

Approach to the evaluation of proposals received in answer to the Call for mission concepts for the medium-size mission M4 for launch in 2025

1. Technical and programmatic assessment

All received proposals are initially subject to a technical and programmatic assessment performed by the Executive. This covers the compatibility of the proposed mission concept with the boundary conditions for the M4 Call, including the financial envelope, the TRL of all mission elements and the readiness of partners to fund any mission element that is proposed not to be under ESA's responsibility. This process may involve consultation with the Member State funding agencies and with the eventual international partners.

Proposals that are not considered compatible with the boundary conditions for the Call are removed from further assessment. The Executive will produce a short written evaluation of all proposals that will be made available to proposers as part of the debriefing process.


2. Scientific assessment process

Proposals that pass the technical and programmatic screening are subject to a scientific assessment performed in two stages under the responsibility of the Advisory Structure. First, a "Science Assessment Review Panel" (SARP) is requested to evaluate the scientific value of each proposal according to a number of pre-defined criteria. Second, based on the evaluation of the SARP and on eventual programmatic considerations, a "Senior Science Committee for the M4 mission selection" (SSC-M4) is requested to issue a recommendation to the Director of Science and Robotic Exploration about which proposal or proposals to select for a study phase.

2.1 The Science Assessment Review Panel (SARP)

The SARP is composed of all members of the AWG and SSEWG plus the relevant experts from the PSWG, with the exclusion of any member affected by a strong conflict of interest (see Section 3). The SARP is co-chaired by the Chairs of the AWG and SSEWG (or by other members of the WGs in case the Chairs are conflicted). Upon inspection of the resulting group, the Executive jointly with the Chair of SSAC and the Chairs of SARP has decided to augment the SARP with additional scientists to ensure the presence of all scientific expertise relevant to the evaluation of the proposals and a balanced composition.

The composition of the SARP is reported here below.

Name	Affiliation
Gabriele Arnold	DLR - Institut für Planetenforschung Leitung und Infrastruktur, Berlin, Germany
Angela Bazzano	INAF – IAPS, Rome, Italy
Pierre Binetruy 	College de France, APC, Paris, France
Eric Chassefiere	Université Paris-Sud, France
Maria Diaz Trigo	ESO, Garching, Germany
Janet Drew	Centre for Astrophysics Research, STRI University of Hertfordshire, UK
Eigil Friis-Christensen	Technical University of Denmark, Kgs. Lyngby, Denmark
Olivier Grasset	Université de Nantes, France
Gerhard Haerendel	MPI für Extraterrestrische Physik, Garching, Germany
Carole Haswell	The Open University, Milton Keynes, UK
Martin Hewitson	Max Planck Institute for Gravitational Physics, Hannover, Germany
Gijs Nelemans	Radboud University Nijmegen, The Netherlands
Birgitta Nordstrom (Co-Chair)	Niels Bohr Institute, Copenhagen University, Denmark
Will Percival	University of Portsmouth, UK
Giovanni Peres	University of Palermo, Italy
Javier Rodríguez-Pacheco Martín	Universidad de Alcalá, Madrid, Spain
Marc Sauvage	CEA, Saclay, France
Beate Stelzer	INAF - Osservatorio Astronomico de Palermo, Italy
Ewa Szuszkiewicz	University of Szczecin, Poland
Robin Tucker	University of Lancaster, UK
John Zarnecki (Co-Chair)	International Space Science Institute, Bern, Switzerland

The Executive secretariat of the SARP is provided by Luigi Colangeli.

The SARP is required to produce a written evaluation of all “feasible” proposals (namely those that have successfully passed the technical and programmatic assessment mentioned in Section 1) according to a set of criteria defined *a priori* by the Executive jointly with the Chair of SSAC. Inputs to the SARP are the proposals themselves and the technical and programmatic assessment performed by the Executive. In addition, the Leaders of the “feasible” proposals will be invited for a question and answer session in front of the SARP. The written evaluation of the proposals produced by the SARP will be made available to the SSC-M4 and will also be made available to proposers as part of the debriefing process.

2.2 The Senior Science Committee for the M4 mission selection (SSC-M4)

The second stage is performed by the SSC-M4, formed by the SSAC members, with the exclusion of any member affected by a strong conflict of interest, and by additional experts to

ensure a sufficient range of expertise and a balanced composition. The SSC-M4 members are invited to attend the proceedings of the SARP (including the question and answer session), and to participate in their discussion, but not in the final evaluation by the SARP.

The composition of the SSC-M4 is reported here below.

Name	Affiliation
Catherine Cesarsky (Chair)	CEA Saclay, France
Jørgen Christensen-Dalsgaard	Danish AsteroSeismology Centre, Aarhus University, Denmark
Ewine van Dishoeck	Leiden Observatory, The Netherlands
Karl-Heinz Glassmeier	Institut für Geophysik und extraterrestrische Physik - Technische Universität Braunschweig, Germany
Rickard Lundin	Institutet för rymdfysik (IRF), Swedish Institute of Space Physics, Sweden
Philippe Masson	Faculté des Sciences d'Orsay Université Paris-Sud, France
Ginevra Trinchieri	INAF – Osservatorio Astronomico di Brera, Italy
Stefano Vitale	Department of Physics, University of Trento, Italy
John Zarnecki	International Space Science Institute, Bern, Switzerland

The Executive secretariat of the SSC-M4 is provided by Luigi Colangeli.

The SSC-M4 will receive the SARP's written evaluation and will be briefed by the Executive about possible additional programmatic considerations. Based on this, the SSC-M4 will be requested to issue its written recommendation to the Director of Science and Robotic Exploration about which missions should be selected for a study phase.

3. Management of the conflicts of interest within the Advisory Structure

Individual members of the Advisory Structure affected by “strong conflicts” of interest (see below) have been excluded from the evaluation process.

Some members of the SARP and SSC-M4 have declared to be affected by “weak conflicts” of interest (see below). This implies that the person affected will not be involved in the evaluation of one or more proposals.

A “strong conflict” of interest results from either being directly involved in a proposal (as a member of the proposing team), or being in a situation in which selection of the proposal would bring direct benefit to the individual (e.g., by having a hierarchical relation with a member of the proposing team or by being part of a research group which would benefit, e.g., financially, from the proposal being selected). Also, any other situation (e.g., due to a personal or family relationship) that leads the individual to feel strongly conflicted has to be declared.

Any other conflict of interest is categorised as “weak”, and will lead to the individual involved having to abstain from commenting or evaluating the proposal(s) in question (while still being involved in the evaluation process for all other proposals).

All members of SARP and SSC-M4 have been required to sign a "conflict of interest statement", stating that they have either no conflict of interest or a weak conflict (see above). The Executive and the Chairs of SSAC and SARP jointly have revised the statements. All conflicts will be made known, e.g., to SPC and to proposers.

4. Calendar of activities

The plan of activities is reported here below.

Date (2015)	Event
15 January	Deadline of the M4 Call
End of February	Shortlist of selectable missions (Based on technical and programmatic evaluation)
March and April	Activities of the SARP
20-21 April 2015	Interview of Proposing teams – in ESA-ESTEC
May	Activities of the SSC-M4

Lead Proposers are requested to ensure their availability on 20-21 April. A detailed schedule will be communicated later.

Lead Proposers may be accompanied by an additional member of the proposing team for the interview.



5. Debriefing to proposers and information to SPC

At the end of the process a detailed debriefing in writing will be offered to all proposers and made available to the SPC. For each proposal, proposers will have access to the programmatic evaluation as performed by the Executive, to the scientific evaluation performed by the SARP, and to the final recommendation issued by the SSC-M4.