

Title: Scheduling at ESO

Authors: Marina Rejkuba, Nando Patat

The ESO La Silla Paranal Observatory operates a suite of telescopes and instruments that span the optical to infrared wavelength range and offers the astronomical community the possibility to execute a wide range of scientific projects. The VLT and VLT Interferometer (VLTI) on Paranal are operated within an integrated end-to-end dataflow model that is under active development to ensure high operational efficiency and optimal scientific exploitation. This will extend naturally to the ELT in the future.

For over 50 years ESO has invited its community to submit observing proposals twice per year and observations have been scheduled accordingly in 6-month long semesters. However, the speed of discovery has increased, and instruments are becoming both more powerful and more complex. Furthermore, the typical sizes of scientific collaborations and projects have become larger, and there is a need for more coordination between different telescopes and different facilities. As part of the ESO 2020s science prioritisation exercise the Time Allocation Working Group made several specific recommendations that should enable both allocations of larger observing programmes and faster turn-over for programmes that require smaller amounts of observing time.

This contribution describes the current scheduling process at ESO and outlines plans for updating the processes and tools. The short-term scheduling tool used at the telescope has been redesigned at the start of the operations of Public Surveys on VISTA and VST about 10 years ago, and subsequently ported to VLT and VLTI. It has undergone a number of updates. The long-term scheduling tools is long overdue for a major overhaul that is necessary to address the new requirements from the recent (and not so recent) instruments, increased demand for time critical observations, inter-dependencies between observations on different telescopes and to enable efficient updates and addition of new requests while considering the ongoing observing programmes and ensuring their completion.