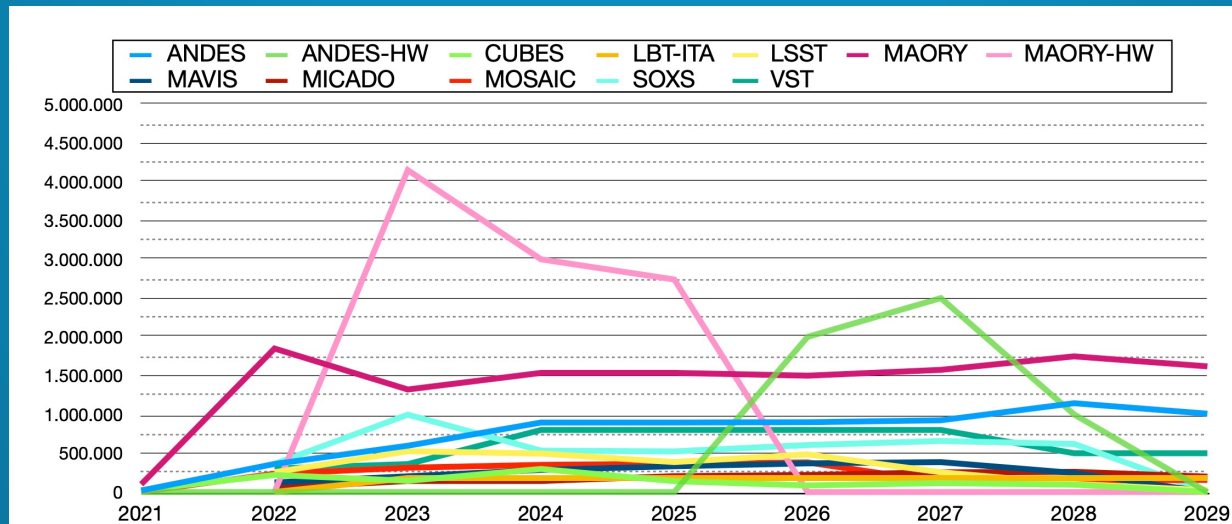
INAF contribution to ELT



The new generation of ESO instruments (ELT) are of unprecedented complexity for world astrophysics (~600 FTE)

INAF leadership is guaranteed by a MUR funding of ~8M€/year that allows to invest in personnel and technology.

Moreover, we have a dedicated PNRR investments (40M€)



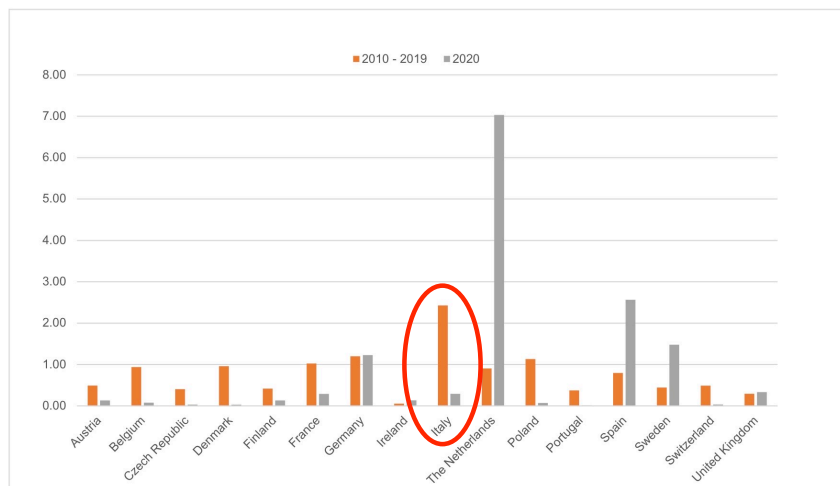
ESO and Italian Industry

A large industrial robotic arm, likely used in manufacturing or assembly, is the central focus of the image. The arm is a light grey color and is positioned within a complex, multi-level structure of blue steel beams and supports. The background is filled with these structural elements, creating a dense, industrial environment. The lighting is bright, highlighting the metallic surfaces and the intricate geometry of the structure.

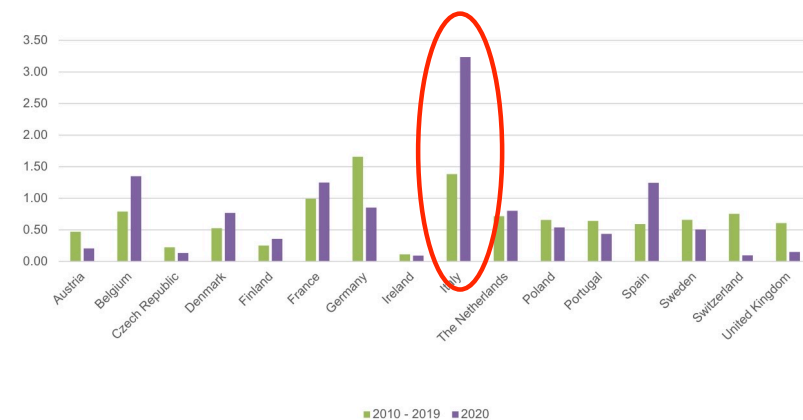
- EIE, ANSALDO, ASTALDI, CIMOLAI...
- High performance Optomechanics and Adaptive Optics:
ADS, MICROGATE, TOMELLERI..

Industrial return

Industrial Return Coefficient based on Commitments
10 Years' Period and 2020 without correction



Industrial Return Coefficient based on Payments
10 Years' Period and 2020

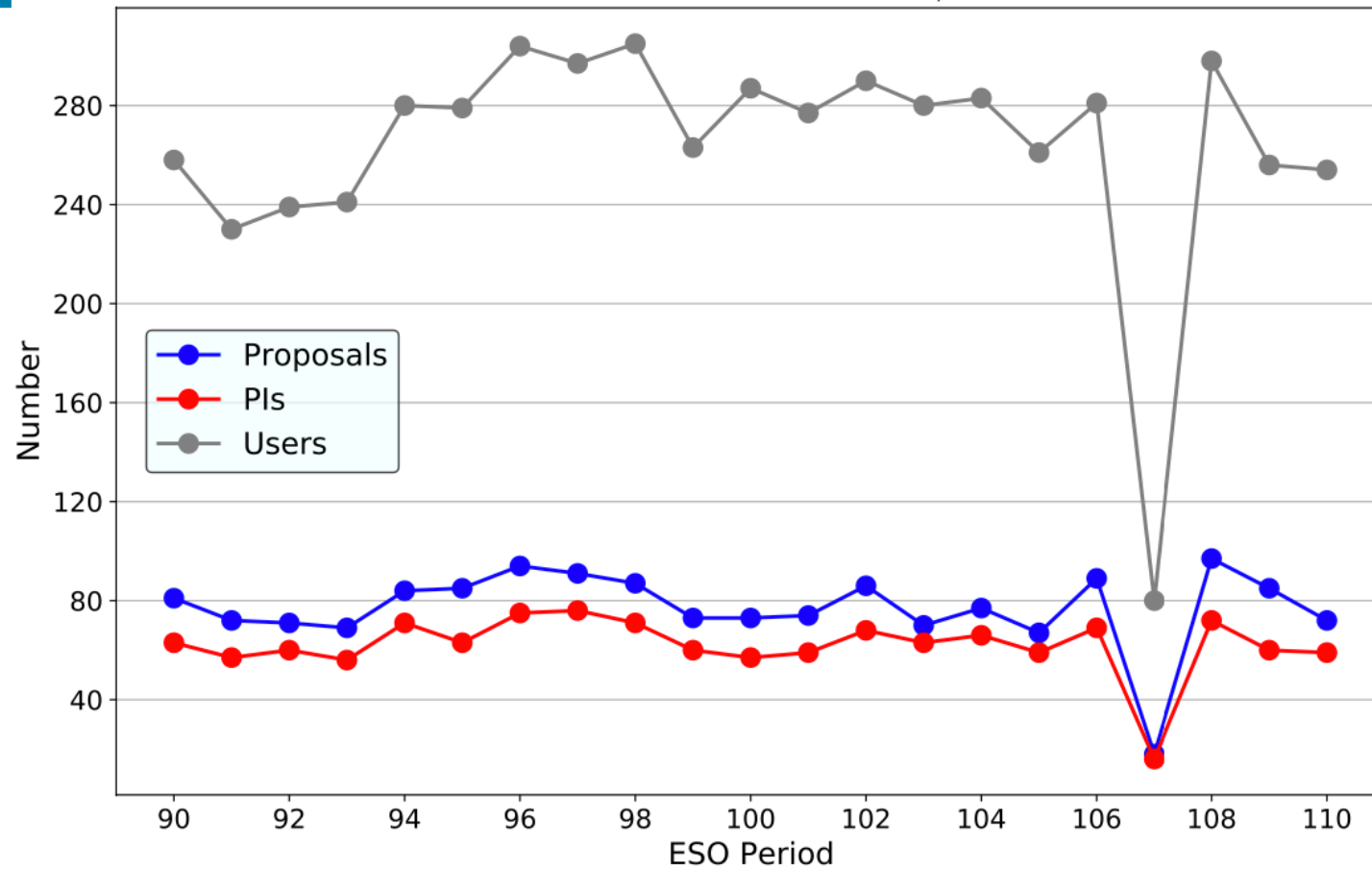


Italy is the member state with the highest industrial return.



Proposal submission - I Principal Investigator

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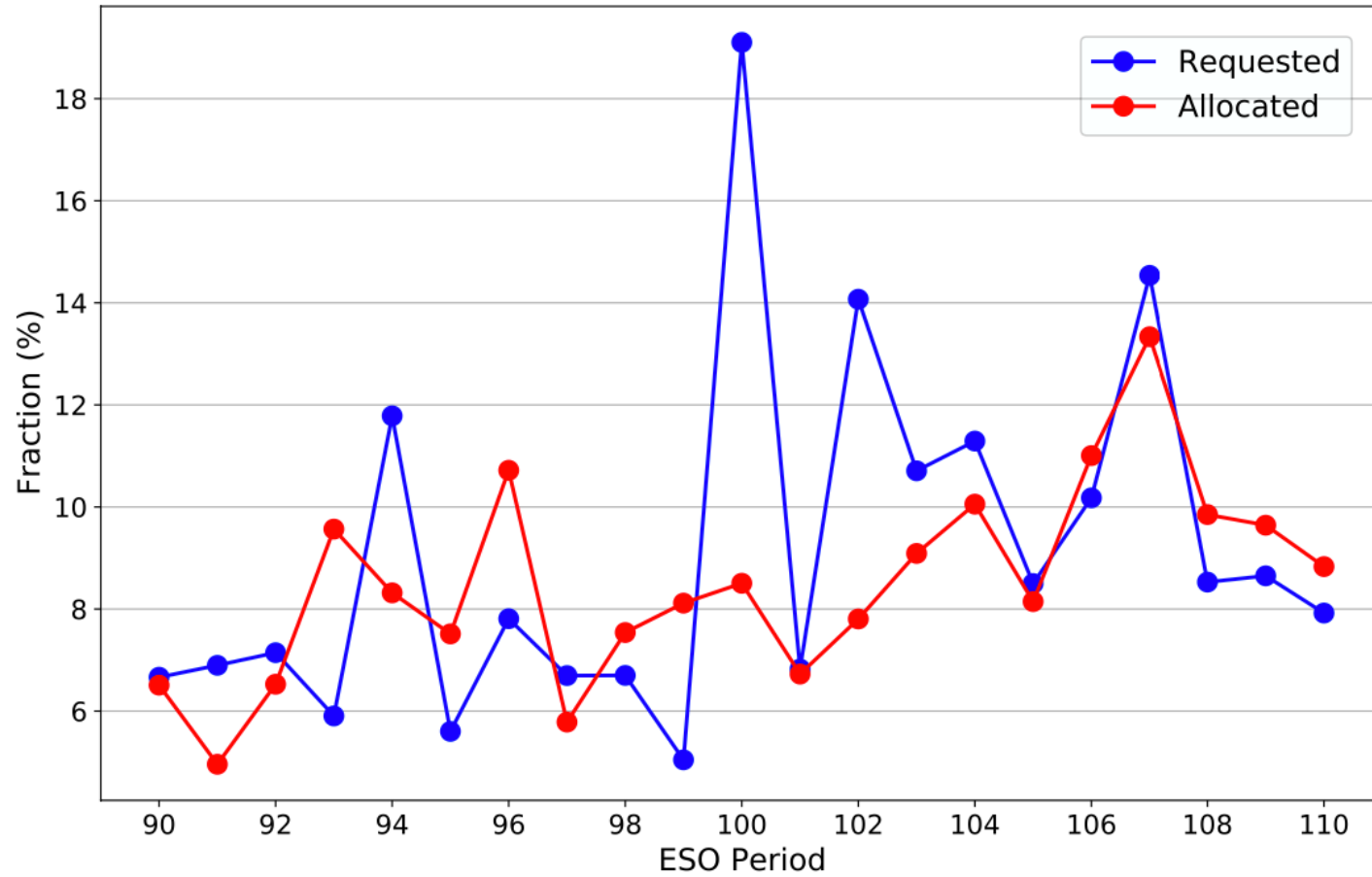
European Southern Observatory - Observing Programmes Office (2022)





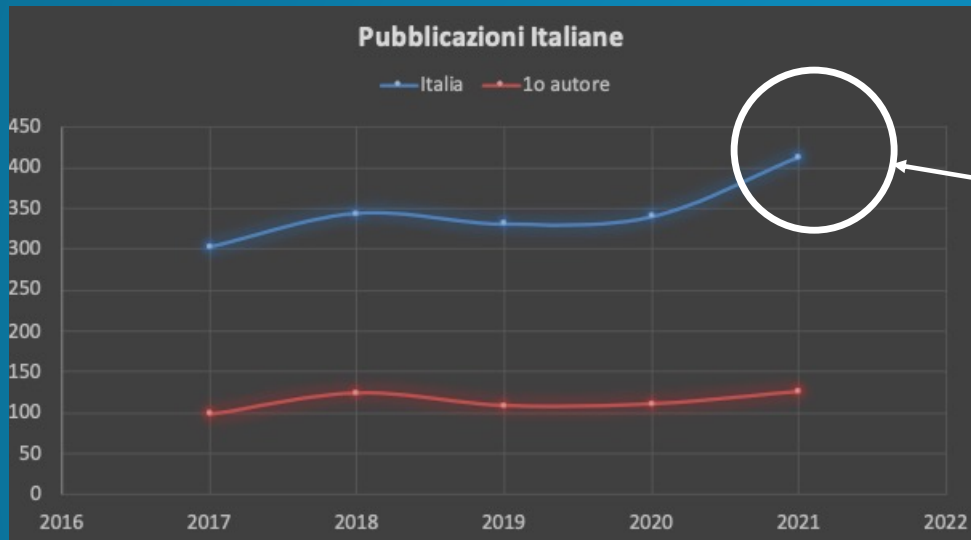
Fraction of total time for I

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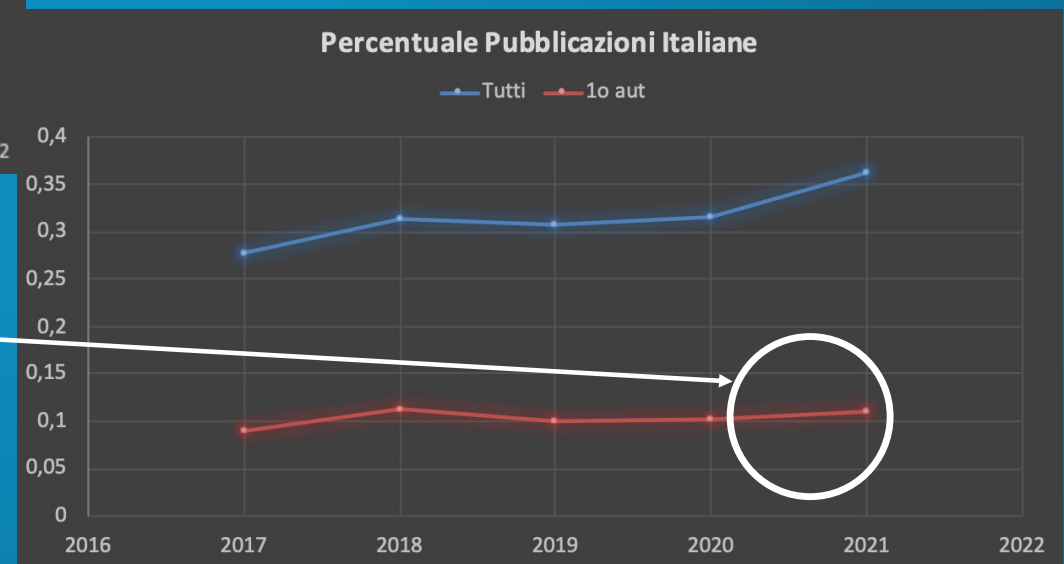
European Southern Observatory - Observing Programmes Office (2022)

Science publication for Italian authors



During corona

11% (= %contribution €)



What's next?

Expanding Horizons “in Italy”

Transforming Astronomy in the 2040s



A workshop to discuss ideas for the post-ELT at ESO

12-13 May 2025, Rome

In the 2040+ horizon we could have LISA and ET capable of churning out a flow of potential GW counterparts that is unimaginable today; our inventory of exoplanets will be enriched with thousands of targets that are currently unknown, our knowledge of dark matter and cosmology could be very different from the current ones.

We want to urge the Italian astronomical community to answer the following questions:

- What will be the strategic observational needs from the ground that will be possible only with the construction of a new European facility?
- How do the different options already circulated in the European context, such as **WST** and others, compare with each other??
- What technological development can be credible and realistic in the time scale of this project???
- What are the directions, even multiple, in which our community, and INAF in particular, want to push.

Thanks

Acknowledgements: Adriano Fontana, Roberto Ragazzoni.