

# Strengthening knowledge cooperation in space research

PIPP - Partnerships for Space Instruments & Applications Preparatory Programme

# Call for proposals

Science



Chapter 1: Introduction / Strengthening knowledge cooperation in space research

# Table of contents

1	Introduction	1
	1.1 Background	1
	1.2 Available budget	1
	1.3 Submission deadline(s)	1
2	Aim	2
	2.1 Aim of the programme	2
	2.2 Societal impact	4
3	Conditions for applicants	5
	3.1 Who can apply	5
	3.2 What can be applied for	6
	3.3 Preparing and submitting an application	8
	3.4 Conditions for submission	9
	3.5 Conditions on granting	9
4	Assessment procedure	12
	4.1 The San Francisco Declaration (DORA)	12
	4.2 Procedure	12
	4.3 Criteria	15
5	Obligations for grant recipients	18
	5.1 Data management	18
	5.1.1 Intellectual property	18
	5.2 Socially responsible licensing	18
	5.3 Open Access	18
6	Contact and other information	20
	6.1 Contact	20
	6.2 Other information	20
7	Annexes	21
	7.1 Budget modules and rates	21
	7.2 Indexing	23
	7.3 Existing Expertise Networks	23
	7.4 TRL definitions used	24

Chapter 1: Introduction / Strengthening knowledge cooperation in space research

# 1 Introduction

In this Call for proposals information is provided about the application procedure for the 'Strengthening knowledge cooperation in space research - 2025' funding round. This Call for proposals falls under the responsibility of the Dutch Research Council (NWO). The Netherlands Space Office (NSO) is responsible for the realisation of the programme. All organisational and administrative aspects will be dealt with by NSO.

In this Call for proposals you will find information about the aim of this programme (Chapter 2), the conditions for the grant application (Chapter 3) and how your proposal will be assessed (Chapter 4). This is the information you need to submit a grant application. Chapter 5 states the obligations for grant recipients in the event you are awarded funding. Chapter 6 contains the contact details and Chapter 7 the annexes.

# 1.1 Background

'Strengthening knowledge cooperation in space research', or 'Strengthening knowledge cooperation' for short, falls under the programme 'Partnerships for Space Instruments & Applications Preparatory Programme' (PIPP). The PIPP is part of Dutch space policy. Strengthening the Netherlands' international position in the development and use of space instruments, which is the focus of this Call for proposals, is a priority of this policy.

#### Relationship of this funding round to previous PIPP funding rounds

Previous funding rounds of the PIPP focused on supporting Dutch researchers to *become* Principal Investigator (PI) of a space instrument or mission (period 2010-2013) and on *the formation of* Expertise Networks (KNW) around the development and use of space instruments (period 2017-2022; the Expertise Networks Scheme). From 2022, the PIPP was further developed to remain effective in the future. The PIPP, together with the 'Use of Space Infrastructure for Earth Observation and Planetary Research' (GO) programme, has since fallen under the umbrella 'Strengthening Space and Science Synergy' funded by the Ministry of Education, Culture and Science (OCW) as part of the national space research policy. Under the PIPP, two variants of funding rounds will be offered in 2025: the 'PI Support' (to strengthen PI roles *already fulfilled* by Dutch researchers and their exploitation) and 'Strengthening Knowledge Cooperation' aimed at *already existing* Expertise Networks.

# 1.2 Available budget

The grant ceiling for this Call for proposals totals €1,425,000.

Within this Call for proposals, a maximum of one application will be allocated per theme.

### 1.3 Submission deadline(s)

Applications that are submitted after the deadline will not be taken into consideration.

The deadline for submitting proposals is Thursday 19 June 2025, by 14:00:00 CEST.

Chapter 2: Aim / Strengthening knowledge cooperation in space research

# 2 Aim

This chapter describes the aim of the programme and the societal impact.

# 2.1 Aim of the programme

In recent decades, the Netherlands has built up a strong international position in the field of space instruments, particularly in the fields of astronomical and atmospheric research. To maintain this position, broaden it to other disciplines and expand it further, bundling of expertise and strengthening of cooperation are necessary. With the Expertise Networks Scheme, Expertise Networks have been set up since 2017 to strengthen and promote cooperation between Dutch knowledge organisations and other parties on technological themes that are - or may become - relevant for the development ('upstream') and use ('downstream') of space instruments. Section 2.1.1 further explains the set-up and priorities of Expertise Networks. An overview of the established Expertise Networks can be found in Section 7.3. Through the cooperation of the aforementioned parties, the technological expertise available in the Netherlands in the field of space instruments can be better utilised. This contributes to maintaining and further developing the Netherlands' international position in this field. The stability and sustainability of Expertise Networks is important here, with funding for joint projects forming the basis for the connection between parties in an Expertise Network. In addition, updating Expertise Networks is important to give new parties who have entered the landscape around the relevant Expertise Network theme an opportunity to join. In this way, a strong Expertise Network can be realised.

The objective of 'Strengthening Knowledge Cooperation in Space Research' is to support existing Expertise Networks set up under the Expertise Networks Scheme whose initial project grant has ended to continue and update their activities and composition. This Call for proposals aims to achieve this through grants for joint research projects at low Technology Readiness Levels (TRLs) that keep Expertise Network parties together, and for network support activities.

When this Call for proposals was opened, only the Expertise Networks projects funded by grants from the 'Expertise Networks Scheme 2017' round were closed. This funding round therefore is open for supporting and updating existing Expertise Networks around the themes from the Expertise Networks Scheme 2017, or on themes which are a combination of several of these themes. The relevant themes are:

- Breakthrough technologies for space instruments in the (optical) spectral domain from Far-IR to X-ray;
- Breakthrough technologies for space instruments in the microwave domain;
- Breakthrough technologies for distributed satellite systems.

Chapter 2: Aim / Strengthening knowledge cooperation in space research

#### 2.1.1 Explanation of terminology of the aim of the programme

#### Cooperation in Expertise networks

The cooperation that the 'Expertise Networks Scheme' and 'Strengthening Knowledge Cooperation' aim to encourage specifically involves synergy of scientific and fundamental technology strengths with knowledge in the field of development and use of space instruments in scientific, societal and/or commercial user fields. It is an explicit goal to organise, strengthen and promote such cooperation. Expertise networks focus in particular on the development and use of *future* space instruments (long-term) with a specific focus on opportunities to deploy entirely new, breakthrough technologies from inside and outside space. In terms of the development phase, the activities of the Expertise Networks are at the lower TRLs, as a guideline TRL<4. The TRL definitions can be found in Section 7.4. Here, the direction of instrument development is determined not only by technological capabilities, but also by the need for data derived from these instruments for scientific, societal and commercial applications. In this way, Expertise networks are able to trigger fundamental technology development, while the results of the Expertise networks serve science, society and the economy.

#### Demand articulation

The utilisation (for science, society and economy) of space, and thus of space instruments, is a priority in Dutch space policy. As has traditionally been the case in scientific astronomical space research, the need for data from space instruments is increasingly becoming an essential driver for the development of technologies for space instruments (demand articulation). An Expertise network will itself organise these demand articulation within its own theme.

#### Composition and tasks of Expertise networks

An Expertise network is an organisational partnership around a coherent and defined knowledge theme (in the fields of science, technology, applications and/or use), aimed at developing and/or using space instruments. In an Expertise network, at least Dutch knowledge parties participate that possess demonstrable expertise and undertake activities relevant to the development and/or use of space instruments on the specific theme. Other organisations, such as companies, civil society organisations, governments or users, can also participate in an Expertise network, and parties, who have relevant knowledge and want to participate, may not be excluded by the Expertise network.

The tasks of an Expertise network are:

- establishing a research agenda on its own theme;
- organising cooperation and coordination among network participants and between the Expertise network and parties outside it (both knowledge, government and market parties);
- aligning its own institute activities related to space instruments with the complementary activities within the Expertise network;
- identifying promising technologies and/or applications for future space instruments;
- completing concrete research activities (PhDs<sup>1</sup>, postdocs, feasibility studies, etc.) on its own theme.
- The Expertise network also organises demand articulation from users, the valorisation of knowledge in society and the market, and synergy with knowledge and market parties outside the space sector.

<sup>&</sup>lt;sup>1</sup> No funding for PhD students may be applied for within this Call for proposals, but Expertise Networks are free to fund PhD students through other means.

Chapter 2: Aim / Strengthening knowledge cooperation in space research

#### Space instruments

Instruments refer to (hardware) systems that collect observations by emitting and/or receiving radiation (in specific parts of the electromagnetic spectrum) or detecting other types of signals. An instrument typically consists of a sensor/detector and associated front-end components (e.g. optics, antennas) and back-end components for recording and data processing. A space instrument is launched (as a composite or distributed system) into space, operating on a satellite or spacecraft. The Expertise Networks Scheme and 'Strengthening Knowledge Cooperation' cover space instruments that collect data for solving scientific, societal and/or commercial issues in the fields of astronomy/astrophysics, Earth observation and/or planetary research. Space instruments the use of space instruments refers to the processing of observations and the extraction of information from the observations to be used in applications in the areas of science, society and economy.

## 2.2 Societal impact

New knowledge and insights from scientific research can make an important contribution to solutions for societal issues of today and tomorrow. Think of the energy transition, health and care, or climate change. Through interaction and coordination between researchers and potential knowledge users, the chance of applying knowledge increases and with it the likelihood of societal impact. Societal impact here stands for changes that (partly) result from research-generated knowledge and skills. These changes contribute to the well-being of people, planet and society for this and future generations. Through its policy on impact, NWO promotes the potential contribution from research to societal issues by encouraging productive interactions with societal stakeholders. Both during the development and in the execution of research. It does so in a manner that is in accordance with the aim of the particular funding instrument. NWO encourages researchers to reflect on the potential desired and undesired impact of their research from a broad perspective.

#### 2.2.1 Tailor-made impact

Depending on the purpose of the funding instrument, NWO chooses a corresponding approach that best supports the opportunity for societal impact. The primary purpose of the funding instrument determines the choice of approach NWO deploys to promote knowledge utilisation in different phases of the project (proposal, implementation, after completion) and the effort required from applicant(s) and partners.

Space policy, under which this Call for proposals falls, also aims to promote societal and scientific impact. This Call for proposals not only looks at the impact of the proposed scientific research. It also considers the contribution of the research and other activities of the Expertise network to the policy goals.

Chapter 3: Conditions for applicants / Strengthening knowledge cooperation in space research

# 3 Conditions for applicants

This chapter contains the conditions that are applicable to your grant application. Firstly it describes who can apply for funding (Section 3.1) and what you can request funding for (Section 3.2). Subsequently, you will find the conditions for preparing and submitting the application (Sections 3.3 and 3.4) and the specific funding conditions (Section 3.5).

# 3.1 Who can apply

Researchers may submit an application if they have a tenured position (and therefore a paid position for an indefinite period) or a tenure track agreement at one of the following research organisations:

- universities as referred to in Article 1.8 paragraph 1 of the Higher Education and Scientific
  Research Act and universities listed in the <u>Policy Rules for Universities located in the Kingdom of</u> <u>the Netherlands;</u>
- university medical centres by which is meant academic hospitals as referred to in Article 1.13
  paragraph 1 of the Higher Education and Scientific Research Act;
- institutes affiliated to the Royal Netherlands Academy of Arts and Sciences (KNAW) or NWO;
- Netherlands Cancer Institute;
- the Max Planck Institute for Psycholinguistics in Nijmegen;
- Naturalis Biodiversity Center;
- Advanced Research Centre for NanoLithography (ARCNL);
- Princess Máxima Centre;
- the Royal Netherlands Meteorological Institute (KNMI);
- Joint Institute for Very Long Baseline Interferometry European Research Infrastructure Consortium (JIVE);
- IHE Delft Institute for Water Education.

Persons with a zero-hour employment agreement or with a contract for a limited period of time (other than a tenure track appointment) may not submit a proposal.

It could be the case that the applicant's tenure track agreement ends before the intended completion date of the project for which funding is applied for, or that before that date, the applicant's tenured contract ends due to the applicant reaching retirement age. In that case, the applicant needs to include a statement from their employer in which the research organisation concerned guarantees that the project and all project members for whom funding has been requested will receive adequate supervision for the full duration of the project.

Applicants with a part-time contract should guarantee adequate supervision of the project and all project members for whom funding is requested.

Additional conditions:

- Main and co-applicants are connected to at least one Expertise network set up with project funding from the Expertise Networks Scheme 2017. In this respect, the composition of an Expertise network may differ from the composition of the initial Expertise network, e.g. due to new participants joining.
- For each proposal, one of the participants of an Expertise network acts as main applicant. The main applicant is also the intended project leader for the research to be carried out.
- A maximum of one application can be submitted per Expertise network, with the theme of the Expertise network in question being the main theme of the application.

Chapter 3: Conditions for applicants / Strengthening knowledge cooperation in space research

 Researchers from organisations other than those mentioned above or from companies can be part of the Expertise network but not as main or co-applicants.

#### 3.1.1 Main and co-applicants

The main applicant submits the proposal to NSO. During the assessment process, NSO will communicate with the main applicant.

After a proposal has been awarded funding, the main applicant will become the project leader and point of contact for NSO. The knowledge institution of the main applicant is the main beneficiary and will become the official secretary.

Co-applicants have an active role in realising the project. The (sub)project leaders and beneficiary/beneficiaries are jointly responsible for realising the entire project.

## 3.2 What can be applied for

Per project, a grant amount of at most €475,000 can be applied for. The maximum duration of the proposed project is 6 years. The applicant and co-applicants can include costs for personnel, equipment, investments and knowledge utilisation. The available budget modules (including the maximum amounts) are listed in Sections 3.2.1 to 3.2.4. Apply only for funding that is vital to realise the project. The rates and an explanation of these budget modules are given in Section 7.1.

Below is a description of the activities for which funding can be applied for. Please note that at least one postdoc position should be requested for research activities (point 1 below) and a minimum of €50,000 and a maximum of €100,000 of the amount applied for should be spent on network support activities (point 2).

The activities funded from 'Strengthening knowledge cooperation' may be complementary and/or supportive to the research and development activities for concrete instruments, missions and applications that are or can also be funded from regular institute resources or other programmes.

- Research activities: funding can be applied for (partial) studies related to the development and/or use of future space instruments. Due to budgetary constraints, this scheme is not suitable for financial support for the actual development of approved instruments and missions. Concrete examples of studies to be funded are:
  - Postdoc studies in the field of scientific and/or societal/operational user requirements;
  - development and definition of instrument and mission concepts;
  - trade-off studies of technologies;
  - feasibility studies;
  - early technology/low TRL hardware projects;
  - breadboard projects;
  - simulation studies;
  - end-to-end modelling.

The relevant research is driven jointly from the Expertise network.

- 2. Network support activities: 'Strengthening knowledge cooperation' is also explicitly intended to update the existing Expertise network, promote cooperation between the Expertise network partners and promote cooperation between the Expertise network and other Expertise networks and parties outside. This will benefit the strengthening of the Dutch position in the development and use of space instruments. Therefore, in addition to the above substantive activities, network support activities can also be funded. Examples of such activities are:
  - appointing a project manager for organisational support;
  - organising workshops national or international on its own theme;
  - participating in proposal preparation processes;

Chapter 3: Conditions for applicants / Strengthening knowledge cooperation in space research

- conducting inventories of technologies and/or user applications;
- market surveys;
- organising coordination with parties outside its own network (both national and international), e.g. space agencies, industry, governments, etc.).

#### 3.2.1 Personnel

Funding may be requested for salary costs of personnel contributing to the project. The amount depends on the type of appointment.

#### 3.2.1.1 Personnel at a research organisation listed in Section 3.1

For personnel working at a research organisation listed in Section 3.1, salary costs can be claimed for the following positions: postdoc and non-scientific personnel (NWP).

At least one postdoc position should be applied for.

#### 3.2.1.2 Students

It is possible to engage students in the project if they are studying at a research organisation as referred to in Section 3.1. You can enter the costs of this as material costs within the project. There is no maximum on the number of students who can participate in the project.

#### 3.2.2 Material

Funding may be requested for all project-specific material costs.

Given the nature of this funding instrument, which aims to strengthen cooperation between Dutch knowledge parties with (non-scientific) parties/companies, a maximum of 30% of the total requested grant amount can be spent on 'procurement of services' (e.g. purchased knowledge) under this item. Through the applicant, the (non-scientific) parties/companies will receive this amount under application of the de-minimis regulation (European Commission Regulation (EU) No 2023/2831 of 13 December 2023). If a (non-scientific) party/company finds that the NWO grant exceeds the de-minimis limit, the party/company cannot claim the amount (see Section 3.5.5 for additional conditions on de-minimis support).

#### 3.2.3 Investments

Funding may be requested for investments in equipment, infrastructure and other research resources that have economic value or can be reused after the project ends. Salary costs of personnel who put the equipment, infrastructure and other research resources in a state of readiness can be claimed as part of the investments. The rates and conditions of Personnel apply here and the costs should be claimed as Investments. Investments can only be made at research organisations listed in Section 3.1.

A maximum of €230,000 can be requested for investment.

Chapter 3: Conditions for applicants / Strengthening knowledge cooperation in space research

#### 3.2.4 Knowledge utilisation

Funding can be requested for activities that promote the use of knowledge from the research<sup>2</sup>, in order to increase the societal impact of the research.

It is possible to use up to 10% of the grant amount for this module. It is not compulsory to use this module.

# 3.3 Preparing and submitting an application

The steps involved in writing your application are:

- download the application form from the NSO website, Expertise Networks | NSO;
- fill in the application form;
- save the form as a pdf and submit it with the optional attachment(s) to knw@spaceoffice.nl

Optional annex(es) only:

- statement demand management (see Section 4.3.1, criterion 5);
- statement appointment and project supervision.

The proposal and appendix(es) must be drawn up in accordance with the templates provided by NSO. All annexes should be submitted as a pdf file (without encryption). Any annexes other than those stated above are not permitted.

You must write your application in English.

Applications submitted after the deadline will not be taken into consideration by NSO.

If you have any questions about submitting the completed application form, please contact the NSO contacts mentioned in Section 6.1.1.

NSO and NWO assume that the applicant has informed the research organisation where they work about submitting the application and that the research organisation accepts the grant conditions of this Call for proposals.

The main applicant should provide a copy of the application to those in charge of all participating parties in the Expertise network.

<sup>&</sup>lt;sup>2</sup> All activities applied for under this budget module must fit within the definition of "Knowledge Transfer Activities" used by the European Commission in the Framework for State Aid for Research, Development and Innovation (OJEU 2022, C 414).

Chapter 3: Conditions for applicants / Strengthening knowledge cooperation in space research

#### 3.3.1 Advice on substantive suitability

For this Call for proposals, your application must fit within the thematic description of the programme. Therefore, consider in good time whether your proposal fits the content. If you are in doubt, contact one of the programme's contact persons well before the deadline. These persons can advise you about the substantive fit of your application to this Call for proposals. However, you will make the final choice yourself. For contact details see Section 6.1.1.

# 3.4 Conditions for submission

#### 3.4.1 Formal conditions for submission

NSO will assess your application against all the conditions set out in this Call for proposals, including the conditions listed below. Your application will only be admitted to the assessment procedure if it meets these conditions. After submitting your application, you are requested to be available to implement any possible administrative corrections so that you can (still) meet the conditions for submission.

These conditions are:

- the main applicant and co-applicant(s) meet the conditions stated in Section 3.1;
- the application complies with the DORA guidelines as described in Section 4.1;
- the application is submitted via email to <u>knw@spaceoffice.nl;</u>
- the application is received before the deadline;
- the application is written in English;
- the application budget is drawn up according to the terms of this Call for proposals;
- the proposed project has a duration of maximum 6 years

All required annexes, after a possible request for additions or changes, have been completed and submitted completely and according to the instructions and in accordance with the terms of this Call for proposals.

## 3.5 Conditions on granting

The <u>NWO Grant Rules 2024</u> and the <u>Agreement on the Payment of Costs for Scientific Research</u> are applicable to all applications.

#### 3.5.1 Compliance with the National Knowledge Security Guidelines

World-class science can benefit from international cooperation. The National Knowledge Security Guidelines (hereafter: the Guidelines) helps knowledge institutions to ensure that international cooperation can take place securely. Knowledge security concerns the undesirable transfer of sensitive knowledge and technology that compromises national security; the covert influence of state actors on education and research, which jeopardises academic freedom and social safety; and ethical issues that may arise in cooperation with countries that do not respect fundamental rights. Chapter 3: Conditions for applicants / Strengthening knowledge cooperation in space research

Applicants are responsible for ensuring that their project complies and will continue to comply with the Guidelines. By submitting an application, the applicant commits to the recommendations stipulated in these Guidelines. In the event of a suspected breach of the Guidelines in an application submitted to NWO for project funding, or in a project funded by NWO, NWO may ask the applicant to provide a risk assessment demonstrating that the recommendations in the Guidelines have been taken into consideration. If the applicant fails to comply with NWO's request, or if the risk assessment is in apparent breach of the Guidelines, this may affect NWO's grant award or decision-making process. NWO may also include further conditions in the award letter if appropriate.

The National Knowledge Security Guidelines can be found on the central government website at: Home | National Contact Point for Knowledge Security (loketkennisveiligheid.nl).

#### 3.5.2 Data management

The results of scientific research must be replicable, verifiable and falsifiable. In the digital age, this means that, in addition to publications, research data must also be publicly accessible insofar as this is possible. NWO expects that research data resulting from NWO-funded projects will be made publicly available, as much as possible, for reuse by other researchers. "As open as possible, as closed as necessary" is the applicable principle in this respect. Researchers, at very least, are expected to make the data and/or non-numerical results that underlie the conclusions of the published work resulting from the project publicly available at the same time as the work's publication. Any costs incurred for this can be included in the project budget. Researchers should explain how data emerging from the project will be dealt with based on the data management section in the proposal and the data management plan that is drawn up after funding is awarded.

#### Data management section

The data management section is part of the proposal. Researchers are asked before the start of the research to consider how the data collected will be ordered and categorised so that this can be made publicly available. Measures will often already need to be taken, both during data generation and as part of analysing the data, to make its subsequent storage and dissemination possible. If it is not possible to make all data from the project publicly available, for example due to reasons of privacy, ethics or valorisation, then the applicant is obliged to list the reasons for this in the data management section.

The data management section in the proposal is not evaluated and will therefore not be weighed in the decision whether to award funding. However, both the referees and the committee can issue advice with respect to the data management section.

#### 3.5.3 Scientific integrity

In accordance with the NWO Grant Rules 2024, the project that NWO funds must be carried out in accordance with the nationally and internationally accepted standards for scientific conduct as stated in the Netherlands Code of Conduct for Research Integrity (2018). By submitting the proposal, the applicant commits to this code. In the case of a (possible) violation of these standards during a project funded by NWO, the applicant should immediately inform NWO of this and should submit all relevant documents to NWO. More information about the code of conduct and the policy regarding research integrity can be found on the website: <u>Scientific integrity | NWO</u>.

Chapter 3: Conditions for applicants / Strengthening knowledge cooperation in space research

#### 3.5.4 Ethical statement or licence

The applicant is responsible for determining whether an ethical statement or licence is needed for the realisation of the proposed project. The applicant should ensure that this is obtained from the relevant institution or ethics committee on time. The absence or presence of an ethical statement or licence at the time of the application process has no effect on the assessment of the application. If an ethics statement or licence is required for (part of) the research, the project leader must provide a copy of this statement or licence to NWO after the project has been awarded, and in any case no later than before implementation of the part of the project for which the statement is required starts. The part of the project requiring the statement and/or licence can obviously not (yet) be carried out as long as no statement or licence has been provided.

#### 3.5.5 Nagoya Protocol

The Nagoya Protocol ensures an honest and reasonable distribution of benefits emerging from the use of genetic resources (Access and Benefit Sharing; ABS). Researchers who make use of genetic sources from the Netherlands or abroad for their research should familiarise themselves with the Nagoya Protocol (Home - ABS Focal Point). NWO assumes that researchers will take all necessary actions with respect to the Nagoya Protocol.

#### 3.5.6 Co-funding

Co-funding is not allowed in this Call for proposals.

#### 3.5.7 De-minimis aid

(Non-scientific) parties/companies can receive an amount through the applicant under the budget module Material, post procurement of services with the application of the de-minimis regulation (European Commission Regulation (EU) No 2023/2831 of 13 December 2023). Under the de-minimis regulation, a (non-scientific) party/company may receive up to €300,000 in government aid over a three-year period. After award, the (non-scientific) party/company must declare, by completing a Deminimis aid statement, that by receiving the grant by NWO, the (non-scientific) party/company in question will not exceed the de-minimis limit. Once awarded, the applicant is responsible for providing the De-minimis aid statements completed by the (non-scientific) parties/companies.

# 4 Assessment procedure

This chapter first describes the assessment according to the DORA principles (Section 4.1) and the course of the assessment procedure (Section 4.2). Second, it states the criteria that the assessment committee will use to assess your application (Section 4.3).

The NWO Code for Dealing with Personal Interests applies to all persons and NWO and NSO employees involved in the assessment and/or decision-making process (<u>Code for Dealing with Personal Interests</u> | <u>NWO</u>).

NWO strives to achieve an inclusive culture where there is no place for conscious or unconscious barriers due to cultural, ethnic or religious background, gender, sexual orientation, health or age (<u>Diversity and inclusion | NWO</u>). NWO encourages referees and members of an assessment committee to be actively aware of implicit associations and to try to minimise these. NWO will provide them with information about concrete ways of improving the assessment of an application.

# 4.1 The San Francisco Declaration (DORA)

NWO is a signatory to the San Francisco Declaration on Research Assessment (DORA). DORA is a worldwide initiative that aims to improve the way research and researchers are assessed. DORA contains recommendations for research funders, research institutions, scientific journals and other parties.

DORA aims to reduce the uncritical use of bibliometric indicators and obviate unconscious bias in the assessment of research and researchers. DORA's overarching philosophy is that research should be evaluated on its own merits rather than on the basis of surrogate measures, such as the journal in which the research is published.

When assessing the scientific track record of applicants, NWO makes use of a broad definition of scientific output.

NWO requests committee members and referees not to rely on indicators such as the Journal Impact Factor or the h-index when assessing applications. Applicants are not allowed to mention these in their applications. You are, however, allowed to list other scientific products besides publications, such as datasets, patents, software and code, et cetera.

For more information on how NWO is implementing the principles of DORA, see DORA | NWO.

# 4.2 Procedure

The application procedure consists of the following steps:

- submission of the proposal;
- admissibility of the proposal;
- policy assessment by NSO;
- peer review by referees;
- rebuttal;
- final assessment;
- decision-making.

#### 4.2.1 Submission of the proposal

For the submission of the proposal, a standard form is available on the NSO website (<u>Expertise</u> <u>Networks | NSO</u>). When you write your proposal, you must adhere to the questions stated on this form and the procedure given in the explanatory notes. You must also adhere to the conditions for the maximum number of words and pages.

Your complete application form must have been received by NSO before the deadline (see Section 1.3). After this deadline, you can no longer submit a proposal. After submitting the proposal, the main applicant will receive a confirmation of receipt.

#### 4.2.2 Admissibility of the proposal

As soon as possible after you have submitted your proposal, you will hear whether NSO will consider your application. NSO will determine this based on several administrative-technical criteria (see the formal conditions for submission, Section 3.4). NSO can only take your proposal into consideration if it meets these conditions.

Please bear in mind that within two weeks after the submission deadline, NSO may approach you with any possible administrative corrections that need to be made so that your proposal can (still) meet the conditions for submission. You will be given one opportunity to make the corrections, and you will be given five working days to do this.

#### 4.2.3 Policy assessment by NSO

NSO assesses the policy relevance of the submitted proposals against all policy criteria in Section 4.3.1. This involves using a scoring scale from 1 to 5 for each policy criterion, with each score corresponding to a gualification:

1 - 2.9 = sufficient

3 - 5 = insufficient

#### 4.2.4 Peer review by referees

The proposals are assessed by independent scientific experts (referees) against all the scientific criteria in Section 4.3.2. Each proposal is assessed by at least two referees. For each scientific criterion, a score scale from 1 to 5 is used, with each score corresponding to a qualification:

- 1 = excellent
- 2 = very good
- 3 = good
- 4 = reasonable
- 5 = poor

A maximum of three non-referees can be registered. Applicants can indicate these non-referees to NSO via <u>knw@spaceoffice.nl</u>, at the same time as submitting the application. NSO will not approach these non-referees to assess the proposal as external referees.

Chapter 4: Assessment procedure / Strengthening knowledge cooperation in space research

#### 4.2.5 Rebuttal

The main applicant receives the assessment reports from the policy assessment and the anonymised referee reports. The main applicant then has the opportunity to formulate a rebuttal in consultation with the relevant Expertise network. You will be given ten working days to submit your rebuttal to NSO at <u>knw@spaceoffice.nl</u>. NSO discusses the rebuttal to the referee's reports with the external referees. If you decide to withdraw the proposal, then you should notify NSO by e-mail as soon as possible and withdraw the application. If NSO receives your rebuttal after the deadline, it will not be included in the rest of the procedure.

#### 4.2.6 Final assessment

Based on the assessment of the rebuttal by NSO (for the policy criteria) and by the referees (for the scientific criteria), the policy and scientific final scores are determined. Only applicants who receive at least a *sufficient* score for the policy assessment and at least a *very good* score for the scientific assessment are eligible for funding.

#### 4.2.7 Decision-making

Finally, the NWO Science Domain Board will assess the procedure followed and the advice from NSO. They will subsequently determine the final qualifications and make a decision over awarding or rejecting the proposals.

#### 4.2.8 Timetable

Below, you will find the timetable for this Call for proposals. During the current procedure, NWO might find it necessary to make further changes to the timetable for this Call for proposals. You will be informed about this in time.

#### Applications

19 June 2025, at 14:00:00 CEST	Application deadline
June 2025	Assessment of conditions for submitting and policy assessment by NSO
July/August/September 2025	Consultation referees
September/October 2025	Rebuttal by Expertise network; NSO discusses rebuttal with referees
October/November 2025	Final NSO assessment to the NWO Science Domain Board
October/November 2025	Decision by the board

## 4.3 Criteria

#### 4.3.1 Policy-based assessment criteria

The following criteria are used for the policy assessment, with each criterion given equal weight in the assessment:

- 1. The extent to which the proposal involves the development of technology for and/or the use of future space instruments in the themes of this Call for proposals;
- 2. The extent to which the proposal aligns with key issues and priorities of national scientific agendas/strategies and national space policies, and is in line with international space programmes;
- The extent to which the proposal contributes, through enhanced cooperation and synergy, to consolidating current cooperation in the Expertise networks and to maintaining and strengthening the Dutch position;
- The extent to which the Expertise network combines the relevant knowledge and expertise present among the participating knowledge parties on its own knowledge theme and is committed to updating the Expertise network;
- 5. The extent to which the proposed project is demand-driven from science, government and/or the market and to which the Expertise network involves potential end-users.

#### Explanation of policy criteria

Criterion 1. Development of technology for and/or use of future space instruments on the Call themes The extent to which the proposal deals with the development and use of space instruments (i.e. not ground-based instruments) in one or more themes of this Call for proposals will be assessed. Applications can be submitted in the form of projects on interdisciplinary topics relevant to multiple themes. The participating parties have substantial knowledge and expertise in the field of the chosen focus.

#### Criterion 2. Alignment with national space policy and scientific priorities

It assesses the extent to which the proposal aligns with national scientific agendas and strategic plans and with the priorities from the Long-Term Space Agenda (LTR). National space policy focuses on the use of space by science, government/society and market. It is also important that the proposed work fits within international developments in the space research field, for example the long-term visions of international space agencies.

#### Criterion 3. Cooperation and strengthening of Dutch position

To what extent does the Expertise network convincingly show that it continues to build on existing collaborations in which participants use their input in synergy? Parties strengthen each other so that the Dutch position in the development and use of space instruments is maintained and, if possible, a stronger position is obtained jointly.

#### Criterion 4. Dutch knowledge players

At least Dutch knowledge parties participate in the Expertise network. This criterion looks at the extent to which the Expertise network demonstrates that it combines relevant knowledge and expertise on its own theme and also seeks cooperation with parties that have relevant knowledge outside the existing Expertise networks. This criterion also looks at the effectiveness of efforts to update the Expertise network, and whether new partners are given sufficient opportunity to join the Expertise network.

#### Criterion 5. Organisation demand articulation

It is assessed whether the proposal convincingly demonstrates that the proposed activities for the development and/or use of space instruments are partly driven by demand articulation from science, government and/or the market. The demand articulation needs to be as concrete as possible. With regard to (very) long-term developments, demand articulation may be less concrete, but the use of *breakthrough technologies* or *disruptive innovations* must be made plausible.

#### 4.3.2 Scientific assessment criteria

The following criteria are used for the scientific assessment, with each criterion having equal weight in the assessment:

- 1. Originality/innovativeness
- 2. Scientific quality of the proposal and impact
- 3. Scientific quality of the Expertise network

#### Explanation of scientific criteria

#### Criterion 1. Originality/innovative character

What is the potentially innovative aspect in relation to the broader field of the research topic? By definition, all research findings push the boundaries of the 'known'. However, this point is about the research having a more innovative input with regard to the discipline(s) within which the research will have to take place and be distinguishable from the more routine research based on traditional methods. This may include consideration of the question, the proposed research methods and the potential research outcome. Under this criterion, innovation is also considered in relation to previous activities of the Expertise network.

#### Criterion 2. Scientific quality of the proposal and impact

The scientific quality of the proposal and impact are assessed on the following aspects:

- Objectives It is important that the question statement makes it sufficiently clear what issues the research will focus on and whether there is a substantial objective that captures the imagination. It should be clear from the proposal that the stated objectives are recognisably scientifically relevant and have the potential to make a scientific impact.
- II. Scientific approach and research method This item considers whether the methods and techniques chosen are clearly defined and whether the work plan, including the proposed budget, is feasible and of sufficient level in the light of the question and objective of the study.
- III. It also considers the extent to which the proposed research compares in terms of quality with research conducted internationally in this field.
- IV. Impact: potential expansion/deepening of knowledge What scientific perspectives are opened, via solution of the stated problem, within and outside the relevant field? What is the relevance of the proposal for the development of the relevant division? Does the research have potential societal impact beyond the topic of the proposal, and in what time frame is this impact anticipated? As part of this criterion, consideration is also given to whether the Expertise network pays sufficient attention to the main risks of unwanted societal impact and the measures envisaged to prevent or mitigate this and increase the likelihood of desired impact.

#### Criterion 3. Scientific quality of the Expertise network

The scientific quality and competences of the submitting Expertise network will be assessed according to the following aspects:

- I. Research output This refers to the value and impact of various forms of research output from the participants in the Expertise network. Output can, for example, consist of (peer reviewed) papers, other publications (such as e.g. (project) reports, articles, reports), datasets, software and hardware products, results of analyses, etc. The value and impact is thereby qualitatively assessed taking into account the DORA guidelines (see Section 4.1).
- II. Research position This involves a qualitative assessment of both the position and status held by the proposers in their own field of work, and the position and status of the joint participants on the chosen research topic. Both national and international position are important here. Among other things, the value and impact of relationships and contacts in (inter)national collaborations and the extent to which the consortium is prominent and leading are considered.

Chapter 5: Obligations for grant recipients / Strengthening knowledge cooperation in space research

# 5 Obligations for grant recipients

This chapter details the various obligations that - in addition to the conditions stated in Section 3.5 - apply after funds have been awarded.

# 5.1 Data management

After a proposal has been awarded funding, the researcher should elaborate the data management section into a data management plan. For this, applicants can make use of the advice from the referees and committee. The applicant must describe in the plan whether existing data will be used, or whether new data will be collected or generated, and how this data will be made FAIR: Findable, Accessible, Interoperable, Reusable. Before submission, the data management plan should be checked by a data steward or similar officer of the research organisation where the project will be realised. NWO will check the plan as quickly as possible. Approval of the data management plan by NWO is a condition for disbursement of the funding. The plan can be adjusted during the research.

More information about the data management protocol of NWO can be found at: <u>Research data</u> <u>management | NWO</u>.

## 5.1.1 Intellectual property

With respect to intellectual property (IP), the NWO IP policy applies. This can be found in Chapter 4 of the NWO Grant Rules 2024.

Applicants must carry out a project funded by NWO during the time that they work for the research organisation. If an applicant or a researcher funded by NWO is appointed by more than one employer, then the other employer should relinquish any possible IP rights that emerge from the project of the applicant.

# 5.2 Socially responsible licensing

The knowledge that emerges from the project could be suitable for use in society. When agreements about licensing and/or the transfer of research results developed under this Call for proposals are made, due consideration should be given to the ten principles for socially responsible licensing, as stated in the NFU factsheet "Ten principles for Socially Responsible Licensing | NFU".

# 5.3 Open Access

As a signatory to the Berlin Declaration (2003) and a member of cOAlition S (2018), NWO is committed to making the results of the research it funds openly accessible via the internet (Open Access). By doing this, NWO gives substance to the ambitions of the Dutch government to make all publicly funded research available in Open Access form. Scientific publications arising from projects awarded on the basis of this Call for proposals must therefore be made available in Open Access form in accordance with the Open Access Policy.

#### Scientific articles

Scientific articles must be made available in Open Access form immediately at the time of publication (without embargo) via one of the following routes:

- publication in a fully Open Access journal or platform registered in the DOAJ;
- publication in a subscription journal and the immediate deposition of at least the author accepted manuscript of the article in an Open Access repository registered in Open DOAR;

Chapter 5: Obligations for grant recipients / Strengthening knowledge cooperation in space research

 publication in a journal for which a transformative Open Access agreement exists between UNL and a publisher. For further information, see <u>Home | Open access</u>.

#### Books

Different requirements apply to scholarly books, book chapters and edited collections. See the Open Access Policy Framework at <u>Open Science | NWO</u>.

#### CC BY licence

To ensure the widest possible dissemination of publications, at least a Creative Commons (CC BY) licence must be applied. Alternatively – in case of substantial interest – the author may request to publish under a CC BY-ND licence. For books, book chapters and collected volumes, all CC BY licence options are allowed.

#### Cost

Costs for publication in fully Open Access journals can be budgeted in the application using the budget module for "material costs". Costs for publications in hybrid journals are not eligible for reimbursement by NWO. For Open Access books, a separate NWO Open Access Books Fund is available.

For more detailed information about NWO's Open Access policy, see Open Science | NWO.

Chapter 6: Contact and other information / Strengthening knowledge cooperation in space research

# 6 Contact and other information

## 6.1 Contact

#### 6.1.1 Content questions

For substantive questions about this Call for proposals, please contact: J. Diekema (Netherlands Space Office), tel: +31 (0)6 2706 2992, e-mail: <u>j.diekema@spaceoffice.nl</u> Dr R. Koop (Netherlands Space Office), tel: +31 (0)88 042 4528, e-mail: <u>r.koop@spaceoffice.nl</u>

For questions about the budget modules, please contact: Dr M. van den Berg (NWO), tel: +31 (0)70 349 4046, e-mail: <u>m.vandenberg@nwo.nl</u>

#### 6.1.2 Technical questions on submission

In case of technical questions regarding the submission of the completed application form, please contact the NSO contacts mentioned in Section 6.1.1.

## 6.2 Other information

The whole text of this Call for proposals has been published in both Dutch and English. The Dutch version is deemed authentic. For legal interpretation the text of the Dutch version will be decisive.

The NSO <u>Expertise Networks | NSO</u> website has information on the programme 'Strengthening knowledge cooperation in space research'.

NSO and NWO process data from applicants received in the context of this Call for proposals in accordance with the NSO and NWO privacy statements, <u>Privacy Statement | NSO and Privacy</u> <u>Statement | NWO</u>.

NSO and NWO might approach applicants for an evaluation of the procedure and/or research programme.

Within the framework of the joint implementation of this funding round, it is necessary for NSO and NWO to provide data back and forth. This exchange is done carefully and in accordance with the General Data Protection Regulation (GDPR) and other Applicable Laws and Regulations concerning the processing of Personal Data.

Chapter 7: Annexes / Strengthening knowledge cooperation in space research

# 7 Annexes

# 7.1 Budget modules and rates

#### 7.1.1 Personnel

For salary tables and rates: see Salary tables | NWO.

#### Postdoc

A postdoc is appointed to a university in the Kingdom of the Netherlands, umc or research organisation as listed in Section 3.1.

Use the rates of a senior academic employee in the salary tables of UNL, and the rates of a postdoc at an umc in the salary tables of NFU.

It is not possible to apply for funding for a postdoc who started the project to be funded before the grant is awarded.

Only a postdoc position with an appointment of at least 12 months for 0.5 fte qualifies as an appointment for which a one-off personal benchfee of  $\xi$ 5,000 is available to boost the scientific career.

#### Non-scientific personnel

Funding may be requested for non-scientific personnel (NWP) needed to execute the project. These may include, for example, programmers, technical assistants, analysts or project leaders. The use of NWP must be described in the proposal.

The duration of the appointment cannot be longer than the duration of the project funded by NWO. Depending on the job level, a choice is made from the UNL or NFU salary tables for NWP-mbo, NWP-hbo and NWP-academic. No one-off personal benchfee is available for NWP.

#### Students

Students may be engaged in research. If the students contribute as part of their curriculum, the rate according to the usual internship fee of the university or universities of applied sciences applies. If students contribute as a secondary job alongside their studies as student assistants, the rate according to HOT table 2, under 2.2 'average total salary cost per salary scale', column 'Hourly rate productive hours, excluding VAT', scale 1 applies.

You can claim the cost of this within the project as material costs.

Chapter 7: Annexes / Strengthening knowledge cooperation in space research

#### 7.1.2 Material

Funding may be requested for all project-specific costs relating to, among others, consumables, purchase of services, materials, small instruments, access to (inter)national facilities, software and research resources that have no economic value after use. Travel and accommodation costs (national and international) for all people working on the project incl. foreign guest researchers, costs for the organisation of (international) workshops and symposia, costs for data management, publications, and costs in the context of <u>Citizen science</u> also fall under this module. A maximum of 30% of the total requested grant amount may be spent on 'purchase of services' (e.g. purchased knowledge) under this item.

Travel expenses (national and international) will only be reimbursed on the basis of second class/economy class fares. For publications, the provisions in Section 5.3 Open access apply. Costs for an audit statement can only be claimed for organisations that are not subject to OCW's education audit protocol for a maximum of €5,000 per audit statement.

It is not permitted to include costs for:

- organisational infrastructure and overhead, including a fully functioning workplace, accommodation, office automation, personnel administration, commuting expenses, training, facilities, HR advice and business care, documentary information provision and home office allowance;
- the use and maintenance of in-house developed scientific infrastructure;
- regular teaching activities.

#### 7.1.3 Investments

Funding may be requested for any project-specific resources for research or costs related to construction or further development of scientific infrastructure that retain economic value or can be reused after project completion. The beneficiary acquires ownership of these research resources on completion of the project. In case the beneficiary achieves profits from the beneficial ownership of the research funds, these profits must be invested in primary activities of the beneficiary as referred to in Article 3.1.4, paragraph 2 of the NWO Grant Rules 2024. This includes the purchase of equipment with residual value for the performance of research and investments in the construction or (further) development of scientific infrastructure. Personnel costs as part of the investment can be recorded as personnel costs.

Investment costs should be adequately specified and justified in the proposal.

#### Eligible costs are:

- costs for investment in scientific equipment;
- costs for investments in datasets;
- salary costs for personnel with essential technical expertise necessary for the development or construction of an investment.

#### Ineligible are:

- costs for infrastructural facilities that can be considered part of the usual infrastructure, including a fully functioning workplace, accommodation, office automation, personnel administration, commuting expenses, training, facilities, HR advice and business care, documentary information provision, home working allowance;
- data collections and any related software and bibliographies already available in other ways;

Chapter 7: Annexes / Strengthening knowledge cooperation in space research

- other personnel costs, including personnel costs for operating and conducting research with the facility;
- costs for maintenance and use of equipment on a project. Costs for the use of equipment on a project can be requested through the material budget.

#### 7.1.4 Knowledge utilisation

The budget requested should be adequately specified in the proposal. To determine the rates, use the provisions of the budget modules Personnel (7.1.1) and Material (7.1.2).

It is possible to use up to 10% of the grant amount for this module. There is no obligation to use this module. Examples of possible costs, but not limited to, are the creation of a teaching curriculum, a feasibility study on application possibilities, costs for filing a patent application or engaging a business developer.

# 7.2 Indexing

The rate at the time of the decision date applies. NWO will, if necessary, apply a one-off indexation of personnel costs when awarding the grant. The date on which the rates take effect is used for this purpose. If the date of publication of the fees is later than the effective date, the date of publication is used. The tariffs of the Universities of the Netherlands (UNL) usually take effect on 1 July, of the Dutch Federation of University Medical Centres (NFU) on 1 August and of the Government Tariffs Manual (HOT) on 1 January.

The one-off indexation does not affect the grant ceiling and the maximum grant amount to be applied for. The grant ceiling and maximum requestable grant amount remain unchanged during the assessment procedure. If awarded, one-off indexation will be applied to the grant amount.

If co-funding is required or permitted, the one-off indexation does not affect the requirements for own contributions and co-funding, nor the IP rights that may result from the co-funding.

# 7.3 Existing Expertise Networks

The table below summarises the Expertise Networks set up under the Expertise Networks Scheme (KNW Scheme). The themes are intentionally broadly defined. Within the theme, the network itself selected the specific topics for (sub)projects proposed in the proposal.

KNW Scheme	Theme	Expertise network focus
round		
2017	Breakthrough technologies for space	Breakthrough technologies for
	instruments in the (optical) spectral domain	direct imaging and
	from Far-IR to X-ray	characterisation of exoplanets
		from space
2017	Breakthrough technologies for space	Dutch network on small
	instruments in the microwave domain	spaceborne radar instruments
		and applications (NL-RIA)
2017	Breakthrough technologies for distributed	Breakthrough technologies for
	satellite systems	Interferometry in Space

Chanter 7. Anneves	Strongthoning kr	nowledge coopera	tion in snace research
Chapter 7. Annexes /	Strengthening Ki	nowieuge coopera	cion in space research

2019	Using - data derived from - space instruments, specifically in the microwave domain, for modelling/monitoring of vegetation for applications in the field of agriculture and food safety	MINERVA: Microwaves for a new era of remote sensing of vegetation for agricultural monitoring
2019	Using - data derived from - space instruments for air quality applications in urban, rural and marine environments	Dutch collaborative network for air pollution monitoring using satellites
2022	Breakthrough technologies for space instruments and/or innovative concepts, methods, models and (fundamental) knowledge for the use of - data derived from - such space instruments, in the field of planetary research	Netherlands Planetary Science Network on Observables of Planetary Habitability
2022	Innovative ('breakthrough') concepts, methods, models and (fundamental) knowledge for the use of - data derived from - space instruments for applications in the field of water (quantity and/or quality) in the urban, rural and marine environment.	New Earth observation data for water research and applications

# 7.4 TRL definitions used

Activities of the Expertise Networks should be at the lower TRLs, as a guideline TRL 1 to 3. The definitions for the TRLs used in this funding round are given in the table below. The terminology focuses on the development of hardware systems but applies analogously to other (e.g. software) systems, see also <u>Technology Readiness Levels | ESA</u>:

Technology Readiness Level	Description
1	Basic principle
2	Application formulated
3	Proof-of-concept
4	Functional verification
5	Breadboards (reduced scale) verification in relevant environment
6	Models (full scale) demonstration in relevant environment
7	Model demonstration for operational environment
8	Flight qualified
9	Flight proven

24

Publication: april 2025

Dutch Research Council

Visiting address: Location The Hague Laan van Nieuw Oost-Indië 2593 CE The Hague Netherlands

Location Utrecht Winthontlaan 2 3526 KV Utrecht

Cover image: Shutterstock 107276052

Dutch Research Council | <u>NWO</u>

