Signature of Position Actuator Contract for the ELT

Tim de Zeeuw
19 June 2017

Dear Dr Spanner, Mr. Bussa, other distinguished guests from Physik Instrumente, members of the ESO ELT team, it is a great pleasure to welcome you to ESO Headquarters for today's signature event.

A little over two weeks ago on Paranal, President Michèle Bachelet of Chile and I ceremonially sealed the time capsule which will be part of the Extremely Large Telescope. The ELT is being built on Cerro Armazones in the Atacama Desert as an integral part of ESO's Paranal Observatory.

The ELT will be the largest optical telescope in the world. Its primary mirror will be a marvel of modern technology with an astounding diameter of 39 metres. It will have 798 hexagonal segments, which have to be polished and controlled to very high precision. Together they will form a single 39-metre mirror with a collecting power greater than all the current major optical telescopes combined. It will consist of six identical petals, each with 133 segments that are all different. The mechanical support structure needs to be able to move the primary mirror with amazing precision so that it follows the stars without blurring as the Earth rotates under the night sky. As you know very well, the position actuators are critical to this, and I am happy that after the earlier signatures for the edge-sensors and for the blanks and the polishing of the M1 segments, we sign the one for the position actuators today.

The currently authorised spending on the first phase of the ELT excludes the inner five rings of segments of M1, but the contract has options for them. I am happy to inform you that ESO Council has authorised us earlier this month to concentrate all work on the telescope with the full mirror in place, so you can be sure the option will be exercised in due course.

With the full mirror the telescope will have stupendous power to study the deep Universe, to resolve the light of nearby galaxies into that of their constituent stars, and, most importantly, to characterise the earth-like planets we now know are orbiting other stars. It is even possible that the ELT will find evidence of life on other worlds, which would be a truly transformational development in the history of our species.

A very motivated team of engineers, procurement officers and scientists at ESO prepared for this contract for about eight years. This included prototyping and working together with industry to establish the final technical specifications and the statements of work. A number of excellent industries bid for the contract, so that there was a real and tough competition, which you won. It is a pleasure to thank all team members for their efforts, and in particular Lorenzo Pettazzi, Babak Sedghi and Martin Dimmler, who worked with Marc Cayrel, responsible for the entire M1 package, under the inspired and energetic leadership of Roberto Tamai.

ESO is committed to deliver the ELT by 2024, which would make it the first and largest of the planned giant optical telescopes, allowing many discoveries by astronomers in the ESO Member States and in Chile. This exciting opportunity is of course also a challenge, and puts pressure on you to stay within specifications, deliver on schedule and stay within cost. I am confident that you will do so, and am sure the ELT team will work with you towards this common goal of building the biggest eye on the sky!