

La Silla —  
ESO's First Observatory



European Southern Observatory

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The La Silla Observatory, 600 kilometres north of Santiago de Chile and at an altitude of 2400 metres, has been an ESO stronghold since the 1960s. Here, ESO operates two of the most productive 4-metre-class telescopes in the world.

The 3.58-metre New Technology Telescope (NTT) broke new ground for telescope engineering and design and was the first in the world to have a computer-controlled main mirror (active optics), a technology developed at ESO and now applied to most of the world's large telescopes.

The ESO 3.6-metre telescope, which was for many years the largest European telescope, is now home to the world's foremost extrasolar planet hunter: HARPS (High Accuracy Radial velocity Planet Searcher), a spectrograph with unrivalled precision.

The infrastructure of La Silla is also used by many of the ESO Member States for targeted projects such as the Swiss 1.2-metre Euler telescope, the Rapid-Eye Mount (REM) and TAROT gamma-ray burst chasers, as well as more general facilities such as the MPG/ESO 2.2-metre and the 1.54-metre Danish telescopes. The 67-million-pixel Wide Field Imager on the MPG/ESO 2.2-metre telescope has taken many spectacular images of celestial objects, some of which have now become icons in their own right.

With about 300 refereed publications attributable to the work of the observatory per year, La Silla remains at the forefront of astronomy, and is still the second most scientifically productive in ground-based astronomy (after the VLT). Observations at La Silla have led to a large number of scientific discoveries, including several scientific firsts. The HARPS spectrograph is the undisputed champion at finding low-mass exoplanets. It detected the system around Gliese 581, which contains

what may be the first known rocky planet in a habitable zone outside the Solar System. Several telescopes at La Silla played a crucial role in linking gamma-ray bursts — the most energetic explosions in the Universe since the Big Bang — with the explosions of massive stars. The La Silla Observatory has also played an important role in the study and follow-up of the nearest recent supernova, SN 1987A.

The La Silla Observatory is located at the edge of the Chilean Atacama Desert, one of the driest and loneliest areas of the world. Like other observatories in this geographical area, La Silla is located far from sources of light pollution and, like the Paranal Observatory, home to the Very Large Telescope, it has some of the darkest night skies on Earth.

[www.eso.org/lasilla](http://www.eso.org/lasilla)



This colour image of NGC 2264 was created from data taken through four different filters (*B*, *V*, *R* and *H $\alpha$* ) with the Wide Field Imager at ESO's La Silla Observatory. The image shows a region of space about 30 light-years across.

## About ESO

ESO, the European Southern Observatory, is the foremost intergovernmental astronomy organisation in Europe. It is supported by 15 countries: Austria, Belgium, Brazil\*, the Czech Republic, Denmark, France, Finland, Germany, Italy, the Netherlands, Portugal, Spain, Sweden, Switzerland and the United Kingdom.



ESO carries out an ambitious programme focused on the design, construction and operation of powerful ground-based observing facilities enabling astronomers to make important scientific discoveries. ESO plays also a leading role in promoting and organising cooperation in astronomical research. ESO operates facilities at three unique world-class observing sites in the Atacama Desert region of Chile: La Silla, Paranal and Chajnantor.

\* Brazil is in the process of ratifying its membership in the Brazilian parliament.

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