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Yearly Call and Fast Track Channel at ESO

Ferdinando Patat[1]
Bruno Leibundgut[1]
Steffen Mieske[1]
Marina Rejkuba[1]

[1] ESO

The Time Allocation Working Group (TAWG), formed in 2015 as one of the actions generated by the ESO 2020 prioritisation initiative, was tasked with reviewing the telescope time allocation process at ESO. The TAWG report outlined key recommendations aimed at enhancing the efficiency and effectiveness of proposal handling and telescope scheduling at ESO. Among these, the transition to a yearly cycle for the Call for Proposals and the introduction of a Fast Track Channel were highlighted as significant steps forward. This paper outlines the background, rationale, and next steps for these upcoming changes, made possible thanks to recent improvements in software and scheduling tools.

Introduction

The ESO 2020 prioritisation initiative (Primas et al., 2015) generated a number of actions. One of them was the formation of a Time Allocation Working Group (TAWG), which was charged with the task of reviewing the telescope time allocation process at ESO. The working group, constituted in 2015 and composed of leading experts in the field of resource allocation, submitted a report[1] to the Director for Science in 2016, including a set of recommendations and suggestions for an implementation plan. A summary of the report is given by Patat (2018). After presenting it to the ESO advisory committees, and following their feedback and internal discussions on the operational aspects, ESO decided to proceed with the implementation of the recommendations in a gradual way.

The TAWG report formulated ten recommendations. Most of them have been, or are in the course of being, implemented. The two major recommendations, concerning the change of the frequency of the Call for Proposals (CfP) from a semester-based cycle (SC) to a yearly cycle (YC), and the parallel introduction of a Fast Track Channel (FTC) to compensate for the increased length of the time between call for proposals, are still pending. These two recommendations were included in the report of an earlier Observing Programmes Committee Working Group (OPCWG), which was convened in 2010 (Brinks, Leibundgut & Mathys, 2012). At that time, the two recommendations were internally assessed by the Observing Programmes Office (OPO), the User Support Department (USD) and Paranal Science Operation (PSO). Given the status of the proposal handling system, the limitations of the telescope scheduling tool and the related database infrastructure, it was decided not to proceed with the proposed changes.

The rationale for and advantages of a change of the CfP frequency to a YC along with the FTC have been presented and discussed with the OPC, the Users Committee (UC) and the Scientific Technical Committee (STC) over the past years. The list includes the following advantages: decreasing the total number of proposals to be reviewed in one year; removing the need for submitting and reviewing identical proposals to cover the full RA range with possible disparate outcomes; increasing the number of larger time requests per submission, given that there is more time available at any given call; removing the artificial pressure at the edges of the semesters; removing the unnecessary pressure on the applicants, given the very little time left between receiving the results and the next submission deadline; relaxing the timelines of proposal selection and long-term scheduling processes, so that they can be conducted in a more thorough way; allowing for a better-optimised scheduling; increasing the flexibility for programmes requiring a faster duty-cycle; aligning with other large, ground-based and space-borne facilities (e.g. ALMA, HST, JWST, and other ESA and NASA facilities).

Status and next steps

Both the new proposal submission and handling software and Distributed Peer Review (DPR), which is a crucial ingredient for the deployment of the FTC, are now in place. In addition, ESO has formed a dedicated scheduling group specifically designed to cope with the increasing operational demands and the requirements dictated by dynamic scheduling. This is fully in line with the TAWG report, which mentioned the need for a dedicated operational unit.

In parallel, a new scheduling tool is being finalised. This software (Rejkuba et al., 2024) features a more sophisticated scheduling algorithm, and it was designed to enable dynamical scheduling, as opposed to the monolithic and static semester schedule implemented previously. The newly developed scheduling software has been successfully applied to prepare the P113 and P114 schedules.

The actions required for the implementation and deployment of the YC and the FTC can be divided into two groups: operational and procedural.

From the operational point of view, the YC will be treated in the same way as the current CfP, with the exception of the frequency. There will be one single deadline per year and the proposals will be assigned to the Expert Panels/OPC or to DPR, based on the amount of time requested, similarly to what is done currently. The yearly telescope schedules will be produced after the scientific proposal review is completed and will include a provision for inserting the FTC runs approved between the yearly calls. The FTC proposals will be solicited at fixed deadlines, called with an initial cadence of 3–4 months[a]. The FTC calls may be adjusted (in terms of offered instruments/modes, RA ranges, observing constraints) in a dynamic way, considering the prevailing situation of the observing queues. The successful proposals will be inserted in the schedule and queued for execution with a validity period which may depend on the science case and its urgency[b]. As regards the procedural aspects, no significant policy or procedural changes are expected. Large Programmes are already called on a yearly basis and the introduction of the YC will not change the cadence of their current calls. Public Surveys will also not be affected by the change, as they are offered only occasionally and via dedicated calls.

The FTC proposals will have to obey certain criteria to qualify. They are meant to not lose the opportunity of important or even major breakthroughs because of the increased reaction time introduced by the YC. They must not be resubmissions of regular proposals. The possibility of this type of proposals was included in the ESO Optical/Infrared Telescope Science Operations Policies approved by Council in 2020[2].

To this end a set of criteria are being discussed with the governing and advisory bodies and will be clearly spelled out in the FTC Calls. These will likely include a maximum amount of requested time per proposal and a cap on the time fraction allocated via the FTC. The criteria will be finalised by the end of 2024.

A deployment and information plan has been prepared by OPO in consultation with USD and PSO for the operational aspects, which include CfP for the YC and FTC, telescope scheduling, phase 2 and observation execution. A preliminary version was presented to the OPC, UC and STC in the course of 2023 and 2024. Following the proposed plan, and as announced in the June Science Newsletter[3], ESO intends to move to the YC in the course of 2025, contingent upon a final readiness review that year. The community will be regularly informed about the implementation through news in the regular CfP, newsletter posts and direct emails to active Principal Investigators.

References

Brinks, E., Leibundgut, B. & Mathys, G. 2012, The Messenger, 150, 21
Patat, F. 2018, The Messenger, 173, 7
Primas, F. et al. 2015, The Messenger, 161, 6
Rejkuba, M. et al. 2024, Proc. SPIE, in press, arXiv:2407.15470

Links

[1] ESO Time Allocation Working Group report: https://www.eso.org/sci/observing/phase1/documents/TAWG_REPORT.pdf
[2] ESO Optical/Infrared Telescopes Science Operations Policies: https://www.eso.org/public/about-eso/committees/cou/cou-154th/external/Cou_1847_rev_Science_Policies_050520.pdf
[3] ESO Science Newsletter Announcement June 2024: https://www.eso.org/sci/publications/announcements/sciann17641.html

Notes

[a] The frequency of the FTC call may be adjusted depending on the response from the community.
[b] The urgency of an FTC proposal will be dictated by the need of covering a given science case which cannot wait for the next regular CfP with a short response time. This does not include unforeseeable time-critical proposals related to transient phenomena, which should continue to be requested through Director's General Discretionary Time.

S. Lowery/ESO

At first glance, this image might appear to be straight out of the 'Dune' films, but this spectacular sunset scene is actually in the Atacama Desert in northern Chile, where the air is so dry and clean that colours shine through more vividly. This desert's rocky and sandy landscape may not hide mind-bending 'spice' or giant worms, but it holds something arguably as precious — can you see its silhouette in the distance?