



Call for Membership in the Expert Committee for the Large mission covering the science theme “Moons of the Giant Planets”

1 INTRODUCTION

The first scientific theme identified in the new long-term scientific plan (Voyage 2050¹) for the Science Programme of the European Space Agency (ESA) for the large mission following Athena and LISA is “Moons of the Giant Planets”, addressing issues such as habitability, biosignatures, prebiotic chemistry, etc., to be implemented through a planetary probe to one of the moons of either Jupiter or Saturn.

The Director of Science is starting the process that will lead to the implementation of the mission by convening an “Expert Committee” of scientists to support the further definition of space mission concepts addressing the goals set for the “Moons of the Giant Planets” science theme. The present Call solicits applications for members of the Expert Committee.

2 PURPOSE OF THE PRESENT CALL

Through the present Call, the Director of Science invites scientists to apply for membership of the “Expert Committee” for the science theme “Moons of the Giant Planets”, that will support the initial definition of space mission concepts to fulfil the goals set for the “Moons of the Giant Planets” science theme.

The Expert Committee will be tasked with considering the scientific merits of the different possible destinations for a space mission to a moon of one of the two giant planets, to support the Agency in the execution of a number of initial feasibility studies aiming at defining the technical and financial feasibility of possible space missions, and to produce, by the end of 2023, a final report advising the Director of Science.

Following consideration of the report, and of the outcome of the initial feasibility studies, the Agency will consider issuing in due time a “Call for Missions”, where the European scientific community would be invited to propose missions to fulfil the goals set for the “Moons of the

¹ https://www.esa.int/Science_Exploration/Space_Science/Voyage_2050_sets_sail_ESA_chooses_future_science_mission_themes

Giant Planets” science theme.

Early career scientists are specifically encouraged to apply.

Of order of ten members will be selected through the present Call. The Expert Committee will be appointed with a mandate until the end of 2023, with the Terms of Reference spelled out in Section 2.1.

Considering the potential interest of other international agencies to partner with ESA in addressing the science theme “Moons of the Giant Planets” through an ESA-led mission, ESA may consider including in the Expert Committee scientists indicated by potential international partners interested in participating in the resulting mission.

The Expert Committee will be chaired by one of its members, and its activities will be supported by an ESA-appointed Executive Secretary.

Participation to the Expert Committee will not prejudice in any form later participation in any following calls concerning the mission selection addressing the “Moons of the Giant Planets” science theme.

2.1 Expert Committee’s Terms of Reference

The Expert Committee will initially be requested to trade-off the scientific merits and challenges of the possible destinations and relative mission profiles for the fulfilment of the “Moons of the Giant Planets” scientific theme as defined in the report of the Voyage 2050 Senior Committee², within the technical and financial constraints that will be set by the Agency.

Subsequently, the Agency plans to carry out a set of short feasibility studies to define possible mission profiles visiting one or more of the targets identified by the Expert Committee, and will request the support of the Expert Committee during such studies. In this context the Expert Committee may be required to:

- Support the definition of scientific requirements for the relevant mission profiles;
- Assess and advise on the scientific impact of mission requirements for the relevant mission profiles;
- Assist in making any trade-offs related to the scientific performance for the relevant mission.

Throughout the process, the Expert Committee’s activities will be guided by consideration of feasibility and affordability. As a baseline, the mission concepts resulting from the activities of the Expert Committee must be compatible with the Science Programme’s range of “Large” missions (of which Rosetta, BepiColombo and JUICE are pertinent examples). The Agency will also request the Expert Committee to consider, and provide guidance about, significantly

² <https://www.cosmos.esa.int/documents/1866264/1866292/Voyage2050-Senior-Committee-report-public.pdf>

more ambitious mission profiles, to be implemented in potential, yet to be defined, alternative programmatic contexts. Such more ambitious mission profiles include the possibility of having surface elements (landers) and the more ambitious possibility of a cryogenic sample return mission.

The selection of the Members of the Expert Committee is expected to take place in January 2022, with the Committee’s activities starting shortly thereafter. The activities are expected to be conducted through a mixture of physical and on-line meetings. For physical meetings, the travel expenses of the Committee’s members would be reimbursed by the Agency.

3 FORMAT AND CONTENTS OF THE APPLICATION

Applications for membership of the Expert Committee should consist of three parts:

1. A cover page (that should include the applicant’s contact information);
2. A curriculum vitae (maximum 2 pages);
3. The actual application (maximum 4 pages).

The curriculum vitae should include all information about the applicant’s career that the applicant considers relevant.

The application should explain why the applicant considers himself/herself suited for membership of the Expert Committee, the applicant’s areas of expertise relevant to the Expert Committee, his/her potential contributions, etc. The application should not contain a list of publications, but rather it should explicitly list the applicant’s five “notable achievements” that in the applicant’s opinion make him/her particularly suited for consideration. These might be specific publications the applicant has authored, responsibility in the development of a scientific mission and/or instrument, responsibility in science policy, etc.

Details of the personal data protection measures that apply to this Call can be found in the privacy notice on the submission website.

3.1 Submitting applications

Applications will be accepted exclusively in PDF format, with a maximum file size of 5 MB, using the interface available at:

<https://www.cosmos.esa.int/web/call-for-expert-committee-for-moons-of-the-giant-planets/>

The deadline for submission of applications in response to the present Call is

18 January 2022 at 12:00 (noon) CET.

The submission deadline will be implemented strictly and proposers are invited to submit their proposals well in advance of the deadline. Applications received after the deadline will not be considered. Applications that exceed the page limit or that do not respect the structure described above in Section 3 will not be considered.

4 FURTHER INFORMATION AND CONTACT POINTS

Requests for further information should be addressed to:

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