

Use of space infrastructure for Earth observation and planetary research (GO)

Call for proposals

Science



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1 Introduction

In this Call for proposals information is provided about the application procedure for the "Use of space infrastructure for Earth observation and planetary research (GO)" funding round. This Call for proposals falls under the responsibility of the Dutch Research Council (NWO) and is realised in collaboration with the Netherlands Space Office (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

The 'Use of space infrastructure for Earth observation and planetary research' programme, in short, the GO programme, is part of the Dutch space policy. Facilitating the use of the space infrastructure for science and society is one of the priorities of this policy.

1.1.1 What has changed in this round?

The GO programme was previously called 'User Support for Space Research'. Since the first GO round of 2022 (GO 2022-1), the programme name has been changed to 'Use of space infrastructure for Earth observation and planetary research'. In several other respects, the GO 2022-1 round also differed from the previous round (GO 2019); those changes have been summarised in Chapter 7.2. The following points of the current, second round in 2022 (GO 2022-2) has subsequently been altered as compared to GO 2022-1:

- Researchers from the Joint Institute for Very Long Baseline Interferometry as a European Research Infrastructure Consortium (JIVE) can also submit a proposal (see Chapter 3.1);
- Applicants can also request budget for non-scientific personnel at universities, (small) investments, knowledge utilisation and internationalisation (see Chapter 3.2).

1.2 Available budget

The Ministry of Education, Culture and Science funds the GO programme and has made € 7,200,000 available for for the period 2020 – 2022. Within the duration of this programme, two funding rounds will be published. This Call for proposals concerns the second funding round. The total grant ceiling for this Call for proposals is € 2,400,000.

The available budget will be allocated across two themes, with each theme having a set grant ceiling. For the theme Earth observation research, € 1,600,000 is available. For the theme Planetary research, € 800,000 is available. Parallel assessment trajectories have been established for these two themes. If within one of the themes, fewer applications are awarded funding than is possible based on the available budget, it can be decided to reallocate the remaining budget to the other theme. Reallocation can only take place if this means that proposals in the other theme that meet the minimum criteria of this Call for proposals can be awarded funding.

1.3 Submission deadline

The deadline for submitting full proposals is 9 May 2023, at 14:00:00 hours CEST.

When you submit your application in ISAAC, you will also need to enter some details online. Therefore please start submitting your application at least one day before the deadline of this Call for proposals. Applications that are submitted after the deadline will not be taken into consideration.

2 Aim

2.1 Aim of the programme

Various national and international space organisations and institutes have launched and maintained an advanced and diverse infrastructure in space. This space infrastructure and the data and signals it produces are available to scientific users and other users. Together with the Ministry of Education, Culture and Science and NSO, NWO wants to encourage the use of this infrastructure by Dutch researchers for the benefit of science and society. Therefore, the aim of the GO programme is:

Supporting researchers who work in the Netherlands in making substantial use of infrastructure in space for the purpose of high-quality scientific research.

Within this objective, the GO programme is open for scientific research in the area of two themes: 1. Earth observation and 2. Planets and other objects within our solar system. These themes are scientific priorities under the current Dutch space policy.

- 1. Earth observation research: within the **Earth observation research theme**, the GO programme is open for subjects in the areas of geosphere, hydrosphere, atmosphere, cryosphere, biosphere and anthroposphere, as well as research where these areas converge. Observing the Earth from space offers the opportunity to obtain data about aspects such as land surfaces and vegetation, oceans and ice caps, weather and climate, air quality, the Earth's interior, and more. This information can be used to study, model and interpret processes and changes in parts of 'System Earth'. This provides insight into the state and function of 'System Earth' and can be used to substantiate future expectations. Both the data and signals from satellites as well as knowledge acquired via scientific research find their way into operational, societal and commercial applications.
- 2. Planetary research: within the planetary research theme, the GO programme, in line with what the Ministry of Education, Culture, and Science established with the continuation of the GO programme in 2011, is open for research into planets of our solar system. Research into other objects in our solar system (moons of planets, asteroids, comets) is also permitted; where the term 'planetary research' is used in this Call for proposals, it is also understood to mean research into these other objects. Planetary research is an interdisciplinary field that overlaps with spaceflight and astronomy, geophysics, water and ice, atmosphere, geology, chemistry and biology.

2.2 Explanation of programme aim

The GO programme is only open for innovative scientific Earth observation and planetary research that makes substantial use of space infrastructure. We explain the terminology below and, in this, we draw a distinction between:

- a. (current or past) existing space infrastructure, and
- b. planned space infrastructure, which is under development in an existing programmatic context or is at least in a peer-review process.
- 'Space infrastructure' includes scientific and operational satellites and other space vehicles that
 are under the management of national and international space agencies such as ESA, NASA, JAXA,
 CNES, ISRO, CNSA and DLR, international institutional organisations such as the EU and
 EUMETSAT, and/or commercial organisations. This space infrastructure is located in space in an
 orbit (in free fall) around the Earth or outside the influence of the Earth's gravitational field,
 moving through space or in an orbit around another planet or moon; or on the surface of another
 planet or moon.
- 2. The word 'use' refers to the actual processing or incorporation of digital data that originate from space infrastructure.
- 3. 'Substantial use' refers to the degree of relevance for the research: the research cannot be realised without the use of space infrastructure. Substantial use does not refer to the quantity of processed data.

4. 'Data' is understood to mean:

- in the case of a (current or past existing space infrastructure): digital data that was recorded/collected by the space infrastructure (with instrument/sensors) and transmitted to Earth; or consisting of signals transmitted by the space infrastructure that were generated in the space infrastructure and received on Earth; or obtained by observation on Earth of material (samples) brought back from other planets, moons or asteroids;
- in the case of b (planned space infrastructure, which is under development within an existing programmatic framework, or at least is in a peer-review process): digital 'test' data obtained on the basis of similar data from existing space infrastructure (or modified versions of that data); or from (end-to-end) simulations; or with the help of instruments/sensors that are on the ground (in the field or in a laboratory) or located in the air; or that (in the case of planetary research) are derived from observations from environments on Earth that are analogous to environments that will be observed by the future space infrastructure.
- 5. There are significant differences between the two themes of this programme, such as in the quantity of data available, the policy of missions with respect to making data available, the collection and use of data, and the degree to which research results are appropriate for broader (scientific, societal) applications. The 'substantial use of space infrastructure data' will therefore be defined differently for the two themes within the GO programme:
 - The **theme Earth observation research** must concern the use of original 'primary' data that are not yet irreversibly influenced or changed, in other words, raw data or physical and geophysical data derived directly from this.
 - The **theme Planetary research** can concern both the use of 'primary' data (see under Earth observation research above) and 'secondary' data, such as further processed data (in other words, data not solely originating from space infrastructure), values from the literature or data sets consisting of model results. In the data-processing chain, primary data are therefore located near to the instrument and, in general, (detailed) technical knowledge of the instrument and the satellite mission is needed to be able to use these data. Secondary data in the data-processing chain are located further away from the instrument and those data can often also be used without (detailed) technical knowledge of the instrument or the satellite mission. For many (but not all) satellite missions, use is made of data levels in the data-processing chain. Often (but not always), the so-called Level 0, Level 1 and Level 2 data products fall under primary data, and Level 3, Level 4 and higher level data products fall under secondary data.
 - Please note: the terms 'primary' and 'secondary' data therefore do not concern satellite data versus additional/external data from other sources, but encompass the different steps in the data-processing chain.
- 6. The research meant here can also include research that uses the data stated under 4-b) (the 'test' data) for the purpose of calibration and validation of the data stated under 4-a). The generation of the data stated under 4b) (the 'test' data) can also be part of the 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

Full, associate and assistant professors and other researchers with a comparable position* 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 organisations:

- universities located in the Kingdom of the Netherlands;
- university medical centres;
- 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 Center;
- the Royal Netherlands Meteorological Institute (KNMI);
- IHE Delft Institute for Water Education;
- Joint Institute for Very Long Baseline Interferometry European Research Infrastructure Consortium (JIVE).
- *A comparable position refers to a researcher that has a demonstrable and comparable number of years of experience in carrying out scientific research and supervising other researchers as a full, associate or assistant professor.

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 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.

3.2 What can be applied for

For an application in this Call for proposals, a maximum of €320.000 can be applied for. The funding must be used for a single temporary scientific position (PhD or postdoc) combined with the other available modules. The budget modules (including the maximum amount) available for this Call for proposals are listed in the table below. Apply only for funding that is vital to realise the project. A more detailed explanation of the budget modules can be found in the annexe to this Call for proposals (7.1).

Budget module	Maximum amount	
PhD student	1 position, according to UNL rates ¹	
Postdoc	1 position, according to UNL rates ¹	
Non-scientific staff (NSS) at universities	€100,000, non-scientific staff at (NSS) universities ^{1,} in combination with PhD student(s) and or postdoc(s) ¹	
Material costs	€15,000 per year per FTE scientific position	
Investments (up to €150,000)	Maximum €150,000	
Knowledge utilisation	€25,000	
Internationalisation	€25,000	
Money follows Cooperation	less than 50% of the total budget applied for	

3.3 Preparing an application

The steps involved in writing your application are:

- download the application form and the budget table from the NWO web application ISAAC or from the NWO web page (on the grant page of the funding instrument concerned);
- complete the application form and the budget table;
- save the application form in ISAAC as a PDF file and the budget table in Excel format;
- if applicable, download and complete the statement for adequate supervision, and save as a PDF;
- submit the application form in ISAAC, with the budget table and (if applicable) the statement for adequate supervision as attachment(s);
- fill in the requested information online in ISAAC.

Compulsory annexes: budget

In case NWO has made a template available, the annexe should be drawn up according to the NWO template. Annexes must be uploaded in ISAAC separately from the application. All of the annexes, except for the budget, must be submitted as PDF files (without encryption). The budget must be submitted in ISAAC as an Excel file. Any annexes other than those above-mentioned are not permitted.

You must write your application in English.

An application can only be submitted via the web application ISAAC. Applications that are not submitted via ISAAC will not be taken into consideration.

As the main applicant, you are required to submit the application via your own personal ISAAC account.

It is important to start with your application in ISAAC on time:

- if you do not yet have an ISAAC account, then you should create this on time to prevent any
 possible registration problems;
- any new organisations must also be added to ISAAC by NWO;
- you also need to submit other details online.

Applications submitted after the deadline will not be taken into consideration by NWO. For technical questions, please contact the ISAAC helpdesk, see contact (Chapter 6).

Does a main and/or co-applicant work at an organisation that is not included in the ISAAC database? You can report this via relatiebeheer@nwo.nl so that the organisation can be added. This will take several days. It is therefore important that you report this at least one week before the deadline.

For personnel outside the Netherlands, the local rates are reimbursed. These rates are capped at a maximum equal to the UNL rates corrected by the NWO Country correction coefficients (CCC) table, see https://www.nwo.nl/en/money-follows-cooperation.

The applicant must inform the organisation where she/he works about the submission of the application, and the organisation must accept the granting conditions of this Call for proposals.

3.3.1 Advice about substantive suitability

For this call, your proposal must fit within the objective of the GO programme (see Chapter 2). You should therefore consider in good time whether your proposal fits within this objective. If you have any doubts about this, please contact one of the contact persons for the programme well before the deadline. They can advise you regarding the connection of your proposal with this call. However, you are responsible for the final choice. For contact details, see Section 6.1.1.

3.4 Conditions for submission

Your application will only be admitted to the assessment procedure if it satisfies the conditions stated below.

3.4.1 Formal conditions for submission

NWO will assess your application against the conditions listed below. Your application will only be admitted to the assessment procedure if it meets these conditions. After submitting your application, NWO requests you 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 meets the conditions stated in Section 3.1;
- the application form is, after a possible request to make additions or changes, complete and filled out according to the instructions;
- the application is submitted via the main applicant's ISAAC account;
- the application is received at or before the deadline set;
- the application is written in English;
- the application budget is drawn up in accordance with the conditions for this Call for proposals;
- the application satisfies the DORA guidelines as stated in Chapter 4.1.
- All of the required annexes are, after a possible request to make additions or changes, complete
 and filled out according to the instructions.

3.4.2 Additional condition

Your application must fit within the objective of the GO programme as described in Chapter 2. NSO will assess your application against this additional condition. Please note that the meaning of 'substantial use of space infrastructure' within the GO programme is different for Earth observation research and for planetary research (see point 5 of Section 2.2).

3.5 Conditions on granting

The <u>NWO Grant Rules 2017</u> and the Agreement on the Payment of Costs for Scientific Research are applicable to all applications.

3.5.1 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 are at least expected to make the data and/or non-numerical results that underlie the conclusions of work published within 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, during the creation of data and analysis of the data, to make its later 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.

3.5.2 Scientific integrity

In accordance with the NWO Grant Rules 2017, 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: www.nwo.nl/en/scientific-integrity.

3.5.3 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. If the project is awarded funding, then the grant is issued under the condition that the necessary ethical statement or licence is obtained before the latest start date for the project. The project cannot start until NWO has received a copy of the ethical statement or licence.

3.5.4 Nagova 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 (www.absfocalpoint.nl). NWO assumes that researchers will take all necessary actions with respect to the Nagoya Protocol.

4 Assessment procedure

This chapter first of all describes the DORA guidelines (Section 4.1) and the course of the assessment procedure (Section 4.2). It then 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 employees involved in the assessment and/or decision-taking process (www.nwo.nl/en/code-dealing-personal-interests).

NWO strives to achieve an inclusive culture in which there is no place for conscious or unconscious barriers due to cultural, ethnic or religious background, gender, sexual orientation, health or age (www.nwo.nl/en/diversity-and-inclusion). NWO encourages referees and members of an assessment committee or jury 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 www.nwo.nl/en/dora.

4.2 Procedure

In the application form, applicants state whether the research falls within the theme Earth observation or planetary research. Parallel assessment trajectories will be established for both themes, and a selection committee will be appointed with the appropriate expertise for each of these trajectories. For each assessment trajectory, the application procedure will consist of the following steps:

- Submission of the proposal
- Consideration of the proposal
- Peer review by referees
- Rebuttal
- Pre-advice assessment committee
- Meeting of the assessment committee
- Decision-taking

4.2.1 Submission of a proposal

For the submission of the proposal, a standard form is available on the funding page of this Call for proposals on the NWO website. 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 before the deadline via ISAAC (see paragraph 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 Consideration of the proposal

As soon as possible after you have submitted your proposal, you will hear from NWO whether or not your proposal will be taken into consideration. NWO will first assess whether your application satisfies several administrative criteria (see the Formal conditions for submission, Section 3.4.1). The NSO office will subsequently assess whether the application fits within the objective of the GO programme (see Additional condition, Section 3.4.2). NWO will only be able to take your proposal into consideration if it satisfies the conditions in Sections 3.4.1 and 3.4.2. Please bear in mind that NWO can approach you within two weeks after the submission deadline to enter any possible corrections so that you can (still) satisfy the conditions for submission as stated in Sections 3.4.1 and 3.4.2. You will be given a single opportunity to enter the corrections, and you will be given five working days in which to do this. If, in the opinion of the NSO office, the proposal, despite any possible corrections, does not fit within the objective of the GO programme, then the NSO office will issue an advice to the NWO Domain Science board not to take the proposal into consideration. The NWO Science Domain Board will take a decision.

4.2.3 Peer review by referees

Before the assessment committee considers your proposal, NWO will request input from at least two external referees. These are independent advisers who are expert in the subject of the proposal. They will assess the proposal based on the assessment criteria stated in the Call for proposals (Section 4.3).

A maximum of three non-referees can be registered. Applicants can register these non-referees in ISAAC when submitting the proposal. NWO will not approach these non-referees to assess the proposal as external referees.

4.2.4 Rebuttal

The main applicant subsequently receives the anonymised referees' reports. You then have the opportunity to formulate a rebuttal. You will be given 5 working days to submit your rebuttal via ISAAC. If you decide to withdraw the proposal, then you should do this as quickly as possible by sending an email stating this to the office and withdrawing the proposal in ISAAC. If NWO receives your rebuttal after the deadline, then it will not be included in the rest of the procedure.

4.2.5 Pre-advice assessment committee

After this, your proposal, the referees' reports and your rebuttal will be submitted for comments to several members of the assessment committee (the pre-advisers). The pre-advisers will provide a written substantive and reasoned response to the proposal. They will formulate these comments based on the substantive assessment criteria (see Section 4.3.1) and will give the proposal a numerical score per assessment criterion. For this, the NWO score table will be used (on a scale of 1 to 9, where "1" is excellent and "9" unsatisfactory).

4.2.6 Meeting of the assessment committee

The pre-advice for each proposal is the starting point for the plenary discussion of the proposals by the assessment committee. The committee will make its own assessment based on the application, the referees' reports, and the rebuttal. The referees' reports will to a large extent 'guide' the final assessment but will not be blindly accepted by the committee without question. The committee will consider and compare the referees' arguments (also among each other) and examine whether the rebuttal contains a well-formulated response to the critical comments from the referees' reports. Furthermore, the committee, unlike the referees, assesses the quality of all proposals and rebuttals submitted. Therefore, the committee may reach a different assessment than the referees.

Following the discussion, the committee draws up a written recommendation addressed to the decision-making body about the quality and ranking of the proposals. This recommendation is based on the assessment criteria. The proposal must receive an overall qualification of at least "very good" to be eligible for the funding. For more information about the qualifications, see www.nwo.nl/en/applyfunding-how-does-it-work.

If, after the discussion of the proposals, it transpires that two or more of the proposals based on their weighted total score cannot be distinguished from each other, then there is an ex aequo situation (see the paragraph about ex aequo).

4.2.7 Ex aequo

NWO understands ex aequo to be a situation in which two or more proposals based on their weighted score cannot be distinguished from each other. An ex aequo situation is relevant with respect to the boundary of the available budget or the selection boundary. The existence of an ex aequo situation is determined as follows. The starting point is the ranking drawn up by the assessment committee, with the final scores rounded down to two decimal points. The reference score is the score of the lowest-ranked proposal within the boundary of the available budget or the selection boundary. All proposals with a score that is within 0.05 or less of the reference score will be considered. Subsequently, the proposals that are equal within a score of 0.1 will be selected. If an ex aequo situation occurs at the boundary of available budget or the selection boundary, then the proposal from a female applicant will end as the highest. If proposals subsequently remain in a tie, the assessment committee, with the help of an (anonymous) majority vote, will determine the ranking (in accordance with Article 2.2.7, third paragraph, sub a, part iv of the NWO Grant Rules 2017). If this vote provides no resolution either, or is not desirable to vote, the ex aequo situation will be send on to the decision-making body.

4.2.8 Decision-taking

Finally, the decision-making body will assess the procedure followed and the advice from the assessment committee. It will subsequently determine the final qualifications and take a decision about awarding or rejecting the proposals.

4.2.9 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, of course, be informed about this in time.

Proposals		
9 May 2023, at 14:00:00 CEST	Deadline proposals	
May/June/July/August	Referees consulted	
September	Applicants can submit a rebuttal	
October/November	Assessment committee meeting	
November/December	Decision by the Board	

4.3 Criteria

4.3.1 Substantive assessment criteria

The applications submitted within this Call for proposals will be substantially assessed on the basis of the following criteria:

Criterion 1: Scientific quality of the application (What)

This includes:

- clarity of the proposal, problem and objectives;
- innovative and/or groundbreaking scientific elements of the research proposal;
- feasibility of the proposed scientific approach and the action plan;
- effectiveness of the proposed methodology;
- appropriateness of expertise of the researcher(s) involved and access to the required equipment.

Criterion 2: Scientific and/or societal impact (Why)

Scientific impact includes:

- potential and relevance of the research results for own and related discipline(s);
- potential and relevance of the research results for the wider scientific field.

Societal impact includes:

- potential for societal impact in the short and long term;
- a vision about the way(s) in which the proposed research can lead to societal impact.

Besides the impact, the selection committee will consider the motivation for the focus on scientific impact and/or societal impact as part of this criterion.

A good score can be achieved for this criterion if the focus of the application is on scientific impact, if the focus is on societal impact or if the focus is spread across both forms of impact. One form of impact is not better or worse than the other.

Weighting of the criteria

The scientific quality of a proposal constitutes 70% of the final score, and the scientific and/or societal impact 30%. A proposal should, via the end score, receive at least the qualification 'very good' to be eligible for funding.

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.

5.1.1 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 describes in the plan whether use will be made of existing data, whether new data will be collected or generated, and how the 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 organisation where the project will be realised. The plan should be submitted to NWO via ISAAC within 4 months after the proposal has been awarded funding. 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:

More information about the data management protocol of NWO can be found at: www.nwo.nl/en/research-data-management.

5.1.2 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 2017.

Applicants must carry out a project funded by NWO during the time that they work for the knowledge institution. 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.

5.1.3 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 "Socially Responsible Licensing Toolkit for knowledge institutions" (www.nfu.nl/sites/default/files/2020-09/200902-NFU%20Factsheet%20Toolkit%20SRL.pdf).

5.1.4 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;
- publication in a journal for which a transformative Open Access agreement exists between UNL and a publisher. For further information, see www.openaccess.nl/en.

Books

Different requirements apply to scholarly books, book chapters and edited collections. See the Open Access Policy Framework at www.nwo.nl/en/open-science.

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.

Costs

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 http://www.nwo.nl/openscience.

6 Contact and other information

6.1 Contact

6.1.1 Specific questions

For specific questions about this Call for proposals, please contact:

C.-C. Giese (NWO), tel.: +31 (0)70 349 4009, e-mail: go@nwo.nl

J. Diekema (Netherlands Space Office), tel.: +31 (0)6 2706 2992, email: j.diekema@spaceoffice.nl

6.1.2 Technical questions about the web application ISAAC

For technical questions about the use of ISAAC, please contact the ISAAC helpdesk. Please read the manual first before consulting the helpdesk. The ISAAC helpdesk can be contacted from Monday to Friday between 10:00 and 17:00 hours on +31 70 34 40 600. However, you can also submit your question by email to isaac.helpdesk@nwo.nl. You will then receive an answer within two working days.

6.2 Other information

NWO processes data from applicants received in the context of this call in accordance with the NWO Privacy Statement, www.nwo.nl/en/privacyverklaring.

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

7 Annexes

7.1 Explanation of budget modules

It is possible to apply for the funding of the salary costs of personnel who make a substantial contribution to the research. Funding of these salary costs depends on the type of appointment and the organisation where the personnel are/ will be appointed.

- For university appointments, the salary costs are funded in accordance with the UNL salary tables applicable at the moment the grant is awarded (<u>www.nwo.nl/en/salary-tables</u>).
- For university medical centres, the salary costs are funded in accordance with the NFU salary tables applicable at the moment the grant is awarded (<u>www.nwo.nl/en/salary-tables</u>).
- For personnel from universities of applied sciences, educational institutions and other organisations, salary costs will be funded based on the collective labour agreement pay scale of the employee concerned in accordance with the applicable rate at the time of awarding the grant as taken from Table 2.2, column 'Hourly rate productive hours, excl. Dutch VAT' from the Handleiding Overheidstarieven [HOT- Manual Dutch Government Rates] (https://www.nwo.nl/en/salary-tables).
- For the Caribbean Netherlands, the Dutch government employs civil servants on Bonaire, Sint Eustatius and Saba under different conditions than in the European part of the Netherlands www.rijksdienstcn.com/werken-bij-rijksdienst-caribisch-nederland/arbeidsvoorwaarden.

NWO will apply a mandatory one-off indexing of the salary costs with respect to:

- UNL rates: for proposals submitted before 1 July and that are awarded funding after 1 July;
- NFU rates: for proposals submitted before 1 August that are awarded funding after 1 August;
- HOT rates: for proposals submitted before 1 January that are awarded funding after 1 January.

The mandatory one-off indexing has no influence on the level of the grant ceiling or on the maximum amount of the grant awarded per proposal. The level of the grant ceiling and the maximum amount of the grant awarded will remain unchanged during the assessment procedure. The mandatory one-off indexing will be applied after the decision-taking about awarding or rejecting proposals has been completed.

If co-funding is required or permitted then the one-off mandatory indexing will have no consequences for the co-funding requirement or the IP rights that can emerge from the co-funding.

The rates for all budget modules are incorporated in the budget template that accompanies the application form. For the budget modules "PhD student", "PDEng" and "Postdoc", a one-off individual bench fee of €5,000 is added on top of the salary costs to encourage the scientific career of the project employee funded by NWO. Remunerations for PhD scholarship students ('bursalen') at a Dutch university are not eligible for funding from NWO.

The available budget modules are explained below.

PhD student (including MD-PhD student)

A PhD student is appointed for 1.0 FTE for a duration of 48 months. The equivalent of 48 full-time months, for example an appointment of 60 months for 0.8 FTE, is also possible. If a different duration of appointment is considered necessary for the realisation of the proposed research, then the standard time can be deviated from as long as this is properly justified. However, the duration of appointment must always be at least 48 months.

Postdoc

The size and duration of the postdoc appointment is at least 6 full months and at most 48 full-time months. The size and duration of the appointment is at the applicant's discretion, but the appointment is always for at least 0.5 FTE or for a duration of at least 12 months. The product of FTE x duration of appointment should always be a minimum of 6 full-time months.

The material budget is available to cover the costs of a more limited appointment of a postdoc.

Non-scientific staff (NSS) at universities

Funding for the appointment of NSS required to realise the research project can only be applied for if funding for a PhD student or postdoc is also applied for. A maximum of €100,000 can be requested for NSS. This includes personnel such as student assistants, programmers, technical assistants or analysts. Depending on the level of the position, the appropriate salary table for NSS at MBO, HBO or university level applies.

The size of the appointment is at least 6 full-time months and at most 48 full-time months. The size and duration of the appointment is at the applicant's discretion, but the appointment is always for at least 0.5 FTE or for a duration of at least 12 months. The product of FTE x duration of appointment should always be a minimum of 6 full-time months.

The material budget is available to cover the costs of a more limited appointment of NSS.

Explanation of budget module Material

For each FTE scientific position (PhD student, postdoc, PDEng) applied for, a maximum of €15,000 material budget can be applied for per year of the appointment. Material budget for smaller appointments can be applied for on a proportionate basis and will be made available by NWO accordingly. Per 0.2 FTE scientific employee applied for at a university of applied sciences, educational institution or other organisation (with a minimum appointment of 0.2 FTE for 12 months) a maximum of €15,000 in material budget can be applied for per year.

The applicant is responsible for distributing the total amount of material budget across the NWO-funded personnel positions. The material budget that can be applied for is specified according to the three categories below:

Project-related goods/services

- consumables (e.g. glassware, chemicals, cryogenic fluids, etc.)
- measurement and calculation time (e.g. access to supercomputer, etc.)
- costs for acquiring or using data collections (e.g. from Statistics Netherlands [CBS]), for which the total amount may not be more than €25,000 per proposal
- access to large national and international facilities (e.g. cleanroom, synchrotron, etc.)
- work by third parties (e.g. laboratory analyses, data collection, citizen science, etc.)
- personnel costs for the appointment of a postdoc and/or non-scientific personnel for a smaller appointment size than those offered in the personnel budget modules

Travel and accommodation costs for the personnel positions applied for

- travel and accommodation costs
- conference attendance (maximum of two per year per scientific position applied for)
- fieldwork
- work visit

Implementation costs

- national symposium/conference/workshop organised by the project researchers
- costs for Open Access publishing (solely in full gold Open Access journals, registered in the "Directory of Open Access Journals" https://doaj.org/)
- costs data management
- costs involved in applying for licences (e.g. for animal experiments)
- audit costs (only for institutions that are not subject to the education accountants protocol of the Ministry of Education, Culture and Science), maximum €5,000 per proposal; for projects with a duration of three years or less, a maximum of €2,500 per proposal applies

Costs that cannot be applied for are:

- basic facilities within the institution (e.g. laptops, office furniture, etc.)
- maintenance and insurance costs

If the maximum amount is not sufficient for realising the research, then this amount may be deviated from, if a clear justification is provided in the proposal.

Citizen science

Involving citizens (citizen science) can contribute to the quality of the research. With the help of citizens, data and insights can be acquired that would not otherwise be available for research. NWO also funds citizen science. Applicants can use the budget module "material, project-related goods/services, work by third parties" to request a remuneration for the involvement of citizens in projects. The budget module offers a possibility and is not a requirement. Applicants are free to decide whether it is worthwhile involving citizens in the project and what exactly they use this budget for (for example, reimbursement of expenses of citizens, skills training for citizens or technical devices for the participating citizen).

Explanation of budget module Investments (up to €150,000)

In this budget module, funding can be requested up to a maximum of €150,000 for investments in equipment, datasets and/or software (e.g. lasers, specialised computers or computer programs).

Explanation of budget module Knowledge utilisation

The aim of this budget module is to facilitate the use of the knowledge that emerges from the research. ² The budget applied for may not exceed €25,000.

As knowledge utilisation takes many different forms in different scientific fields, the applicant needs to specify the required costs, e.g. costs of producing a teaching package, conducting a feasibility study into potential applications, or filing a patent application.

The budget applied for should be adequately specified in the proposal.

Explanation of budget module Internationalisation

The budget for internationalisation is intended to encourage international collaboration. The budget applied for may not exceed €25,000. The amount requested must be specified. If the maximum amount is not sufficient for realising the research, then it may be deviated from if an adequate justification is provided in the proposal.

Funding can be requested for:

- travel and accommodation costs in so far as these concern direct research costs emerging from the international collaboration and additional costs for internationalisation that cannot be covered in another manner, for example from the bench fee;
- travel and accommodation costs for foreign guest researchers;
- costs for organising international workshops/symposia/scientific meetings.

Explanation of the budget module Money follows Cooperation (MfC)

The module Money follows Cooperation provides the possibility of realising a part of the project at a publicly funded knowledge institution outside of the Netherlands.

The applicant must convincingly argue how the researcher from the foreign knowledge institution will contribute specific expertise to the research project that is not available in the Netherlands at the level necessary for the project.

This condition does not apply if NWO has concluded a bilateral agreement concerning Money follows Cooperation with the national research council of the country where the foreign knowledge institution is located. At www.nwo.nl/en/money-follows-cooperation you will find an overview of research councils that signed a bilateral MfC agreement with NWO.

The budget applied for within this module must be less than 50% of the total budget applied for.

The co-applicant from the participating foreign knowledge institution must meet the conditions set for co-applicants in Section 3.1 of this Call for proposals, with the exception of the condition that the co-applicant must be employed in the Kingdom of the Netherlands.

In this budget module, the definition for "knowledge transfer" as used by the European Commission in the Framework for State aid for research and development and innovation (PbEU, 2014, C198) applies.

The rates for the personnel costs of researchers at the foreign knowledge institution are calculated on the basis of the correction coefficients table of the Marie Skłodowska-Curie grants (EU, Horizon 2020), based on the Dutch UNL rates. The table can be found at www.nwo.nl/en/money-follows-cooperation.

The main applicant receives the grant and is responsible for transferring the amount to the foreign knowledge institution and for providing accountability for the MfC part of the grant. The MfC part will be part of the overall financial accountability of the project.

The exchange rate risk lies with the applicants. Therefore, gains or losses due to the exchange rate are not eligible for funding.

The applicant is responsible for:

- the financial accountability for all costs in both euros and the local currency, for which the exchange rate used must be visible;
- a reasonable determination of the size of the exchange rate. If requested by NWO, the applicant must always be able to provide a description of this reasonable determination.

If more than €125,000 is requested within this module, then the final financial statement must be accompanied by an audit report.

NWO will not award any funding to co-applicants in countries that fall under national or international sanction legislation and rules. The EU Sanctions Map (www.sanctionsmap.eu) is guiding in this respect.

7.2 Changes in the GO 2022-1 round compared to the GO 2019 round

The GO programme was previously called 'User Support for Space Research'. Since the first GO round of 2022 (GO 2022-1), the programme name has been changed to 'Use of space infrastructure for Earth observation and planetary research'. The following points of the GO 2022-1 round deviate as compared to the previous round (GO 2019):

- The research themes that fit within this programme are assessed in parallel trajectories, each with its own maximum budget;
- The definition of 'substantial use of space infrastructure' differs for the two themes;
- Researchers from the Royal Netherlands Meteorological Institute (KNMI) and the IHE Delft
 Institute for Water Education can also submit a proposal if the project is not set up in
 collaboration with a university;
- There will be no pre-proposals;
- The assessment criteria have been changed: the alignment of the applicants' expertise and the proposed research is now part of the criterion 'scientific quality of the proposal', and the criterion 'scientfic and/or societal impact' differs from the previous description in the GO 2019 call.

Publication: December 2022 Dutch Research Council

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