Call for proposals

Perspectief

Enabling new technology in the top sectors
Call for public-private research programmes

2019/2020

Ministerie van Economische Zaken
en Klimaat

NWO

Deadlines for 2019/2020 Perspectief round

Phase 1: Programme initiative: register on website: Tuesday 5 November 2019, before 14:01 CE(S)T

Phase 2: Programme design: submit design: Tuesday 3 December 2019, before 14:01 CE(S)T

Phase 3: Programme proposal: submit detailed proposal: Tuesday 8 September 2020, before 14:01 CE(S)T

Contents

1 Introduction

1.1 Public-private research programmes of NWO Domain AES

The NWO Domain for the Applied and Engineering Sciences (NWO Domain AES) is looking for new research programmes in the context of Perspectief for the top sectors.

Perspectief was designed as an instrument for the innovation policy of the Dutch Ministry of Economic Affairs and Climate Policy. NWO Domain AES provides an annual research budget which is used to develop and fund challenging new research programmes in the applied and engineering sciences.

NWO Domain AES invites researchers and users to jointly submit new programmes within the framework of AES-Perspectief. This call for proposals contains guidelines for drawing up your programme initiative, programme design (max. 7 A4) and programme proposal (max. 42 A4).

NWO Domain AES is part of the Dutch Research Council (NWO; see also www.nwo.nl/en). As such, NWO Domain AES provides indirect government funding.

1.2 Mission-driven innovation

In the Letters to Parliament dated 13 July 2018[1] and 26 April 2019[2], the Minister of Economic Affairs and Climate Policy informed the House about the new approach to the top sector policy. The economic opportunities presented by societal challenges and the ambition to play a lead role in a number of KETs are therefore central in this approach.

The letters mention four societal challenges where efforts in the area of science, applied research and innovation are indispensable:

i. Energy transition and sustainability (*Ministry of Economic Affairs and Climate Policy, Ministry of Infrastructure and Water Management)*
ii. Agriculture, water and food (*Ministry of Agriculture, Nature and Food Quality, Ministry of Infrastructure and Water Management, Ministry of Health, Welfare and Sport)*
iii. Health and care (*Ministry of Health, Welfare and Sport, Ministry of Social Affairs and Employment)*
iv. Security (*Ministry of Justice and Security, Ministry of Defence*)

The ministries involved in these four societal challenges have drawn up missions that were defined by the Cabinet.

Key enabling technologies (KETs) are characterised by a wide scope or reach in terms of innovations and/or sectors. KETs are essential in solving societal challenges and/or make a major potential contribution to the economy, by creating new industrial activity and new markets, enhancing competitiveness and supporting job creation. They enable groundbreaking innovations in processes, products and/or services and are relevant to science, society and the market.

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[1] https://www.rijksoverheid.nl/documenten/kamerstukken/2018/07/13/kamerbrief-naar-missiegedreven-innovatiebeleid-met-impact

[2] https://www.rijksoverheid.nl/documenten/kamerstukken/2019/04/26/kamerbrief-over-missiegedreven-topsectoren-en-innovatiebeleid

From the perspective of technology's potential contribution to societal challenges in the Netherlands, the Ministry of Economic Affairs and Climate Policy has identified the following technology clusters[3]:

- Chemical Technologies
- Digital Technologies
- Engineering and Fabrication Technologies
- Photonics and Light Technologies
- Advanced Materials
- Quantum Technologies
- Life science technologies
- Nanotechnologies

A Knowledge and Innovation Agenda (KIA)[4] has been drawn up for each of the four societal challenges and for the KETs. At the time of opening of this 2019/2020 Perspectief round, the five draft versions are 95% ready and will serve as the starting point for the assessment of suitability. For the draft Knowledge and Innovation Agendas, please see the Perspectief website (https://www.nwo.nl/en/research-and-results/programmes/perspectief).

For the purposes of this Call, the "key enabling technologies" are the same as the KIA KETs and include both the Key Enabling Technologies (KETs) mentioned in the Elsevier study[5] and the Future and Emerging Technologies (FETs) from the European programme Horizon 2020 and its successor Horizon Europe.

> *Applications in the 2019/2020 Perspectief round should fit within one or more of the five Knowledge and Innovation Agendas. Furthermore, one or more KETs from the eight categories should play a role in each application.*

1.3 Mission of NWO Domain AES

The mission of the NWO Domain Applied and Engineering Sciences (AES) is to promote engineering research with application and impact for people and society. To shape this mission, AES will focus on the following three objectives for the period 2019–2022:

- strengthening the engineering basis,

- efficient innovation chains and

- visible societal impact.

The working method used by NWO Domain AES involves bringing technical scientists and users together around excellent engineering research. For each funded project, a user committee is set up from the outset and meets regularly to discuss opportunities for application and the progress of the research. A user committee, together with the policy on intellectual property, is part of the knowledge transfer process.

NWO also gives companies and other organisations the opportunity to invest in research that meets their own research requirements. By participating in application-oriented projects via NWO Domain AES, investors can play a key role in the development of valuable technical innovation.

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[3] https://www.government.nl/documents/reports/2018/06/01/quantitative-analysis-of-dutch-research-and-innovation-in-key-technologies

[4] A separate KIA has also been drawn up, focusing on revenue capacity. This KIA is intended for topics that are of great importance to the top sectors and/or strengthen the Netherlands' revenue capacity but are not included in one of the other KIAs. It is not part of the framework for this Perspectief round.

[5] https://www.government.nl/documents/reports/2018/06/01/quantitative-analysis-of-dutch-research-and-innovation-in-key-technologies

You can find the specific provisions for user committees, the co-funding requirement and letters of support later in this call, in the annexes "Perspectief 2019/2020" and in the "Brochure Guidelines Users' Committee NWO Domain AES" (https://www.nwo.nl/aesapplicant).

1.4 Available budget

The NWO funding budget available for this programme is M€ 23.

1.5 Validity of call for proposals

This call for proposals for the 2019/2020 Perspectief round is valid from 7 October 2019.

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2 Aim

The objective of Perspectief is to contribute to the creation of economic opportunities for the Netherlands presented by the four societal themes and KETs in the new top sector policy, by:

1. Developing scientifically excellent knowledge leading to **new technology** relevant to industry and society through a multidisciplinary approach;
2. Building **close and lasting alliances** within consortia comprised of multiple knowledge institutions, companies and social organisations;
3. Creating more **focus and mass** (coherence) in research on thematic areas and KETs relevant to the Netherlands in order to create strong, internationally distinctive positions in Dutch industry and the knowledge infrastructure; and
4. Promoting **valorisation** of the resulting knowledge by users and end users.

Ideally, the entire user chain should be involved, enabling the consortium to achieve social and economic impact. Such cooperation could be between academic institutions and companies (including SMEs, start-ups and scale-ups), TO2 institutes, university medical centres, social parties (e.g. NGOs, charities), relevant ministries, national and regional government, universities of applied sciences and other bodies.

3 Guidelines for applicants

3.1 Introduction

There are three phases involved in submitting a Perspectief application. A Perspectief initiative (Phase 1) should be registered on the NWO website. The initiative phase aims to encourage consortium forming and to allow parties to explore the possibility of joining an initiative. The programme design (Phase 2) is drawn up by the consortium. If successful in the first assessment round, the consortium is then invited to prepare and submit a detailed Perspectief proposal (Phase 3) for the second assessment round.

The NWO Grant Rules 2017 (version dated February 2019) and the *Approval of funding for scientific research 2008* are applicable.

Significant changes from previous Perspectief round:

- Applications in the 2019/2020 Perspectief round should fit within one or more of the five Knowledge and Innovation Agendas. One or more KETs from the eight categories should play a role in each application.

- Under certain conditions, TO2 institutes and universities of applied sciences can be co-applicants and receive funding.

- Previously, a programme awarded funding was always divided into projects, each of which received a grant from NWO. Starting this year, applicants can also choose to treat a programme awarded funding as a single large project, in which case the NWO contribution will be made available to this large project (the programme).

- As a result of the NWO-wide harmonisation of budget modules since the 2018 Perspectief round, there are various changes to the budget modules. The main change is the use of NWO rates.

3.2 Specific provisions

3.2.1 Top Sectors and new top sector policy

Perspectief is funded by the Ministry of Economic Affairs and Climate Policy and is part of the top sector policy. NWO Domain AES is opening the 2019/2020 Perspectief round only to topics that fit into one of the five (four for societal themes and one for KETs) draft Knowledge and Innovation Agendas (KIAs) of the top sectors. In addition, one or more KET[6] from one of the eight categories[7] should play an important role in each application.

3.2.2 Type of research

Activities to be carried out must fall under the definitions of fundamental research and industrial research as included in the NWO Grant Rules 2017 (version dated 7 February 2019) or related activities (such as programme/project management and knowledge utilisation). In the programme proposal or budget form, applicants may be asked to clarify which activities consist of fundamental research, industrial research or other activities.

3.2.3 Structure of programme

A Perspectief programme consists of a coherent set of individual parts (projects or work packages), all contributing to the achievement of the programme objective(s). The programme proposal should demonstrate the substantial added value of the programme and be clearly distinctive compared with other initiatives and/or networks.

In the 2019/2020 Perspectief round, applicants can choose one of two options:

- Option 1: after the award of funding, a programme is treated as a single large project (with work packages rather than coherent projects). After funding has been awarded, the programme leader of the programme becomes the official representative of the project. If funding is awarded, the official representative receives the funding from NWO for the single large project (this is a new option). In this case, the word "programme" in this Call should be read as "project". The official representative is responsible for the proper conducting of the project (submitted proposal), including compliance with funding conditions, passing on contributions to co-applicants and financial accountability. In this case, the co-funding and IP agreements are always made at the overall level of the large project.
- Option 2: The programme is regarded as a set of separate but coherent projects. If funding is awarded, the project leaders of the separate projects are the official representatives of these projects and receive a grant for their project and are responsible for its proper conducting, including compliance with funding conditions, passing on contributions to co-applicants and financial accountability. (This was the standard procedure until the 2018/2019 Perspectief round). The programme leader of the programme (who is also the official representative and project leader of the Governance project) is notified of the funding of the programme and the disbursement of the grant for the Governance project. In this case, the co-funding and IP agreements are made at project level as standard; if Option 2 is chosen, IP agreements can also be made at programme level.

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[6] KETs include both the Key Enabling Technologies (KETs) mentioned in the Elsevier study (49 technologies) and the Future and Emerging Technologies (FETs) from the European programme Horizon 2020 and its successor Horizon Europe.

[7] From: *Quantitative Analysis of Dutch Research and Innovation in Key Technologies*, Elsevier Research Intelligence on behalf of the Ministry of Economic Affairs and Climate, https://www.government.nl/documents/reports/2018/06/01/quantitative-analysis-of-dutch-research-and-innovation-in-key-technologies

3.2.4 New technology presenting economic opportunities

The programme proposal should focus on developing new technology that contributes to creating economic opportunities presented by societal challenges and key enabling technologies. The activities need not be limited to technology development: coherent social and cultural aspects, for example, can also be included in the proposal. Besides having a national economic impact, the Perspectief programme should ideally create industrial activity in the Netherlands.

3.2.5 Consortium composition

Forming a strong consortium is important for a Perspectief programme. A consortium should include at least three knowledge institutions as applicants, including at least two universities. Knowledge institutions may not be counted twice within these conditions. An institution (e.g. a university medical centre) is either a submitting public knowledge institution or a (potential) user. Different faculties of the same university are not regarded as different knowledge institutions.

Activities (and funding requested) within the programme should be distributed evenly between the participating knowledge institutions. The programme should not be conducted mainly at a single knowledge institution.

Besides knowledge institutions, the consortium should also include representatives of the entire valorisation and innovation chain: i.e. the users (see Section 3.2.6). The actual or potential user target group of the programme should include at least four companies or other user organisations. Actual or potential users from outside industry are permitted, but programmes should at least have economic valorisation as one of their objectives.

At least one industry representative (a person working for one of the non-applicant companies) should be prepared to act as the programme co-lead alongside the main applicant. This representative should, in principle, be present at the interview and sit on the user committee of the project Governance and represent the companies in this.

3.2.6 Users and user committee

Users of research are defined as natural or legal persons (at national or international level) who are able to apply the results of the research. A distinction is sometimes drawn between direct users of the knowledge generated, usually companies, and end users, who buy the products from those companies. Both have their own role to play in the innovation chain and must be named in the utilisation plan.

It is the explicit intention that potential technology users and end users outside the immediate circle and outside the research field of the researchers submitting the application should be involved in the project from beginning to end. Users should be able to apply the knowledge generated by the research in the medium to long term. Actual and potential users should be indicated in the utilisation section of the research application.

After the research application has been awarded funding, a user committee is set up.

If you opt for the funding of a single large project (Option 1 in Section 3.2.3), a single user committee will be set up for the entire project. A minimum of four users should sit on the user committee and at least 50% of them should be from industry. Your application should explain how the users will be effectively involved (for example, by setting up user committees at work package level in addition to the user committees at project level).

If you opt for a formal division of the programme into projects (Option 2 in Section 3.2.3), a user committee will be set up for each project. A minimum of four users should sit on each user committee and at least 50% of them should be from industry. You may choose to combine user committees or even to set up a single large user committee. This should be taken into account when concluding the IP agreements, because these are generally concluded at project level.

3.2.7 Foreign companies

If strong players in a particular area are based outside the Netherlands, these foreign companies can be involved in the consortium. Foreign companies are subject to the same conditions as Dutch companies; including the requirement to sit on the user committee which meets at least once a year (travel and accommodation costs are at the company's expense and cannot be claimed). Foreign companies can provide co-funding under the same conditions as Dutch companies. Foreign companies that are subject to certain national and international sanctions laws and regulations cannot provide co-funding. The EU Sanctions Map (https://www.sanctionsmap.eu) offers a guideline in this respect.

3.2.8 TO2 institutes and universities of applied sciences

TO2 institutes and universities of applied sciences can also form part of the consortium and are key partners in the knowledge chain leading to application. In the 2019/2020 round, there are additional opportunities for these parties to play an appropriate role in creating an efficient innovation chain for the programme in question.

Within the Perspectief round, a TO2 institute (legal entity) can choose a role as either a co-applicant (this is a new possibility) *or* a user/co-funder for each programme. The activities carried out by TO2 institutes as co-applicants under a Perspectief proposal may consist only of industrial research, and at least 50% private co-funding is mandatory for the budget requested by the TO2 institute.

Universities of applied sciences also have the opportunity of being co-applicants (new), enabling them to take on an additional, visible role within the consortium compared to universities and TO2 institutes. They can also be part of the consortium as users. However, universities of applied sciences cannot be co-funders.

The total funding requested for TO2 institutes and universities of applied sciences that are co-applicants must not exceed 20% of the financial resources required for the research. For Perspectief, this 20% can be calculated not only by individual project but also over the total programme costs. However, a condition for this is that the amount to be entered per project for universities of applied sciences or TO2 institutes must not exceed 50% of the financial resources required for the project concerned.

3.2.9 Governance project

To promote the added value of the programme and the achievement of its objectives in the area of utilisation, a separate Governance project should be defined in addition to the content project(s). (This also applies if you opt for the funding of a single large project (Option 1 in Section 3.2.3).) This project includes aspects of your programme that transcend individual projects. The programme leader is the project leader for this project. The project leaders of the content projects and a user delegation constitute the user committee for this project. Because programmes in different scientific fields take many different forms and may differ in structure, it is up to the applicant to specify the costs required.

The NWO budget for the Governance project is limited to 5% of the funding requested from NWO for the entire programme, to be requested by the official representative of the consortium. Examples of possible activities that can be funded within this project from the budget modules available (see Section 3.5) for project budget are:

- Appointing a programme manager: Programme management includes the following: optimising the organisational structure of the consortium, supporting the consortium and the main applicant, monitoring the coherence, progress and unity of the programme, coordinating between the sub-projects within the programme and organising programme activities. There are two options:

- A person is employed/engaged permanently or temporarily by a knowledge institution. This could be, for example, one of the applicants involved (budget module Personnel, under Research leave, Non-scientific personnel or Personnel of universities of applied sciences and other institutions), or a temporary staff member (other parts of the budget module Personnel).
- A person from outside the knowledge institution, for example from one of the users, a consultancy firm or other organisation (if hiring outside staff, see budget module Material).
  The hourly rate must be based on the cost-covering rate, including applicable increments from the overall salary costs table in the "Research Tariffs Manual (HOT) 2017", table 2.2 HOT 2017 up to scale 16. The maximum rate for this Perspectief round is € 119 per hour. The part of (commercial) hourly rates that exceeds the above tariffs is not eligible for funding and therefore cannot be included in the budget.

- Programme activities: examples include programme days, an annual symposium, workshops and/or a summer school for the appointed researchers, site visits, etc. (Budget Module Material).
- Budget for further elaboration of user wishes/requirements, for example, and/or mapping what is required, besides research and innovation, in order to actually put innovations into practice (Budget Module Knowledge Utilisation).
- Further development (during the programme) of the utilisation plan to achieve the programme objectives in the field of utilisation. Part of this might be a feasibility study into potential applications (Budget Module Knowledge Utilisation).
- Budget for dissemination and implementation of the programme's results (Budget Module Knowledge Utilisation).

3.2.10   Co-funding requirement

Co-funding can consist of financial and/or in-kind contributions. For each programme, at least 30% of the total programme costs (required financial resources plus in-kind contributions) should consist of co-funding by users (cash and/or in-kind contributions). No co-funding is required for the separate Governance project, and the latter is not included in the calculation for the minimum mandatory co-funding. For assistance, see the example calculations in the document "Annexes Perspectief 2019/2020" and the budget form (Excel file "Budget form" (mandatory in Phase 3)) which are available on the Perspectief funding page (https://www.nwo.nl/en/research-and-results/programmes/perspectief).

If you opt for funding of the programme as a single large project (Option 1 in Section 3.2.3), co-funding is pledged and provided for the large project, and the co-funding requirement applies to the whole large project, with the exception of the Governance project. NWO Domain AES should always be the main funder. The total NWO contribution for a programme is at least 50% of the total programme costs.

If you opt for a formal division of the programme into projects (Option 2 in Section 3.2.3), co-funding will be pledged and provided for each project. The co-funding requirement applies to the *whole programme*, with the exception of the Governance project; it does not apply at project level. This ensures that scientifically merited project initiatives that do not meet the co-funding requirement can be compensated for by other projects in the same programme with a high user contribution. However, NWO Domain AES should be the main funder for each individual project and at least two-thirds (rounded upwards) of the projects (excluding the Governance project) individually should meet the co-funding requirement. The total NWO contribution for a project is at least 50% of the total programme costs.

If one or more TO2 institutes are participating as co-applicants, a distinction should be made in the budget between the eligible costs associated with the activities of this institution(s) and the eligible costs of other partners. If one or more TO2 institutes are participating as co-applicants, the grant will be applied in such a way that the NWO contribution therefore no longer amounts to 50% of the eligible costs associated with these activities. For the part of the budget requested for TO2 institutes the co-funding is at least 50%. In addition, for other applicants and associated costs, the NWO contribution should not exceed 70% of the eligible costs on average. Therefore, the required co-funding for the total programme should be at least 30%, and is higher if a TO2 institutes participates as co-applicant. Costs within the Governance project are in all cases excluded from this co-funding requirement and maximum percentage contribution.

Financial contributions are used to cover part of the project costs. Cash co-funding is set off against NWO Domain AES funding, and the contributions are provided to the research group together with the AES contribution. Together, the AES contribution and the financial contributions by users constitute the financial resources required to carry out the large project (Option 1 in Section 3.2.3) or project (Option 2 in Section 3.2.3).

The cash contribution from a company must not be linked to the provision of services, equipment or investments. An exception is the appointment of a PhD student in the context of Industrial and/or Societal doctorates.

In-kind contributions refer to capitalised personnel and/or material contributions (as permitted in budget modules Personnel and Material) from users who are an integral part of the project. The specific details for the co-funding requirement can be found in the document "Annexes Perspectief 2019/2020" section on "Notes on criteria relating to co-funding" which can be found on the Perspectief funding page (via https://www.nwo.nl/en/research-and-results/programmes/perspectief), and in the document "Hourly rates for in-kind contributions by third parties in the form of hours worked" available at https://www.nwo.nl/aesapplicant. The 2019 rates apply to the 2019/2020 Perspectief round, i.e. € 103 for all employees with an academic qualification and € 71 for all employees with a higher education background.

In-kind contributions are accepted only on condition that the share contributed by the user is an integral part of the work plan and can be monitored as an identifiable effort. Supervision (or workstations for e.g. a PhD student), consultancy and/or participation in the user committee and/or programme days (hours, travel expenses) are expressly excluded. Costs that are not eligible for funding according to this Call (such as overheads) are also excluded from in-kind co-funding. For pledges of material resources, charge the cost price. Commercial rates are not accepted. For pledges of equipment, take previous depreciation and intensity of use into account.

Capitalised in-kind contributions entered in the budget must agree with a letter of support confirming the pledge of co-funding and the amount of the user's contribution.

The following are not allowable as co-funding (either in cash or in kind):

- NWO Domain AES guards against improper mixing of cash flows: co-funding can never come from direct or indirect government funding (NWO[8], KNAW). As a result, co-funding can never come from the knowledge institution of the (co-)applicant(s) or from institutions that can apply to NWO Domain AES themselves, with the exception of co-funding by a TO2 institute, in which case co-funding is allowable only if that institute is not a co-applicant;
- PPS allowance;
- discounts on commercial rates, such as on materials, equipment and services;
- costs that are not eligible under the NWO Grant Rules 2017 (version dated February 2019) and/or this call for proposals;
- costs relating to overheads, supervision, consultancy and/or participation (including travel expenses) in the user committee or programme days;

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[8] Funding awarded by NWO is understood to mean funding obtained following approval of an application to NWO. It does not matter in which programme this funding was obtained, or who the recipient of the grant is.

- costs of services that are conditional. No conditions may be imposed on the provision of co-funding. The provision of co-funding is not contingent upon reaching a certain stage in the research plan (e.g. go/no go point);
- costs of equipment if one of the objectives of the application is to improve or add value to this equipment;
- grants, e.g. from the EU;
- other forms of co-funding excluded on the basis of applicable laws and regulations.

3.2.11   Letters of support

NWO Domain AES asks that any form of support, especially co-funding, is confirmed by means of a letter of support. If co-funding is provided by users, a letter of support is compulsory. These letters are part of the application and are submitted for assessment to committee members (Phases 2 and 3) and international referees (Phase 3).

NWO Domain AES advises applicants to ensure that users especially endorse the importance of the utilisation plan to their operations. The letter of support should meet the following requirements. See also the "Annexes Perspectief 2019/2020" section on "Requirements relating to letters of support" (via https://www.nwo.nl/en/research-and-results/programmes/perspectief).

A Perspectief programme is subject to strict co-funding requirements and criteria included under the specific provisions, Section 3.2.10 "Co-funding requirements" and in the document "Annexes Perspectief 2019/2020" available via https://www.nwo.nl/en/research-and-results/programmes/perspectief.

Letters of support, Phase 2

To enable the assessment committee to reach a considered opinion on the programme design in Phase 2 concerning commitment to and support for the project or programme, a minimum of four letters of support should be submitted in Phase 2: We ask that certain matters be described in a letter of support:
- The interest of the public/private partner in the theme, programme or project described.
- The role of this public/private partner in the project or programme.
- What their contribution to the described theme consists of or *might* consist of (cash and/or in-kind).

Uncertainty about users' actual or potential contributions and/or about the ability to meet the co-funding requirement in further development is taken into account in the assessment in Phase 2 (selection of programme designs for further development).

Letters of support, Phase 3

In a Perspectief proposal (Phase 3), all users who pledge co-funding should clearly indicate the following via letters of support:
- Why the research theme and utilisation objectives are important to their company or organisation.
- What their contribution to the described theme consists of (cash and/or in-kind);
  in this phase, it should be an unconditional commitment. If you opt for a formal division of the programme into projects (Option 2 in Section 3.2.3), you should specify to which project(s) (which part of) the contribution is to be pledged.
- That the user accepts the conditions governing participation in AES projects (see "Brochure Guidelines Users' Committee NWO Domain AES" available from https://www.nwo.nl/aesapplicant).

Non-binding letters of support and letters of support containing resolutive conditions will <u>not</u> be accepted in Phase 3. Specific requirements relating to letters of support can be found in the document "Annexes Perspectief 2019/2020" (available from https://www.nwo.nl/en/research-and-results/programmes/perspectief).

3.2.12 Intellectual Property & publication agreements

In knowledge transfer between research and users within NWO programmes and projects, it is important that research results are handled responsibly with a view to contributing to science and the application of knowledge. NWO aims to exploit and publish research results as widely as possible and also aims to encourage cooperation between researchers and various organisations.

The rules on this are laid down in the applicable NWO Grant Rules 2017 (version dated February 2019) Article 4.2.4. IP rights on results, "Intellectual Property (IP) Policy" in the document "Annexes Perspectief 2019/2020" available on the Perspectief funding page (via https://www.nwo.nl/en/research-and-results/programmes/perspectief) and the Publication arrangements of NWO Domain AES (part of the "Brochure Guidelines Users' Committee NWO Domain AES").

The Programme proposal (Phase 3) should outline which IP agreements will be made with the partners.

3.2.13 Start, duration, end date and final statement

Contrary to the NWO Grant Rules 2017 (version dated February 2019), the programme should start within 12 months of the award date. The duration of a programme is a maximum of six years (from the starting date).

If you opt for a formal division of the programme into projects (Option 2 in Section 3.2.3), a Perspectief project may, contrary to the NWO Grant Rules 2017 (version dated February 2019) and only if it is necessary and does not impede the implementation of the programme, start later than one year after the award date. The total duration of all projects under the programme is a maximum of six years. The latest possible end date for a programme is 1 November 2027. The final statement must be submitted to NWO by 31 December 2027.

3.2.14 Required funding and implementation readiness

The proposal will be rejected if it is likely that the research programme (and/or project) would or could be carried out without significant delay even without a contribution from NWO.

The proposal will be rejected if the programme (or necessary facilities) is not implementation-ready, or if it is insufficiently substantiated that it can start within a year of the award date and the activities can be carried out according to schedule.

3.3 Who can apply

3.3.1 Phase 1: Who can register a Perspectief initiative on the NWO website?

Anyone can register a Perspectief initiative on the NWO website. The steps to be taken are described in Section 4.1.

3.3.2 Phases 2 and 3: Who can act as official representative and applicants?

Applications may be submitted by a consortium representing the valorisation and innovation chain, as defined in Section 3.2. There are four categories of participant within a consortium:

1. Official representative[9]
2. Co-applicant(s)
3. Co-funder(s)
4. Users other than co-funders

The application should describe the following for each participant:
– the participant's role in the consortium;
– the participant's contribution to the proposed programme/project.

Official representative

The programme leader submits the application on behalf of the consortium and is the official representative. The official representative is the point of contact for NWO during the assessment of the application (both phases 2 and 3).

If you choose for a large projects to be awarded funding (Option 1 of Section 3.2.3), the programme leader will be the official representative for the entire project if it is awarded funding.

If you choose for a formal division of the programme in projects (Option 2 of Section 3.2.3 then if the programme is awarded funding the project leaders of the projects will be the official representatives of these projects. The programme leader will be the official representative of the project Governance.

The official representative receives the funding and is responsible, on behalf of the consortium, for scientific coherence, results and financial accountability. Researchers from the following knowledge institutions may act as official representatives:

- Universities established in the Kingdom of the Netherlands
- University medical centres
- KNAW and NWO institutes
- Princess Máxima Center
- the Netherlands Cancer Institute (NKI)
- the Max Planck Institute for Psycholinguistics in Nijmegen
- the DUBBLE Beamline at the ESRF in Grenoble
- Naturalis Biodiversity Center
- Advanced Research Center for Nanolithography (ARCNL)

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[9] See Sections 1.1 and 1.2 of the NWO Grant Rules 2017 (version dated February 2019). Official representatives are referred to in the grant rules as main applicants.

The official representative should be:
- a postdoctoral researcher or lector/senior researcher, and
- appointed for at least the duration of the application procedure and the proposed project.

Co-applicant(s)

An co-applicant is a participant in the consortium and receives funding via the official representative. A consortium may have several co-applicants as participants. A co- applicant must be affiliated to an organisation as listed under "official representative" or be employed by one of the following organisations:

- TO2 institutes[10]
- Universities of applied sciences (as referred to in Article 1.8 of the Higher Education and Scientific Research Act (WHW))

Other conditions for official representative and co-applicants:

Official representatives and co-applicants with a part-time appointment

- Official representatives and co-applicants employed on a part-time basis should in any case have access to sufficient university facilities and budget to carry out the project properly.
- Official representatives and co-applicants should carry out AES research while they are working for the knowledge institution. If this is not the case, the other employer should sign a waiver so as to guarantee knowledge ownership by NWO Domain AES and the research institution(s).

Who cannot apply (official representatives and co-applicants)?
- Personnel with a zero-hours appointment
- Personnel with a temporary employment contract (e.g. postdocs)
- Emeritus professors
- Personnel of a knowledge institution funded by a public-private targeted grant
- Personnel of foreign knowledge institutions
- Personnel of private parties
- Other researchers who do not meet the requirements laid down in the NWO Grant Rules 2017 (version dated February 2019)

> In any Perspectief round, a researcher may submit only one programme design or programme proposal as official representative and/or co-applicant.

Co-funders

Co-funders are organisations that participate in the consortium and contribute to the project in cash and/or in kind. A co-funder must always be a user (see Section 3.2.6). Co-funders never receive funding from NWO.

Knowledge institutions permitted to participate in applications in accordance with the description in Section 3.3.2 may not participate as co-funders in the 2019/2020 Perspectief. An exception is made for TO2 institutes. They may participate in a consortium as co-funders, provided they do not also participate in the same consortium as an applicant.

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[10] The members of the TO2 federation are Deltares, Marin, NLR, TNO (including ECN) and WUR/DLO. See also http://www.to2-federatie.nl (in Dutch)).

Users other than co-funders

A user other than a co-funder is a party that does not receive funding and does not contribute co-funding to the application but is closely involved in conducting the research and/or in knowledge utilisation. This includes parties who are not able to capitalise their contribution in advance. See also Section 3.2.6.

Tasks of official representative and co-applicants

Application phase

The main applicant of the programme (programme leader) is regarded by the NWO Domain AES office as the official representative of the initiative, and as the contact person during the assessment and selection procedure.

After award

The programme leader is responsible for monitoring the coherence of the programme and for achieving its objectives as described in the programme proposal.

If you opt for the funding of a programme as a large project (Option 1 in Section 3.2.3), the main applicant will become the official representative after the award. The official representative is responsible for compliance with funding conditions, including conducting the project in accordance with the submitted proposal, passing on contributions to applicants and financial accountability. Applicants must play an active role in conducting the project (i.e. as (co-)promotor and/or in day-to-day supervision of researchers appointed to the project).

If you opt for a formal division of the programme into projects (Option 2 in Section 3.2.3), the main applicant of each project within a programme will become the official representative for that project after the award. The official representatives are responsible for compliance with funding conditions, including conducting the project in accordance with the project plan, passing on contributions to applicants and financial accountability. Applicants must play an active role in conducting the project (i.e. as (co-)promotor and/or in day-to-day supervision of researchers appointed to the project).

The responsibility of the programme leader or programme committee does not release beneficiaries from their duty to conduct the projects approved within the programme in accordance with the project plan (see NWO Grant Rules 2017 (version dated February 2019) and "User committee guidelines NWO Domain AES", available from https://www.nwo.nl/aesapplicant.

3.4 Resubmission and submission elsewhere

A programme proposal with a similar research question and/or (wholly or partly overlapping) research programme and consortium may only be submitted if it has been considered in Phase 3 (programme proposal) no more than once in previous Perspectief rounds (a proposal can therefore be considered by NWO a maximum of two times in Phase 3).

If you have submitted a wholly or partly overlapping research programme in a different NWO funding instrument, you should state this in your application. It is not permitted to receive funding for the same research or activities under more than one NWO instrument.

3.5 What can be applied for

In drawing up an application, the applicant makes use of "budget modules". These building blocks from which an application can be constructed are standardised across NWO:

The domain board (NWO Domain AES) determines which budget modules are available, their budget and the number of times that a budget module may be used, depending on the aim of the instrument as well as on the needs of the research field and any stakeholders involved. Within that framework, the applicant then chooses the combination of budget modules he/she needs, and the budget for each module, in order to answer the research question.

The applicant can apply for budget modules more than once if this opportunity is available under this Perspectief call.

A minimum of M€ 1.5 and a maximum of M€ 4 can be requested for a research proposal in this round. The budget modules (including the maximum amounts) available within this call for proposals are listed in the table below. Please request only the amount that is essential to carry out the research.

If you opt to divide the programme into sub-projects in the event of an award (Option 2 in Section 3.2.3), the budget form should include a budget *for each project*. If you opt for a single project in the event of an award (Option 1 in Section 3.2.3), the budget form should include a budget *for the total research project (excluding the Governance project)* and a budget for the Governance project.

The following budget modules are available at project level for an application within this round:
1. Personnel costs
2. Material costs
3. Investments
4. Knowledge utilisation
5. Internationalisation
6. Money follows Cooperation

Funding should comply or be compatible with European legislation on state aid and procurement[11].

3.5.1 Personnel

Funding for salary costs can be requested for personnel who make a substantial contribution to the research. Funding for these salary costs depends on the type of appointment and the organisation to which the personnel are appointed.

Budget can be requested for the appointment of personnel:
- PhD/MD PhD;
- PDEng;
- Postdoc;
- Non-scientific personnel;
- Research leave;
- Other scientific personnel;
- Personnel of universities of applied sciences and TO2 institutes;
- Industrial and Societal doctorates.

In principle, budget can only be requested for temporary personnel. For "Research leave", "Non-scientific personnel" and "Personnel of universities of applied sciences and TO2 institutes", budget may also be requested for personnel with a permanent appointment.

- For university institutions, salary costs are funded in accordance with the VSNU salary tables applicable at the time the grant is disbursed (https://www.nwo.nl/salary-tables).
- For university medical centres, salary costs are funded in accordance with the NFU salary tables applicable at the time the grant is disbursed (https://www.nwo.nl/salary-tables).

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[11] See Regulation EU 1407/2013 of 18/12/2013, Regulation EU 651/2014 of 17/06/2014 and European Commission Communication 2014/C 198/01 to check compatibility with state aid rules. For Dutch public procurement rules, please see: http://wetten.overheid.nl/BWBR0032203/2016-07-01

- For personnel of universities of applied sciences and other institutions, salary costs are funded according to the collective labour agreement (CAO) grade of the employee concerned, based on the "Research Tariffs Manual (HOT) 2017".
- For the Caribbean Netherlands, the National Office for the Caribbean Netherlands employs civil servants on the BES islands under different conditions than in the European Netherlands. https://www.rijksdienstcn.com/werken-bij-rijksdienst-caribisch-nederland/arbeidsvoorwaarden.
- For personnel outside the Netherlands, local rates are funded up to the VSNU rates.

The rates for all budget modules are included in the budget form accompanying the application form. For the budget modules "PhD", "PDEng" and "Postdoc", in addition to salary costs, the project employee funded by NWO will receive a one-off individual bench fee of € 5,000 to encourage his or her scientific career. Remunerations for PhD students/PhD scholarship students at a Dutch university are not eligible for funding from NWO.

There is no limit to the number of times that personnel budget modules can be used under this Perspectief call. For non-scientific personnel and scientific personnel, this budget module can be used multiple times only if properly substantiated, and the module cannot be used more often than the number of PhD students or postdocs appointed (i.e. the budget module for non-scientific personnel can be used only once per PhD student/postdoc).

An explanation of the available budget modules is given below.

PhD/MD PhD

A PhD student is appointed for 1.0 FTE for a duration of 48 months. The equivalent of 48 full-time months is also possible, e.g. an appointment of 0.8 FTE for 60 months. If a different duration of appointment is deemed necessary to conduct the proposed research, this rule may be deviated from as long as proper justification is given. However, the duration of appointment must always be at least 48 months.

Professional Doctorate in Engineering (PDEng)

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

The appointment for a PDEng position is a maximum of 1.0 FTE for 24 months. The PDEng trainee is employed by the applicant institution and is permitted to carry out research activities at an industrial partner for a limited period of time. If the research proposal is accepted, an agreement must be concluded with the industrial partner(s) concerned. The funding application should describe the underlying Technological Designer Programme.

Postdoc

The minimum size of the appointment for a postdoc is 6 full-time months and the maximum size is 48 full-time months. The appointment can be structured as desired, but it is always for at least 0.5 FTE *or* for at least 12 months. The product of FTE x duration should always be at least 6 full-time months. The material budget is available for more limited use of a postdoc.

Non-scientific personnel

Funding for the appointment of non-scientific personnel required to conduct the research project can only be requested if funding for a PhD student or postdoc is also requested. A maximum of € 100,000 can be requested for non-scientific personnel. This can concern personnel such as student assistants, programmers, technical assistants or analysts. Depending on the job grade, you can choose from salary tables for vocational, higher education and academic non-scientific personnel.

The minimum size of the appointment is 6 full-time months and the maximum size is 48 full-time months. The appointment can be structured as desired, but it is always for at least 0.5 FTE *or* for at least 12 months. The product of FTE x duration should always be at least 6 full-time months.

The material budget is available for more limited use of non-scientific personnel.

Other scientific personnel

Funding for the appointment of other scientific personnel, such as AIOs (doctor training to be a specialist), ANIOs (doctor not training to be a specialist), or personnel with a university master's degree or a Dutch drs. or ir. title, can only be requested if funding for a PhD student or postdoc is also requested. A maximum of € 100,000 can be requested.

The minimum size of the appointment is 6 full-time months and the maximum size is 48 full-time months. The appointment can be structured as desired, but it is always for at least 0.5 FTE *or* for at least 12 months. The product of FTE x duration should always be at least 6 full-time months.

Research leave

This budget module can only be requested within the separate Governance project and insofar as it concerns tasks related to programme management.

This budget module can be used to request funding for the costs of the main applicant(s) and/or co-applicant(s) to be replaced. The employer can use it to cover the costs of releasing the applicant from teaching, supervision, administrative or management tasks (not research tasks). The applicant(s) may only use the period of research leave for activities within the framework of the project. The application should describe the project-related activities which the applicant(s) will carry out during the research leave.

The maximum research leave that can be requested is the equivalent of 5 full-time months. NWO funds research leave on the basis of the salary tables (https://www.nwo.nl/salary-tables) for a senior scientific employee (scale 11.0) applicable at the time the grant is disbursed.

Personnel of universities of applied sciences and TO2 institutes

The following maximum rates (per hour/day) are used for the funding of salary costs for personnel employed at a university of applied sciences or other institution (e.g. TO2 and SME), in accordance with the "Research Tariffs Manual (HOT) 2017". The HOT "cost-covering table" is used for NPRO SIA, and the HOT "costs plus table" for NRO and other institutions.

Rates by post	Scale	Rate
Students	-	€ 25
Supporting NSP, vocational education	7	€ 59
Supporting NSP, higher education	10	€ 72
Junior researcher	10	€ 72
School teachers	10	€ 72
Supporting NSP, academic	11	€ 79
Intermediate-level researcher*	11	€ 79
Intermediate-level researcher*	12	€ 87
Doctor/researcher	12	€ 87
Lecturer/researcher	12	€ 87
Senior researcher	13	€ 95
Management/lector	16	€ 119

* The first intermediate-level researcher scale 11 stands for AIO level and the second, scale 12, for postdoc level.

The above maximum rates are based on the cost-covering rate including the applicable increments. The hourly rate is calculated on the basis of the standard productive number of hours used by the organisation. The cost-covering rate must be substantiated and includes:
– (average) gross salary for the post of the employee who will contribute to the project;
– holiday allowance and 13th salary (if applicable in the relevant collective labour agreement) in proportion to the use in FTE;
– social security contributions;
– pension costs.

Industrial and Societal doctorates

Industrial and Societal doctorates refers to PhD students who will carry out their research at both a knowledge institution and a company. If a company and a knowledge institution work closely together, this increases the likelihood that the resulting knowledge will actually be applied in practice. In the case of an Industrial or Societal doctorate (PhD student), the private or public organisation appointing the candidate should bear part or all of the salary costs. This contribution may be part of the minimum co-funding required.

The proposed PhD candidate may be employed by either the knowledge institution or the company. The activities carried out by the doctoral researcher must come under fundamental or industrial research. The minimum cash co-funding for the doctorate is 50%.

The distribution of salary costs between the company and the NWO contribution is subject to the provisions of Section 3.2.10, "Co-funding requirement". Within the co-funding framework, the exact distribution of salary costs for an Industrial/Societal doctorate between company and NWO can be determined by the consortium. NWO transfers the funding to the official representative.

A contribution only counts as a cash contribution if the company transfers it to NWO, after which NWO transfers it to the official representative. This contribution must be confirmed by a letter ("Company contribution letter", sent by NWO) after funding has been awarded. The in-kind contribution is the difference between the salary costs according to the AES rate and the amount received from NWO for this PhD student.

A PhD student is appointed for 1.0 FTE for a duration of 48 months. The equivalent of 48 full-time months is also possible, e.g. an appointment of 0.8 FTE for 60 months. If a different duration of appointment is deemed necessary in order to conduct the proposed research, this rule may be deviated from as long as proper justification is given.

The NWO grant is awarded solely to the knowledge institution for the purposes of the PhD research project. Please note in this context that, in accordance with the applicable NWO Grant Rules 2017 (version dated February 2019), all research results must be published Open Access as soon as possible and thus serve the public interest.

The other provisions of the call also apply, such as those on Intellectual Property & Publications.

3.5.2 Material

For each year of the appointment, a maximum of € 15,000 in material budget can be requested for each FTE scientific post applied for (PhD, postdoc, PDEng and Industrial/Societal doctorates) and for each personnel position at a university of applied sciences or TO2 institute. Material budget for smaller appointments is requested and provided by NWO on a *pro rata* basis[12]. These requirements do not apply to the use of this budget module in the Governance project.

The distribution of the total amount of material budget between the personnel positions funded by NWO is a matter for the applicant. The material budget to be requested should be specified according to the following three items:

Project-related goods/services

- consumables (glassware, chemicals, cryogenic fluids, etc.);
- measurement and calculation time (e.g. supercomputer access, etc.);
- costs for acquiring or using data collections (e.g. from Statistics Netherlands), for which the total amount does not exceed € 25,000 per application;
- access to large national and international facilities (e.g. cleanrooms, synchrotrons, etc.);
- work by third parties (e.g. laboratory analyses, data collection, etc.);
- personnel costs for the appointment of a postdoc and/or non-scientific personnel of a smaller size than offered under these personnel budget modules.

Travel and accommodation costs for the requested personnel positions

- travel and accommodation cost;
- congress visits (max. 2 per year per requested scientific personnel position);
- fieldwork;
- work visits.

Implementation costs

- national symposium/conference/workshop organised by the project;
- costs of Open Access publishing (only in full gold Open Access journals, registered in the Directory of Open Access Journals, https://doaj.org/);
- data management costs;
- costs of licence applications (e.g. for animal experiments);
- audit costs (only for institutions not subject to the educational audit protocol of the Ministry of Education, Culture and Science), up to € 5,000 per application; for projects with a duration of three years or less, up to € 2,500 per application.

Costs that cannot be applied for are:

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

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12 For each year of the appointment, a maximum of € 15,000 in material budget can be requested per 0.2 FTE scientific employee at a university of applied sciences (junior, intermediate and senior level, with a minimum appointment of 0.2 FTE for 12 months). Material budget is requested and provided by NWO on a *pro rata* basis per 0.2 FTE.

If the maximum amount of € 15,000 per year per FTE per scientific post requested is not sufficient for realising the research, then it may be deviated from if a clear justification is provided in the proposal (annex Excel file budget form).

3.5.3 Investments

In this budget module, funding can be requested for project-related investments in scientifically innovative equipment and/or data collection of national or international importance. The costs of these project-related investments should be adequately specified and justified in the application.

Funding can be requested for the following costs:

- costs of investment in scientific equipment and datasets;
- personnel costs for the setting up of databases and the initial digitalisation of the bibliographical equipment, if these cannot be purchased;
- personnel costs for staff with specific, essential technical expertise needed in order to build or develop an investment. When requesting funding for personnel costs, the applicant must justify why these personnel costs are necessary. If the applicant does not have this expertise at their disposal, they must state that these costs will need to be purchased.

The applicant's internal purchasing and procurement procedures and/or guidelines 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 through other means;
- other personnel costs, including personnel costs required to operate and conduct research with the facility;
- maintenance and use of the equipment. The costs of equipment use by the researchers that can be requested on a project can be requested via the material budget.

There is no maximum limit on investments in this Perspectief round. In principle, no contribution from the university or institution is required for investments in this Perspectief round. Ideally, investments will be made in the first year of implementation of the programme.

3.5.4 Knowledge utilisation

The aim of this budget module is to facilitate the use of the knowledge that emerges from the research. The budget requested must not exceed € 25,000.

Because knowledge utilisation takes many different forms in different scientific fields, it is up to the applicant to specify the costs required, e.g. costs of producing a teaching package, conducting a feasibility study into potential applications, or filing a patent application and patent protection during the term of the project.

The budget requested should be adequately specified in the application. This module can be requested a maximum of two times per project.

3.5.5 Internationalisation

The budget for internationalisation aims to encourage international cooperation. The budget requested must 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 a clear justification is provided in the proposal.

The following can be funded:
- travel and accommodation costs, provided this concerns direct research costs resulting from international cooperation and additional costs for internationalisation that are not covered in any other way, e.g. by the bench fee;
- travel and accommodation costs for foreign guest researchers;
- costs of organising international workshops/symposia/scientific meetings.

3.5.6 Money follows Cooperation

The Money follows Cooperation module offers the opportunity to carry out part of the project at a knowledge institute with a public task outside the Netherlands. The applicant must convincingly substantiate how the researcher from the foreign knowledge institute contributes specific expertise to the research project that is not available in the Netherlands at the level required for the project. This condition does not apply if NWO has concluded a bilateral agreement concerning Money follows Cooperation with the national research funder of the country in which the foreign research institute is located. The requested budget within this module must be less than 50% of the total requested budget.

A researcher from the foreign knowledge institute should meet the requirements for co-applicants set out in Section 3.3 of this call for proposals, except for the condition that the co-applicant must be established within the Kingdom of the Netherlands.

The applicant receives the funding and is responsible for transferring it to the foreign knowledge institute and for accounting for the MfC part of the funding. The exchange rate risk is borne by the applicant. Exchange rate liabilities are therefore not eligible costs. The applicant is responsible for:

- the financial accountability for all costs in both euros and local currency, using a visible exchange rate;

- a reasonable determination of the level of exchange rates. At the request of NWO, the applicant must be able to provide a description of this reasonable determination at all times.

NWO does not award funding to co-applicants from outside the Netherlands who are subject to national or international sanctions laws and regulations. The EU Sanctions Map (https://www.sanctionsmap.eu) offers a guideline in this respect.

3.6 When can applications be submitted

- Phase 1: The deadline for publishing a Perspectief initiative is Tuesday 5 November 2019, before 14:01 CE(S)T.
- Phase 2: The deadline for submitting a Perspectief programme design is Tuesday 3 December 2019, before 14:01 CE(S)T.
- Phase 3: The deadline for submitting a Perspectief programme proposal (only after invitation by the AES Board) is Tuesday 8 September 2020, before 14:01 CE(S)T.

Applications submitted after the deadline (i.e. 14:01 is too late) will not be considered.

3.7   Drawing up an application

You can register your programme initiative (Phase 1) on the website www.nwo.nl/perspectief. See also Section 4.1.1.

For Phases 2 and 3:

* Download the application form from the NWO website (at the bottom of the webpage for the Perspectief funding instrument via https://www.nwo.nl/en/research-and-results/programmes/perspectief).
* Complete the application form.
* Save the form as a PDF file.
* Save the compulsory annexes and forms referred to in Sections 4.1.2 and 4.1.3 as PDF files.

For more details, see Section 4 of this call.

3.8   Registering and submitting an application

A programme initiative can be registered (Phase 1) via a web form at https://www.nwo.nl/en/research-and-results/programmes/perspectief/application+programme+initiative.

The submission of applications in both Phase 2 and Phase 3 must be done by sending an e-mail with annexes to ttw-perspectief@nwo.nl.

4   Procedure and assessment

4.1 Procedure

4.1.1 Procedure, Phase 1: Programme initiative

Publication of the initiative on the NWO website is a mandatory condition for submitting a programme design to NWO Domain AES but is *not* taken into account in the assessment by the referees or committee (Phases 2 and 3). If the initiative has not been registered, the programme design will not be considered.

The Perspectief instrument is focused specifically on the development of new technologies and the potential for new forms of collaboration. NWO Domain AES is keen that research themes should be developed in openness and dialogue, preferably with the involvement of new partners. To be eligible to submit a programme design, you must therefore publish your programme initiative in advance on the AES website. By publishing Perspectief initiatives, NWO Domain AES aims to facilitate or increase the accessibility of Perspectief programmes for new research groups and to promote the pooling of resources. This also gives NWO Domain AES an insight into the diversity of research themes and the expected volume of applications before the actual submission of programme designs, and enables it to be proactive as the procedure continues.

A matchmaking meeting is optional, but it is recommended that such a meeting be organised in cooperation or coordination with one or more Top Consortia for Knowledge and Innovation (TKIs). Ideally, the limits of the theme and the possible content and architecture of the programme will be discussed, and the relevant research community and other stakeholders will be invited to attend or identified during the meeting.

Register your programme initiative as soon as possible. Any matchmaking meetings or workshops can be announced at the same time. NWO Domain AES recommends that you organise this meeting as soon as possible, but in any case before 15 November 2019, so that it can still generate input for the programme design to be submitted.

Your programme initiative should contain:

- provisional title of the suggested theme;
- any limits of the theme;
- contact person/leader of the theme;
- names and institution/company of the other initiators;
- reference to the KIA into which the research fits and the KET(s) including category to be developed/applied;
- optional: date, time and location of the public meeting.

You should register your programme initiative before Tuesday 5 November 2019, 14:01 CE(S)T on the AES website by completing the form at https://www.nwo.nl/en/research-and-results/programmes/perspectief.

Suitability assessment

Based on your application, NWO will send you the name of the contact person who you should contact for assessing the suitability of your Perspectief design. It concerns the compulsory addressing of one or more KIAs and the assessment of or more key technologies in your design. The sooner you submit your initiative the more time you will have for the compulsory coordination with the top sector. You should submit the form signed by the top sector together with your design in phase 2 (see next section).

4.1.2 Procedure, Phase 2: Programme design

Your programme design (in English) should contain an outline describing the research lines and the type and number of projects within them that would be required in order to achieve the programme objective(s). Your programme design should contain an estimate and justification of the financial resources required to achieve the proposed research objective (See Section 3.5 "What can be applied for"). This estimated budget for the proposed programme should involve an NWO Domain AES contribution of at least M€ 1.5 incl. VAT and no more than M€ 4 incl. VAT (include costs of materials and investments including VAT).

Mandatory format for submitting programme designs

The mandatory format can be downloaded from https://www.nwo.nl/en/research-and-results/programmes/perspectief. The programme design (Sections 1 to 4) should consist of a maximum of 7 pages (completed form) and the mandatory annexes in Section 5. A minimum of five letters of support should be submitted in Phase 2. The form on suitability top sectors policy, completed in full and signed by one of the top sectors, should also be submitted. Additional annexes are not permitted.

Form on suitability for top sectors policy

A proposal should fit within one of the five draft innovation agendas (version dated July 2019) and at least one KIT should be included. Whether or not a proposal is suitable for one of the five draft innovation agendas and the role of KIT is assessed by the top sectors. The form intended for this purpose ("Form for Required ex ante Assessment for Top Sectors") can be downloaded from the website (via https://www.nwo.nl/en/research-and-results/programmes/perspectief). After you have submitted your initiative (phase 1) NWO will send you the contact details of the person who will perform the assessment on behalf of the top sector. You should subsequently assume responsibility for coordination and signing. The suitability form should contain:

• A description of the proposed programme (Abstract);

• A statement explaining to which KIA the proposed programme shall contribute

• A description of which KIAs will be addressed and which role these play.

Submission of programme designs

The deadline for submitting programme designs and the signed suitability form is Tuesday 3 December 2019, before 14.01 CE(S)T. Designs should be e-mailed to ttw-perspectief@nwo.nl stating "Perspectief round 2019/2020" and the specific code P19-XX, where XX is the number assigned to your programme initiative on the NWO Domain AES website after submission.

NB. Perspectief submissions CANNOT be made through ISAAC.

Not taken into consideration

Programme designs submitted after the deadline will not be considered. NWO assesses the admissibility of the application (i.e. whether it meets the formal requirements in Chapters 3 and 4 of this call for proposals). Only programme designs which meet the conditions are eligible and will be taken into consideration by NWO Domain AES. If a programme design needs to be corrected, the applicant will be given the opportunity to submit an amended programme design within seven working days. If the modified programme design is not received within the set timeframe, NWO Domain AES will not consider the application. Corrected programme designs which have been received on time will be accepted once they have been approved. An amended programme design received by NWO Domain AES after that deadline will not be considered further. This also applies to an amended programme design if it does not meet the criteria.

Assessment

Programme designs are assessed on the criteria described in Section 4.2.1 by a multidisciplinary assessment committee set up by the AES Board.

Announcement of selected programme designs

The main applicants for the programme designs will be informed in writing about the decision of the competent NWO board in mid-February 2020. Applicants who submitted a selected programme design will be given the opportunity to develop their programme design into a detailed programme proposal.

To encourage the forming of new networks, the selected programme designs will be announced on the AES website, stating the name and contact details of the main applicant. Interested parties may still be able to join.

4.1.3 Procedure, Phase 3: Programme proposal

If your submitted programme design is selected, you will have until Tuesday September 8 2020, 14:00 CE(S)T to define the programme proposal and provide a precise description of the projects defined within it, the financial resources required and the co-funding required from users.

There must be a clear one-to-one relationship between the selected programme design and the programme proposal, in terms of scope of the theme, applicants (original applicants + any additional groups), community and stakeholders, and the requested budget. If there are compelling reasons to deviate from this one-to-one relationship, written permission must be obtained from the AES office before 18 August 2020. NWO Domain AES will only grant this permission if, in its opinion, an important interest is at stake.

In the event of deviations from the requested NWO budget, permission need only be sought for deviations of more than € 400,000 (in either direction).

Mandatory format for submitting programme proposals

NWO Domain AES uses a mandatory format for Perspectief programme proposals. Both the mandatory format and the format for the accompanying forms will be sent to the programme's main applicant by personal e-mail.

To offer equal opportunities to all, the programme proposal (in English) should consist of a maximum of 42 pages, excluding letters of support. Your programme proposal should be accompanied by the following forms, which must be completed in full. You may not add any additional annexes (e.g. containing figures, tables, etc.).

Programme forms if opting for the funding of a single large project (Option 1 in Section 3.2.3):

- Budget form (Excel file);
- A "Project details form" with public summary of project and a completed "Data management" form;
- Form for responding to committee concerns;
- A list of proposed referees and possible non-referees.

Programme forms if opting for a formal division of the programme into projects (Option 2 in Section 3.2.3):

- Budget form (Excel file);
- For each project (the programme consists of multiple projects) a "Project details form" with a public summary of the project and a "Data management" form;
- Form for responding to committee concerns;
- A list of proposed referees and possible non-referees.

Submission of programme proposals and forms:

- The programme proposal with the accompanying letters of support is submitted as a single unsecured PDF file.
- The programme form "Response to committee concerns" is submitted as a separate PDF file.
- The programme form "List of proposed referees and possible non-referees" is supplied as a separate PDF file.
- Attach the Excel file "Budget overview programme and projects".
- If you opt for a division into projects, the "Project details" form and the "Data management" form are supplied in a separate PDF file for each project (Option 2 of Section 3.2.3); if you opt to treat the programme as a single large project, they are supplied in a single separate PDF file.

You should submit your programme proposal before Tuesday 8 September 2020, 14:01 CE(S)T by e-mail to ttw-perspectief@nwo.nl. In all correspondence concerning your programme proposal, please use the specific code P19-XX that NWO Domain AES assigned to your programme design at an earlier stage.

Not taken into consideration

Programme proposals submitted after the deadline will not be considered. NWO assesses the admissibility of the programme proposal (i.e. whether it meets the formal requirements in Chapters 3 and 4 of this call for proposals). Only programme proposals which meet the conditions are eligible and will be taken into consideration by NWO Domain AES. If a programme proposal needs to be corrected, the applicant will be given the opportunity to submit a revised programme proposal within seven working days. If the amended programme proposal is not received within the set timeframe, NWO Domain AES will not consider the programme proposal. Corrected programme proposals which have been received on time will be accepted once they have been approved. An amended programme proposal received by NWO Domain AES after that deadline will not be considered further. This also applies to an amended programme proposal if it does not meet the criteria.

Assessment by referees

Each programme proposal is submitted for peer review to four independent (preferably international) referees or expert reviewers. The questions submitted to referees are directly derived from the assessment criteria mentioned in Section 4.2.2.

The referees' written assessments are anonymised and compiled into a "Referees' commentary". In the event of resubmission (see also Section 3.4), the application will be re-assessed, and different referees will be consulted.

Applicants' rebuttal

The main applicant for the programme proposal is given the opportunity to submit a written rebuttal to the compiled referees' assessments. As a rule, your rebuttal should not be longer than the text of the referees' assessments. The referees' assessments and the rebuttal are then compiled.

Assessment committee and interviews

The programme proposals, referees' commentary, rebuttal and form for the committee's concerns are submitted to the multidisciplinary assessment committee set up by the AES Board. AES aims to ensure as far as possible that this is the same committee that assessed the programme designs at an earlier stage.

You will be given the opportunity to explain your programme proposal orally to the assessment committee by means of a presentation followed by a discussion. You will be informed of the interview date as soon as it is known. You can be accompanied by your co-applicants and/or representatives/leads from the group of actual or potential users. If you are unable to present your programme proposal on the proposed date, one of the co-applicants may take your place or you may opt to be assessed on the basis of the written information provided to the committee. You will receive detailed information about the time, location and organisation of this meeting, as well as about the composition of the assessment committee in due course.

Quality requirement

To be eligible for funding, programme proposals must not score higher than 4.0 on the individual assessment criteria of Scientific Quality and Utilisation. In addition, the average of these two scores must not exceed 3.5.

The meaning of the scores on the assessment scale is as follows: 1. Excellent, 2. Excellent to very good, 3. Very good, 4. Very good to good, 5. Good, 6. Good to moderate, 7. Moderate, 8. Moderate to substandard, 9. Substandard.

Decision-making and informing of applicants

Based on the assessment committee's recommendations, the order of ranking indicated by the committee, any additional information requested from external parties, any additional strategic considerations and the available budget, the AES Board will make a policy choice and decide which programme proposals will be accepted and rejected. The AES Board determines the size of the programme budget and the resources to be allocated to the individual projects described in the programme proposal.

NWO assigns a qualification to all full proposals. This qualification is notified to the applicant when the decision on whether to grant funding is taken.

4.1.4 Conflicts of interest and enforcement of deadlines

Code for dealing with personal interests

The NWO Code for Dealing with Personal Interests applies to all persons involved in the assessment and/or decision-making process.

Enforcement of deadlines

The submission of a programme initiative on the NWO Domain AES website, the sending of the ex-ante assessment form by e-mail (Phase 1) and the submission of a programme design (Phase 2) and programme proposal (Phase 3) are confirmed with a date and time stamp of registration and/or receipt.

Please note that submitted programme initiatives (Phase 1) and designs (Phase 2) with a date and time stamp of 14:01 CE(S)T on the deadline date or later are not eligible for submission of a programme design (Phase 2) and proposal (Phase 3) and cannot be considered further in accordance with NWO guidelines.

4.2 Criteria

The Perspectief 2019/2020 call for proposals introduces differentiation in the aspects of the assessment criteria used for programme designs and full applications. The assessment committee assesses the programme designs (in Phase 2) and proposals (in Phase 3) against the two criteria of Scientific Quality and Utilisation, taking into account the questions below. These two assessment criteria have equal weighting.

4.2.1 Assessment criteria Phase 2: programme design

Scientific quality (50%)

7. Are the technical and scientific objectives of the programme clear and specific?
8. Are the technical and scientific challenges described innovative and relevant?
9. Does the programme have clear added value compared to other existing research initiatives?
10. Does the programme create sufficient focus and mass (coherence) in research on thematic areas and KETs relevant to the Netherlands in order to create strong, internationally distinctive positions in Dutch industry and the knowledge infrastructure?
11. Is the scientific community of sufficient quality and is its composition appropriate (complementary and interdisciplinary) to achieve the intended programme objectives?
12. To what extent do the projects/work packages constitute a single programme? Is there good coherence between the projects/work packages and is the synergy clear? Do all of the different projects/work packages contribute to the programme objectives?
13. Will new technology be developed through a multidisciplinary approach?
14. Does the budget suit the proposed activities?
15. Is the governance of the programme properly organised?

Utilisation (50%)

1. Is the knowledge and technology to be developed relevant to society? Does the programme contribute to the creation of economic opportunities for the Netherlands?
2. Is it necessary to tackle the programme now?
3. Is the programme focused on valorisation of the resulting knowledge by users and end users?
4. Is the utilisation plan clear and complete? Will the proposed steps in the utilisation plan actually lead to application by users?
5. Is there a coherent, complementary and interdisciplinary consortium? Is the entire innovation chain involved?
6. Is there clear interaction and cooperation between researchers and private and public partners in the consortium, evidenced by the work plan and the letters of support?
7. Does the user group show sufficient convincing interest?
8. Is there a strong, logical and clearly designed organisational structure within the consortium?

4.2.2 Assessment criteria Phase 3: programme proposal

Scientific quality (50%)

1. Are the technical and scientific objectives of the programme clear and specific?
2. Is the proposed research technically and scientifically challenging? Are the technical and scientific challenges described innovative and relevant?
3. Is the programme distinctive and does it have clear added value compared to other existing research initiatives?
4. Does the programme create sufficient focus and mass (coherence) in research on thematic areas and KETs relevant to the Netherlands?
5. Are the objectives set for the programme realistic? Is the proposed approach/methodology appropriate to achieve the objectives?
6. Is the scientific community of sufficient quality and is its composition appropriate (complementary and interdisciplinary) to achieve the intended programme objectives?
7. To what extent do the projects or work packages constitute a single programme? Is there good coherence between the projects and is the synergy clear? Do all of the different projects contribute to the programme objectives?
8. Does the budget suit the proposed activities? Is there a clear and specific justification of costs?
9. Is the governance of the programme properly organised?

Utilisation (50%)

1. Is the knowledge and technology to be developed relevant to society? Does the programme contribute to the creation of economic opportunities for the Netherlands?
2. Is it necessary to tackle the programme now?
3. Is the programme focused on valorisation of the resulting knowledge by users and end users?
4. Is the utilisation plan clear and complete? Will the proposed steps in the utilisation plan actually lead to application by users?
5. Is there a coherent, complementary and interdisciplinary consortium? Is the entire innovation chain involved? Have all facets of possible application of results been covered with relevant users?
6. Is there clear interaction and cooperation between researchers and private and public partners in the consortium, evidenced by the work plan and the letters of support? Is the role and importance of the users clear?
7. Does the user group show sufficient convincing interest and is the users' contribution in balance with the potential (commercial) value of the results?
8. Is there a strong, logical and clearly designed organisational structure within the consortium? Is the Governance sound enough to achieve the programme objectives in the area of utilisation?

4.3 After award

After approval from NWO and the Ministry of Economic Affairs and Climate Policy, the allocation decision taken by the AES Board leads to a conditional programme budget. If a single large project is opted for (Option 1 in Section 3.2.3), it leads to a single conditionally funded project; if separate projects are opted for (Option 2 in Section 3.2.3), it leads to individual conditionally funded projects.

Each official representative will receive an award letter with appendices which sets out the legal and financial conditions of funding and should be signed individually for approval by each official representative. The credits allocated do not become available until after the necessary documents have been signed and received by NWO Domain AES and all relevant award conditions have been fulfilled.

After the research proposal has been approved, NWO Domain AES will ask the co-funders for confirmation of the co-funding ("confirmation of commitment by third parties") and, in relevant cases, lay down further arrangements in an agreement.

The AES office reserves the right to request additional information or a more detailed project description from the applicants before making the allocated credits available.

After an application has been approved, the official representative should elaborate the data management section into a data management plan. The official representative can use the advice of the referees and committee in this regard. The project can start as soon as the data management plan has been approved by NWO Domain AES.

To promote the effective transfer to users of knowledge generated by the research, NWO Domain AES sets up one or more user committees in consultation with the programme/project leaders (see Section 3.2.6).

Initial discussion and kick-off meeting

Shortly after a programme has been approved, AES will hold an initial discussion with the programme leader, programme manager and project leaders.

This is soon followed by a kick-off meeting with all official representatives, applicants, researchers and users. Budget should be reserved for this in the Governance project. The kick-off can also take place in phases:
* A first kick-off meeting with the partners or main partners, i.e. without the researchers.
* A large kick-off meeting once all or most of the researchers have been recruited.
* A separate introductory event for temporarily appointed researchers.

4.4 Other conditions

Reporting requirement

In addition to the mandatory progress reports, NWO may ask you to submit an annual written report on the progress of the research programme. This report may consist of:

a. An overview of the research activities carried out under the research programme;

b. A substantiated overview of the indicators realised;

c. A list of the participants in the research programme and the type of research activities that these participants carry out in the research programme;

d. An overview of the participants' annual contributions to the research programme during the research programme in question, both in total and broken down by individual participant, as well as the proportion of the research activities under the research programme that are funded by other private cash contributions;

e. An overview indicating which proportion of the amount of funding has been allocated to which type of research activities;

f. A description of how the knowledge and results obtained through the research programme are disseminated and transferred to others.

Final report on the programme

In addition to the mandatory final reporting at project level, NWO may ask you to submit a substantive final report on the research programme.

Final statement

When the final statement for a project is submitted, NWO may ask you for an auditor's report on the eligible costs incurred.

Monitoring and evaluation

To gain a prior insight into the results of a programme and projects, monitor progress and allow accountability, a number of Key Performance Indicators (KPIs) will be set. These are expected to be:

-        Number of identifiable knowledge transfer moments;
-        Number of publications and co-publications with industry;
-        Number and type of partners involved;
-        Number of FTEs as in-kind co-funding made available by the partners;
-        Co-funding;
-        Expected increase in Technology Readiness Level (TRL) of the technology.

The final indicators will be included in the mandatory format for programme proposals (Phase 3). These aspects should be detailed in the progress reports and final report.

Open Access

All scientific publications resulting from research funded by awards under this call for proposals should be freely accessible worldwide (Open Access) and be made available immediately (at the time of publication). There are several ways for researchers to publish Open Access. A detailed explanation can be found at https://www.nwo.nl/openscience-en.

Data management

Responsible data management is part of good research. NWO wants research data that emerge from publicly funded research to become freely and sustainably available, as much as possible, for reuse by other researchers. Furthermore, NWO wants to raise awareness among researchers about the importance of responsible data management. Applications should therefore comply with the NWO data management protocol. This protocol consists of two steps:

1. Data management section

The data management section is part of the research application. However, the data management section in the application is not evaluated and hence is not included in the decision on whether to award funding.

Researchers are required to answer four questions about data management within their intended research project. Researchers are therefore asked to consider, even before the research starts, how the collected data should be organised and categorised so that they can be made freely available. Measures will often need to be taken during the production and analysis of the data to make their later storage and dissemination possible. Researchers themselves can indicate which research data they consider relevant for storage and reuse.

2. Data management plan

After an application has been approved, the applicant should elaborate the data management section into a data management plan. The data management plan is a detailed elaboration of the data management section. In the plan, the researcher describes whether existing data will be used or whether this is a new data collection, and how the data collection will then be made FAIR: Findable, Accessible, Interoperable and Reusable. The plan must be submitted to NWO via ISAAC within four months after the proposal has been awarded funding. NWO will approve the plan as quickly as possible. Approval of the data management plan by NWO is a condition for disbursement of the grant. The plan can be adjusted during the research.

For more information on the NWO data management protocol, see: https://www.nwo.nl/datamanagement-en.

Nagoya Protocol

The Nagoya Protocol became effective on 12 October 2014 and aims to contribute to 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 resources from the Netherlands or abroad for their research should familiarise themselves with the Nagoya Protocol (www.absfocalpoint.nl). NWO assumes that researchers will take all necessary actions with respect to the Nagoya Protocol.

5 Contact

For specific questions about Perspectief and this call for proposals, please contact the Perspectief coordinators via ttw-perspectief@nwo.nl:

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6 Perspectief schedule

PHASE 1: Programme initiatives

Activity	Date/period
Opening	Monday 7 October 2019
Deadline for publication of programme initiatives on NWO Domain AES website	Tuesday 5 November 2019, before 14:01 CE(S)T
Organisation of a matchmaking meeting (optional)	Before Friday 15 November 2019

PHASE 2: Programme designs

Activity	Date/period
Deadline for submitting programme designs	Tuesday 3 December 2019, before 14:01 CE(S)T
Deadline for submitting suitability form via ttw-perspectief@nwo.nl	Tuesday 3 December 2019, before 14:01 CE(S)T
Applicants informed whether programme will be considered	Before Tuesday 17 December 2019
Assessment and ranking by committees	December 2019 to February 2020
Board decision on programme designs	Mid-February 2020
Applicants informed of decision	Within five days after board decision

PHASE 3: Programme proposals

Activity	Date/period
Programme designs developed into programme proposals	Late February to 8 September 2020, before 14:01 CE(S)T
Deadline for submitting programme proposals	Tuesday 8 September 2020, before 14:01 CE(S)T
Assessment by (international) referees	September – Early November 2020
Main applicants' rebuttal	13 November to 27 November 2020
Interview round with applicants / ranking by assessment committee	13-14 January 2021
Board decision on programme proposals 2019	Mid-February 2020
Main applicants informed of decision	Within five days after board decision
In event of amendments: Project budgets submitted to board	March 2021

7 Annexes and relevant references

The following annexes apply in the case of Perspectief 2019/2020. These can be found in the PDF published with this call on the funding page for the Perspective instrument (via https://www.nwo.nl/en/research-and-results/programmes/perspectief).

- Intellectual Property (IP) Policy
- Notes on criteria relating to co-funding
- Co-funding example calculations
- Model letter and template for support letters
- Technology Readiness Level and Societal Readiness Level
- Data management section
- Explanation knowledge transfer moments

Links

- Perspectief programme applications (phase 2 Perspectief format programme design 2019-2020) and from February 2020 Phase 3 format programme proposal):
https://www.nwo.nl/en/research-and-results/programmes/perspectief

- Overview of draft Knowledge and Innovation Agendas
http://www.nwo.nl/perspectief

- Overview of key enabling technologies
www.nwo.nl/ket

- Help sheet Financial planning, Phase 2
https://www.nwo.nl/en/research-and-results/programmes/perspectief

- NWO Grant Rules 2017, version dated February 2019:
http://www.nwo.nl/aes

- Brochure "User committee guidelines NWO Domain AES":
https://www.nwo.nl/binaries/content/documents/nwo-en/common/documentation/application/ttw/project-management/brochure-guidelines-users-committee-nwo-domain-aes

- Code for dealing with personal interests
https://www.nwo.nl/en/common/subsidies/funding-process-explained/code-for-dealing-with-personal-interests

- Hourly rates for contributions in kind by third parties in the form of man-hours:
- http://www.nwo.nl/aes

- Nagoya Protocol:
https://www.cbd.int

- Dutch Research Council (NWO):
https://www.nwo.nl/en

- Open Access:
https://www.nwo.nl/openscience-en

Links

Published by

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July 2020

Ministerie van Economische Zaken
en Klimaat