Chapter 1: Inleiding

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1 Inleiding

In this Call for proposals information is provided about the application procedure for the KIC AI for Agri, Horti, Water and Food for funding round. This Call for proposals falls under the responsibility of the Dutch Research Council (NWO).

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

NWO contributes to Dutch innovation policy with a part of its programming. From 2020 onwards, this programming will be based on the mission-driven top sectors and innovation policy of the Dutch government, which is aimed at solving major societal challenges. The underlying Knowledge and Innovation Agendas (KIA) and the contributions of NWO and other parties are part of the Knowledge and Innovation Covenant (KIC) 2020-2023 | NWO.

Mission-driven top sectors and innovation policy

Climate change, cyber security, ageing: Dutch society faces several major challenges. These challenges require groundbreaking innovative solutions with impact. That offers economic opportunities for public and private parties to jointly develop innovative solutions for societal issues.

Four important societal themes play a central role in the new mission-driven top sectors and innovation policy:
- Energy Transition & Sustainability
- Agriculture, Water & Food
- Health & Care
- Security

These themes have been elaborated in 25 missions that contain concrete ambitions.

There will also be a focus on:
- Key Technologies
- Societal Earning Capacity

From ambitions to objectives

Based on the ambitions, the top sectors have jointly drawn up Knowledge and Innovation Agendas (KIA) for each of the aforementioned six themes. In consultation with relevant stakeholders from science and society, multiannual mission-driven innovation programmes (MMIPs) have been formulated within these KIA. For the innovation areas, the MMIPs describe the intended objective, the [sub]programme lines and the specific research and development questions to be answered. For the Key Technologies, potential multiannual programmes (in Dutch: MJPs) have been identified, supplemented with knowledge and research questions.

NWO and the KIC: research bring solutions a step closer

The contribution of scientific and practice-oriented research is indispensable for realising solutions for the challenges posed. NWO is responding to this by investing more than 100 million euros per year in research in which public and private parties collaborate on societal challenges. The research and innovation programmes of NWO for the KIC 2020-2023 contribute to answering the research and development questions linked to the societal challenges.

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1. In the context of this call, ‘proposal’ is meant to indicate both pre-proposals as well as full proposals.
Collaboration with impact
The Dutch government has never previously formulated the ambition to realise large-scale societal changes to solve societal problems. In the vision of NWO, the chances of realising the intended changes and the impact of these will be greatest if the focus lies with interdisciplinary research in which collaboration is sought with relevant knowledge institutions (including universities of applied sciences), public and private partners, including small and medium-sized enterprises (SMEs). Chapter 2 of this call for proposals explains how NWO will encourage and facilitate the route from societal problem via research to impact.

NWO research programmes for the KIC 2020-2023: four main lines
NWO will focus on specific and large-scale research programmes. These programmes are organised in four main lines:

1. MISSION – Mission-driven thematic calls aimed at the priorities from the six KIAs.
2. DEMAND – Partnerships aimed at research and innovation questions from private and public partners on subjects from the KIAs.
3. STRATEGY – Large, long-term, strategic collaborations on subjects from the KIAs.
4. PRACTICE – Practice-driven instruments aimed at strengthening collaboration between universities of applied sciences, SMEs and regional partners, on subjects from the KIAs.

This call for proposals falls within the main line MISSION, in which NWO will develop a limited number of large thematic calls each year.

More information about the KIC programmes can be found at KIC | NWO.

1.2 Available budget
The available budget for this Call for proposals is € 8,500,000

1.3 Submission deadline(s)
The deadline for submitting letter of intents is November 7, 2023, before 14:00:00 hours CEST. The deadline for submitting full proposals is March 5, 2024, before 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

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

2.1 Aim of the programme

2.1.1 Theme

Artificial Intelligence (AI) algorithms, such as deep learning networks and other machine-learning approaches, are increasingly used in society to detect patterns in large diverse datasets and assist in solving problems of complex systems. The aim of the present Programme is to apply and extend AI methods for the solutions of urgent societal challenges in the Agriculture-Horticulture-Water-Food (AHWF) sector, for example water management in relation to climate change mitigation, automation of agri- and horticultural production systems to cope with human capital stress and early detection systems for food safety. Given the increasing pool of automatically collected data in this sector and the solid knowledge basis in process-based modelling, it is envisaged that the application of AI will help to valorise the collected data and to support management of complex processes in the sector. The call is focused on the integration, application, generalisation and usability of the AI methods with due consideration of societal aspects.

Proposals for this program include components from at least two out of the three topics. This will be assessed according to criterion 1, in section 4.3.: 

Topic 1) Improving or extending AI in the domain of Agriculture-Horticulture-Water-Food. We call for the development of new, adapted or extended AI applications dealing with challenges in the AHWF field, such as the links between small-scale operations and large-scale management problems. Applications should relate to the main societal challenges as defined in the KIA Agriculture Water and Food missions (see below). An important aspect of the introduction and use of AI is the accessibility and management of high-quality data. The availability of data enables new combinations of data driven and process driven simulation/ modelling to create for example a digital twin. AI methods that perform in different environments and can handle variation and uncertainty could broaden the use of AI in the AHWF domain.

Topic 2) Human AI interaction. The interaction between human actors and a newly introduced AI-based procedure should be considered from the start of the development onwards. Hybrid Intelligence (HI) is the combination of human and machine intelligence, expanding human intellect. Within this topic, research is expected into the critical social and psychological aspects of the introduction or extension of AI-based technology in the AHWF domain.

Topic 3) Ethical, Societal and Legal issues.

What are the ethical, societal and legal aspects to consider for specific cases in the AHWF domain? How does trustworthy AI look like for the AHWF domains? How to develop and implement Privacy Enhancing Techniques for AI in environmental, farm, food and water management systems?

The KIA Agriculture Water and Food missions summarize the urgent societal goals for the AHWF sectors. (www.kia-landbouwwatervoedsel.nl)
The following missions have been defined:
A. Circular agriculture
B. Climate-neutral agriculture and food production
C. Climate-resilient rural and urban areas
D. Valued, healthy, and safe food
E. Sustainable and safe North Sea, oceans, and inland waters
F. The Netherlands remains the best-protected and liveable delta, past after 2100.
AI is an important key-enabling technology for AHWF that contributes to all these missions.
2.1.2 Aim

The aim of this programme is to address knowledge questions for the development and use of AI systems in the context of agriculture, horticulture, water and food. Within the scope of KIA Agriculture Water and Food (AWF), AI is a relatively new technology, although digitalization has been a key enabler of production efficiency and global importance in the sector. AI technology brings an opportunity to further optimize workflows and decision making. However, given the multiple crises in the current system, there is an urgent need to broaden this optimisation from production-oriented workflow to include societal challenges of long-term sustainability.

Both the Water and the Agri-Horti-Food sectors are dependent on a strong tradition of numerical modelling to analyse systems and optimise management. Recent developments in modelling emphasise the intertwining of process-based modelling with data-driven analyses based on operationally available data, as well as the speeding up of operational forecasts using AI-based metamodels. Developments in AI technology are facilitated by the rapidly increasing availability of automatically collected data, using remote sensing and automatic sensors. Many of these data are extremely voluminous and complex to analyse. AI methods can efficiently detect patterns in such complex data, thereby facilitating their use in a management context. Digital Twins’ at different levels can be a focal point for such developments. Where processes are executed by robots, machine-learning techniques can self-reinforce developments by analysing input-output relations and optimizing processes automatically. This can be summarized as Smart Technology.

The vast possibilities of AI technology for these applications is far from being completely explored. The purpose of this programme is to explore these possibilities of AI technology.

2.1.3 Impact

This programme will be a success when the AI technology developed within the programme contributes significantly to these scientific and societal goals. This will not only require technological developments in the application of AI to the key questions of the societal challenges, but also careful embedding of the developments in a framework of societal, ethical and legal boundaries.

Of particular importance for the AHWF sector is the enhancement and developments of AI-assisted predictive modelling, e.g. of soil and other biological systems, watershed and water safety, nutrient balances and other processes. It is envisaged that these developments will build on existing technologies, but improve their link to data, reliability and operational use and speed.

The scope of the programme ranges from resource-efficient farming using improved machine-human interactions and optimization of workflows, improved market mechanisms enhancing consumer health, to improvement of decisions on water management and water safety. The links between small-scale operations and large-scale management problems will require special attention, and is typically a big-data analysis problem for which AI technology is well fitted.

The programme will build on a strong tradition of digitalization and automated data collection in the sector and will ensure its future world-leading status by improving knowledge and implementing innovations that help these areas to address the challenges posed by trends such as climate change, human and animal wellbeing, and food and water safety.

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. Examples are the energy transition, health and care, or climate change.

For more information about the NWO knowledge utilisation policy, see the website: Knowledge utilisation | NWO.
2.2.1 Tailor-made impact

Depending on the aim of the funding instrument, NWO will select the corresponding approach that has the greatest chance of achieving societal impact. The primary aim of the funding instrument determines the choice of approach NWO deploys to facilitate knowledge utilisation in various phases of the project (proposal, realisation, project completion) and the effort required from the applicant(s) and partner(s).

In this programme, the Impact Plan approach is applied. With this, NWO facilitates the development of a joint strategy of researchers and partners to purposefully increase the likelihood of achieving the intended societal impact.

NWO offers e-learning modules that can help interested parties: NWO Impact - Online workshops.

2.2.2 The Impact Plan approach in the KIC

In the KIC, the programmes focus on innovative research with the aim of developing solutions for societal issues together with societal partners and in doing so creating economic opportunities. The programmes strive to realise societal impact in both the short and long-term.

Societal impact is never solely an outcome of knowledge and insight from research. To increase the chances of the research’s societal impact, demonstrable involvement is needed from important stakeholders\(^2\) from the moment the consortium is formed until the completion of the project (see also under Section 2.3 Interdisciplinary research) and beyond. Societal impact is often only realised in the years after a research project has been concluded. By ensuring continuous alignment between researchers and possible knowledge users from the start of the research formulation (co-design) and during the realisation of the research (co-creation), the chances of productive interactions\(^3\) and, finally, impact, increase. Consortia together with stakeholders draw up an Impact Plan as part of the full proposal. That Impact Plan describes how the consortium expects to achieve societal impact and the role that productive interactions play in this. In the full proposal form, an elaboration of the Impact Plan should be included as an integral part of the proposal.

This shows how achieving the intended impact has been integrated into the research design and what role consortium partners and stakeholders from policy, practice and industry play in this.

2.3 Interdisciplinary collaboration

With the KIC 2020-2023, NWO is realising an innovative approach with particular attention for interdisciplinary research. After all, the societal challenges that the Dutch government and the top sectors focus on in the KIC are too wide-ranging and complex to tackle from the perspective of a single discipline and ask for an integral approach in which researchers from the humanities, natural sciences and social sciences collaborate. For this reason, NWO has made interdisciplinary collaboration a central focus and a requirement in the mission-driven calls as of 2021. This means that in this Call for proposals, applicants must submit interdisciplinary proposals.

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\(^2\) A stakeholder is each person or group that can influence the goals being achieved or can be influenced as a result of these.

\(^3\) NWO understands ‘productive interactions’ to be exchanges between researchers and stakeholders in which knowledge is produced and valued that is both scientifically robust and societally relevant.
How do we define interdisciplinary collaboration?
Interdisciplinary collaboration within the KIC refers to research in which knowledge and expertise from different research fields are integrated from the outset so that problems can be jointly solved and phenomena explained. Within the KIC 2020-2023, this concerns a collaboration between the humanities, natural sciences and social sciences (see the overview of: Research fields and disciplines | NWO). Basic premises for interdisciplinary collaboration are:

Integrated
The research integrates at least two of the three research fields (humanities, natural sciences, social sciences), always including the natural sciences. Natural sciences are understood to include the applied and engineering sciences, physical sciences, natural sciences, medical sciences and health sciences. Contributions from humanities and social sciences research concern the wide range of disciplines within these fields. Researchers from each of the domains can take the initiative to set up a collaboration. Furthermore, it is important that the humanities and social sciences research is realised by researchers from those research fields, and therefore not by researchers from the natural sciences.

From the outset
Interdisciplinary research questions can only be developed if interdisciplinary collaboration takes place right from the outset. Then, all disciplines can work on the basis of their own expertise and jointly realise integrated solutions. It is possible that monodisciplinary research is conducted within the interdisciplinary collaboration. In such cases, the results of the research should subsequently be integrated and lead to interdisciplinary answers. That requires a good management of the collaboration.

Innovative
The collaboration must have added value for all researchers and be innovative. Researchers from the humanities, natural sciences and social sciences do research within their own area of expertise throughout the project and in so doing contribute to innovative problems.

More information on interdisciplinary collaboration can be found on the website: Interdisciplinary collaboration within the KIC | NWO.

2.4 Human Capital
Training and working are essential factors in initiating innovations and achieving impact. We understand human capital to mean the preparation of professionals and students for a changing workplace and ensuring that sufficient labour potential is present. Within the KIC, human capital has acquired an important place to make the innovation policy successful. See also the website: Human Capital Roadmap [only available in Dutch] of the top sectors.

In the coming years, the societal missions will place a strong call on the available labour potential in the sectors involved, and rapid societal, economic and technological developments will require workers to respond flexibly to the demands of the labour market. By participating in learning communities, consortia can help to strengthen the innovation system. Learning communities are collaborations between educational institutions, knowledge institutions, companies and/or civil society organisations that ensure a close interaction between learning, working and innovating. It is expected that within these learning communities, students will be better prepared for the changing workplace and that professionals will be enabled to develop throughout their working lives. With field labs, skills labs, centres of expertise, centres for innovative workmanship, lectorates, practorates, meeting points, living labs and other similar initiatives, learning communities can be given form in everyday practice.

During the elaboration of the Impact Plan, applicants will be requested to reflect on the role of human capital and learning communities in the consortium and in facilitating the desired impact. Consortia will therefore be invited from the initial thoughts about a project proposal onwards, to also consider the place that human capital could assume in the knowledge development and in the Impact Plan Approach. Consortia will also be invited to state which learning communities they are associated with and how these learning communities can be used and could themselves benefit from the knowledge development and Impact Plan Approach.
Industrial Doctorate / Societal Doctorate

One of the possibilities is to deploy research personnel who have an actual and substantial link with the practice related to the research. This can be achieved with the deployment of the PhD student budget module that can be applied for in collaboration with a public or private partner, the so-called Industrial Doctorate or Societal Doctorate (see Section 7.2).

2.5 Collaboration with universities of applied sciences

In the KIC 2020-2023, practice-oriented research by universities of applied sciences is seen as one of the methods to realise impact by connecting research and practice. Researchers from universities of applied sciences are therefore also invited to act as (main) applicant in this call and set up a project consortium. In addition, consortia not led by applicants from universities of applied sciences are invited to reflect on the opportunities that collaboration with universities of applied sciences might bring for their research, and wherever relevant involve partners from universities of applied sciences in their project.

2.6 International collaboration

The involvement of foreign researchers and/or collaborating partners can provide consortia with the expertise needed to address the innovation questions and societal challenges faced. Foreign collaboration partners can also help to increase the impact of the projects and scope of the research outcomes. Consortia are therefore invited, if this aligns with the objectives of the research proposal, to make use of the budget modules Internationalisation and Money follows Cooperation to give international collaboration a place in the project design. These modules are further described in Section 7.1.
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

Letter of intends and full proposals are submitted by the main applicant and one or more co-applicants. A proposal is written by a consortium in which besides the applicants other participants are involved as well. Four categories of participants can be distinguished in the consortium:

1. Main applicant
2. Co-applicant(s)
3. Co-funder(s)
4. Collaborating partner(s)

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;
- Universities of applied sciences, as referred to in Article 1.8 of the Dutch Higher Education and Research Act (Wet op het hoger onderwijs en wetenschappelijk onderzoek, WHW);
- 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.

Additionally, in this call, researchers holding positions equivalent to professors, university (senior) lecturers, or lecturers may participate as co-applicants if they have a permanent employment contract (with indefinite duration) or a tenure track agreement with one of the organizations listed below:

- Louis Bolk Instituut,
- Wetsus,
- IHE Delft,
- Netherlands eScience Center,

*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.

**Lectors appointed by a university of applied sciences may also act as a main or co-applicant if they have a paid fixed-term appointment.

Persons with a zero-hour employment agreement or with a contract for a limited period of time (other than a tenure track appointment and the aforementioned exception for lectors) 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.

Extra conditions:
- The main and co-applicant(s) should conduct the proposed research as a consortium that always includes, beside themselves, two or more co-funders, and potentially one or more collaborating partners.
- The consortium should have an interdisciplinary composition. This means that the main applicant and co-applicant(s) together should represent at least two of the three research fields (the humanities, social sciences, and natural sciences). The natural sciences should always be represented (please see this website: overview of research disciplines).
- The main applicant may only submit one proposal within this call in the role of main applicant. In addition to this, a main applicant may participate as a co-applicant in no more than one other consortium in this call.
- In this call, a co-applicant may participate as a co-applicant in at most two consortia.

3.1.1 Main and co-applicants
The main applicant submits the proposal via the NWO web application ISAAC. During the assessment process, NWO 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 NWO. 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.

3.1.2 Co-funders
A co-funder is a party that participates in the consortium and contributes to the project in cash and/or in kind. The role that the co-funder plays in the preparation, implementation and translation of the research to society must be described in the research proposal.

A co-funder will not receive any funding from based on this Call for proposals. It is also not possible to reimburse costs by hiring these organisations as third parties via budget modules. Organisations from which employees may participate as a main applicant or co-applicant in accordance with the description stated in Section 3.1, may not participate as a co-funder in this Call for proposals.

In this Call for proposals it is mandatory to have a minimum of two co-funders participate in the project. The co-funders jointly contribute a net minimum amount of 30% of the total budget for the proposal.

The contribution of the co-funder has to be announced by a declaration co-funding and is a net contribution to the project. Furthermore, in this Call for proposals a distinction is made between private and public co-funders. For definitions thereof and further specific conditions for co-funding, see section 3.5.5.

3.1.3 Collaboration partner
A collaborating partner is a party that receives no funding and contributes no co-funding to the research proposal, but is closely involved in the realisation of the research and/or knowledge utilisation. Possible examples are companies, public and private organisations and other institutions. The role that these parties play in the preparation, realisation, and translation of the research to society should be described in the research proposal.
Please note: no funding may be requested for salary or research costs as a co-applicant for personnel of organisations that participate as a cooperation partner in the consortium. However, it is possible to remunerate costs by hiring in these organisations as third parties via the modules ‘material costs’, ‘knowledge utilisation’ or ‘project management’ (see Section 3.2 and Annex 7.1).

3.2 What can be applied for

For an application in this Call for proposals, a minimum of €800,000 and a maximum of €2,000,000 can be applied for. With this, NWO finances maximally 70% of the total project budget; the rest of the funding must be contributed by the compulsory co-funding (see Section 3.5.5). NWO never funds less than 50% of the total project budget.

The maximum duration of the proposed project is 6 years. 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).

<table>
<thead>
<tr>
<th>Budget module</th>
<th>Maximum amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD student (this includes Industrial and Societal Doctoratus, see bijlage7.2)</td>
<td>Unrestricted number of positions, according to UNL or NFU rates⁴</td>
</tr>
<tr>
<td>Engineering Doctorate degree (EngD)</td>
<td>Unrestricted number of positions, in combination with PhD student(s) and or postdoc(s), according to UNL or NFU rates⁴</td>
</tr>
<tr>
<td>Postdoc</td>
<td>Unrestricted number of positions, according to UNL or NFU rates⁴</td>
</tr>
<tr>
<td>Non-scientific staff (NSS) at universities</td>
<td>€100,000, for each PhD student and/or postdoc, according to UNL or NFU rates⁴ in combination with PhD student(s) and or postdoc(s), up to a maximum of €300,000 per application</td>
</tr>
<tr>
<td>Other Scientific personnel (OSS) at universities</td>
<td>€100,000 for each PhD student and/or postdoc, in combination with PhD student and/or postdoc</td>
</tr>
<tr>
<td>Research leave</td>
<td>5 months, 1 FTE, according to UNL or NFU rates⁴</td>
</tr>
<tr>
<td>Personnel at universities of applied sciences, educational institutions and other organisations</td>
<td>Unrestricted number of positions, in accordance with the applicable rate at the time of the granting decision as taken from Table 2.2, column ‘Hourly rate productive hours, excl. Dutch VAT’ from the Handleiding Overheidstarieven (HOT-Manual Dutch Government rates) [Salary tables</td>
</tr>
<tr>
<td>Material costs</td>
<td>€15,000 per year per FTE scientific position</td>
</tr>
<tr>
<td>Investments (up to €150,000)</td>
<td>Maximum €150,000</td>
</tr>
<tr>
<td>Investments (€150,000 to €500,000)</td>
<td>Greater than or equal to €150,000 (for data collections, a minimum of €25,000 applies) and less than or equal to €500,000 with 25% contribution by the applying research institution</td>
</tr>
<tr>
<td>Knowledge utilisation</td>
<td>Minimum 5% and maximum 20% of the total budget requested from NWO</td>
</tr>
<tr>
<td>Internationalisation</td>
<td>€25,000</td>
</tr>
<tr>
<td>Money follows Cooperation</td>
<td>Less than 50% of the total budget applied for</td>
</tr>
<tr>
<td>Project management</td>
<td>Maximum 5% of the total budget applied for</td>
</tr>
</tbody>
</table>

⁴ 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 Money Follows Cooperation | NWO.
3.3 Preparing an application

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.

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 Preparing and submitting a letter of intent

The main applicant submits the letter of intend via the NWO website.

The steps involved in writing your letter of intent are:
- Go to the letter of intent application form via the NWO web page (on the grant page of the funding instrument concerned);
- fill in the requested information online.

3.3.2 Preparing and submitting a full proposal

The main applicant submits the full proposal via ISAAC.

The steps involved in writing your full proposal are:
- Download the full proposal application form 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;
- Save the application form in ISAAC as a PDF file and upload it with any compulsory annexes;
- Fill in the requested information online in ISAAC.

Compulsory annexes:
- Budget form
- Declarations co-funding from co-funders (see Section 3.1.2 and 3.5.5)
- confirmation of institutional contribution to investment (compulsory if applicable, see Section 7.1).
- Letter guaranteeing the continuity of project supervision (if applicable, see Section 3.1)
- Form ‘Statement and signature’

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. When submitting the proposal, the attached declarations co-
Chapter 3: Conditions for applicants

funding should guarantee the full required amount of co-funding in line with the conditions of Section 3.5.5. The annex ‘confirmation of institutional contribution to investments’ is compulsory if in the full proposal funding is requested for investments of more than €150,000 (see also Section 7.1).

Any annexes other than those above-mentioned are not permitted.

3.4 Conditions for submission

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 application has been registered by means of a letter of intent (see section 3.3.1)
− the main applicant and co-applicant(s) meet the conditions stated in Section 3.1;
− the applying consortium has an interdisciplinary composition (see Section 3.1);
− the applying consortium contains two or more co-funders;
− the application complies with the DORA guidelines as described in Section 4.1;
− the application form is, after a possible request to make additions or changes, complete and filled out according to the instructions;
− the application budget is drawn up in accordance with the conditions for this Call for proposals;
− the application is submitted via the main applicant’s ISAAC account;
− the application is received before the deadline;
− the application is written in English;
− the application budget is drawn up in accordance with the conditions for this Call for proposals;
− the proposed project has a duration of at most 6 years;
− all of the required annexes are, after a possible request to make additions or changes, complete and filled out according to the instructions.

3.5 Conditions on granting

The NWO Grant Rules 2017 and the Agreement on the Payment of Costs for Scientific Research 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.

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.
Chapter 3: Conditions for applicants /

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

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 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 full 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 full 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.

3.5.3 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: Scientific integrity | NWO.

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. 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.

3.5.5 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 (ABS Focal Point - ABS Focal Point). NWO assumes that researchers will take all necessary actions with respect to the Nagoya Protocol.
3.5.6 Co-funding

This research programme requires at least **30%** of the total budget of the application in co-funding at the project level.

This compulsory co-funding may be provided both in cash and in kind, but at least half of the amount must be in cash. At least **50%** of the total co-funding must be from private sources. The definition of private co-funding: see below under *Definition private co-funding*. The pledged co-funding is the net amount received by the applicant. If VAT is applicable to pledged co-funding, this is additional to the pledged amount.

**Definition private co-funding**

The relevant definition of private (co-)funding used is deduced from the definition used by the Netherlands Enterprise Agency (*Definitions PPP allowance research and Innovation | RVO*) (only available in Dutch). A private contribution is thus defined as an in-cash or in-kind contribution that does not directly or indirectly originate from a research institution or public body. If pledged co-funding does not meet this definition, it cannot be classified as a private contribution. Pledged co-funding by a research institution or a public body is classified as a public contribution.

**Invoicing in-cash co-funding**

After the proposal has been awarded funding, NWO will invoice the private or public party that has pledged an in-cash contribution. After these funds have been received, NWO will allocate the funding to the project.

The following are permitted as in-kind co-funding:

The use of personnel and material contributions is permitted on the condition that these are capitalised and are fully part of the project. Services and know how may not already exist or be available to the applicant. In-kind contributions are only accepted under the condition that the part contributed by the co-funder is an integral part of the work plan and can be made visible as an identifiable effort.

**Determining the value of in-kind co-funding**

- The use of personnel is valued on the basis of hours x rate, whereby the hourly rate is based on the actual salary costs (incl. a premium for social benefits and employer costs). Furthermore, 1400 hours is taken as the standard number of productive hours per year for the calculation of the hourly rate. This hourly rate may be no more than 125 euros per hour;
- The value for material in-kind contributions is determined on the basis of the cost price of consumables. The value of investments/equipment is determined based on standard depreciation costs bearing in mind the intensity of use and any existing depreciations according to applicable reporting principles;
- For in-kind contributions in the form of services or know-how (knowledge, software, access to databases or cell lines) the economic value must be established and only the actual costs that can be directly attributed to the project may be counted as co-funding. This is always without a profit margin. Furthermore, the service or know how must not already be present or available to the applicant.

Co-funders should justify the structure and size of the in-kind contributions provided (including hourly rates) in the declaration co-funding. NWO can request substantiation and documented evidence of the rates used and can also request their adjustment.

The following may not be contributed as co-funding (both in cash and in kind):

- funding awarded by NWO;
- PPP allowance;
- co-funding may not come from parties that on the basis of this call for proposals can submit a funding proposal to NWO;
- discounts on commercial rates, e.g. on materials, equipment and services;

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5 Funding awarded by NWO is understood to be funding obtained through a proposal submitted to NWO that is granted funding. In this regard it does not matter from which programme this funding was obtained or who the recipient of the funding is.
Chapter 3: Conditions for applicants

- costs related to overheads, supervision, consultancy and/or participation in the user committee (see Section 5.1.5);
- costs of services that are conditional. The co-funding provided may not be subject to any conditions. The provision of the co-funding does not depend on whether a certain stage in the research plan is achieved (e.g. go/no-go moment);
- costs that are not reimbursed according to the call for proposals;
- costs of equipment if one of the (main) objectives of the proposal is the improvement or creation of added value for this equipment.

Accounting for in-kind co-funding
The main applicant reports to NWO about the in-kind co-funding that he or she has received from a co-funder. The main applicant provides accountability in accordance with the NWO Grant Rules 2017 on an annual basis. If a co-funder fails to partly or entirely fulfil its obligations to the main applicant and/or NWO, then this can have consequences for the grant settlement (see Article 3.4.5 of the NWO Grant Rules 2017).

Declaration co-funding from participating co-funders
In a declaration co-funding, the co-funder declares both substantive and financial support for the project and confirms the co-funding pledged. The co-funder also states in this declaration whether the contribution is a private or public contribution. Declarations co-funding from co-funders involved in the proposal are compulsory annexes to the full proposal. These must be signed by an authorised signatory of the co-funder. NWO will make a standard template available for the declaration co-funding. In the event that the project is awarded funding, the co-funder should confirm its contribution(s) in the consortium agreement (for example, for invoicing in the case of in-cash contributions). In this agreement, further agreements are also made between the co-funder(s), applicant(s) and NWO (see Section 5.1.3).
4 Assessment procedure

This chapter 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 employees involved in the assessment and/or decision-taking process (Code for Dealing with Personal Interests | NWO).

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 (Diversity and inclusion | NWO). 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:
- matchmaking
- submission of letter of intent;
- submission of the full proposal;
- admissibility of the full proposal;
- peer review by referees;
- rebuttal;
- pre-advice assessment committee;
- Interview selection (if necessary)
- interview and assessment committee meeting
- decision-making.

An external, independent assessment committee will be installed for this Call for proposals, consisting of representatives from science and practice with knowledge of the field. The task of the assessment committee is to assess the applications and the relevant documents submitted, in conjunction with each other and on each application’s own merit, on the basis of the assessment criteria given in this Call for proposals.
4.2.1 Matchmaking

In the period prior to the deadline for submitting letters of intent NWO will facilitate (online) matchmaking activities for this call. Your consortium’s participation in these activities is recommended, but not mandatory. In the KIC 2020-2023, the aim of the matchmaking is to bring together and connect researchers from different scientific disciplines (humanities, natural sciences and social sciences; including universities of applied sciences) and organisations from everyday practice so that interdisciplinary research proposals can be realised. Further information about the realisation and planning of matchmaking activities will be announced via the website and the NWO newsletters.

4.2.2 Submission of letter of intent

A letter of intent indicates that you intend to submit an application under this Call for proposals. Submitting a declaration of intent is compulsory if you wish to submit a full proposal at a later stage. The purpose of the declaration of intent is to inform NWO of the expected number of applications. In addition, NWO aims to facilitate or increase the accessibility of projects for new research groups and to promote the pooling of resources, e.g. by combining initiatives. NWO will therefore publish the submitted letters of intent via the program page on the NWO website. For the letter of intent submission, a standard form is available on the funding page of this Call for proposals on the NWO website. The letter of intent form completed by you must have been received before the deadline via ISAAC (see paragraph 1.3).

4.2.3 Submission of a full proposal

For the submission of the full proposal, a standard form is available on the funding page of this Call for proposals on the NWO website. When you write your full 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 full 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.

4.2.4 Admissibility of the full proposal

As soon as possible after you have submitted your proposal, you will hear from NWO whether or not your full proposal will be taken into consideration. NWO will determine this based on several administrative-technical criteria (see the formal conditions for submission, Section 3.4). NWO can only take your full proposal into consideration if it meets these conditions. Please bear in mind that within two weeks after the submission deadline, NWO 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.

4.2.5 Peer review by referees

Before the full 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 full proposal. They will assess the proposal based on the assessment criteria stated in the Call for proposals (Section 4.3).

4.2.6 Rebuttal

The main applicant subsequently receives the anonymised referee reports. You then have the opportunity to formulate a rebuttal. You will be given ten 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.
4.2.7 Pre-advice assessment committee

After this, your full 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). In addition, the preadvisers identify which parts need to be clarified, explained or deepened during the interview.

4.2.8 Interview selection

In principle, all consortia that submitted a full proposal will be invited for an interview with the assessment committee. If and only if the total number of admissible proposals exceeds three times the number of projects that can be funded within the available budget, the assessment committee can decide to only invite a selection of consortia for an interview.

The proposals, the referees’ reports and the rebuttal will be submitted to the assessment committee. The assessment committee will make its own assessment based on these. Subsequently, the applicants with the highest ranked proposals will be invited for an interview. This shall be at most twice the expected number of full proposals that can be awarded funding or as many more/fewer if, within five proposals above or below this maximum, a significant jump in the provisional ranking can be seen of 0.25 points between two successive proposals.

4.2.9 Interview

During the interview, the assessment committee has the opportunity to pose questions, including new questions that the referees have not yet asked. During the interview, the consortium can respond to these in the discussion with the committee. In this manner, the principle of hearing and rebuttal is applied. The interview is an important part of the assessment and can lead to an adjustment of the assessment and the score of the proposal.

4.2.10 Meeting of the assessment committee

The committee will make its own assessment based on the available material. 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 arguments of the referees (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 differ from the referees in their assessment.

Following the discussion, the committee draws up a written recommendation addressed to the NWO Executive Board about the quality and ranking of the proposals. This recommendation is based on the assessment criteria. The full proposal must receive an overall qualification of at least “very good” to be eligible for funding. The full proposal must also receive a score of at least 4.0 (or better) for each of the separate assessment criteria.

For more information about the qualifications, see Applying for funding, how does it work? | NWO.

<table>
<thead>
<tr>
<th>Score range</th>
<th>Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0-1.4</td>
<td>Excellent</td>
</tr>
<tr>
<td>1.5-3.4</td>
<td>Very good</td>
</tr>
<tr>
<td>3.5-5.4</td>
<td>Good</td>
</tr>
<tr>
<td>5.5-9.0</td>
<td>Unsatisfactory</td>
</tr>
</tbody>
</table>

If, after the discussion of the full proposals, two or more of the full proposals cannot be distinguished from each other based on their weighted total score, then there is an ex aequo situation (see section 4.2.13).
4.2.11 Ex aequo

NWO understands ex aequo to be a situation in which two or more full proposals based on their weighted score cannot be distinguished from each other. An ex aequo situation is relevant with respect to the borders of the available budget or the selection borders. 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 borders of the available budget or the selection borders. All proposals with a score that is within 0.05 or less of the reference score will be considered. In this way, the proposals that are equal within a score of 0.1 will be selected. If an ex aequo situation occurs at the borders of available budget or the selection borders, the sum of the average scores for criteria 1 and 2 will determine which of the proposals concerned is / will be prioritized as higher. If any proposals subsequently remain tied in ranking, 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 if it is not desirable to vote, the ex aequo situation will be sent on to the NWO Executive Board.

4.2.12 Decision-making

Finally, the NWO Executive Board will assess the procedure followed and the advice from the assessment committee. The NWO Executive Board will subsequently determine the final qualifications and take a decision about awarding or rejecting the full proposals.

4.2.13 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.

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matchmaking</td>
<td>12 October 2023</td>
</tr>
<tr>
<td>Deadline letter of intent</td>
<td>7-November-2023, 14:00:00 CET</td>
</tr>
<tr>
<td>Deadline Full Proposals</td>
<td>5-March-2024, 14:00:00 CET</td>
</tr>
<tr>
<td>Referees consulted</td>
<td>May 2024</td>
</tr>
<tr>
<td>Applicants can submit a rebuttal</td>
<td>June 2024</td>
</tr>
<tr>
<td>(Potential Interview selection)</td>
<td>September 2024</td>
</tr>
<tr>
<td>Assessment committee meeting</td>
<td>September 2024</td>
</tr>
<tr>
<td>Decision by the board</td>
<td>Oktober 2024</td>
</tr>
</tbody>
</table>

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:

1. Problem definition and analysis (25%)
2. Envisaged impact and route to impact (25%)
3. Quality of the consortium (30%)
4. Quality of the research (20%)

The following specific aspects of the four assessment criteria will be assessed:
1. **Problem definition and analysis**
   - Clearly formulated definition of the problem and resulting research questions, logically related and contributing to the objective of the call.
   - Societal and scientific urgency and relevance of the defined problem.
   - Interdisciplinary character of the problem definition and the research questions.

2. **Envisaged impact and route to impact**
   - The envisaged scientific and societal impact is clearly defined and follows logically from the identified problem or question.
   - The impact pathway describes a clear route to the societal, including economic, impact, as well as the role of the partners involved.
   - Appropriate strategic activities to achieve the impact, such as stakeholder engagement, communication, monitoring and evaluation, and capacity development and deployment and use of Human Capital.

3. **Quality of consortium**
   - The composition of the consortium is a logical fit with the proposed project: interdisciplinary, involvement of relevant societal stakeholders.
   - Complementarity of the consortium partners in terms of the knowledge, skills and expertise required to execute the project.
   - Active involvement of the partners in the development of the project (co-design), from the articulation of the problem definition and the research questions, and in its execution (co-creation).
   - A clear division of tasks and roles within the consortium with respect to the execution of the research and the governance of the project.

4. **Quality of the research**
   - The scientific research question follows logically from the analysis of the problem and is original and innovative for the disciplines concerned.
   - The proposed approach and methodology are suitable for achieving the specified objectives and answering the research question.
   - The integrated character of the interdisciplinary research.
   - The structure of the proposed research plan: clearly defined and logically coherent work packages; suitable and well-substantiated budget; risk analysis; and, if necessary, a back-up plan.
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 Substantive monitoring

Monitoring
During this programme, NWO will organise programme meetings. Projects within this call theme will be invited to take part in these.

Accountability during the project
During the project, the main applicant will be responsible for annual reports on the project’s substantive and financial progress. With a view to monitoring project progress, NWO can request interim reports on a project’s content and finances. More information about this will follow in the grant award letter.

Project closure
Upon completion of a project, final reports will be requested on both the content and finances of the project. The final amount of funding will be determined after these final reports have been approved.

5.1.2 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: Research data management | NWO.

5.1.3 Intellectual property and consortium agreement

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.

NWO’s ambition is that research results can be applied by partners involved in the project. NWO aims that all research results from projects it funds are made publicly accessible while at the same time encouraging parties to further develop the research results by giving them the possibility to exploit these. For the exploitation of results, it can be desirable to transfer intellectual property rights or to license the use of these to (one of) the private parties involved in the project. The basic premise is that all research results can be published with due consideration for agreements made about publication procedures.
Chapter 5: Obligations for grant recipients

After a proposal has been awarded funding, the conclusion of a consortium agreement is one of the conditions for starting the project. In this agreement, arrangements are made about intellectual property and publication, knowledge transfer, confidentiality, co-financing payments, progress reports, final reports and the tasks and working methods of the user committee (see Section 5.1.5). Uploading in ISAAC is required before the project can start.

The responsibility for arranging the consortium agreement lies with the applicant. NWO does not sign the agreement itself. The model agreement that NWO makes available must be used and can be found on the funding page of this Call for proposals. This model agreement has been drawn up in accordance with the NWO Grant Rules 2017.

5.1.4 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”.

5.1.5 User committee

After the project has been awarded funding, a user committee will be appointed in accordance with Article 3.3.2.a of the NWO Grant Rules 2017. The committee will follow the project and advise about the progress. More information about this committee will be provided in the award letter.

5.1.6 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 Home | Open Access.

Books

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

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.
Chapter 5: Obligations for grant recipients

For more detailed information about NWO’s Open Access policy, see Open Science | NWO.
6 Contact and other information

6.1 Contact

6.1.1 Specific questions

For specific questions about this Call for proposals, please contact:
Paul Blank p.blank@nwo.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

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.

NWO processes data from applicants received in the context of this Call in accordance with the NWO Privacy Statement, Privacy Statement | NWO.

NWO might approach applicants for an evaluation of the procedure and/or research programme.
7 Annexe(s):

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 (Salary tables | NWO).
- For university medical centres, the salary costs are funded in accordance with the NFU salary tables applicable at the moment the grant is awarded (Salary tables | NWO).
- 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] (Salary tables | NWO).
- 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 Employment terms and conditions | Working at the Rijksdienst Caribisch Nederland | Rijksdienst Caribisch Nederland (rijksdienstcn.com).

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”, “EngD” 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.

In line with the NWO strategy, this category is also understood to include Industrial and Societal Doctorates. The conditions for this are described in Section 7.2.
Engeneering Doctorate degree (EngD)

Funding for the appointment of a EngD can only be applied for if funding for a PhD student or postdoc is also applied for.

The appointment for a EngD position is a maximum of 1.0 FTE for 24 months. The EngD trainee is employed by the institution applying for funding and can realise activities that are part of the research at an industrial partner for a specified time. If the research proposal is awarded funding, then an agreement must be concluded with the industrial partner(s) concerned. The underlying “Technological Designer Programme” must be described in the proposal.

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 per PhD or postdoc applied for can be requested for NSS, up to a maximum of €300,000 per proposal. 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.

Other Scientific personnel (OSS) at universities

Budget for OSS such as AIOS (doctor training to be a specialist), ANIOS (doctor not training to be a specialist), scientific programmers or employees with a master’s degree can only be applied for if funding for a PhD student or postdoc is also applied for. For this category, a maximum of €100,000 per PhD or postdoc applied for can be applied for.

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.

Research leave for applicants

With this budget module, funding can be requested for the costs of the research leave of the main and/or co-applicant(s). The employer of the applicant(s) can use this to cover the costs of relinquishing him or her from educational, supervisory, administrative or management tasks (not research tasks).

The time that is released through the research leave grant can only be used by the applicant(s) for activities in the context of the project. The proposal must describe which activities in the context of the project the applicant(s) will carry out in the time relinquished.

The maximum amount of research leave that can be applied for is the equivalent of 5 full-time months. NWO funds the research leave in accordance with the salary tables for a senior scientific employee (scale 11) at the time the grant is awarded (Salary tables | NWO).
Personnel universities of applied sciences, educational institutions and other organisations

With the exception of personnel that fall under UNL or NFU rates, costs for the funding of personnel employed at a university of applied sciences, educational institution or at other organisations will be remunerated in accordance with Table 2.2, column ‘Hourly rate productive hours, excl. Dutch VAT’ from the Handleiding Overheidstarieven [HOT- Manual Dutch Government Rates] (Salary tables | NWO).

For the calculation you should use the number of productive hours stated in the valid volume of the Handleiding Overheidstarieven.

Explanation of budget module Material

For each FTE scientific position (PhD student, postdoc, EngD) 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”: Directory of Open Access Journals | DOAJ);
- 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 Investments (€150,000 to €500,000)**

In this budget module, funding can be requested for investments in scientifically innovative equipment and/or data collections of national and international importance. The minimum amount that can be applied for is €150,000.

NWO funds a maximum of 75% of the total investment costs, up to a maximum of €500,000. The applying institution must contribute at least 25% of the total costs of the investment. This contribution to the investment must be confirmed in writing by the applying institution when the proposal is submitted.

The costs for investments should be adequately specified and motivated in the proposal. Funding can be requested for:
- costs for investments in scientific equipment;
- costs for investments in datasets;
- personnel costs for the setting up of databases and the initial digitisation of the bibliographical equipment, if these cannot be purchased;
- personnel costs for employees with essential technical expertise that is necessary in order to build or develop an investment.

If funding for personnel costs is applied for, then the need for these personnel costs must be justified. If the applicant does not have this expertise available, then it must be stated that this expertise needs to be procured with these costs. The internal procurement procedures and/or guidelines of the applicant are applicable.

Funding cannot be requested for:
- costs of infrastructure facilities that can be regarded as part of the usual infrastructure;
- data collections and any associated software and bibliographies that are already available in other ways;
- other personnel costs, including personnel costs required to operate and conduct research with the facility;
- costs for maintenance and use of the equipment on a project. The costs for researchers using equipment for a project can be applied for via the material budget.

**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. At least 5% and at most 20% of the total budget requested from NWO should be used for knowledge utilisation activities via this budget module.

Knowledge utilisation assumes very different forms in the various science domains. Examples are producing a teaching package, a feasibility study into application possibilities, costs for the submission of a patent application, or a business developer.

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7 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.
In the proposal, the applicant should specify which costs are needed.

In the context of the Impact Plan Approach applicants can use this module to cover costs for the following activities:

− Specific activities to facilitate knowledge utilisation towards (intermediary) parties that are not funded in the project, such as knowledge platforms. These activities cover, amongst other things, joint learning activities, training courses and communication activities.

− **Involving interested parties (stakeholders)**: activities organised by the consortium aimed at involving stakeholders, such as consultation workshops, expert meetings, roundtable meetings, etc.

− **Communication**: activities organised by the consortium such as (international) learning events, development of videos, blogs, newsletters and other types of media. The hiring of communication expertise can also be included here.

− **Development of skills**: activities aimed at the development of skills that go further than the levels of the individual student, PhDs or postdocs, such as the development of courses for stakeholders or master students.

− **Monitoring and evaluation moments**: in which knowledge utilisation is a subject of discussion: such as interim evaluations and the meetings of the user committee (see also Section 5.1.5).

Travel costs for co-funders are explicitly not fundable in this module, but the travel costs of collaborating partners and external parties from everyday practice can be funded from this module. The budget requested should be satisfactorily specified in the proposal.

If the knowledge utilisation activities are realised by a party outside of the consortium, then during the tendering procedure for the selection of such a party due consideration should be given to the procurement rules of the government and, when necessary, a European tendering procedure should be followed.

**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 Money Follows Cooperation | NWO 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.

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A stakeholder is any person or group that can influence the goals being achieved or can be influenced as a result of these.
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.

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 Money Follows Cooperation | NWO.

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 (EU Sanctions Map) is guiding in this respect.

Explanation of the budget module Project management

The module project management provides a possibility to request a budget for project management that is at most 5% of the total budget requested from NWO. This budget can only be used for activities that solely support the project for which the grant is requested. The applicant must satisfactorily justify this budget.

Amongst other things, project management is understood to mean the optimal shaping of the organisation structure of the consortium, support of the consortium and the main applicant, monitoring coherency, progress and unity of the project, and alignment between the sub-projects within the project. This task may also be realised by external parties insofar as the expertise is not available at the knowledge institution of the main and/or co-applicant(s). During the tendering procedure for the selection of a third party, knowledge institutions should take into account the procurement rules of the government and, where necessary, follow a European tendering procedure. The activities of the main applicant and co-applicants in the context of the project (management) may not be funded from this budget module.

The budget to be requested for project management can consist of material costs, realisation costs and personnel costs. For personnel costs a maximum rate of 121 euros per hour may be used. The hourly rate of personnel to be appointed is based on the cost-covering rate (kostendekkend) and is calculated in accordance with the standard productive number of hours used by the organisation. The cost-covering rate includes:
- (average) gross salary for the post of the employee who will contribute to the project (based on the collective labour agreement scale of the employee concerned);
- holiday allowance and 13th month (if applicable in the relevant collective labour agreement) in proportion to the use in fte;
- social security contributions;
- pension costs;
- overheads.

Third parties may realise tasks in the context of project management, but the part of the (commercial) hourly rates that exceeds the hourly rates stated above is not fundable and can therefore not be included in the budget.
7.2 Industrial and Cosietal Doctorates

Industrial and Societal doctorates are understood to be PhD students who will do their research at both the knowledge institution and an organisation that is not a (co-)applicant. If an organisation and the knowledge institution closely collaborate, then this increases the chance that the knowledge will actually find its way into everyday practice. The research should be an integral part of the project. In the case that an Industrial or Societal Doctorate is appointed, the private or public organisation which is involved in the doctorate should assume responsibility for at least 25% of the salary costs. This contribution may be part of the minimum required co-funding and in that case should always be in cash.

The intended PhD student may be employed by the knowledge institution and the organisation. The activities realised by the PhD student must always fall under fundamental or industrial research. The salary costs of the PhD student are always remunerated in accordance with the valid UNL rate. NWO will fund a maximum of 75% of this amount and at least 25% of the amount must be contributed by the organisation that is not a (co-)applicant. Any additional salary costs – due to an actual salary that is above the UNL rate – should be covered by the employer and may be contributed to the project in the form of in-kind funding. For the calculation of a surplus, the employer costs minus the UNL rates for an appointment of the same size is assumed. The support/grant may not be transferred to the organisation that is not a (co-)applicant.

If an industrial doctorate or societal doctorate PhD position is applied for, then the parties should make agreements about possible IP rights that are generated by the PhD student concerned. With this, allowance should be made for possible access to the research results by other project participants, under FRAND (fair, reasonable and non-discriminatory) conditions or otherwise.

The NWO grant is only awarded to the knowledge institution for the purpose of the PhD research project. In this context, it is relevant to state that in accordance with the application of the NWO Grant Rules 2017, all research results should be published as soon as possible in Open Access form and accordingly serve the public interest. Furthermore, all other provisions from Section 5, such as those stated in Section 5.1.3 (Intellectual Property & Consortium agreement) apply.