

# ELT Communication Strategy

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# Outline

- A bit about the ELT
- The communication opportunities and challenges
- Current communication approaches and activities
- Unconventional outreach
- Ideas for the future



# What is the ELT?

- ESO's Extremely Large Telescope
- 39-metre optical/infrared telescope
- On Cerro Armazones in northern Chile (3046 m)
- Construction in progress
- First light in 2024
- Big, but just one of a long list of ESO telescopes (around 25...)





Five-mirror design:

1. Main mirror 39.3 metres diameter.
2. Secondary mirror. Largest secondary (and largest convex) mirror ever produced.
3. Tertiary mirror.
4. Adaptive fourth mirror.
5. Rapid tip-tilt fifth mirror.

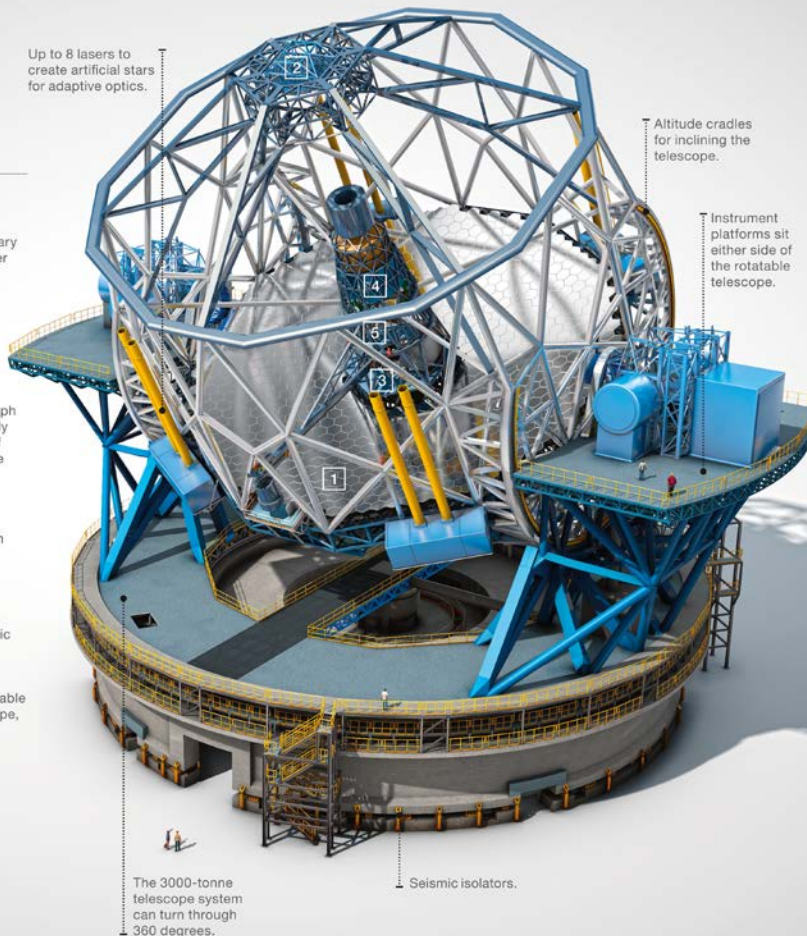
First-generation instruments:

**HARMONI**, an integral-field spectrograph used to explore galaxies in the early Universe, study the constituents of the local Universe and characterise exoplanets in great detail.

**MAORY**, an adaptive-optics module designed to help compensate for distortions caused by turbulence in the Earth's atmosphere.

**METIS**, a mid-infrared imager and spectrograph, will focus on exoplanets, protoplanetary discs, Solar System bodies, active galactic nuclei, and high-redshift galaxies.

**MICADO**, the first dedicated imaging camera for the ELT, will be comparable to the James Webb Space Telescope, but with six times the resolution.



Up to 8 lasers to create artificial stars for adaptive optics.

Altitude cradles for inclining the telescope.

Instrument platforms sit either side of the rotatable telescope.

The 3000-tonne telescope system can turn through 360 degrees.

Seismic isolators.

Recent events: Casting of secondary mirror (two weeks ago)



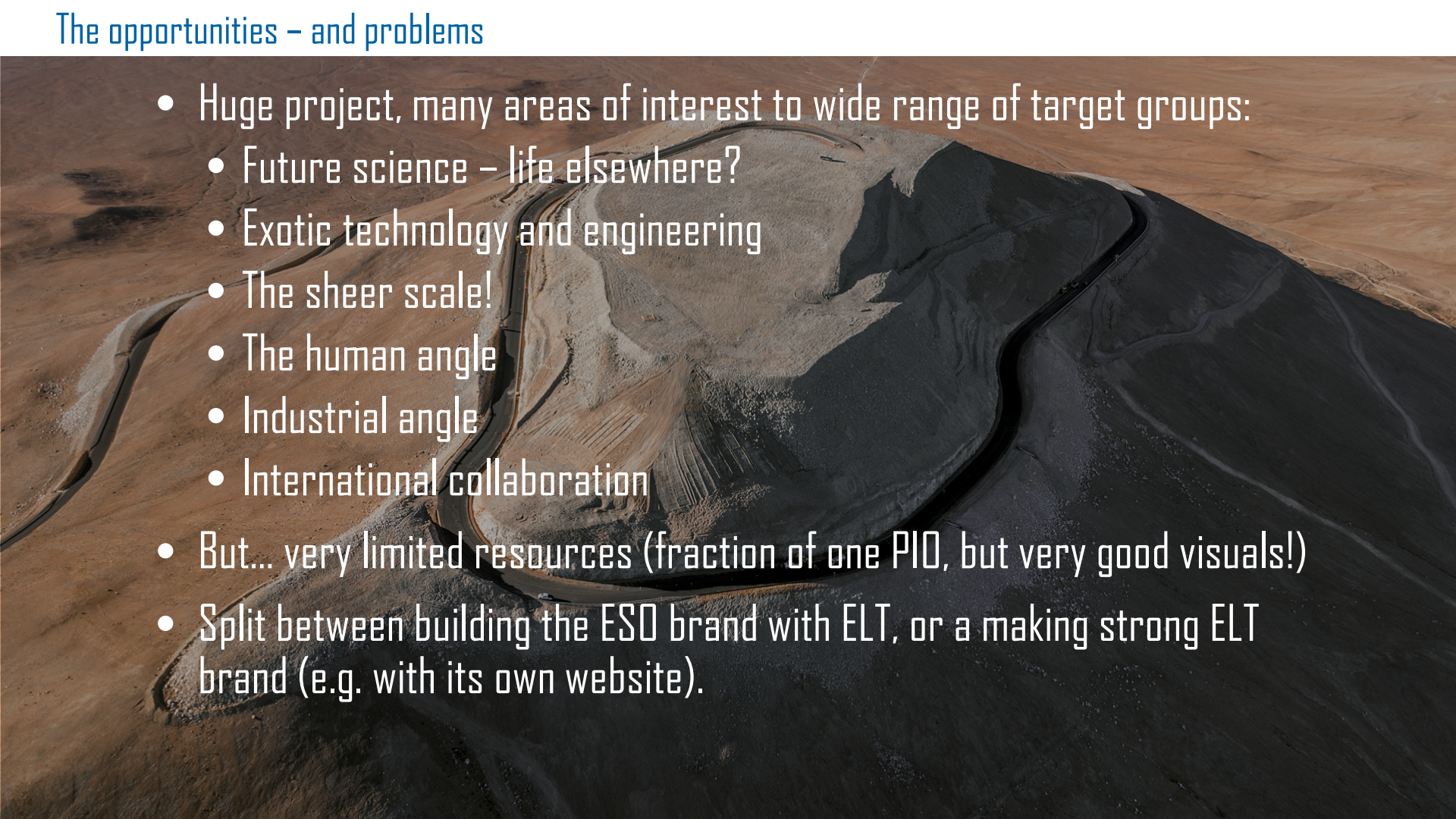
President of Chile attends first stone ceremony (last Friday)

First Stone Ceremony

And today, as I speak, contracts are being signed for the main mirror!

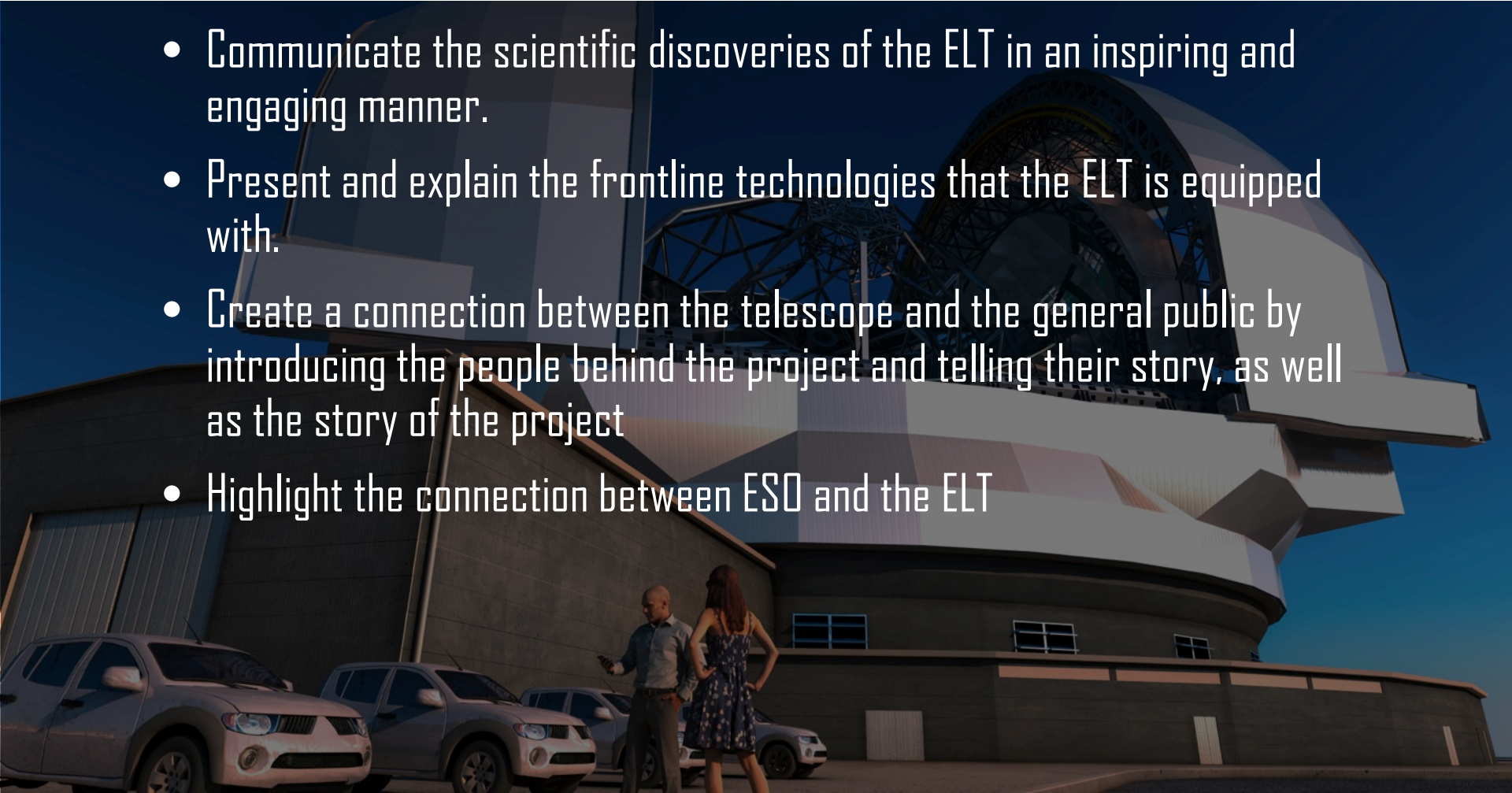


## The opportunities – and problems

- Huge project, many areas of interest to wide range of target groups:
    - Future science – life elsewhere?
    - Exotic technology and engineering
    - The sheer scale!
    - The human angle
    - Industrial angle
    - International collaboration
  - But... very limited resources (fraction of one PIO, but very good visuals!)
  - Split between building the ESO brand with ELT, or a making strong ELT brand (e.g. with its own website).
- 

## Mission

- Communicate the scientific discoveries of the ELT in an inspiring and engaging manner.
- Present and explain the frontline technologies that the ELT is equipped with.
- Create a connection between the telescope and the general public by introducing the people behind the project and telling their story, as well as the story of the project
- Highlight the connection between ESO and the ELT



## Current activities

- Web information
- News: press releases, announcements, social media (occasional press conference)
- Video material – podcasts, high quality renderings, material showing construction
- Printed products
- Events

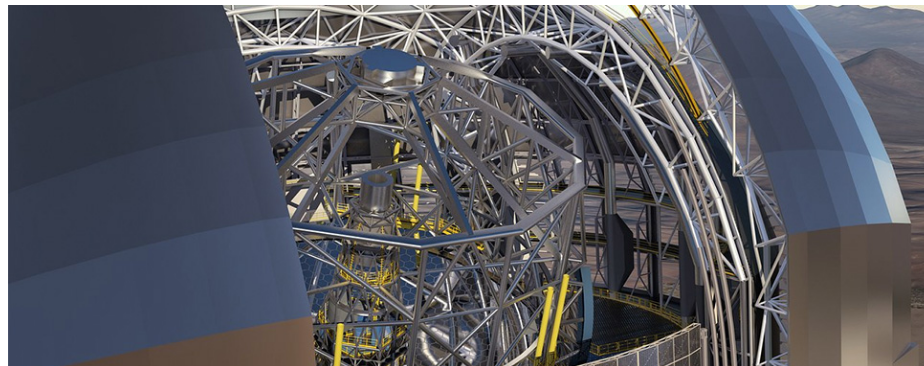




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# The Extremely Large Telescope

The world's biggest eye on the sky



Extremely Large Telescopes are considered worldwide as one of the highest priorities in ground-based astronomy. They will vastly advance astrophysical knowledge, allowing detailed studies of subjects including planets around other stars, the first objects in the Universe, super-massive black holes, and the nature and distribution of the dark matter and dark energy which dominate the Universe.

Since 2005 ESO has been working with its community and industry to develop an extremely large optical/infrared telescopes.

Dubbed ELT for Extremely Large Telescope, this revolutionary new ground-based telescope concept will have a 39-metre main mirror and will be the largest optical/near-infrared telescope in the world: "the world's biggest eye on the sky".

The ELT programme was approved in 2012 and green light for construction was given at the end of 2014. First light is targeted for 2024.

The latest news and press releases about the ELT can be found on this link

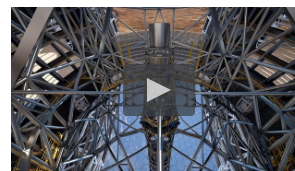
## Science with the ELT



The ELT will tackle the biggest scientific challenges of our time, and aim for a number of notable firsts, including tracking down Earth-like planets around other stars in the "habitable zones" where life could exist — one of the Holy Grails of modern observational astronomy. It will also perform "stellar archaeology" in nearby galaxies, as well as make fundamental contributions to cosmology by measuring the properties of the first stars and galaxies and probing the nature of dark matter and dark energy. On top of this astronomers are also planning for the

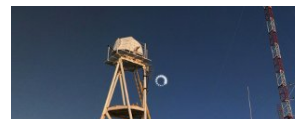
unexpected — new and unforeseeable questions will surely arise from the new discoveries made with the ELT.

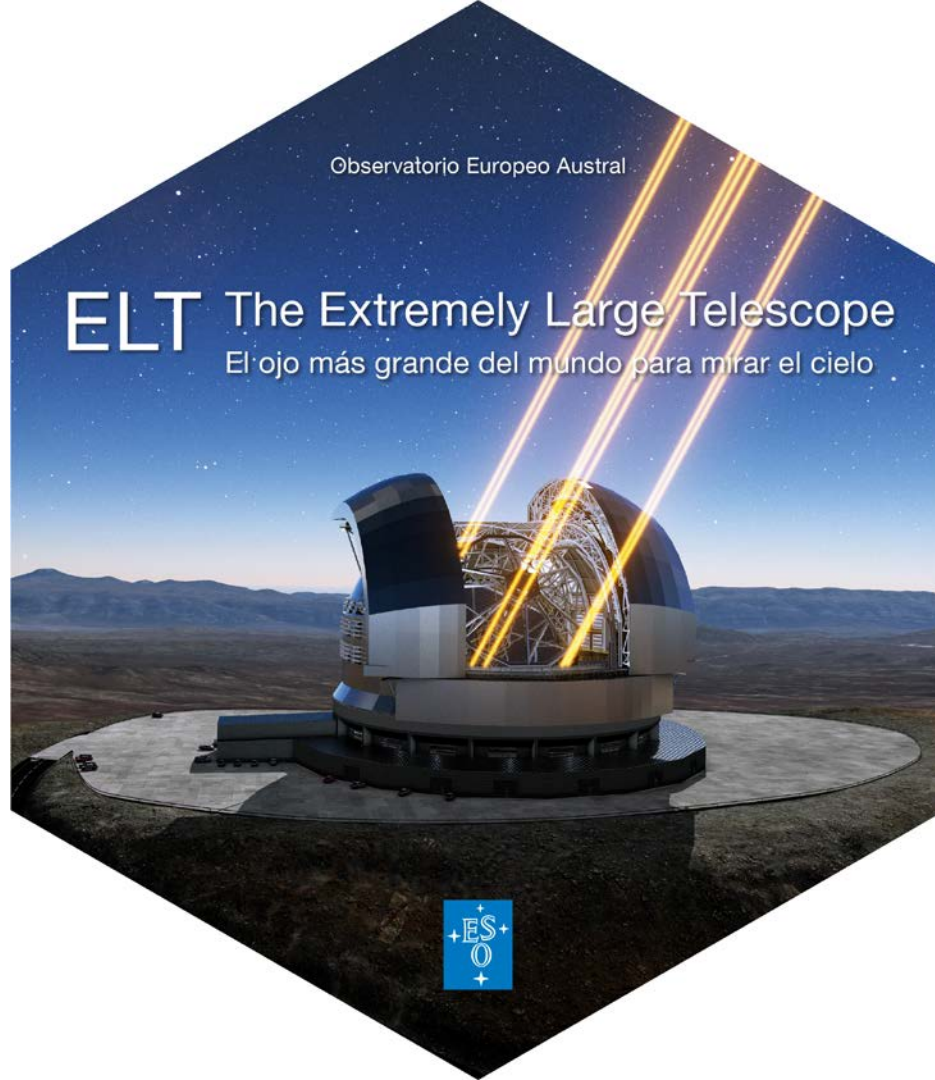
## Watch the ESOcast 84: The New ELT Design Unveiled



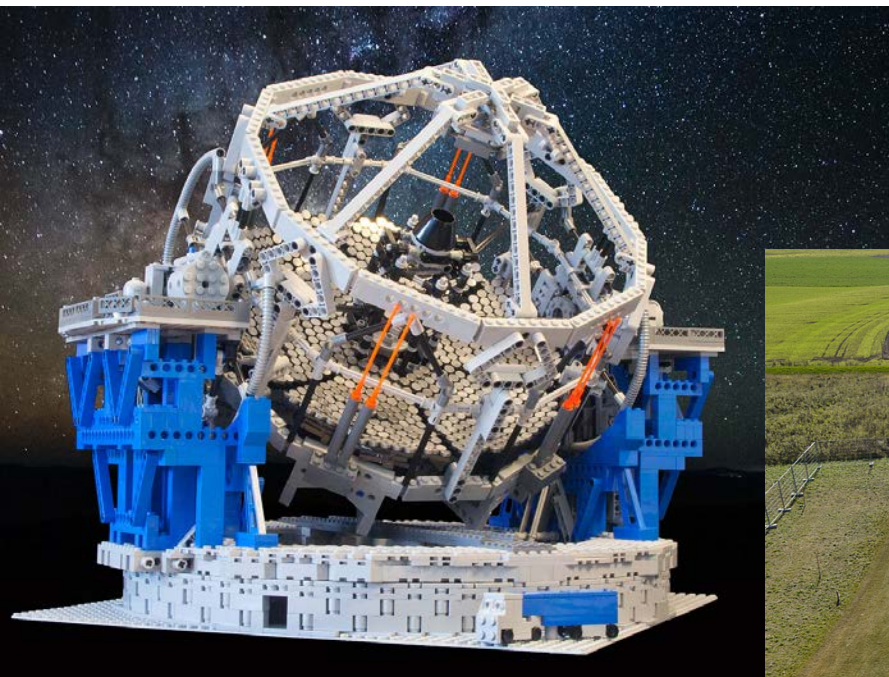
Download this trailer in other formats from the [Video Archive](#).

## A Tour of Paranal and Cerro Armazones





# Unconventional ideas



Lego model



Full-sized cardboard version of ELT main mirror

# Communication Plan

- We are finishing a comprehensive communications plan with 4 phases:
  - Phase 1, Pre-approval of the project
  - Phase 2, Construction (we are here!)
  - Phase 3, Early science (from 2025)
  - Phase 4, Operations
- Based on study of communication aspects for the big upcoming telescopes ELT, TMT, GMT, LSST, SKA, JWST...
- It contains
  - SWOT analysis
  - Vision
  - Mission
  - Values
  - Assets
  - Slogan ("world's biggest eye on the sky")
  - Matching target audiences and channels

## Key messages

- The World's Biggest Eye on the Sky.
- Thinking Big. Aiming High.
- The ELT will be the largest optical/near-infrared telescope in the world: the world's biggest eye on the sky. The mirror stretches over almost half the length of a soccer field.
- The ELT will have a main mirror 39 metres in diameter.
- The ELT will be bigger than all currently existing optical research telescopes combined.
- The ELT will gather about 15 times more light than the largest optical telescopes today.
- The ELT will be able to correct for the atmospheric distortions (i.e., fully adaptive and diffraction-limited) from the start, providing images about 15 times sharper than those from the Hubble Space Telescope.
- The ELT will have a novel five-mirror design that no other telescope has.
- The ELT is a frontline scientific project that will further expand Europe's leading role in astronomy and allow people to reach new levels in astronomy by addressing many of the most pressing unsolved questions about our Universe.
- The ELT is a revolutionary project. It is the first telescope that could enable us to identify life beyond the Solar System.
- The ELT may revolutionise our perception of the Universe, much as Galileo's telescope did, 400 years ago, when he first pointed a telescope to the sky.
- ... (33 in total currently)





# The Future

- Complete and implement the communication plan!
- Communicate the construction milestones
- Improve the amount of material online
- Explore new angles and innovative ideas (suggestions please!)
- ...

