



INAF **National Institute for** **Astrophysics**

A presentation to SpacePart'06



Introducing the “new” INAF

- **INAF mission**
- **Status and organisation**
- **Resources**
- **Main Projects**
- **Lines of research**
- **Technological R&D and Technological Transfer**



INAF mission

- **INAF fosters, implements and coordinates research activities in the fields of Astronomy & Astrophysics, Radioastronomy, Space Astrophysics.**
- **INAF pursues its mission in collaboration with Universities, with national and international Institutes and within the programmes of the European Union and other International Organizations.**
- **INAF promotes the outreach and knowledge of Astronomy in the School and in the Society.**



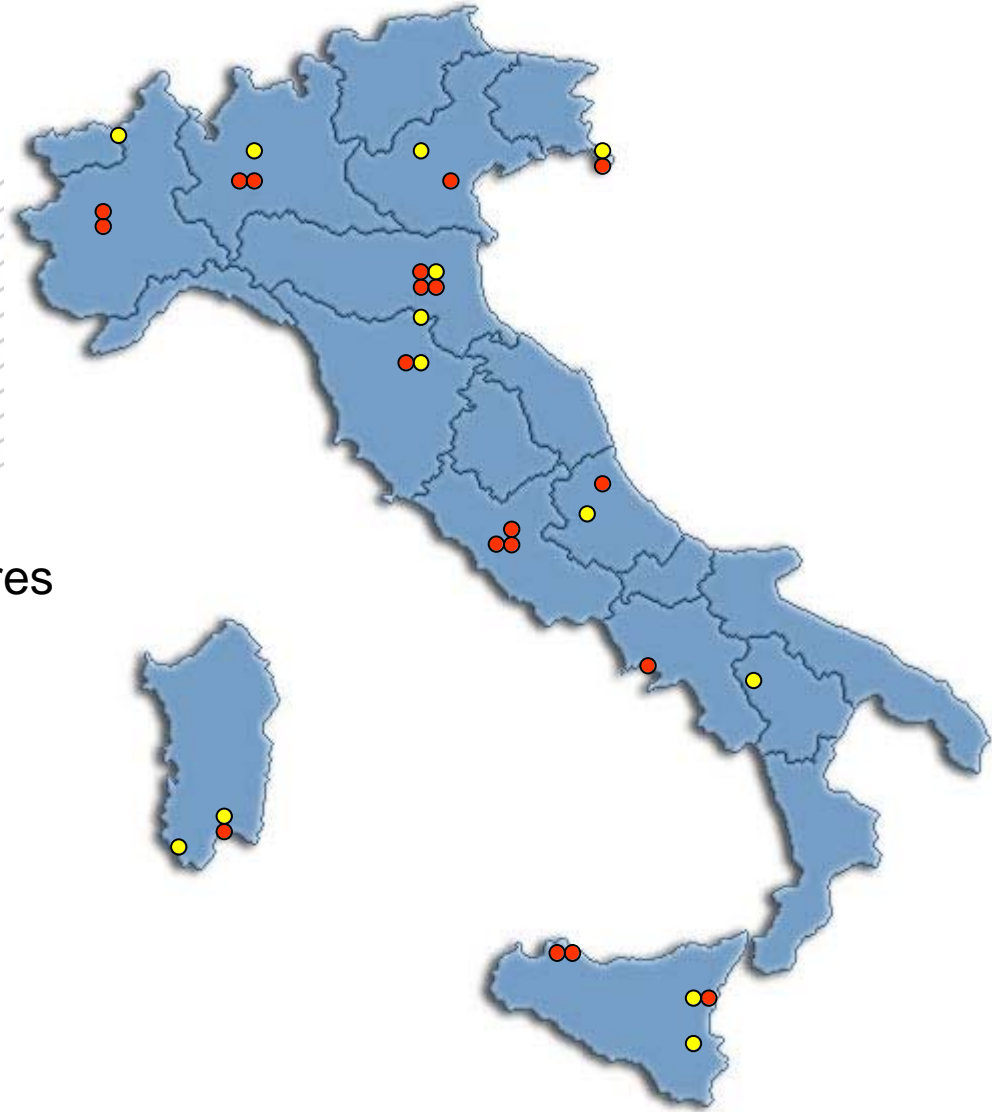
INAF - a “new” Institute with a long legacy

- **INAF officially started on Jan 1st, 2005**
- **It includes 12 “historical” Astronomical Observatories and 3 ex-CNR Institutes (IRA, IASF, IFSI)**
- **Total permanent staff ~1050 (of which ~550 scientists)**
- **~ 250 associated staff from Universities**



INAF: a distributed Institute

- 19 Research Groups
- 13 Observing Infrastructures
- TNG (Canary Islands, E)
- LBT (Mt. Graham, AZ)



Resources (Staff & Infrastructures)

- **Staff**

- ~ 550 permanent scientific staff
- ~ 500 permanent technical and admin
- ~ 200 contractors & collaborators
- ~ 250 associated staff from Universities

- **19 Research Structures.**
(they includes Labs and minor observing facilities).

- **Major Observing facilities (6)**

- **Radio: Medicina (BO), Noto (CT), S. Basilio (CA)**
- **Optical: TNG & THEMIS (Tenerife), LBT (Mt. Graham, AZ)**



Scientific excellence

- **CIVR 2001-03 national evaluation:**
 - **1st rank in Physics and Space Science**
- **5^o rank in Astrophysics (I.S.I. classification)**
- **2005 Descartes Prize**

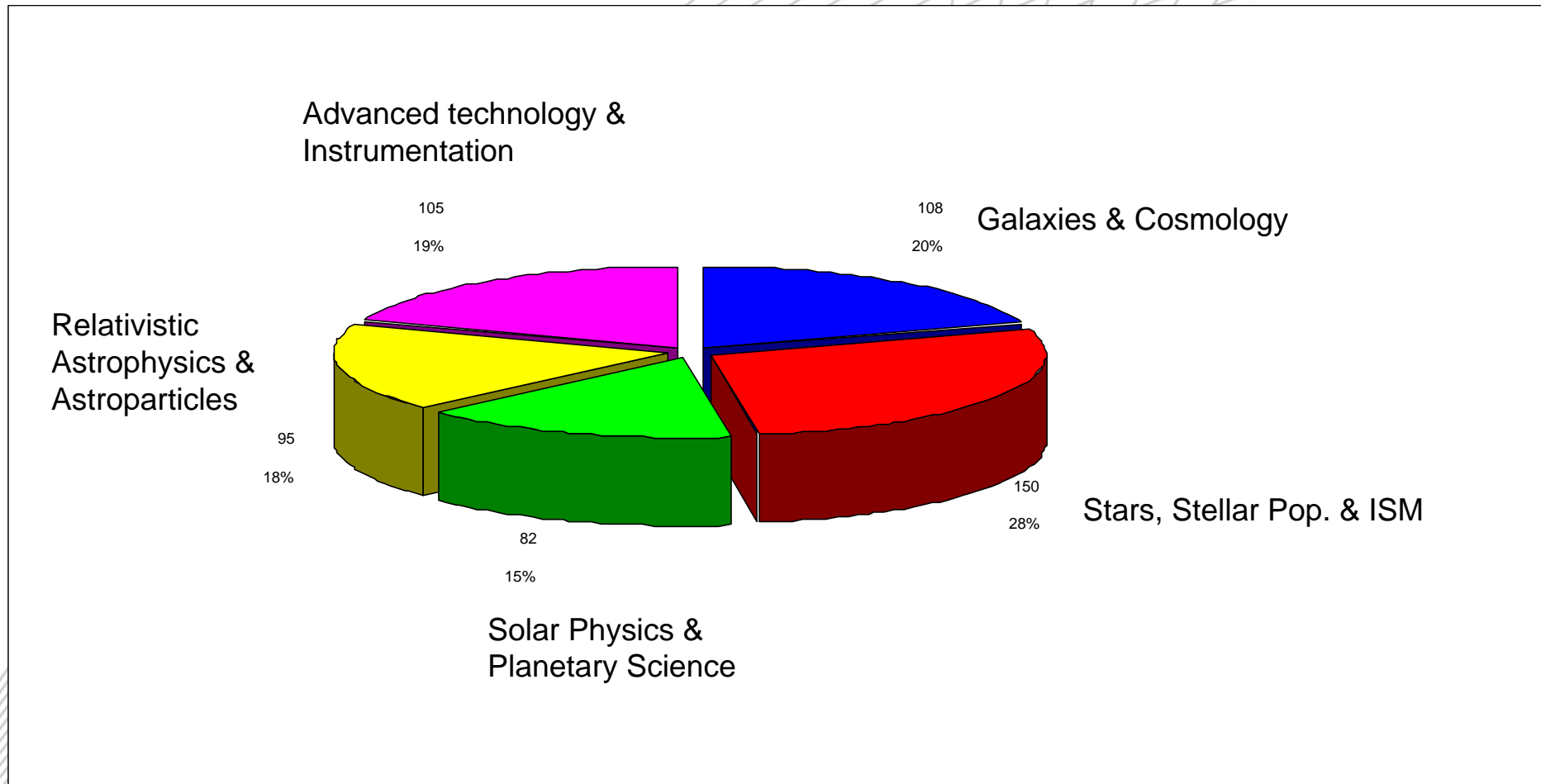


Research and Projects

- **Long Term Plan (~ 10-15 years, prepared by the Scientific Council)**
- **Research organization**
 - **Basic research**
 - **National research projects (funded on competitive basis)**
 - **Major national projects**
- **5 scientific “macro-areas” (5 committees)**
 1. **Galaxies and Cosmology**
 2. **Stars, Stellar Populations and ISM**
 3. **Solar physics and Planetary Science**
 4. **Relativistic Astrophysics and Astroparticles**
 5. **Advanced Technology and Instrumentation**



Main affiliation to scientific macroareas



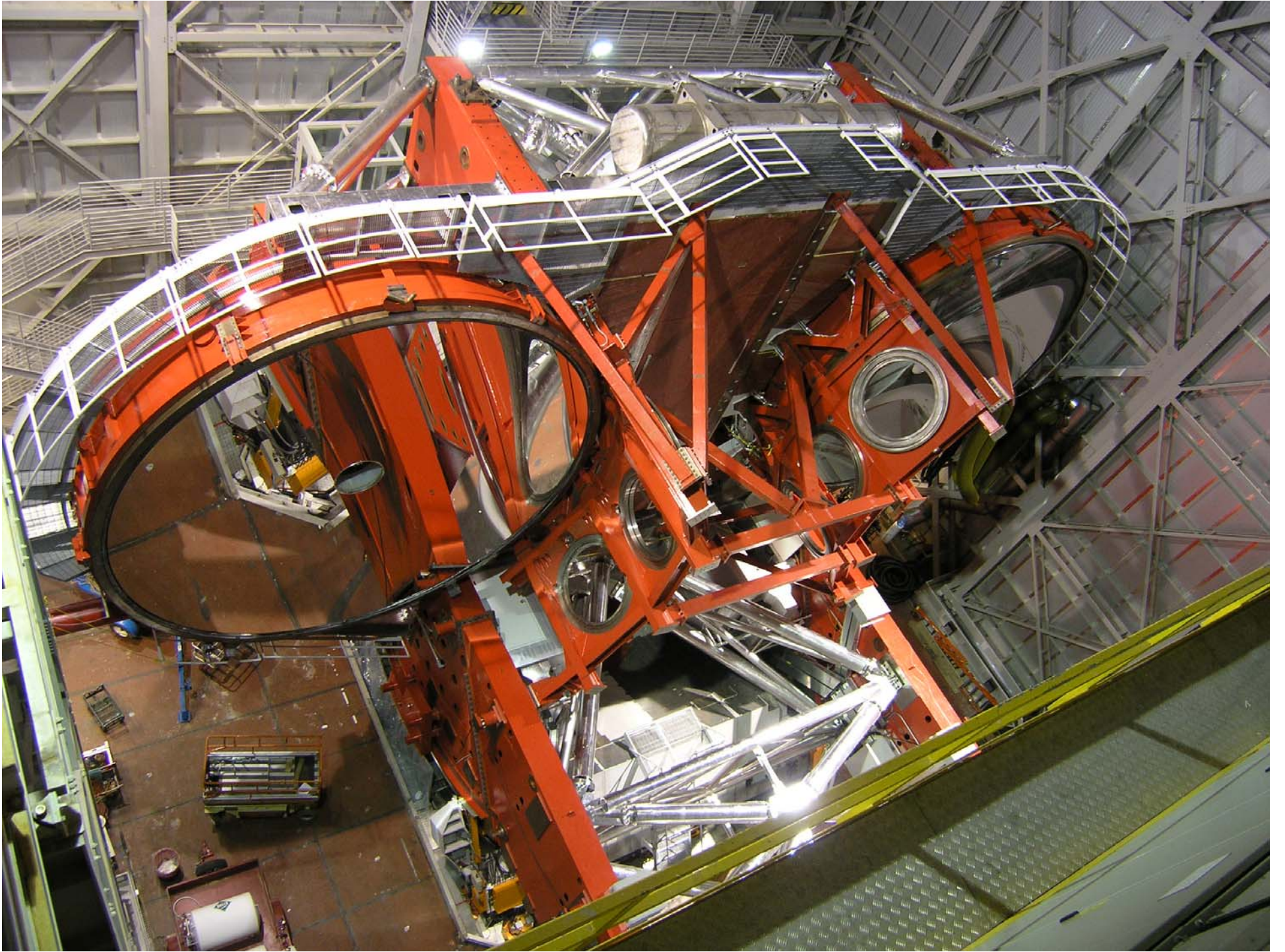
Projects

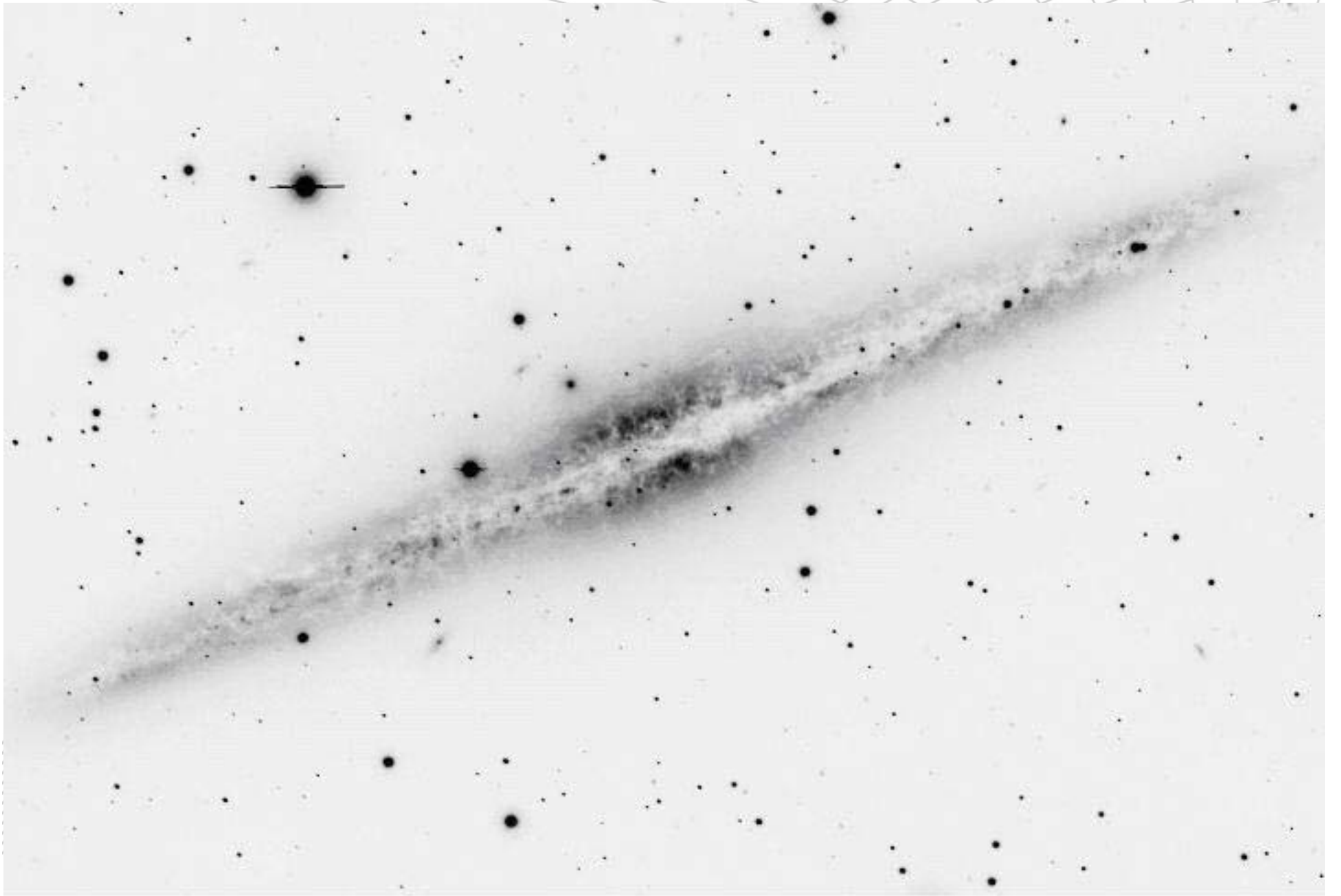
- **National Infrastructures**
 - TNG - National optical telescope (3.4 m)
 - Medicina, Noto, S. Basilio (radio, North Cross + 2x32m + 64m dishes)
 - THEMIS - Solar telescope ~ 1m
- **National Projects**
 - LBT (Large Binocular Telescope 2x8m optical) (25% of) ~ 120 M\$
 - SRT (Sardinia Radio Telescope 64m adaptive surface) ~ 35 M€
 - VST (VLT Survey Telescope 2m wide field at Paranal) ~ 8 M€
 - SWIFT (Gamma-ray burst telescope) with NASA/ASI + REM
 - AGILE (Gamma-ray imaging telescope)
 - GLAST (Gamma-ray Large Area ST) with NASA/ASI
 - ESA programmes (via ASI)



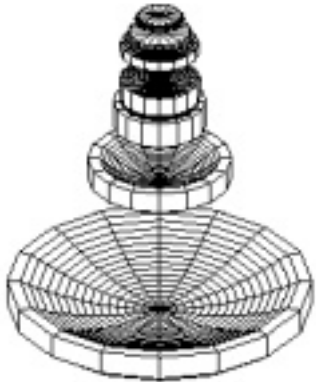
Large Binocular Telescope



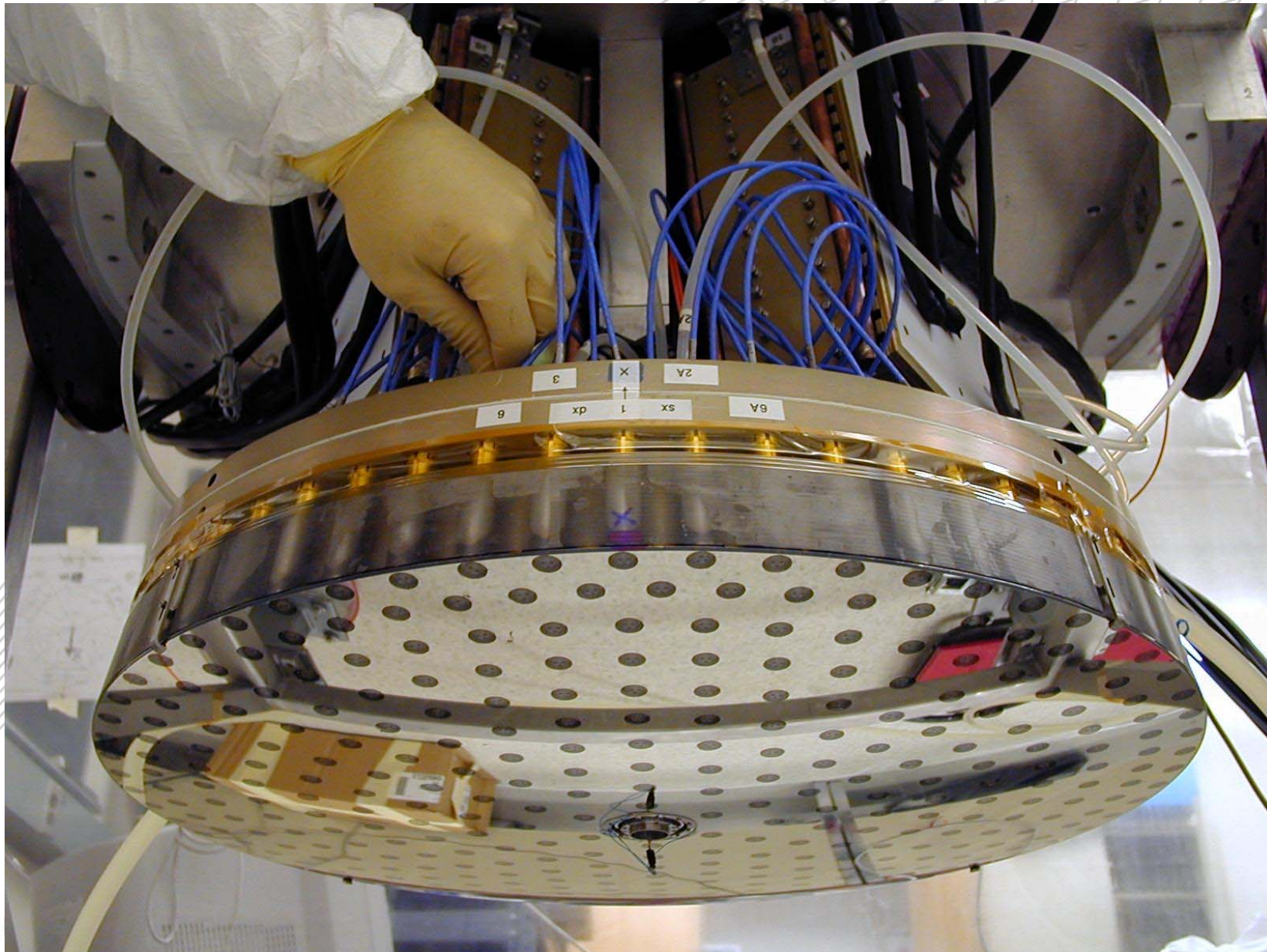


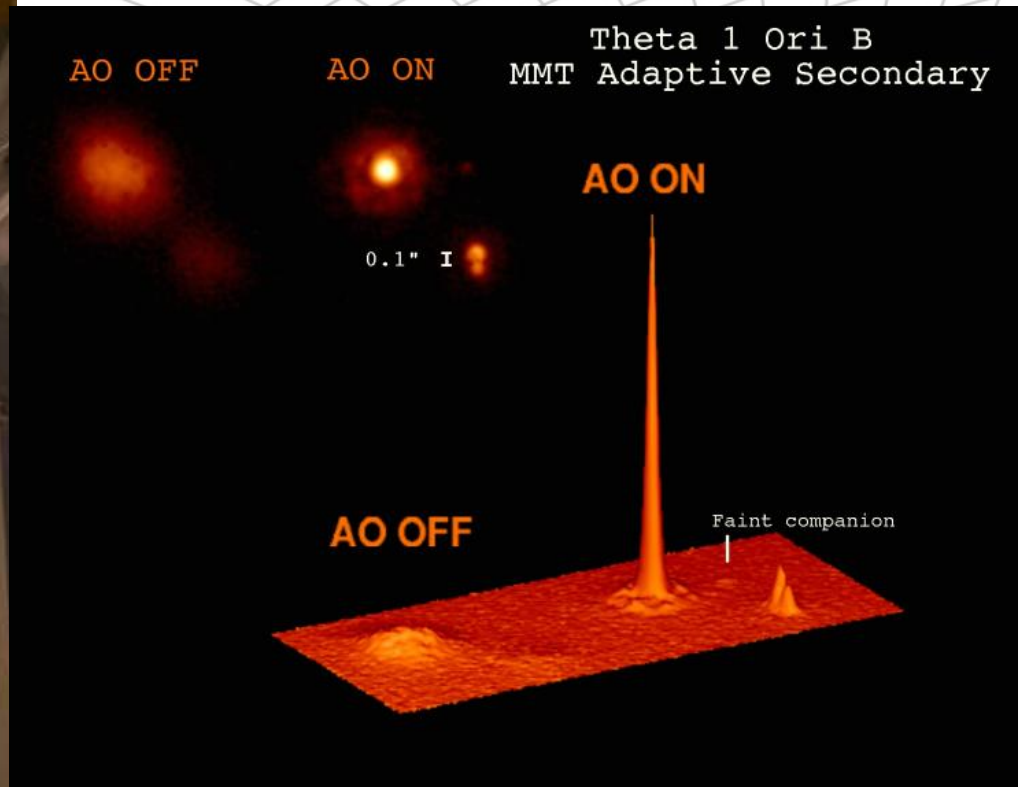


LBT Blue Camera

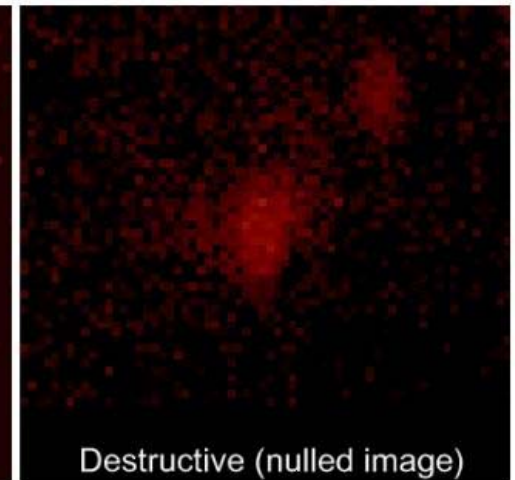
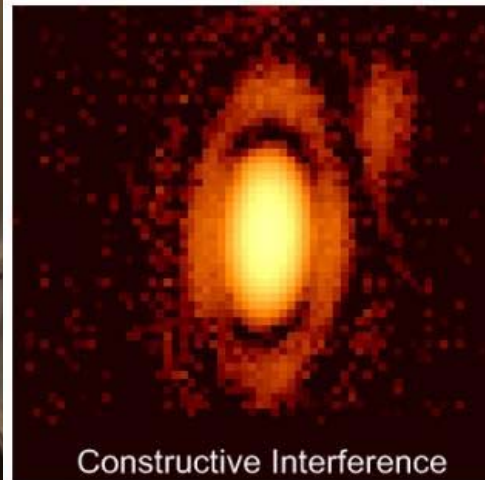


Adaptive Secondary Mirror for MMT

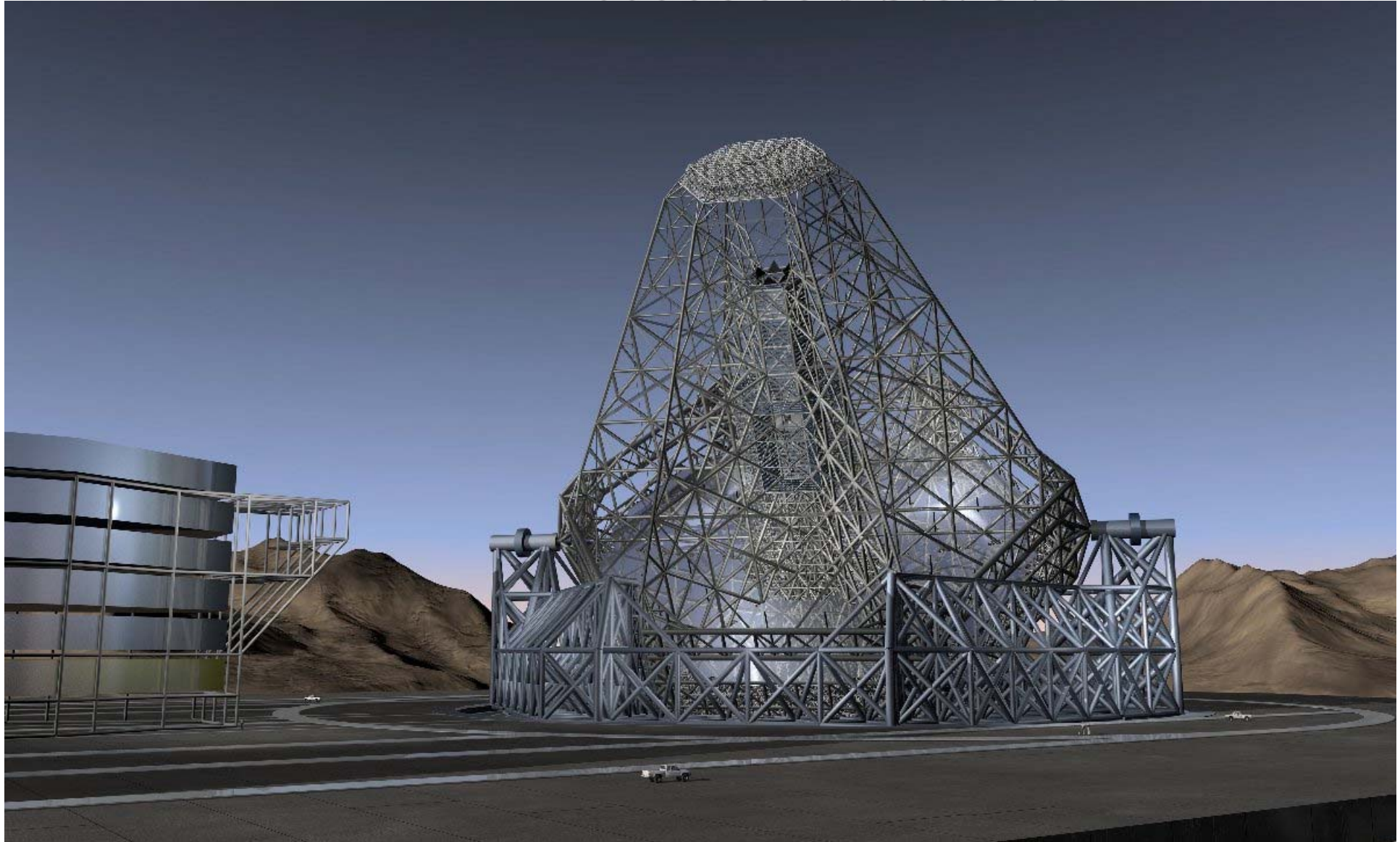


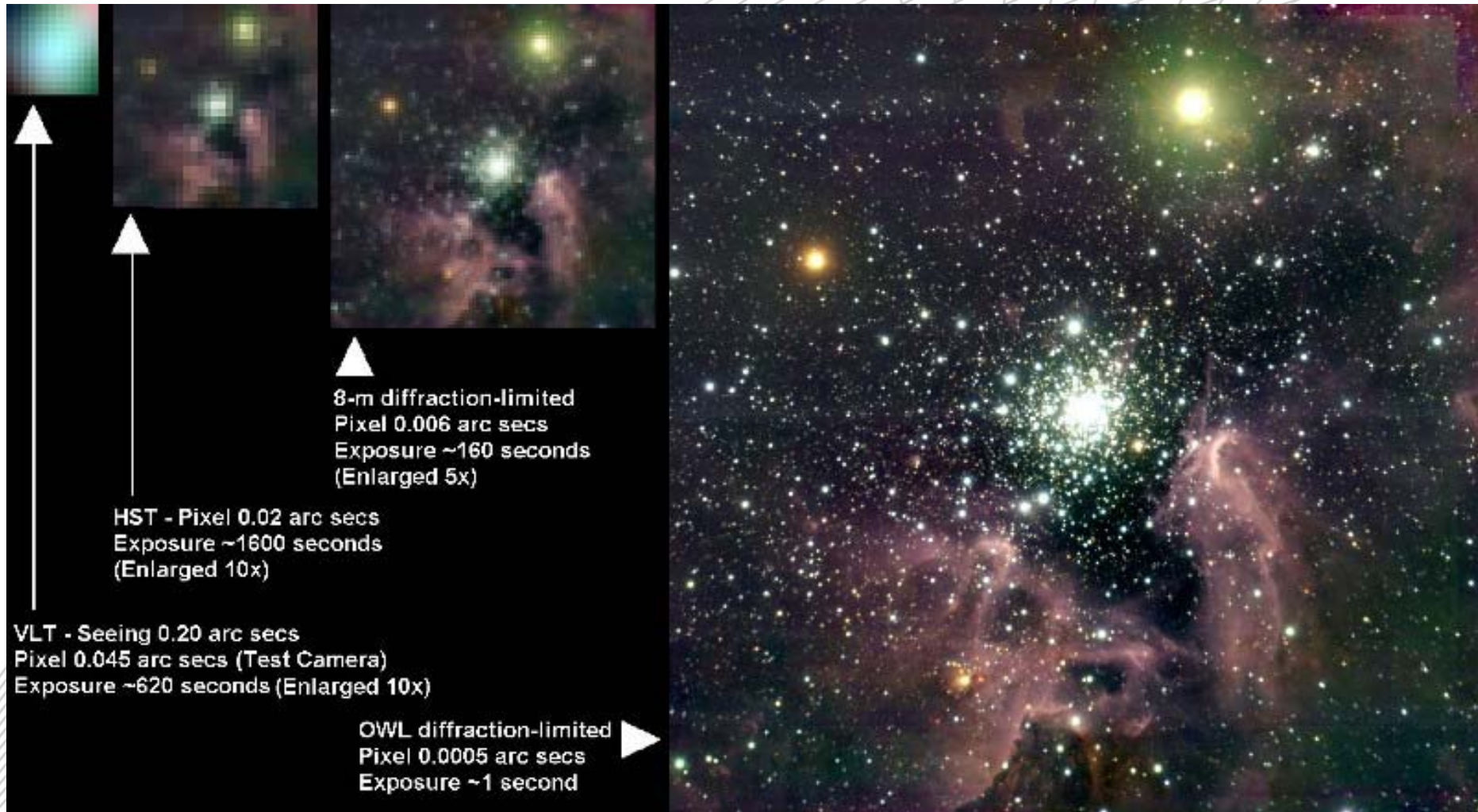


It works !



A European Extremely Large Telescope





Conclusions

- **INAF is aggressively pursuing technological R&D, involving industries, in order to maintain its leadership in key areas.**
- **INAF will play an important role in the design and development of the Extremely Large Telescope (segmented thin curved mirrors, adaptive optics, atmosphere's tomography)**
- **ELT has still to solve technological and financial challenges**
- **INAF (and Europe) are looking for ELT partners...**

