Annexes to the Call for proposals

Perspectief 2018/2019

Utrecht, 19-02-2019
Netherlands Organisation for Scientific Research (NWO)
Contents

1 Intellectual Property (IP) Policy 3
   1.1 Choice on submission 3
   1.2 Responsibility for making IP&P arrangements lies with NWO Domain AES 5
   1.3 Principles of the IP policy of NWO Domain AES 5
   1.4 Responsibility for making IP&P arrangements lies with the main applicant/project leader 6
2 Notes on co-funding criteria 7
3 Co-funding example calculations 9
4 Requirements relating to letters of support 11
   4.1 Requirements relating to letters of support, Phase 2: 11
   4.2 Template for letter of support, Phase 2 12
   4.3 Requirements relating to letters of support, Phase 3: 12
   4.4 Template for letter of support, Phase 3 14
5 Examples of questions to referees (expert reviewers) 15
6 Technology & Societal Readiness Level 16
7 Data management section 17
8 Explanation knowledge transfer moments (KTM) 18
9 Links 19

Note: In case of divergence between the language versions, the Dutch version shall prevail.
1 Intellectual Property (IP) Policy

NWO Domain AES realises about knowledge transfer between technical sciences and users. In this process it is important that research results in general and patentable inventions in particular are handled responsibly. The aim of NWO Domain AES is to exploit and publish research results as widely as possible while retaining the option of establishing Intellectual Property (IP) rights and transferring or licensing them to the user(s), and to encourage cooperation between researchers and various companies.

The IP rules of NWO Domain AES support the Domain’s mission and fit within the NWO IP policy. The NWO IP policy can be found in Section 4 of the NWO Grant Rules 2017. The NWO IP policy is in line with the “Rules for public-private partnership” as presented to Dutch House of Representatives on 25 June 2013.

Main applicants 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 institute(s).

Personnel employed by a start-up for which a feasibility study is requested as referred to in Section 3.5.4 under 4b of the brochure Perspectief 2018/2019, must waive their entitlement to IP rights arising from the project activities co-funded by AES.

NWO Domain AES gives knowledge institutions the opportunity to make their own IP & publication (IP&P) arrangements with parties with which they cooperate. Its aim in doing this is to respond more effectively to the wishes of researchers and co-funders involved in AES projects. It is still possible to choose the approach where NWO Domain AES takes the lead in making arrangements on matters such as intellectual property. In this case, the IP rights to the research results accrue jointly to NWO and the beneficiary whose employee generated the results in question.

Knowledge institutions preferring to make their own IP&P arrangements must stipulate this choice at the time of submission (with the consent of the users concerned) and must conclude relevant written agreements within three months of the award of their AES project. The lead in concluding such agreements is taken by the main applicant/project leader. The agreements are then checked by NWO Domain AES against the four criteria listed in Section 1.4. These criteria are in line with the task and mission of NWO Domain AES.

1.1 Choice on submission

NWO Domain AES asks the main applicant to state in the main applicant’s declaration (annexed to the research application) what has been decided in terms of making IP&P arrangements for the research results. The two options and the associated implementation conditions are described in the box below.
Responsibility for making Intellectual Property & Publication* arrangements lies with NWO Domain AES ("AES IP&P arrangements")


**Access to foreground IP rights for private parties / consortium:**

<table>
<thead>
<tr>
<th>Contribution (%)</th>
<th>Access to IP Rights</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10%</td>
<td>No automatic right</td>
</tr>
<tr>
<td>11-30%</td>
<td>Option right</td>
</tr>
<tr>
<td>31-50%</td>
<td>Non-exclusive + option rights</td>
</tr>
</tbody>
</table>

Private parties can add up their contributions to move into a more favourable category. Confidential data will be treated confidentially. Results can always be published; publication can be deferred for up to nine months due to protection (patenting) of results.

Arrangements must be confirmed in writing within six months of the award of funding.

Further information on the options is available in Section 4 of the NWO Grant Rules 2017, the "Brochure Guidelines Users’ Committee NWO Domain AES 2017" and the relevant or underlying call for proposals.

Responsibility for making Intellectual Property & Publication* arrangements lies with the main applicant/project leader ("Own IP&P arrangements")

Own IP&P arrangements meet the following criteria:

i All necessary foreground IP rights (arising from the AES project) and – as far as legally possible – background IP rights (pre-existing rights of the company and/or knowledge institution) are available in order to carry out the project.

ii The agreement is focused on applying or sharing rights in the sense of publication.

iii Publication of the scientific knowledge resulting from the project will not be obstructed by users; rather, beneficiary and users will determine the publication dates in consultation.

iv Project results generated by the beneficiary will remain available to the beneficiary for teaching and research purposes.

On submission: The knowledge institution(s) and all users agree to apply their own IP&P arrangements to the AES project and declare that these IP&P arrangements meet or will meet criteria i to iv.

After award: The beneficiaries and all users accept the agreement in writing.

NWO Domain AES must receive the following from the project leader within three (!) months of the award:

i. The signed agreement containing IP&P arrangements made with the user(s).

ii. A signed IP&P declaration by which the beneficiaries confirm that the agreement containing IP&P arrangements with the user(s) meets the criteria. The project leader provides a reference to the relevant articles in the agreement.

NWO Domain AES reviews the agreement on the basis of the criteria; if the agreement is approved, NWO Domain AES informs the project leader that the project may start.
1.2 Responsibility for making IP&P arrangements lies with NWO Domain AES

NWO Domain AES takes the lead in negotiations on the IP&P arrangements. After the award, the user contributing to the project receives a letter from NWO Domain AES informing it that the knowledge institution’s project has been awarded funding. In addition, NWO Domain AES asks the user to sign the letter for approval in order to (re)confirm its participation in and contribution to the project. A user may also wish to make the mutual rights and obligations in the partnership permanent by concluding a more detailed agreement. This is possible.

More information on the NWO IP policy can be found below (see also the "Brochure Guidelines Users’ Committee NWO Domain AES 2017" at https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw/applicant).

*NB: All scientific publications resulting from research funded by grants derived from this call for proposals are to be immediately (at the time of publication) accessible to all worldwide (Open Access). There are several ways for researchers to publish Open Access. A detailed explanation can be found on the NWO website https://www.nwo.nl/en/policies/open+science

1.3 Principles of the IP policy of NWO Domain AES

Ownership of research results
Research results of an AES project which are generated by the research institute(s) are owned jointly by the relevant knowledge institution(s) and NWO.

* Research results of an AES project which are generated exclusively by one or more users are owned by the user(s) concerned. The user(s) will give NWO Domain AES and the research institute freedom to operate.

* Research results of an AES project which are generated by the research institute(s) and one or more users jointly are owned by the relevant knowledge institution(s) and NWO. If a user contributing to the results has provided more than 10% personnel co-funding to the project, this user will receive a royalty-free, non-exclusive, non-transferable right of use.

* Existing IP rights will continue to be owned by the rights holder contributing the IP rights to the project. Where legally possible and provided there are no serious economic objections, this rights holder will, acting at its own reasonable discretion, give freedom to operate.

* Freedom to operate means that the owner of the IP rights grants licenses to other parties within the project:
  - where legally possible;
  - where necessary for the project (free of charge);
  - where necessary for exploitation of the current or other research results (at market price);
  - where this does not prejudice the reasonable commercial interests of the owner.

Protection of research results, confidentiality and publications
NWO Domain AES attaches great importance to knowledge protection if such protection increases the likelihood of knowledge transfer. When admitted to the user committee at the start of or during the research, users undertake to maintain confidentiality with regard to the research results. Before or during a project, participants may agree not to protect knowledge within the project if this is to the benefit of knowledge exploitation.

The researcher is obliged to report any discoveries to NWO Domain AES immediately. NWO Domain AES should be made aware in advance about any obstacles to the free use or exploitation of results. If it emerges that there are
obstacles to implementation of the IP policy of NWO Domain AES, NWO Domain AES will impose additional conditions. If it emerges during the project that the project leader has omitted to notify NOW Domain AES about such relevant information, NWO Domain AES may suspend the project until the obstacles have been removed. In this case, NWO Domain AES may request access to contracts and/or patents. Contracts must not conflict with the IP policy of NWO Domain AES. If it emerges that NWO Domain AES cannot have free access to the results of the AES research, NWO Domain AES may decide not to award the project or to discontinue it.

1.4 Responsibility for making IP&P arrangements lies with the main applicant/project leader

If the main applicant/project leader opts to make their own IP&P arrangements with the user(s), these agreements must be laid down in writing and meet the following conditions:

i. All necessary foreground IP rights (arising from the AES project) and – as far as legally possible – background IP rights (pre-existing rights of the company and/or knowledge institution) are available in order to carry out the project.

ii. The agreement is focused on applying or sharing rights in the sense of publication.

iii. Publication of the scientific knowledge resulting from the project will not be obstructed by users; rather, beneficiary and users will determine the publication dates in consultation.

iv. Project results generated by the beneficiary will remain available to the beneficiary for teaching and research purposes.

In addition, the following condition applies on submission or award:

• On submission: The beneficiaries and all users agree to apply their own IP&P arrangements to the AES project and declare that these arrangements meet or will meet criteria i to iv.

• After award: The beneficiaries and all users accept the agreement in writing.

Within three months of the award, the project leader will provide a copy of the agreement, indicating where in the agreement each of the above conditions has been included. In addition, all beneficiaries and users involved must within three months after the award declare that the conditions have been met by signing and returning the contract.

If, on review, it emerges that the arrangements made do not meet the above conditions, NWO Domain AES may extend the aforementioned period of three months after award by a single period of up to two months in order to give the user(s) and beneficiaries the opportunity to amend the arrangements so that they do meet the criteria.

If the conditions are not met, the conditions of award are not met and the funding will not be allocated.
2 Notes on co-funding criteria

Notes on co-funding criteria
NWO Domain AES uses the financial co-funding to cover part of the project costs. After a project is approved, NWO Domain AES sends an invoice to users who have pledged a financial contribution. Once the funds have been received, they are allocated to the project. The financial contribution referred to in the letter of support is paid to NWO Domain AES.
NWO Domain AES accepts personnel input and material contributions as co-funding on condition that these are capitalised and that they form an integral part of the project. This should be made clear in the description and planning/phasing of the research.
NWO Domain AES is the main funder of the projects. Project applications where the co-funding from users exceeds the amount to be borne by NWO Domain AES will not be considered.

NWO Domain AES assumes that providers of co-funding have a vested interest as users and so as applicators of the research results outside of science. Co-funders always participate in the user committee.

NWO Domain AES assumes that providers of co-funding have a vested interest as users and so as applicators of the research results outside of science. Universities and higher education institutions are therefore excluded as co-funders.

Co-funders, like project parties, always participate in the user committee. Government agencies can play various roles in AES projects, namely: (1) as a research partner (without entitlement to AES funding), (2) as a performer of a specific assignment (at market rate) or (3) as a user. Government agencies may act as users under the same conditions as private users.
The co-funding to be provided by users must be confirmed in a letter of support. These letters must explicitly state the following: 1) why the research theme and the utilisation objectives are so important to their company or organisation, 2) the importance of the utilisation plan to their operations, 3) what their contribution to the described theme might consist of – preferably as explicitly as possible – and 4) whether the user intends (i) to allow NWO Domain AES to take the lead in making IP arrangements in line with the applicable AES IP policy, or (ii) to make its own IP&P arrangements with the knowledge institution and users involved (this last point applies to the letters of support in Phase 3). See also the requirements for letters of support under the heading "Letters of support" and under "Notes on Intellectual Property Rights & Publication arrangements".

Notes on in-kind co-funding criteria
Part of the research may be conducted by third parties. A condition is that the expertise provided in the form of man-hours is not already available in the knowledge institution(s) and is used specifically for the AES project. For personnel support by third parties, NWO Domain AES applies fixed rates in order to capitalise the number of man-hours used (up to 1,400 direct hours/year/FTE) for a senior or junior researcher. For the current rates, see https://www.nwo.nl/documents/ttw/projectbeheer/uurtarieven-mensuren-voor-in-kindbijdragen (in Dutch).
For pledges of material resources, you should charge the cost price. Commercial rates are not accepted. For pledges of equipment, you should take previous depreciations and the intensity of use into account.
Pledges in the form of supplies of services are possible only if the service can be itemised as an identifiable new endeavour. The service should not already be
available in the knowledge institution(s) conducting the research. Applicants may wish to claim services already supplied (such as a database, software or plant lines) as in-kind co-funding. Acceptance is not automatic in such cases. You should contact NWO Domain AES in this regard. Further consultations will take place to decide whether a specific value can be determined for this supply of services.

Not allowable as co-funding

- NWO Domain AES guards against improper mixing of funding: co-funding can never come from direct or indirect (NWO, KNAW) government funding. As a result, co-funding can also never come from the knowledge institution of the (co-) applicant(s) or from institutions which are themselves eligible to apply to NWO Domain AES.
- Discounts on commercial rates, e.g. for materials, equipment and/or services;
- Costs relating to overheads, supervision, consultancy and/or participation in the user committee;
- Costs of services that are conditional. No conditions may be imposed on the provision of co-funding. Nor may the provision of co-funding be contingent upon reaching a certain stage in the research plan (e.g. go/no-go moment).
- Costs which are not paid by NWO Domain AES (e.g. clinical trials, costs relating to the exploitation of the research results, equipment service charges).
- Costs of equipment if one of the objectives of the research application is to improve or add value to this equipment.
3 Co-funding example calculations

The minimum size of the AES contribution per programme is M€ 1.5, and the maximum AES contribution per programme is M€ 4. The maximum AES contribution per project is € 750,000. In projects of an investment nature (> € 250,000 in investment), the maximum AES contribution is M€ 1. In addition to the AES contribution, co-funding by users is compulsory, except in the case of the Governance project. For the Governance project, the maximum AES contribution is 5% of the total AES contribution to the programme.

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 which do not meet the co-funding requirement can be compensated by other projects under 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 of the projects individually should meet the co-funding requirement. No co-funding is required for the separate Governance project and the latter is not included in the calculation for the minimum compulsory co-funding.

The basic principle is that NWO Domain AES funds up to 70% of the total programme costs, excluding the Governance project, and the co-funding is at least 30% of the total programme costs, excluding the Governance project. The co-funding has a mandatory in-cash element of at least 15% of the required financial resources; the remainder may consist of in-kind co-funding (see Figure 1).

The minimum 30% co-funding requirement should be provided by companies and institutions that cannot act as applicants for AES projects. Universities of applied sciences cannot provide co-funding. Foreign companies can provide co-funding under the same conditions as Dutch companies.

**Figure 1:**

<table>
<thead>
<tr>
<th>AES contribution max. 70%</th>
<th>co-funding min. 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWO Domain AES contribution cash in kind</td>
<td></td>
</tr>
<tr>
<td>AES contribution max. 85%</td>
<td></td>
</tr>
<tr>
<td>mandatory cash contribution min. 15%</td>
<td></td>
</tr>
<tr>
<td>Governance, AES contribution 100%</td>
<td></td>
</tr>
</tbody>
</table>

To ensure that the mandatory cash contribution does not rise without limit in line with increasing in-kind contributions, the contributions are defined as follows:
- financial contributions are used to cover part of the project costs and thus, together with the AES contribution, constitute the required financial resources;
- in-kind contributions mean capitalised personnel and/or material contributions from users.

**Example calculations**

For both Phases 2 and 3, you should carry out an overall calculation for the whole programme.
If desired, you can use the Excel file "Financial Planning Perspectief programme" as assistance for Phase 2 (see documents on the website). This overview should be completed and submitted in Phase 3. In Phase 2, it only serves as assistance and need not be submitted.

Suppose you estimate the **required financial resources** for your programme at M€ 3.1, including M€ 0.1 for the Governance project.

If the **co-funding consists only of cash**, the minimum mandatory cash contribution is 30% of M€ 3, i.e. M€ 0.9. In this case, the maximum NWO Domain AES contribution is 70%, i.e. M€ 2.1 plus M€ 0.1 for the Governance project.

If the **co-funding consists of both cash and in-kind**, the minimum cash contribution is 15% of the required financial resources, i.e. M€ 0.45, and NWO Domain AES contributes the amount of M€ 2.55 – separate from the M€ 0.1 contribution for the Governance project. The additional in-kind co-funding required is calculated as follows: the M€ 2.55 (amount excluding Governance project) from NWO Domain AES is the maximum 70%, so the minimum co-funding requirement is 30/70ths of M€ 2.55, i.e. M€ 1.093. After deducting the minimum mandatory cash contribution of M€ 0.45, a minimum in-kind contribution of M€ 0.643 remains. In this case, the total project costs, excluding the Governance project, are the required financial resources (M€ 3.0) plus the in-kind co-funding (M€ 0.643), totalling M€ 3.643.

Suppose you are applying for a project where the **total project costs** (including all co-funding) are M€ 3.1, including M€ 0.1 for the Governance project. In this case, the AES contribution is a maximum of M€ 2.1 (70% of the total) plus 100% of the Governance project cost, i.e. M€ 0.1 (totalling M€ 2.2). The total co-funding is at least M€ 0.9 (30% of the total excluding Governance), at least M€ 0.37 of which is in cash (15% of the required financial resources or 15/85ths of the NWO Domain AES contribution). The remaining M€ 0.53 in co-funding may be provided in kind.

In every case, you should check that the AES contribution requested for the costs of the Governance project does not exceed 5% of the total AES contribution to the programme.

Please note that confirmation of the contribution will be requested after a programme proposal has been awarded funding.

If anything is unclear, please contact the coordinators Anke Stekelenburg (+31 30 600 1314, a.stekelenburg@nwo.nl) and Bastiaan de Jonge (+31 30 600 1273, b.dejonge@nwo.nl).
4 Requirements relating to letters of support

General requirements for letters of support:
- The letter should be in English.
- Letters should be addressed to the programme leader or project leader (not to NWO Domain AES).
- Letters should include complete and correct address details. They should be signed by an authorised signatory and printed on the sender’s headed stationery.
- The amounts stated in the letters should agree with the amounts in the budget put forward. A copy or scan of the letter is sufficient.

4.1 Requirements relating to letters of support, Phase 2:

In order for the assessment committee to reach a considered opinion in Phase 2 concerning the commitment to and support for the project or programme, 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 theme described 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).

A possible template for a letter of support for a programme design (Phase 2) is given below.
4.2 Template for letter of support, Phase 2

Company
Logo
Address

Date  [as recent as possible]

Dear  [name (co)application/project leader]

Introduction: Brief description of the company and the core business (type of company, size, which service, products). An explanation as to why the theme and answering of the research question are important to the company. How does this solution fit in their strategy?

Description of support: A statement that the company is interested in and will commit itself to the research. What the company will/might contribute in concrete terms (cash and/or in kind, incl. capitalisation) and why/how this fits in the research proposal/planning. (Further specification of the in-kind support is asked in Phase 3 of the procedure.) The cash contribution stated in the letter will be paid to NWO Domain AES if the application is granted.

Signed by an authorised signatory

Name and position

4.3 Requirements relating to letters of support, Phase 3:

A. Requirements relating to form
Besides meeting the above general requirements, applicants must confirm that the financial contribution mentioned in the letter will be paid to NWO Domain AES. NWO does not charge VAT.

B. Requirements relating to content
- A brief description of the company and its core business (type of company, size, services, products).
- A declaration stating that the company is interested in and wishes to commit to the research.
- The importance of the utilisation plan to the sender’s operations.
- An explanation of why answering the research question is important to the company. How does this solution fit into its strategy?
- A brief explanation of why it is supporting this particular research group and proposal.
- What the company will actually contribute (including capitalisation) and why this fits in with the research proposal/planning.
- Further specification of in-kind support, both hours (number and/or rate used) and materials (numbers; cost price; rate; percentage that can be attributed to the project, etc.).
- The company must provide the described contribution without imposing additional conditions.

Letters of support are unconditional and may not contain any resolutive conditions.

People and organisations who have signed letters of support will not be approached by NWO Domain AES as referees (Code of Conduct on Conflicts of Interest).

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

A template for a letter of support in Phase 3 is given below (please note the obligatory final section).
4.4 Template for letter of support, Phase 3

Company
Logo
Address

Date [as recent as possible]
Dear [name (co)applicant/project leader],

Introduction: Brief description of the company and the core business (type of company, size, which service, products). An explanation as to why the theme and answering of the research question are important to the company. How does this solution fit in their strategy?

Description of support: A statement that the company is interested in and will commit itself to the research. What the company will contribute in concrete terms (cash and/or in kind, incl. capitalisation) and why/how this fits in the research proposal/planning. The cash contribution stated in the letter is paid to NWO Domain AES.

Further specification of the in-kind support, both hours (number and/or tariff applied) and materials, for example:

<table>
<thead>
<tr>
<th>Description</th>
<th>number</th>
<th>cost price/tariff</th>
<th>Total</th>
<th>Percentage that can be attributed to the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXX</td>
<td>X</td>
<td>XX</td>
<td>XX</td>
<td>XX%</td>
</tr>
<tr>
<td>XXX</td>
<td>X</td>
<td>XX</td>
<td>XX</td>
<td>XX%</td>
</tr>
</tbody>
</table>

Obligatory paragraph:

We have read and have been fully informed about the application. We state that we will actively participate in the User Committee (UC) established and that we will comply with the applicable terms and conditions for participation. *Furthermore, we are aware that the above-mentioned project is part of an NWO Domain AES Perspectief programme.*

Signed by an authorised signatory
Name and position
5 Examples of questions to referees (expert reviewers)

The following types of question on the Perspectief programme will be submitted to the referees:

- What is your opinion on the originality and innovation of the proposed research?
- What is your opinion on the level of ambition of the programme?
- What is your opinion on the technical and scientific objectives of the programme?
- What is your opinion on the structure and coherence of the programme? How do you assess the coordination between the different research lines (if applicable) and the different projects within them? Do the different projects all contribute sufficiently to the programme objectives?
- What is your opinion on the need and urgency to address this issue now as a programme?
- Does the programme have sufficient focus and mass to be visible and distinctive on an international scale?
- How do you assess the quality of the researchers involved from an international perspective? Do the applicants belong to leading international research groups and does the proposed research offer added value compared to other international initiatives?
- Are there any additional researchers, research groups or research disciplines and/or user groups that could make a positive contribution to the coherence, objective or quality of the programme (thinking specifically of prominent Dutch candidates)?
- What is your opinion on the economic (and possibly the societal) relevance and impact of the research theme?
- What is your opinion on the involvement of actual or potential users and the plans for knowledge transfer?
- Suppose that the intended research results are achieved. What do you expect in terms of feasibility of application? What timescale are you thinking of?
- Are the resources requested in line with the aim of the programme described?
- How do you assess the balance between the users’ contribution to the programme and their interest in the success of the research?
- How do you assess the Governance project with regard to the added value of the programme and with regard to the achievement of the programme objectives in the area of utilisation?
# Technology & Societal Readiness Level

In the assessment criteria (see brochure) and the mandatory format (Phase 3, available in February 2019) you will be asked to state the Technology Readiness Level (TRL), and if applicable the Societal Readiness Level (SRL), of the technology at the start of the programme and the expected TRL at the end of the programme. The TRLs & SRLs are described below.

## Technology Readiness Level

<table>
<thead>
<tr>
<th>Technology Readiness Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRL 1.</td>
<td>Basic principles observed</td>
</tr>
<tr>
<td>TRL 2.</td>
<td>Technology concept formulated</td>
</tr>
<tr>
<td>TRL 3.</td>
<td>Experimental proof of concept</td>
</tr>
<tr>
<td>TRL 4.</td>
<td>Technology validated in lab</td>
</tr>
<tr>
<td>TRL 5.</td>
<td>Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)</td>
</tr>
<tr>
<td>TRL 6.</td>
<td>Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)</td>
</tr>
<tr>
<td>TRL 7.</td>
<td>System prototype demonstration in operational environment</td>
</tr>
<tr>
<td>TRL 8.</td>
<td>System complete and qualified</td>
</tr>
<tr>
<td>TRL 9.</td>
<td>Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies)</td>
</tr>
</tbody>
</table>

## Societal Readiness Level

<table>
<thead>
<tr>
<th>Societal Readiness Level</th>
<th>Description¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRL 1.</td>
<td>Identifying problem and identifying societal readiness</td>
</tr>
<tr>
<td>TRL 2.</td>
<td>Formulation of problem, proposed solution(s) and potential impact, expected societal readiness; identifying relevant stakeholders for the project.</td>
</tr>
<tr>
<td>TRL 3.</td>
<td>Initial testing of proposed solution(s) together with relevant stakeholders</td>
</tr>
<tr>
<td>TRL 4.</td>
<td>Problem validated through pilot testing in relevant environment to substantiate proposed impact and societal readiness</td>
</tr>
<tr>
<td>TRL 5.</td>
<td>Proposed solution(s) validated, now by relevant stakeholders in the area</td>
</tr>
<tr>
<td>TRL 6.</td>
<td>Solution(s) demonstrated in relevant environment and in co-operation with relevant stakeholders to gain initial feedback on potential impact</td>
</tr>
<tr>
<td>TRL 7.</td>
<td>Refinement of project and/or solution and, if needed, retesting in relevant environment with relevant stakeholders</td>
</tr>
<tr>
<td>TRL 8.</td>
<td>Proposed solution(s) as well as a plan for societal adaptation complete and qualified</td>
</tr>
<tr>
<td>TRL 9.</td>
<td>Actual project solution(s) proven in relevant environment</td>
</tr>
</tbody>
</table>

¹ [https://innovationsfonden.dk/sites/default/files/2018-08/societal_readiness_levels_srl.pdf](https://innovationsfonden.dk/sites/default/files/2018-08/societal_readiness_levels_srl.pdf)
7 Data management section

Please use the form “Data management section” for your application!

Notes on data management

NWO aims to contribute to the development of good data management by asking researchers to make sustainably available all data relevant for reuse. Therefore, before the research starts, the researcher(s) will be asked in the data management section to think about how the data collected must be ordered and categorised so that it can be made freely available. To this end, measures will often need to be taken during the production and analysis of the data.

By “data”, NWO means both collected raw data and analysed generated data. This includes all forms of data, both digital and non-digital (e.g. samples, completed questionnaires, sound recordings, etc.).

NWO only requires the storage of data that is relevant for reuse. NWO assumes in principle that there is a broadly accepted view within scientific fields on which data are relevant for reuse and should be stored. Research Data Netherlands offers a checklist for the selection of data that may be eligible for archiving.

Research results should be stored in such a way that they can be retrieved and re-used in the long term, including by researchers from fields and organisations other than those in which the research took place. The basic principle is that all stored data are freely accessible and that access is restricted only if required on account of aspects such as privacy, public safety, ethical restrictions, property rights and commercial interests.

Data management costs are eligible for funding and should be included in the application budget. Important factors that determine the costs are:

- the type of data;
- the required storage and backup capacity;
- the extent of manual work involved in assigning metadata and producing other documentation such as code books and used queries in the statistical package;
- the required level of data security;
- the hiring of external data management or other expertise.

By means of the data management section, NWO mainly aims to promote awareness of the importance of responsible data management. Consequently, the section is not included in a committee’s decision on whether or not to grant an application. However, NWO Domain AES does submit the section to the committee and referees for their opinion. After an application has been granted, the applicant should elaborate the data management section into a data management plan. In doing so, applicants may make use of the committee's and referees’ opinion.

Questions from the NWO data management section for the application form:

1. Will data be collected or generated that are suitable for reuse?
   Yes: answer questions 2 to 4.
   No: explain why the research will not lead to reusable data, or will lead to data that cannot be stored or are otherwise not relevant for reuse.

2. Where will the data be stored during the research?

3. How will the data be stored for the long term after the end of the project and made available to third parties? Which facilities (ICT, (secure) archives, cold stores or legal expertise) are expected to be required for data storage during and after the research? Are these available?* parties for reuse? Who will have access to the data?

*ICT facilities for data storage mean things such as capacity for data storage, bandwidth for data transport and computing power for data processing.
8 Explanation knowledge transfer moments (KTM)

What is a "Knowledge transfer moment" (KTM)?
"Scientific and/or technical knowledge, insights, concrete results and deliverables or indications emerging from AES project or an activity organised by NWO domain AES in relation to this (workshop, brainstorm) are tangibly and visibly transferred to a company or societal party that will actively determine the potential economic or societal value and (if profitable or useful) implement it, exploit it in the operational management or products, services, legislation, standards, et cetera”

The following types of KTM are distinguished:
KTM0: Start-up
KTM1: Algorithms & Software
KTM2: Methods & Formulas
KTM3: Demonstrators & Prototypes
KTM4: Material, mixture or substance developed
KTM5: New plant cultivar or bacterial strain
KTM6: Know-how
KTM7: Measurement results
KTM8: Patents and licenses
KTM9: OTHER

This is about the concrete transfer of project results to users and is therefore not about:
1. Presentation of results at general broad user committee meetings, symposia, congresses, matchmaking sessions, brainstorm sessions
2. Facilitating new contacts between users and academics
3. Publication of results in professional journals and leaflets or on websites
9 Links

- **Perspectief programme applications** (Phase 2)
  [Perspectief_format_programme_design_2018-2019 and from February 2018 Phase 3 format programme proposal]:
  [http://www.nwo.nl/perspectief]

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

- Help sheet Financial planning, Phase 2
  [http://www.nwo.nl/perspectief]

- **NWO Grant Rules 2017**: 
  [https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw]

- "**Brochure Guidelines Users’ Committee NWO Domain AES 2017**": 
  [https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw]

- **Code of conduct on conflicts of interest**: 

- **Fixed AES rates salary tables** (in Dutch): 
  [https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw]

- **Hourly rates for contributions in kind by third parties in the form of man-hours** (in Dutch): 
  [https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw]

- **AES cleanroom regulation** (in Dutch): 
  [https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw]

- **Nagoya Protocol**: 
  [https://www.cbd.int]

- **Netherlands Organisation for Scientific Research (NWO)**: 
  [https://www.nwo.nl/en]

- Open Access: 
  [https://www.nwo.nl/en/policies/open+science]

And the following forms:
- Programme design form

The following documents will be published on the website in February 2019:
- Application form, Phase 3
- Notes relating to the application form, Phase 3
- Financial planning, Phase 3
- Form "Declaration and signature" (Phase 3).