



The European Southern Observatory

*Add your name,
date and occasion
here or remove*





This is ESO

Your Name, Date, Occasion



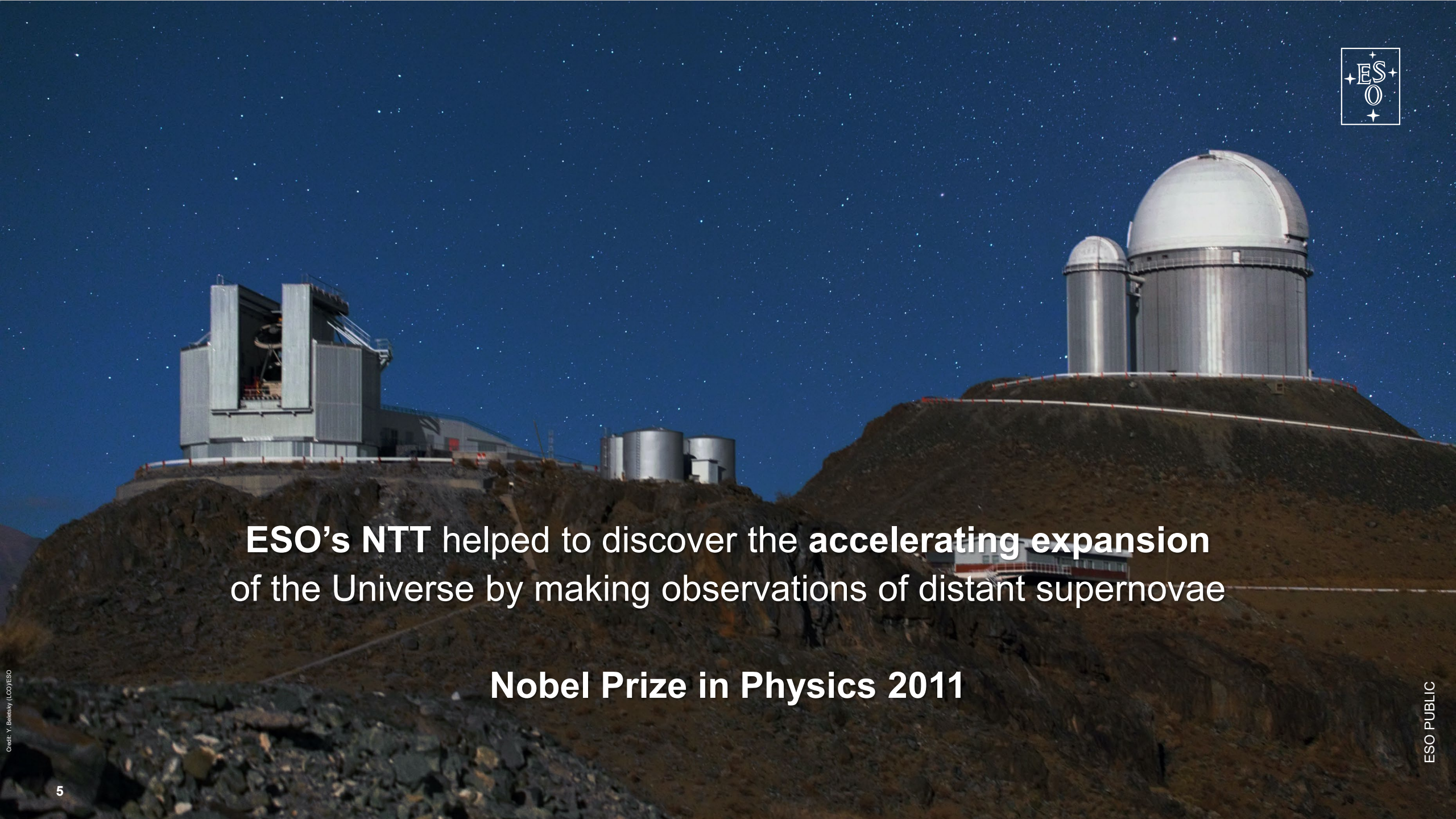


Introduction

Questions and answers



*How do we know
the expansion of the Universe is accelerating?*

A wide-angle photograph of the ESO observatory complex on a dark, rocky mountain peak under a clear night sky filled with stars. On the right, the large, white, dome-shaped structure of the Very Large Telescope (VLT) is prominent. To its left, a smaller, more complex structure with multiple rectangular openings is visible. In the foreground, the rugged, dark terrain of the mountain is visible.

ESO's NTT helped to discover the **accelerating expansion** of the Universe by making observations of distant supernovae

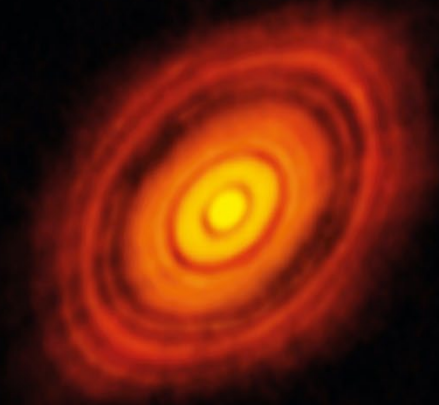
Nobel Prize in Physics 2011

What planets are out there?



2004

ESO's VLT took the **first direct image** of a planet outside our Solar System



2014

ALMA imaged **the birth of planets**



2016

ESO's 3.6-m telescope revealed that **Proxima Centauri** hosts a planet in its habitable zone



*How do we know
there is a black hole at the centre of our galaxy?*

30 years of observations with various ESO telescopes
led to the discovery of a **supermassive compact object**
at the centre of our galaxy

Nobel Prize in Physics 2020



And what does it look like?



2022
First image of Sagittarius A*
the black hole at the centre of the Milky Way



Astronomy

Life, the Universe and everything

*“Man must rise above Earth,
to the top of the atmosphere and beyond,
for only then will he fully understand
the world in which he lives.”*

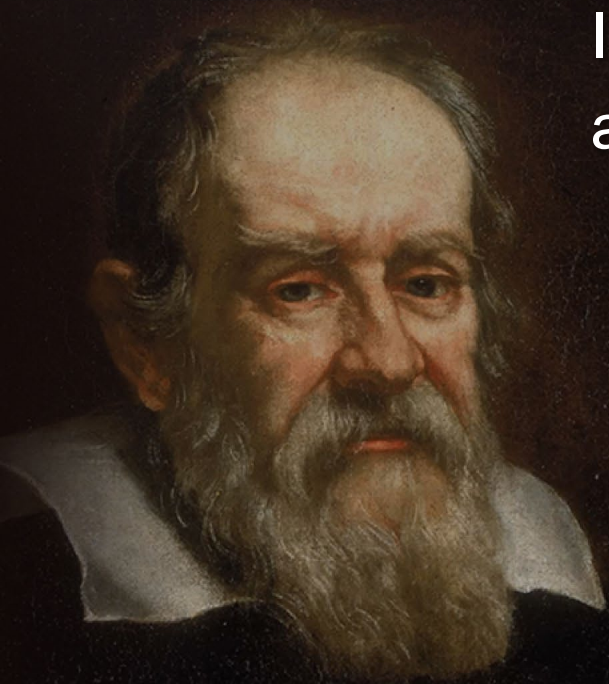
Socrates

Astronomy is one of the oldest sciences. Humans have always looked up to the sky and **wondered what is out there and how we came to be.**

It is about asking the **big questions** and ESO is all about helping scientists to **find answers.**

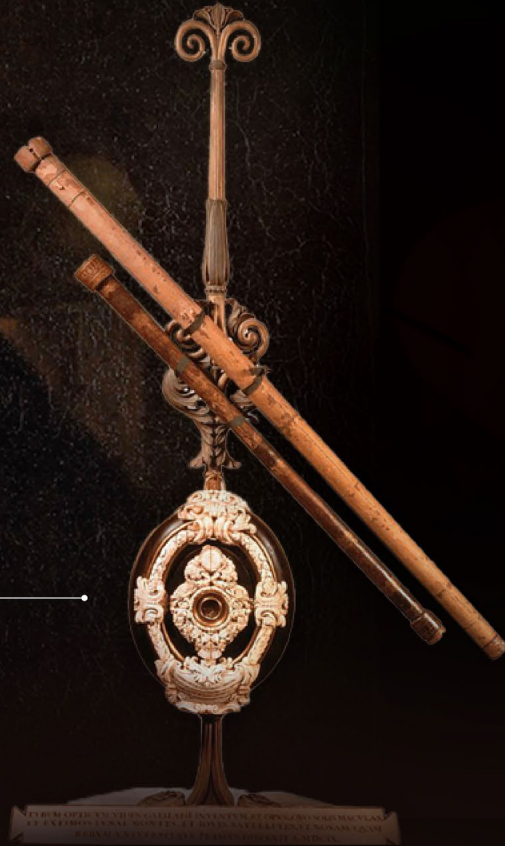
How do we do that?

In the past,
astronomers built their own equipment



1609

Galileo's Telescope



1668

Newton's Reflector

Today, this isn't possible anymore

80 m

60 m


40 m

20 m



Telescopes have become
huge science powerhouses
the size of stadiums*

*The main mirror of ESO's Extremely Large Telescope will have a diameter of 39 m

A photograph of five people of various ages and ethnicities standing in a line, looking towards the right. They are dressed in outdoor or work-appropriate clothing, including scarves and a hard hat. The background is a clear, bright sky.

Building them requires **bringing together hundreds**
of scientists, engineers, construction workers and other suppliers
from all over the world **to work hand in hand**



ESO stands for **inherently peaceful collaboration** between nations, communities and people.

Together we achieve things **no Member State could do alone.**

We build bridges between society, science and technology **for the benefit of all humankind.**



Our Mission

*We design, build, and
operate advanced
ground-based
observatories*



*We foster international
collaboration
for astronomy*

Our Vision

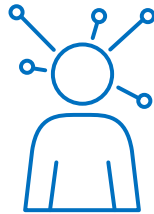


To advance humanity's understanding of the **Universe** by working with and for the astronomy community, providing it with **world-leading facilities**

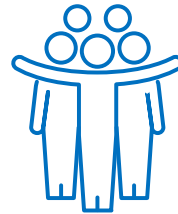
Our Values



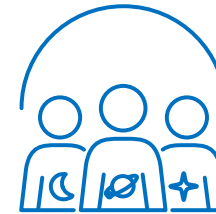
**We strive
for
excellence**



**We achieve
this through
innovation**



**We provide
outstanding services
to our communities**



**We foster
diversity and
inclusion**



**We believe in the key
role of sustainability
for our future**

*These values are realised
and maintained by ESO's people*

Our Values



Respect



Accountability



Collaboration



Integrity



Commitment



**Clear and open
communication**

*Achieving ESO's
values is only possible
on the basis of
personal values and
attitudes*

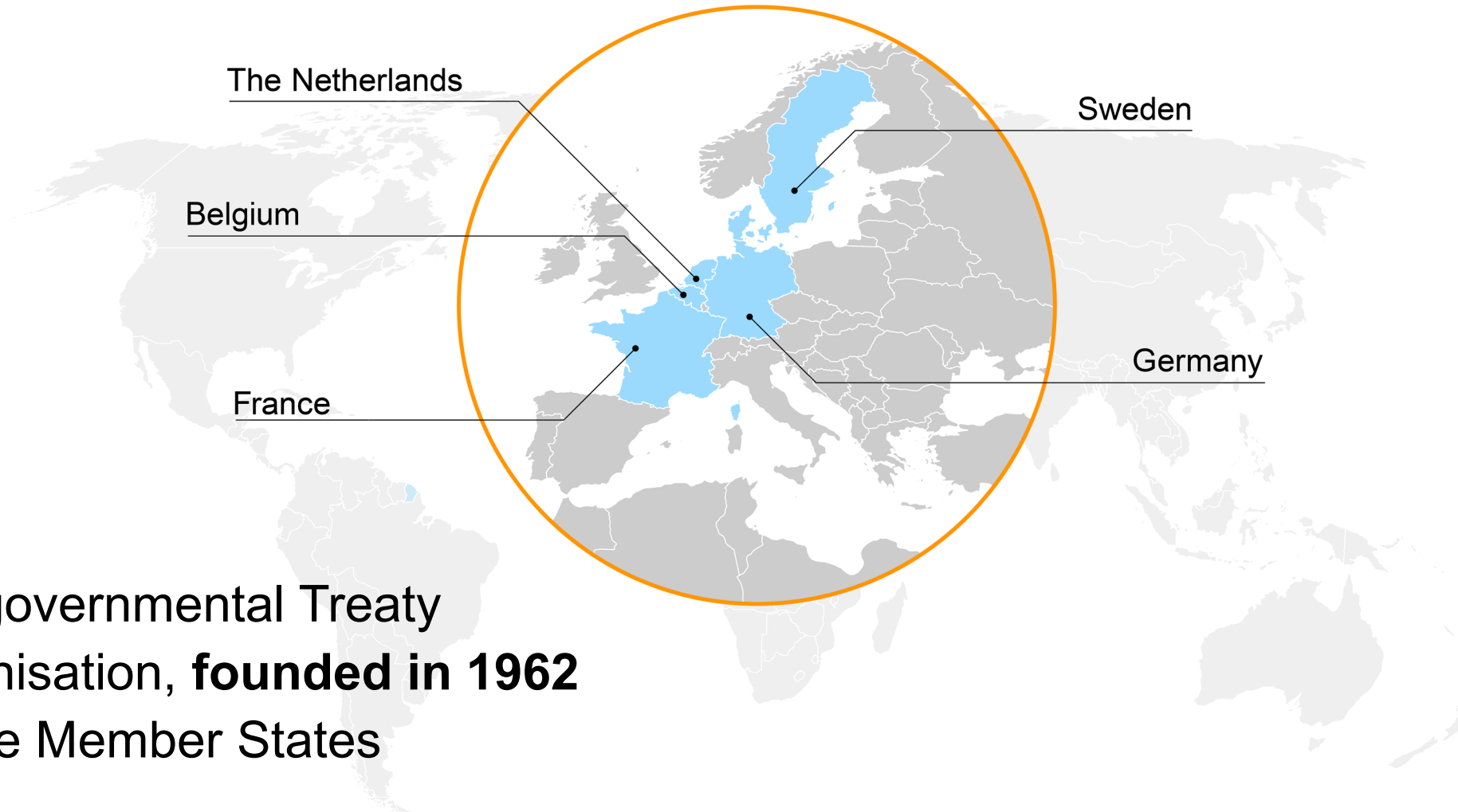
*Together,
we're more than
the sum of our parts*





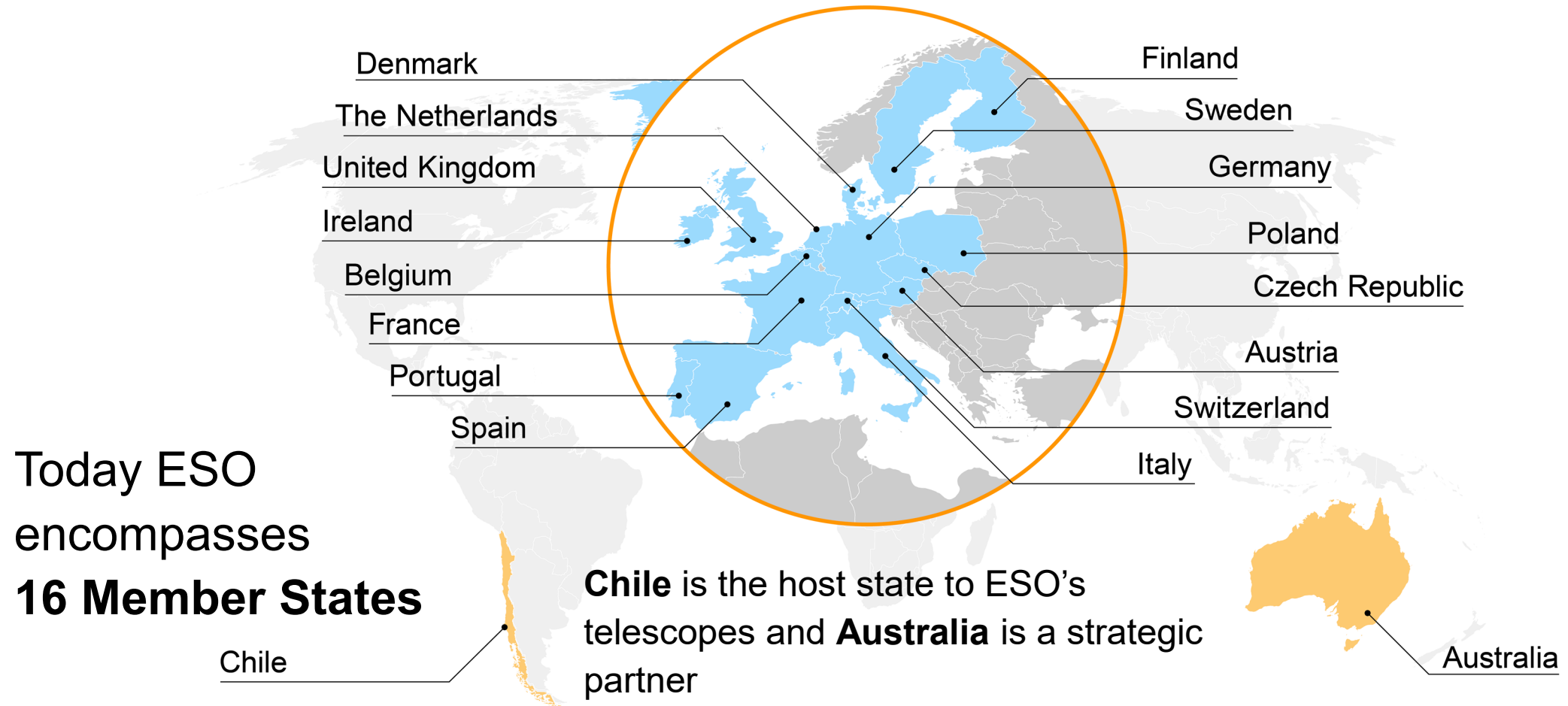
ESO in a nutshell

Founding Member States



Intergovernmental Treaty
Organisation, **founded in 1962**
by five Member States

Member States and Partners



Annual contributions

The annual Member States' contribution to ESO is approximately **234 million Euros**, or **0.50 Euros per person** in Europe per year*



*About one large caffè latte to go in **a decade**

ESO telescopes



La Silla

ESO operated:
NTT 3.58 m
3.6-metre telescope

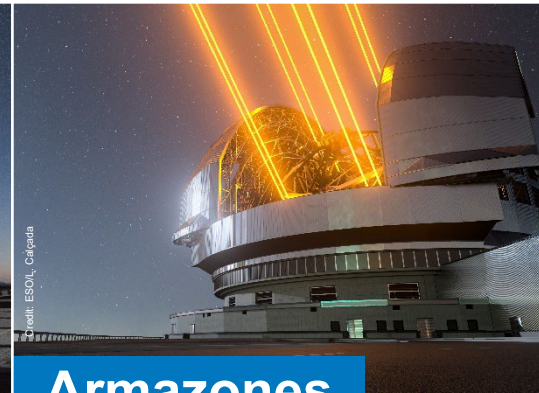
Hosted telescopes
 currently in operation: **11**



Paranal

ESO operated:
VLT and VLT1
 4 x 8.2 m, 4 x 1.8 m
VISTA 4.1 m

Hosted telescopes
 currently in operation:
VST, NGTS, SPECULOOS



Armazones

Under construction:
ELT 39 m

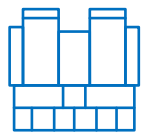


Chajnantor

ALMA
 54 x 12 m and 12 x 7 m
 antennas

ESO telescopes

Paranal



VLT
VLTI



VISTA



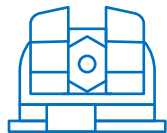
CTA
South*

Chajnantor



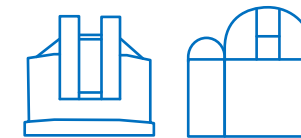
ALMA

Armazones



ELT**

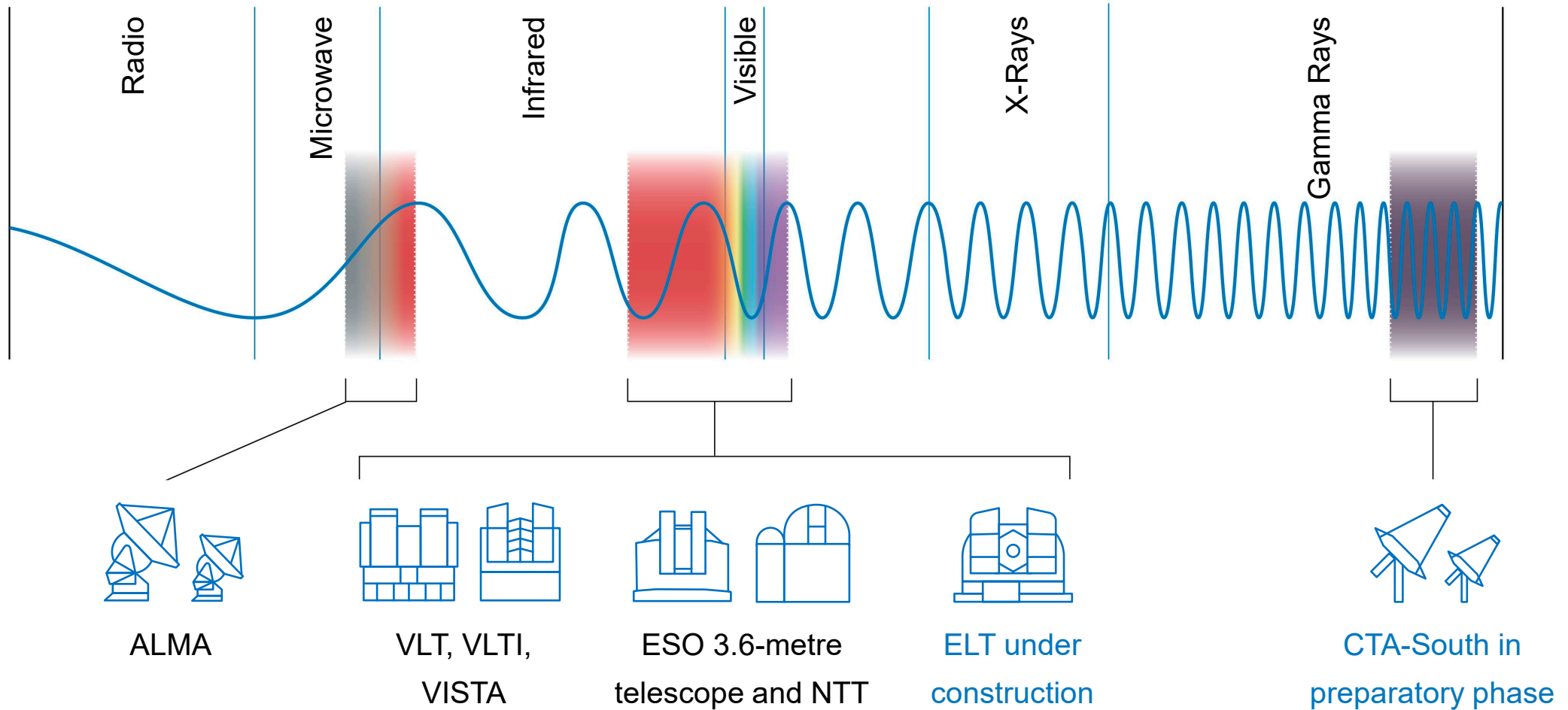
La Silla



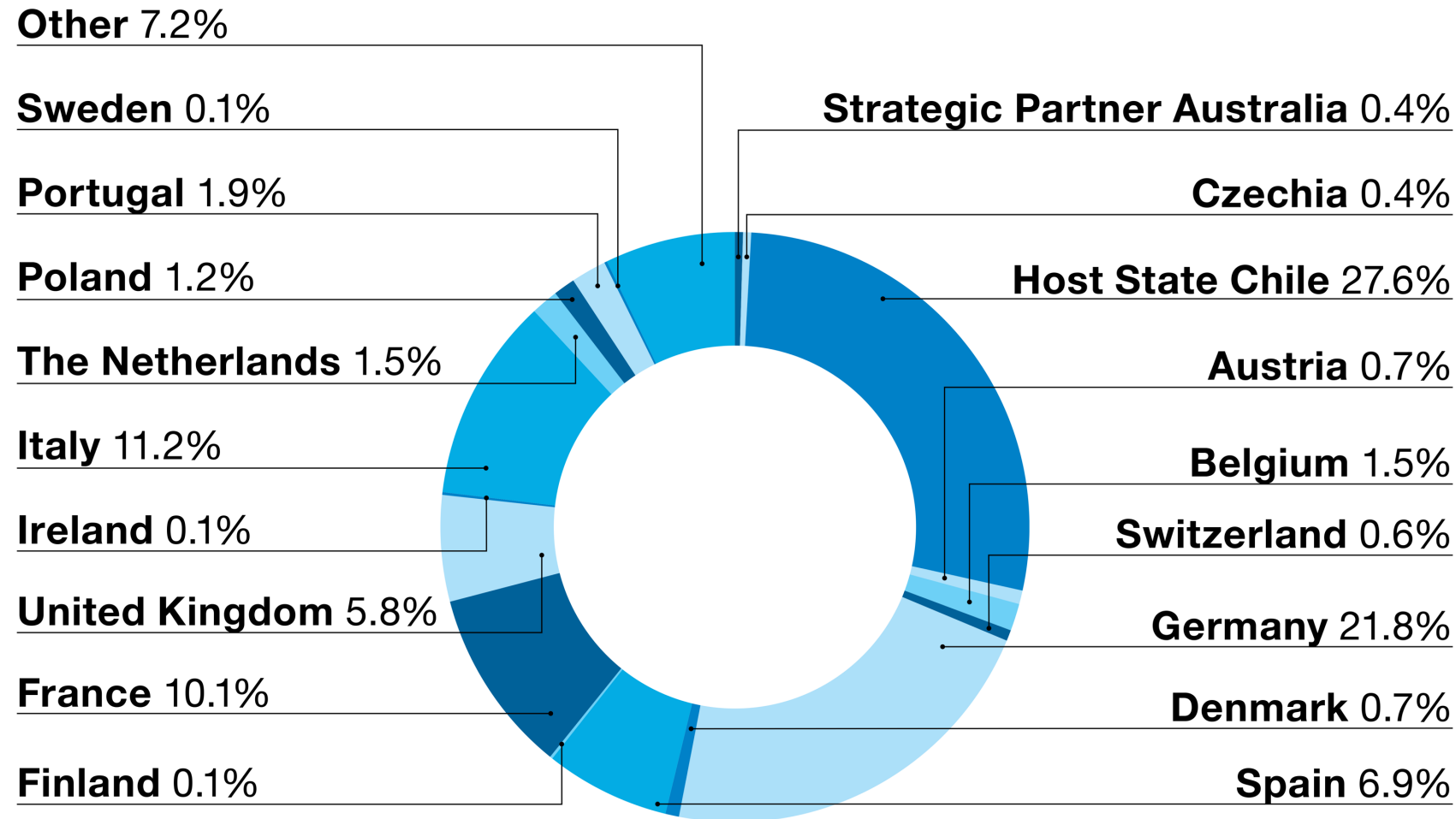
Telescopes at La Silla

* in preparatory phase
** under construction

Wavelengths of ESO telescopes



Staff



ESO employs
more than
750 people
of more than
30 nationalities

A world map is shown in the background, with countries colored in light blue and light grey. The text 'Usage of ESO data' is centered over the map. The map shows that ESO data is used in over 130 countries worldwide, with a high concentration in North America, Europe, and Australia.

Usage of ESO data

More than **25 000** astronomers, other scientists, teachers, students, journalists, etc. in **over 130 countries** worldwide use ESO data

ESO's publications record

