

# MEMO

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To:	ESA SCI-S, Euclid project		
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## **Subject: Euclid Early-Release Objects Outreach Programme**

### **Executive summary**

We recommend an allocation of Euclid wall-clock time of 24 hours to obtain at an early stage a collection of observations dedicated to showcasing the Euclid capabilities to the outside world and more specifically to the general public. This early-release observations (ERO) programme would be selected by a committee including both Euclid scientists and communication specialists from proposals prepared by the Euclid Consortium (EC) Science Working Groups. It would involve the participation of Euclid mission scientists who would be preparing the proposals, processing and analysing the data products, and supporting the preparation of the communication products in close coordination with the Euclid communication groups. The ERO programme shall not impair the Euclid survey and the associated calibration activities and would be restricted to observations obtained before the start of the nominal survey. The communication products and the data products used to generate them would be released to the public and the science community at the same time.

### **Memorandum**

We recognize the outreach and educational potential of Euclid and the importance to exploit it at all stages of the mission. The end of Euclid commissioning and performance verification phases 3 months after launch is the perfect time to showcase to the world the mission's scientific potential and to celebrate its readiness for science. To enable this, it is essential to have a pool of observations that can highlight Euclid's capabilities both for cosmology and

legacy science. The commissioning and performance verification observations serve other purposes and will not be sufficient. Dedicated early observations of selected areas of the sky or targets are therefore needed to complement the existing ones.

As an example, small fractions of the survey area that cannot be used for core cosmology due to the presence of large area foreground objects, like nearby galaxies or extended galactic sources could be targeted. These “disturbing” objects often have a large value for outreach.

In this context, we recommend setting up a Euclid early release observations (ERO) programme and dedicating to this programme up to 24 hours of, potentially non-contiguous, wall-clock time during the Euclid performance verification phase. This time corresponds to about 10 deg<sup>2</sup> of nominal survey or 20 pointings with the Reference Observing Sequence and should be sufficient to collect a suitable sample of objects. The present performance verification phase programme can accommodate such time allocation.

For the preparation of the ERO programme the EC science working groups would be invited to propose outreach and education activities based either on planned performance verification observations or on additional areas of the sky or objects. The proposed additional observations should be executed using the nominal reference observing sequence and should not be detrimental to the core-science programme of Euclid due to for instance excessive use of slews, thermal disturbances, detector disturbances, etc. The pointing positions would not be confined to the Euclid Region of Interest, but they should not require pointing or guiding capabilities beyond those demonstrated for the core mission at the time of observation. Multiple passes over the same region would be considered.

The proposals would be led by a cognizant mission scientist and would include the outreach and scientific merit of the observation, observing duration, feasibility and strategy, and a data processing plan fitting the short timescales for outreach.

The target list would be selected and endorsed by a committee including communication, mission scientists and EST representatives. Note that outreach merit would take precedence over scientific merit. The list should be robust with respect to schedule slips and might therefore include more observations than will be executed to cope for observability constraints. The list



accompanied with a communication plan should be presented to the project scientist for final approval. The communication products and the data products used to generate them would be released to the public and the science community at the same time.

The cognizant scientist is directly involved in the target scheduling, the timely processing of the data, interaction with communications, the preparation of the release of the data. The execution of the programme is managed by the PV coordinator as part of the PV programme. The overall programme is managed by the Euclid Project Scientist, or his/her representative, with support from the EST.