

# *The Very Large Telescope*

Since February 2001, mankind has been opening a new eye into the universe: with the Very Large Telescope (VTL). The VTL provides researchers with extremely sharp images – achievable due to the very high positioning accuracy of all elements of this new observatory. To reach these targets, technology from Leica Geosystems was used.

The European Space Agency (ESO) Very large Telescope (VLT) at the Paranal Observatory (Atacama Chile) is the world's largest and most advanced optical telescope. It was constructed as a joint project, by eight European countries. It comprises four 8.2-m reflecting Unit Telescopes and several moving 1.8-m Auxiliary Telescopes, the light beams of which can be combined in the VLT Interferometer (VLTi). With its unprecedented optical resolution and unsurpassed surface area, the VLT produces extremely sharp images and can record light from the faintest and most remote places in the Universe.

The Paranal Observatory is located on the top of Cerro Paranal in the Atacama Desert in the northern part of Chile, which is believed to be the driest area on Earth. Cerro Paranal is a 2,635-m high mountain, about 120 km south of Antofagasta town and 12 km inland from the Pacific Coast. The geographical coordinates are 24° 40' S, 70° 25' W.

The Paranal mountain was chosen because of its excellent atmospheric conditions and, not the least, for its remoteness. This will ensure that the astronomical observations to be carried out there, and will not be disturbed by adverse human activities, e.g. dust and light from roads and mines.



For the astronomical construction of this complex, it was necessary to use the highest technology. To guarantee highest quality and precision for this gigantic construction, the most precise and sophisticated laser instruments, TDA5100 and TDA5005 theodolites from Leica Geosystems were used with the support of Leica Geosystems' representative in Chile, Cientec Instrumentos Científicos S.A., Santiago.

**Gabriel Garland**

***Left: The VLT produces extremely sharp images and can record light from the faintest and most remote places in the Universe.***

***Right: The Paranal Observatory is located on the top of Cerro Paranal in the Atacama Desert.***

