

ALPAO selected for adaptive optics upgrade on VLTI telescopes

Grenoble (France) – November 28, 2017 – The leading French company [ALPAO](#), designer and manufacturer of adaptive optics products, will supply all the deformable mirrors to equip the auxiliary telescopes that form part of ESO's Very Large Telescope Interferometer ([VLTI](#)) array at the [Paranal Observatory](#) in Chile.

In 2018, the VLTI will undergo a major improvement with the installation of the New Adaptive Optics Module for Interferometry ([NAOMI](#)) on each of its 1.8-meter [Auxiliary Telescope](#) (AT). This long-awaited upgrade will allow the astronomers to reconstruct exquisite images of even fainter objects, like [young pre-main sequence stars](#) and their protoplanetary discs, [post-main sequence mass-losing stars](#), and [active galactic nuclei](#).

The ALPAO deformable mirror is the masterpiece of the NAOMI system. It will change shape about 500 times per seconds in order to actively counteract the damaging effect of wind and turbulences on the image quality. Interestingly, the ALPAO deformable mirror (DM) is also able to move the star further away, few times per second, in order to monitor the brightness of the sky itself. This technique, called 'chopping', is absolutely needed for the forthcoming [MATISSE](#) instrument which will observe the far infrared light.

"NAOMI will benefit of the fast and very large stroke of ALPAO DM. Such large stroke will allow ATs to correct for both tip-tilt and higher order correction. Thanks to ALPAO DM, the system is much simpler and efficient. This new achievement confirm ALPAO position in adaptive optics and its leading position in wavefront control." said Vincent Hardy, general manager of ALPAO.

Two of-the-shelf deformable mirrors from ALPAO underwent four months of intensive testing at the Institute for Planetary Sciences and Astrophysics of Grenoble ([IPAG](#), France). The results validate the suitability of the ALPAO mirrors to fulfil the needs of NAOMI, especially the requirement of a large amount of deformation. The procurement is now on-going for the three remaining pieces (four telescopes plus one spare). The first light with the four AT equipped with NAOMIs is expected in mid-2018.





About ALPAO

ALPAO designs and manufactures a complete range of adaptive optics products for use in research and industry from 2005. ALPAO provides deformable mirrors, wavefront sensors and software. With a background in astronomy, ALPAO's products are tailor-made for various applications, such as astronomy, ophthalmology, microscopy, wireless optical communications and laser applications.

Thanks to breakthrough technologies, ALPAO has introduced several products over the years, such as a low-speed deformable mirror (DM) in 2006, its own wavefront sensor for closed loop operations in 2007, a hi-speed DM in 2008, new drive electronics in 2009, the DM97-08 dedicated to vision science application in 2013 and the DM468 and 820 in 2015. Last year, the French company signed two major contracts with the European Southern Observatory (ESO) to develop new deformable mirrors for next generation instruments. These two projects both are at the state-of-the-art level for astronomical applications.

With more than 10 years of experience in adaptive optics, ALPAO's deformable mirrors allow large stroke, fast deformation, high resolution images and very good optical quality.

ALPAO is an international company with customers on four continents in over 20 countries. More than 90 percent of its turnover comes from exports.

For more information: www.alpao.com

Contact: Charlotte Reverand | Communications Officer | +33 476 414 833 | charlotte.reverand@alpao.fr