

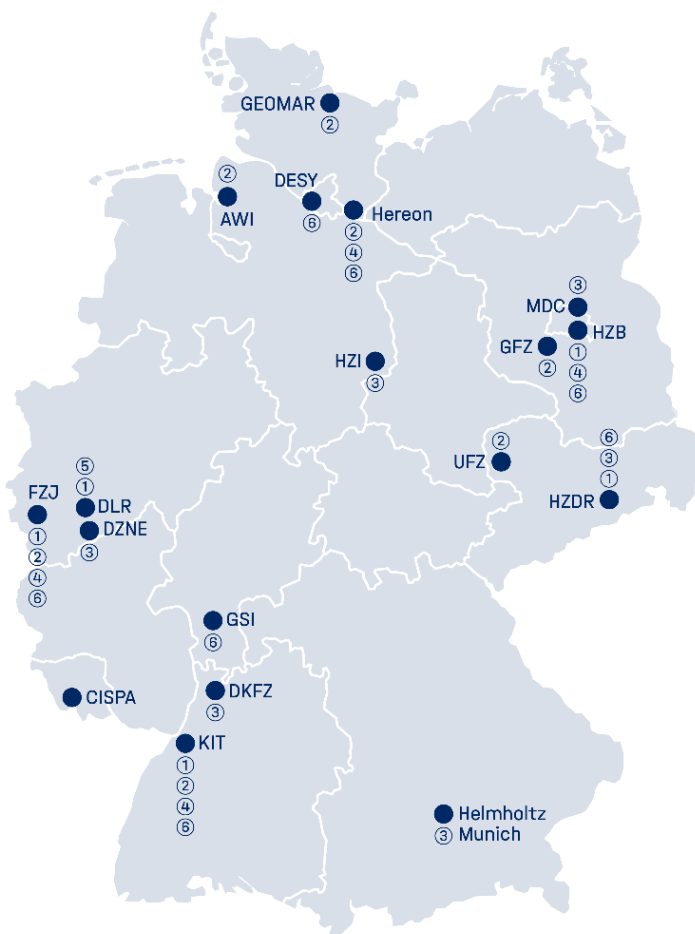
Panel guidelines

SCIENTIFIC EVALUATION OF THE HELMHOLTZ CENTERS IN 2025

1 GENERAL INFORMATION

1.1 The Helmholtz Association

The Helmholtz Association comprises 18 legally independent research centers, making it Germany's largest scientific organization, with approximately 45,000 employees and an annual budget of nearly 6 billion euros. Our mission is research that contributes significantly to answering major and pressing questions of science, society and industry. With our work, we aim to secure the basis of human life in the long term and to create the technological basis for a competitive economy. Our excellent scientists work in the research centers, supported by an efficient infrastructure and modern research management, to achieve these goals. The Helmholtz Association pools its strengths in six research fields: Aeronautics, Space and Transport; Earth and Environment; Energy; Health; Information, and Matter. Within each research field, the scientists develop research programs for a period of seven years that are periodically reshaped and evaluated by international experts.



AWI	Alfred Wegener Institute
CISPA	Helmholtz Center for Information Security
DESY	Deutsches Elektronen-Synchrotron
DKFZ	German Cancer Research Center
DZNE	German Center für Neurodegenerative Diseases
DLR	German Aerospace Center
FZJ	Forschungszentrum Jülich
GEOMAR	Helmholtz Centre for Ocean Research Kiel
GFZ	German Research Center for Geosciences
GSI	Helmholtz Center for Heavy Ion Research
Hereon	Helmholtz-Zentrum Hereon
HMGU	Helmholtz Munich
HZB	Helmholtz-Zentrum Berlin für Materialien und Energie
HZDR	Helmholtz Center Dresden Rossendorf
HZI	Helmholtz Center for Infection Research
KIT	Karlsruhe Institute of Technology
MDC	Max Delbrück Center
UFZ	Helmholtz Center for Environmental Research

Research fields

- (1) Energy, (2) Earth and Environment
(3) Health, (4) Information
(5) Aeronautics, Space and Transport, (6) Matter

1.2 Principles of strategic research

Base funding of the Helmholtz Association is provided by the federal government and the federal states and is invested in cross-center research programs. These programs address the major challenges and are geared towards the research policy objectives and the Helmholtz research strategy. They compete with one another for funding and are assessed in a two-step process within the next years:

- 1) The **scientific evaluation** of the existing programs at the individual centers.
- 2) The **strategic evaluation** of the planned programs for 2028-34.

All evaluations follow common standards.



2 THE SCIENTIFIC EVALUATION IN 2025

2.1 Scope of the evaluation

The evaluation covers the first years of the current program period, starting in 2021. In accordance with the evaluation criteria, each review panel is asked:

- to assess the center's scientific performance and impact within a research field in the current program period at the level of an international benchmarking
- to assess the center's contribution to the programs
- to assess the user facilities
- to comment on the center's potential contributions to future strategic priorities of the research field.

The results of this comprehensive assessment will be documented in evaluation reports by the panels. The written assessment are complemented by ratings in three aspects: scientific achievements and impact; originality and innovative potential; and international standing and competitiveness.

An important national task of Helmholtz is the operation of **user facilities** for the national and international scientific communities. Helmholtz is committed to operating these facilities for decades. The periodical review allows the association to plan future developments of the facilities and subsequently provide outstanding service to their users. These user facilities will be assessed by answering key questions and complete a rating in the three aspects: scientific performance and strategic relevance; access and service for users; and appropriateness of resources used and future costs.

2.2 Stakeholders and their responsibilities

2.2.1 Review panel

The review panel is composed of international experts, who cover all aspects of the research activities of the center under review. The size of the panel depends on the number and size of the activities to be assessed. Conflicts of interest of panel members must be disclosed before the review (see Annex).

The review panel will be provided with a **status report** before the on-site review. Each status report is prepared by the respective center and includes reporting on the performance of previous years and an outlook on the strategy for the next program period. It is accompanied by a questionnaire on the report. Answers of the panel members should be sent to the head office and a summary will be forwarded to the center (see Timeline).

2.2.2 Panel chair

The panel chair is responsible for the:

- Composition of the **review panel** in close collaboration with the Helmholtz head office
- **On-site review meeting**: Based on a general template, the chair sets the agenda for the on-site review in agreement with the Helmholtz head office.
- Coordination of the **evaluation report on the center**: The panel compiles a draft of the evaluation report for the center during the on-site review and finalizes the report within two weeks. A template for the evaluation report will be provided by the Helmholtz head office.
- Coordination of the **evaluation report on the program**: Together with all cross reviewers, the chairs are responsible for the evaluation reports on the programs based on the assessments of the center's contributions to the programs (see evaluation report on the center).
- Participation in the **strategic evaluation** of the research field – providing a crucial link between the scientific and strategic evaluations. Following the evaluation process, they are asked to continue as members of the research field's **strategic advisory board** from 2026 onwards. This board will meet annually to discuss the progress of the research and give advice to the research field and its development.

2.2.3 Cross reviewer

Cross reviewers help to cover the full scope of the research activities within one program and thus to create holistic assessments of a Helmholtz program and the research field, respectively. In addition, they guarantee that the individual on-site reviews follow the same standards. Thus, cross reviewers are expected to participate in several (if not all) **on-site reviews** of one research field. Once those are completed, cross reviewers together with the panel chairs compile the **evaluation report on the programs** based on the individual assessments in the center reports.

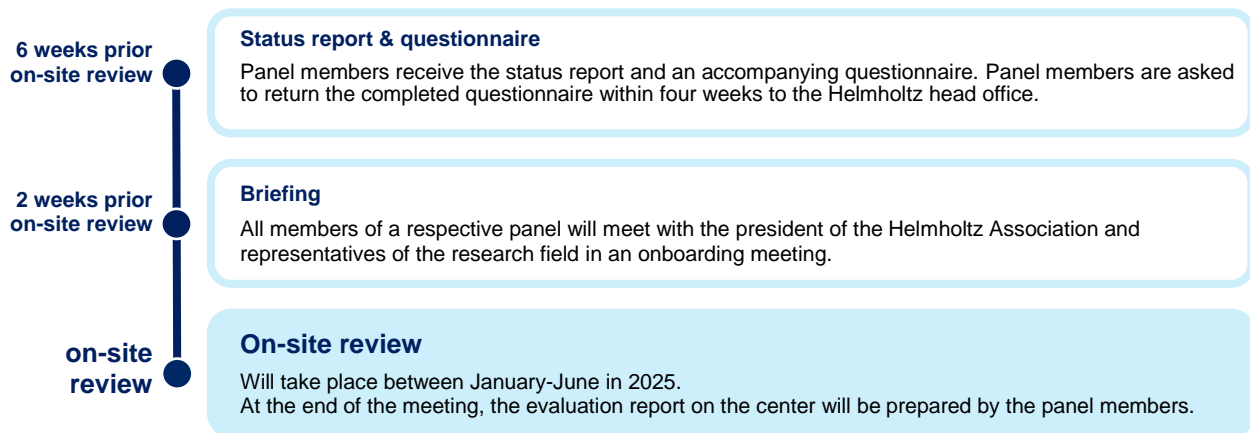
2.3 On-site review

During the on-site review (scheduled between January 2025 and July 2025), the review panel convenes at the site of the center. The agenda of the review (as well as the panel size) is determined by the number and size of the research programs and user facilities.

Essential elements of the on-site review include:

- presentation of the research activities under review;
- discussion with scientists;
- discussion with representatives of the scientific advisory board;
- closed sessions of the panel for internal discussions and the preparation of the evaluation report.

2.4 Timeline



2.5 Preparation of the evaluation reports

The panel prepares the **evaluation report on the center** at the end of the on-site review. This report documents detailed assessments for all three levels (scientific performance and impact, contributions to the programs, user facilities). The cross reviewers coordinate the assessment of the center's contributions to the programs.

After the review, an **evaluation report on each program** is prepared based on the evaluation reports for the centers. This process is coordinated by the Helmholtz head office in close cooperation with the respective review panel chairs as well as the cross reviewers. This evaluation report for the program should be completed within four weeks after the last on-site review of the participating centers.

A template for the evaluation reports with guiding questions and a rating scheme will be provided by the Helmholtz head office.

3 Annex

3.1 Conflicts of interest

Criteria for the disclosure of potential bias or conflict of interest in evaluation procedures of the Helmholtz Association

In order to ensure integrity and impartiality in the scientific evaluation processes of the Helmholtz Association, reviewers are selected carefully according to a strict and standardized procedure. Candidates have to disclose potential bias or conflicts of interest during the recruiting phase prior to the evaluation.

Conflicts of interest can exist between potential reviewers and individual principal investigators or between reviewers and the research institution under review.

The list given below comprises criteria for the determination of conflicts of interest, with exclusion criteria referring to evident conflicts of interest. On the basis of these criteria, the president of the Helmholtz Association and the chair of the review panel will jointly decide whether the person may be considered as a reviewer. However, if a potential candidate fulfills at least one exclusion criterion, the candidate will be excluded from participating in the review.

Any potential conflicts of interest of the participating reviewers have to be disclosed prior to the review and will subsequently be documented in the review report.

A person is obliged to disclose any connection, association or affiliation to the entity under review, to which at least one of the following criteria applies:

- a) Recent (within the last six years), ongoing or specifically planned
 - joint publications with principal investigators
 - scientific collaborations with the center or a principal investigator (a scientific collaboration generally gives rise to the exclusion from the panel, unless the collaborative project is conducted in a large consortium)
 - membership in supervisory or advisory boards of the center (exclusion criterion)
 - use of (joint) infrastructure or facilities of the Helmholtz Association
- b) Past, ongoing or specifically planned (ongoing and specifically planned connections qualify as exclusion criteria)
 - employment at the center or involvement in a recruiting process as a candidate
 - dependencies in a capacity as a supervisor or advisor to principal investigators or due to contractual commitments
- c) Close personal relationship with a principal investigator
- d) Direct scientific competition
- e) Own economic interests

3.2 Rating

Definition of grades	
outstanding	internationally leading, ground-breaking research, transformative impact on the field and/or high potential for significant societal or economic impact, essentially no weakness
excellent	internationally highly visible, although not leading, innovative research with significant impact on the field and/or potential for significant societal or economic impact, some negligible weaknesses
very good	internationally visible, considerable impact on the field, minor weakness
good	limited international visibility, contribution to the field, several minor weaknesses
fair	limited contribution to the field, major weaknesses