



**Announcement of opportunity for ESA-appointed
representatives to the
NASA Great Observatory Maturation Program's (GOMAP)
Science, Technology, Architecture Review Team (START)
for the Habitable Worlds Observatory (HWO) mission**

| | |
|----------------|-----------------|
| Reference | ESA-SCI-C-AO-12 |
| Issue/Revision | 1.0 |
| Date of Issue | 18 October 2023 |
| Status | Issued |



Table of Contents

1 INTRODUCTION 3

1.1 Purpose and scope 3

1.2 AO documentation package 4

2 APPOINTMENT REQUIREMENTS AND CONDITIONS 4

3 LETTER OF INTENT 5

4 CONTENTS OF THE PROPOSAL 5

5 EVALUATION CRITERIA 5

6 LETTERS OF INTENT AND PROPOSAL SUBMISSION 6

7 ACRONYMS 6

1 INTRODUCTION

1.1 Purpose and scope

This Announcement of Opportunity (AO) solicits the participation of the European community in the role of ESA-appointed representatives to the NASA Great Observatory Maturation Program's (GOMAP) Science, Technology, Architecture Review Team (START) for the Habitable Worlds Observatory (HWO) mission.

The 2020 National Academy of Sciences Decadal Survey on Astronomy and Astrophysics (Astro2020) recommended a “Great Observatories Mission and Technology Maturation Program” as its highest priority in Enabling Programs for Space. Astro2020 further recommended that the first mission to enter the maturation program be an infrared-optical-ultraviolet (IR/Optical/UV) space telescope. In response to these recommendations, NASA has established the Great Observatory Maturation Program (GOMAP). Consistent with the guidance from Astro2020, the first entrant into GOMAP will be the Habitable Worlds Observatory (HWO), a space-based IR/Optical/UV telescope. As part of GOMAP, NASA will form and coordinate a series of groups whose collective activities will perform and document analyses that advance HWO's concept maturity. These analyses will inform a future pre-phase-A project's decisions on HWO science, technology, and architecture trades. One of the groups being formed is the START. The START will translate the Astro2020 science objectives and goals into quantified observational capabilities for HWO.

ESA will appoint up to three representatives to the START. These positions will be for the duration of the START activities (expected to be between 18-36 months) or for a duration of 36 months, whichever comes first. With the exception of expenses incurred while travelling for activities related to the current call (a maximum of two transatlantic trips per year), ESA will not fund the activities of the representatives and each proposer is responsible for securing their own funding from other sources.

The schedule for this AO cycle is given in Table 1.

Table 1: AO schedule and deadlines

| Date | Event |
|--|------------------------------------|
| 18 October 2023 | Release of this AO |
| 1 November 2023, 12:00 hrs (noon) CET | Mandatory Letters of Intent due |
| 30 November 2023, 12:00 hrs (noon) CET | Proposals due |
| December 2023 | Appointment of selected scientists |

1.2 AO documentation package

- [AO-D1] HWO GOMAP START Terms of Reference:
<https://smd-cms.nasa.gov/wp-content/uploads/2023/07/tor-hwo-start-final-fy23-signed.pdf>
- [AO-D2] HWO GOMAP:
<https://science.nasa.gov/astrophysics/programs/gomap>

2 APPOINTMENT REQUIREMENTS AND CONDITIONS

This call is open to scientists and engineers based in ESA Member States.

The ESA appointees will represent the European community interests in the HWO START. The main tasks of the START will be:

- analyse the Astro2020 final report and identify the science goals and objectives relevant to HWO;
- describe the kinds of science observations needed to realize those objectives;
- identify observatory/instrument performance capabilities to enable those observations;
- quantify relationships, including breakpoints (i.e. scientific cliffs vs. graceful degradations), between potential instrument/observatory parameters and performance against goals and objectives;
- project the performance of strawman architecture and instrument options; and
- for each science objective, assess the fidelity of models needed to execute future trades.

The START will do this in the context of findings from prior reports for exoplanet and general astrophysics missions, mission concepts, as well as work by current technology road-mapping groups, industry studies, and potential future groups as needed.

The START will consider the full scientific capabilities of the observatory, and will include experts in the following areas: astrophysics, exoplanets, solar system science, science instrumentation, observatory design and development.

For further information on the START activities can be found in AO-D1, with additional supporting information in AO-D2

Early career researchers and historically under-represented groups in astronomy and space sciences are encouraged to apply.

The successful candidates will be appointed by the ESA Director of Science. The appointment is *ad personam*. The selected candidates will be required to submit short annual reports of their START related activities to the ESA.

3 LETTER OF INTENT

Prospective proposers must submit a mandatory Letter of Intent (LoI) by the deadline indicated in Table 1. Proposals not preceded by a corresponding LoI will not be considered. LoIs are limited in length to 2 A4 pages (minimum font size 11 pt), and their purpose is to allow ESA to perform an initial assessment of the expected range of proposals, and to prepare for the evaluation process.

Letters of intent must be structured to contain the following information:

- Name and contact information of proposer;
- Short description of the proposer's expertise and its relevance to the HWO START.

4 CONTENTS OF THE PROPOSAL

Proposals submitted in response to the AO are limited in length to 7 A4 pages (minimum font size 11 pt), and must contain the following information:

- A cover letter stating the proposer's name and affiliation and explicitly mentioning the proposer's title, position, institute, address, telephone number and e-mail address (max. 1 page);
- A brief curriculum vitae also including the 10 most relevant publications (max. 2 pages);
- A description of the expertise relevant to the HWO START, and a statement concerning the time availability (max. 3 pages);
- A Letter of Endorsement, signed by the proposer's Head of Institute, with the endorsement to the proposer's application and the explicit support with respect to the proposed activities (max. 1 page).

5 EVALUATION CRITERIA

The following criteria will be used (in no particular order) in assessing and evaluating individual proposals:

- The level to which the proposal identifies specific competences and addresses the contribution to the tasks described in Section 2.
- Adequacy of the time that the candidate intends to devote to activities related to the START role

6 LETTERS OF INTENT AND PROPOSAL SUBMISSION

Letters of Intent and Proposals shall be submitted electronically in PDF format (file size cannot exceed 5 MB) according to the instructions on the following webpage:

<http://cosmos.esa.int/web/HWO-START-call-2023>

and according to the deadlines listed in Table 1.

Proposers will receive confirmation upon successful receipt of their Letters of Intent and of their Proposals.

7 ACRONYMS

| | |
|-------|---|
| AO | Announcement of Opportunity |
| CEST | Central European Summer Time |
| ESA | European Space Agency |
| GOMAP | Great Observatory Maturation Program |
| HWO | Habitable Worlds Observatory |
| IR | Infra-Red |
| LoI | Letter of Intent |
| NASA | National Aeronautics and Space Administration |
| START | Science, Technology, Architecture Review Team |
| UV | Ultra-Violet |

Further queries should be addressed to:

Paul McNamara

Astronomy and Astrophysics Coordinator

ESA/ESTEC

2200 AG Noordwijk

The Netherlands

e-mail: Paul.McNamara@esa.int