Call for proposals

National Roadmap for Large-Scale Research Infrastructure

Second round, Roadmap 2016

The Hague/Utrecht, January 2019
Netherlands Organisation for Scientific Research
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1 Introduction

1.1 Background

On 13 December 2016, the Governing Board of NWO presented the current National Roadmap for Large-Scale Scientific Infrastructure. A total of 33 large-scale research infrastructures have been included in the National Roadmap. This concerns Dutch infrastructure as well as initiatives for a (possible) Dutch participation in international projects.

This Roadmap is a follow-up to the second National Roadmap for Large-Scale Research Facilities that was submitted to the Minister of Education, Culture and Science in 2012 by a committee especially appointed for this purpose (Meijer Committee). Each year, the Minister of Education, Culture and Science makes an amount of € 40 million available to NWO for large-scale infrastructure that is part of the National Roadmap.

This Call announces the second funding round for the current National Roadmap. Large-scale Scientific Research Infrastructure facilities that are part of this National Roadmap will be given the opportunity to apply for funding to realise their plans.

1.2 Available budget

For this round, NWO funds for large-scale scientific infrastructure totalling € 95 million will be deployed, of which € 2 million is earmarked for bridge funding.

Large-scale infrastructure is important for all scientific disciplines. The funds available must therefore make infrastructure possible for all scientific fields. The following framework for distributing funds applies: around 10% is available for infrastructure within the humanities and social sciences, around 45% is available for infrastructure within the natural sciences and engineering sciences, and around 45% is available for infrastructure within the life sciences.

1.3 Validity of the call for proposals

This Call for proposals is valid for the round 2019–2020, with a submission deadline of 4 June 2019 at 14:00 hours CE(S)T.
Large-scale research infrastructure (LSRI) is vital for carrying out innovative scientific research, but also plays an important role in boosting societal and economic innovation. Accordingly, this LSRI can also contribute to achieving the ambitions of the top sector policy.

The appointment of the Permanent Committee for Large-Scale Research Infrastructure (PC, for its composition and a detailed task description, see: http://www.onderzoeksfaciliteiten.nl/) was announced in the 2025 Vision for Science of the Government of the Netherlands. The PC was appointed by NWO on behalf of the Ministry of Education, Culture and Science to make an integral assessment of investments in LSRI. The committee’s task is to formulate a national strategy for investments in LSRI. In particular, the PC establishes the strategic framework for the available NWO funding for LSRI of national importance.

To this end in 2016, the PC made an inventory of important LSRI for Dutch researchers and established the need that exists for such facilities. The Netherlands Landscape for LSRI can be found at www.onderzoeksfaciliteiten.nl. This inventory guided the update of the National Roadmap for Large-Scale Research Infrastructure. The National Roadmap contains existing and still to be realised LSRI which is of major national importance for the development of science in the Netherlands.

The development of LSRI usually takes place in phases; this is reflected in the current National Roadmap. Some LSRI projects are in the initial phase – in which a preliminary study into the possibilities takes place, for example – other projects are realising pilots, and some projects are already in the process of constructing the LSRI. An LSRI can also be up and running and working on expansion or renewal. The aim of the National Roadmap is to support the development of high-quality LSRI.

With the funding for large-scale research infrastructure, NWO facilitates the realisation of LSRI that is part of the National Roadmap.

2.1 Definition of Large-Scale Research Infrastructure

Large-scale Research Infrastructure (LSRI) covers facilities, resources and services that the research community uses to carry out research and facilitate innovation. Where relevant, LSRI can also be used for purposes other than research, such as education or public services. It concerns, among other things, important scientific equipment or collections of instruments; knowledge-based resources such as collections, archives, libraries or scientific data; e-infrastructure such as (linked) databases, computer systems and communication networks; and every other unique infrastructure that is vital to achieve excellence in research and innovation. This might be infrastructure found at a single location, or a virtual or distributed infrastructure (in the Netherlands or abroad).
Size of infrastructure
The size of the LSRI, in terms of the total capital investment\(^1\) and the running costs for a period of 5 years, is at least 10 million euros. This amount excludes the cost for accommodating the LSRI. The running costs concern solely the costs needed to make the LSRI accessible. It does therefore not concern the costs for the research programme.

Distributed infrastructure
For distributed LSRI, which includes the clusters of the National Roadmap, the following applies:
- These are required to provide a single central point of access for researchers from external organisations, even if the infrastructure is spread over several locations;
- These are required to have a single board of management that is responsible for the entire infrastructure and should also have a legal structure
  OR
  These separate entities must have agreed upon a partnership that is recorded in a consortium agreement.

This consortium agreement should be written in English and should cover at least the following points:
1. the participants in the consortium;
2. the objectives of the consortium;
3. information on how the governance will be organised;
4. agreements about the priorities (how the priorities will be determined);
5. agreements about the funding of investments (such as matching);
6. access to the LSRI (for consortium parties and external parties);
7. agreements about intellectual property (IP) rights: background IP (input, access and use); foreground IP (rights, access and use);
8. confidentiality;
9. settlement of disputes;
10. indemnification/liability.

Access to the infrastructure
Infrastructure on the Netherlands Landscape for Large-Scale Research Infrastructure must implement an access policy for research that is in agreement with the European Commission’s European Charter for Access to Research Infrastructures\(^2\). This Charter defines three types of access:
- excellence-driven access;
- pay-for-use access;
- wide access.

An LSRI that is part of the National Roadmap for Large-Scale Research Infrastructure must at least provide excellence-driven access or implement a wide access policy. Providing solely pay-for-use access is not permitted for LSRI on the National Roadmap.

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\(^1\) Capital investments are the costs for the development and acquisition/construction of the intended infrastructure or the costs for a modification of the existing infrastructure such that it can be used to realise scientific breakthroughs.

\(^2\) The complete text of this charter is available here.
3 Guidelines for applicants

3.1 Who can apply

Applications may only be submitted by LSRI s that have been included in the current National Roadmap for Large-Scale Research Infrastructure. These LSRI s are also subject to the conditions described in this Call.

To ensure that institutional priorities and commitment are safeguarded, applications may only be submitted by the project leader on behalf of the highest administrative body of the relevant institutions, organisations or intended official secretary of a consortium.

The following knowledge institutions may submit applications:
   a. Dutch universities;
   b. University medical centres;
   c. Institutes affiliated to the Academy (Royal Netherlands Academy of Arts and Sciences (Koninklijke Nederlandse Akademie van Wetenschappen (KNAW)) or NWO;
   d. the Netherlands Cancer Institute;
   e. the Max Planck Institute for Psycholinguistics, Nijmegen;
   f. researchers from the DUBBLE Beamline at the ESRF, Grenoble;
   g. the Naturalis Biodiversity Centre;
   h. the Advanced Research Centre for NanoLithography (ARCNL);
   i. Princess Máxima Center for Pediatric Oncology.

The following institutions may also submit applications:
   j. academic libraries;
   k. TNO, Large Technological Institutes (LTIs), Governmental Knowledge Institutes and DLO (research institutes of Wageningen UR), in which – as is evident from the criteria – the applications must mainly be motivated from the perspective of tools for science. This implies, amongst other things, that irrespective of whether fundamental, industrial or precompetitive research will be performed, a condition for granting is that the LSRI will contribute to the possibility of realising a scientific breakthrough. A clearly argued case for a potential breakthrough must be given.

3.2 What can be applied for

Large-scale Research Infrastructure can only be realised through a joint effort of all parties involved. The institutions involved will therefore be required to contribute to the funding of the LSRI.

Only project-specific costs are eligible for funding. Within the total investment, a distinction can be made between the following cost categories: (A) capital investments and (B) running costs.
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(A) Capital investments include costs for the development and acquisition/construction of the intended LSRI or costs for a modification of the existing LSRI such that it can be used to realise scientific breakthroughs. This also includes the membership contributions of the Netherlands to an international research facility or an international research project if these are related to the Capital investments.

Capital investments may include the following types of costs:
- Investments
- IT costs
- Membership costs
- Material costs
- Personnel costs

(B) Running costs include costs needed for keeping the LSRI operational and the facilitation of external users. Running costs of the LSRI can be requested once for a maximum period of 5 years if the operating lifespan is at least 10 years, or for a proportionally shorter period if the operating lifespan is less than 10 years. This also includes the membership contributions of the Netherlands to an international research facility or an international research project if these are related to the Running costs.

Running costs may include the following types of costs:
- Personnel costs
- Material costs
- IT costs
- Membership costs

As a lower limit for the total size (capital investments + running costs) of the investment to be realised in the framework of this programme (NWO funds and co-funding together), a minimum amount of 10 million euros applies. Only one application for funding can be submitted per Roadmap LSRI. Funding can be requested for a maximum period of 10 years.

Co-funding is compulsory. The co-funding can be either in cash or in kind and must be at least 25% of the total size of the investment (NWO contribution + co-funding of capital investments and running costs).

Multiple private and public partners can be involved in an application. The contributions from the different partners may be added up. There are no predefined rules concerning the type and proportion of co-funding to be provided by each partner, as long as the total co-funding fulfils the above conditions.

The cash contribution is settled with the main beneficiary. In-kind matching should be justified in retrospect. The contributions must be confirmed by the relevant co-funding partners in a letter. This letter should be written in English and consist of an explicit statement of the agreed financial or capitalised personnel and/or material contribution (in-kind contribution). The sums mentioned in the letter must correspond to the sums in the budget accompanying the application. The letter should be signed by an authorised signatory and printed on the partner’s headed stationery. One letter per partner should be attached to the application.

Costs not eligible for funding
The following costs are not eligible for funding:
- costs that have been incurred or for which obligations have been entered into before the grant is awarded;
- costs that have been incurred or for which obligations have been entered into for a period beyond the project duration of up to 10 years;
- costs that have previously been funded or have been financed in another way from university and/or public funds;
- regular housing and accommodation costs;
- insurance costs;
- costs of typically available IT infrastructure provided by the institutions involved, or already nationally available, such as via SURF;
- costs of research carried out with the LSRI;
- if an applicant or co-applicant works with other institutions that are not eligible under the call, these non-eligible institutions will bear their own costs.

Definitions
Project-specific costs
Costs are considered to be project-specific if:
- they are direct costs related to the aim described in the application and matching the objective of the call;
- the costs were incurred during the term of the project and not before the date of the grant award decision, unless NWO has explicitly stated otherwise in the grant award decision on account of special circumstances relating to the (partial) co-funding;
- the costs have not been or are not being funded by other means;
- where the funding is being used to remunerate personnel and the collective labour agreement for the Dutch universities or university medical centres is not applicable to those personnel: in NWO’s opinion, the decision appointing these personnel justifies payment out of public research funds.

Investments
Investments include all resources used for the project that have economic value or can be reused after the end of the project. This means equipment, software with residual value, infrastructure, etc. If the nature of the LSRI makes it difficult to distinguish between the LSRI and the accommodation (e.g. in the case of a greenhouse or clean room), prior approval must be requested to use NWO resources for specific parts of the LSRI accommodation.

IT costs
Information and communications technology (IT) costs include the costs for realising and using the required IT infrastructure insofar as these are in addition to the existing typically available IT infrastructure that the institutions involved provide, or those that are already nationally available, such as SURF. Where applicable, it is expected that the necessary IT infrastructure will be discussed and/or harmonised with SURF.
IT costs include specific analysis software (its purchase or development), calculation time, storage capacity and costs for repositories and data stewardship for long-term data storage in accordance with the FAIR principles.
IT-related personnel costs can be included in the budget under personnel costs.

Membership costs
Dutch memberships of an international research facility or international research project if these are important for the development, acquisition/construction or exploitation of the intended LSRI.
Material costs
Material costs are project-specific costs related to items such as consumables, materials, small instruments and other resources that have no economic value after use. This also includes national and international travel and accommodation costs; costs for knowledge transfer, knowledge valorisation, internationalisation; costs for the use of existing infrastructure, data collections and equipment; work by third parties; maintenance costs.

Personnel costs
The NWO Grant Rules 2017 stipulate that the Approval of funding for scientific research applies to all applications. The Approval and the maximum remuneration rates for personnel costs contained therein can be found at https://www.nwo.nl/en/documents/nwo/salary-tables/approval-of-funding-for-scientific-research-2008 and https://www.nwo.nl/en/funding/funding+process+explained/salary+tables.

For Roadmap LSRI, the focus is the construction and exploitation of a research facility instead of a research programme. Consequently, it may be expected that a different type of personnel will be needed, such as programmers, software/hardware developers, and coordinators/managers. The rates stated in the “Approval of funding for scientific research” are not always sufficient for these employees. The NWO executive board has therefore decided to allow an exception for the maximum rates for LSRI financed by funds for the National Roadmap for Large-Scale Research Infrastructure. This exception applies to employees who have additional specifically technical and/or management expertise that is required for the construction and exploitation of this LSRI. If this exception is used, the necessity for it must be justified and the alternative hourly rates used and the number of hours calculated per FTE must be indicated. The maximum hourly rate attributable to the project is € 100. This exception explicitly does not apply to researchers who are involved in the research programme that is carried out using that LSRI.

In-kind contributions
In-kind contributions must be directly attributable to the project and must be costs incurred by the external private or public party. In-kind contributions must be vital for the project and must be included in the NWO-approved budget for the costs of the project in which the private or (semi-)public party is participating.

In-kind contributions include:
- Salary costs. The value of in-kind contributions in the form of man-hours is determined based on the rates set by NWO for researchers (see www.nwo.nl/en/funding/funding+process+explained/salary+tables). Where VSNU rates are not applied, an hourly rate is used, calculated on the basis of annual pay for full-time employment according to the wages column for wages and salaries tax on the payroll, increased by statutory increments or increments agreed in an individual or collective employment contract for social security contributions, and on 1,650 productive hours a year. An increment may be added to this for other general expenses, not exceeding 50% of the labour costs referred to above. The resulting hourly rate attributable to the project, including the 50% increment for general expenses referred to above, is capped at € 100.
- Material costs. The value of in-kind co-funding contributed in the form of materials or investments is determined based on the cost price minus depreciation. This cost price must be attributed to the project pro rata to the use.
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- Use of equipment and machines:
  - Costs of purchasing and using machines and equipment, provided they are based on the depreciation costs attributable to the project, calculated on the basis of the original purchase prices and a depreciation period of at least five years; costs of consumables and maintenance during the period of use.
  - Costs of purchasing and using machines and equipment that have not been purchased exclusively for the project will be taken into account on a pro rata basis only if detailed time sheets are kept of the hours spent on each machine or item of equipment.
  - In-kind contributions in the form of discounts on the prevailing commercial price (list price) of machines and equipment. In this case, the discount should be at least 25% of the list price. The costs charged to the equipment budget of the project are the list price minus the discount.
  - Services. The value of services or background knowledge provided must be properly substantiated. A precondition is that the service or background must be identifiable as a new endeavour.

**Cash contributions**
Cash contributions are sums contributed to the project that are collected directly by the main beneficiary. If the cash contribution is provided by the main beneficiary, it is explicitly reserved for the project.

**Relation to the programme Investment Grant NWO Large**
Infrastructure on the National Roadmap may also be eligible for funding in the programme Investment Grant NWO Large. For this programme, a funding round will take place in 2019/2020; its deadline is expected to be in autumn of 2019. The Permanent Committee for Large-Scale Research Infrastructure will also play a role in the eligibility check for applications submitted in the context of NWO Large. This will be explained in greater detail in the Call for proposals for the programme Investment Grant NWO Large. Note that, in the context of NWO Large, applications may be submitted only by the institutions listed in points a to i of Section 3.1. Applied knowledge institutions may not therefore submit applications for funding under NWO Large.

### 3.3 When can applications be submitted

The submission deadline is **4 June 2019** at 14:00 CE(S)T.

When you submit your application to ISAAC, you will also need to enter additional details online. You should therefore start submitting your application at least one day before the deadline of this call for proposals. Applications submitted after the deadline will not be taken into consideration.

### 3.4 Preparing an application

The application consists of the following parts:

A) Signed letter of submission from the highest administrative body of the institution, organisation or official secretary of the consortium, stating the commitment to the project;

B) Completed application form*;
C) Completed multi-year budget*;
D) For each contributing partner, a signed guarantee letter confirming the co-funding;
E) If required under the guidelines in Section 2.1, a signed consortium agreement.

*For the application, you should use the application form and multi-year budget form available for download from the NWO grant page or from the online application system ISAAC.

All parts of the application, including the annexes, must be written in English. Except for the multi-year budget, all documentation must be submitted as PDF documents via the NWO electronic system ISAAC. The multi-year budget should be submitted via ISAAC as an Excel document. The application form may not exceed 50 pages A4 (font Verdana 8.5 point) in length with a maximum file size of 10 MB.

The letter of submission, guarantee letters, multi-year budget and, where applicable, the consortium agreement should be attached as separate documents and are not part of the 50 pages A4 limit described above.

3.5 Funding conditions

3.5.1 Specific funding conditions

I. Eligibility
In addition to that stated in Sections 3.1, 3.2 and 3.4, applications must satisfy the following conditions to be declared admissible:
1. there is a maximum of one application per LSRI as included in the Roadmap LSRI;
2. in the case of a clustered LSRI or a partnership of several institutions, the collaboration is recorded in a consortium agreement in which the financial commitment of the separate parties is stated as well as the way in which priorities within the discipline will be determined (as explained in Section 2.1 of this Call for proposals);
3. for projects that fall under international organisations of which the Netherlands is a member (e.g. ESA, ESO, CERN, EMBL/EMBC), funding can only be requested for parts of the LSRI that cannot be funded via the standard funding of the council of the international organisation concerned or via the national contributions. The letter of submission accompanying the application must explicitly state this.

II. Requirements in connection with the Community framework for state aid for research and development and innovation
As the government has decided that companies and public-private partnerships (PPP) may also participate in applications, the following needs to be pointed out. Funding to applicants within the context of a PPP or to companies can only be granted if the conditions for the Community framework for state aid for research and development and innovation have been satisfied. This could mean that the European Commission (EC) must be notified of such a partnership in advance or that its approval is required. In any grant award decision, funding will be awarded subject to compliance with the conditions of this framework.
Applicants in a PPP context and companies should at least state the following:
1. whether there is creation of economic or societal value. If it concerns a mix, an estimated ratio should be provided;
2. for the activities to be undertaken, what percentage concerns (a) fundamental research, (b) industrial research and (c) precompetitive research, and how the budget is split across these types of research;
3. for each industrial partner, whether it should be classified as a large enterprise or SME;
4. The planned or expected degree of collaboration and exchange between industry and research institutions, both in the framework of the proposal as well as in the longer term, and the extent to which any possible exchange of personnel is embedded.

With reference to the stated Community framework for state aid for research and development and innovation (2006/C 323/01), the permitted level of support is in brief:
- fundamental research: up to 100%
- industrial research: up to 50%
- precompetitive research: up to 25%

In this regard, the following exceptions apply to the permitted level of state aid in accordance with the 'General block exemption Regulation' (Commission Regulation (EC) No 800/2008):
- 10% increase in the case of an SME participating;
- 5 or 10% increase for research in regional assisted areas;
- 15% increase for research that ties in with the European Framework Programme;
- 25% increase for transnational cooperation.

Finally, the non-cumulation clause applies to state aid for public-private research and development projects. The sum of state funding received for a project may, irrespectively of the sources of the funding, not be higher than the applicable state aid thresholds.

**III. IT infrastructure**
An LSRI often requires advanced support involving properly functioning IT infrastructure. It is therefore essential for researchers to state the requirements for the required IT infrastructure clearly in their applications and to indicate whether this infrastructure is already available to them as a regular facility of the university or research institute involved. Besides describing the required IT infrastructure, they should also outline the expected associated costs.

### 3.5.2 General funding conditions

The [NWO Grant Rules 2017](https://www.nwo.nl/en/policy-and-funding/nwo-grant-rules) and the [Approval of funding for scientific research](https://www.nwo.nl/en/policy-and-funding/approval-of-funding-for-scientific-research) apply to all applications.

**Open Access**

All scientific publications resulting from research that is funded by grants derived from this call for proposals are to be immediately (at the time of publication) freely accessible worldwide (Open Access). There are several ways for researchers to publish Open Access. A detailed explanation regarding Open Access can be found at [www.nwo.nl/openscience-en](http://www.nwo.nl/openscience-en).
Data management

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. NWO bases its approach on the FAIR principles (Findable, Accessible, Interoperable, Reusable). Furthermore, NWO wants to raise awareness among researchers about the importance of responsible data management. Because LSRI can play an important role in data collection, they are expected to contribute to these aims. Proposals should therefore satisfy the NWO data management protocol. This protocol consists of two steps:

1. **IT section**

   In their applications, applicants should describe and quantify the IT infrastructure required for the LSRI. Data management is part of this. If applicable, an LSRI should consider in advance how the data to be collected will be organised and categorised so that it 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. If the data generated are the responsibility of users of the LSRI, applicants should describe how users will be encouraged to make data FAIR for other researchers.

2. **Data management plan**

   An initial condition for a successful application is the submission of a data management plan. In this plan, the applicant describes whether use will be made of existing data or a new data collection and how the data collection will be made FAIR: Findable, Accessible, Interoperable, Reusable. The plan can be adjusted during the research.

Further information about the data management protocol of NWO can be found at [www.nwo.nl/datamanagement-en](http://www.nwo.nl/datamanagement-en).

Nagoya Protocol

The Nagoya Protocol became effective on 12 October 2014 and ensures an honest and reasonable distribution of benefits emerging from the use of genetic resources (Access and Benefit Sharing; ABS). Researchers who make use of genetic resources from the Netherlands or abroad for their research should familiarise themselves with the Nagoya Protocol ([www.absfocalpoint.nl](http://www.absfocalpoint.nl)). NWO assumes that researchers will take all necessary actions with respect to the Nagoya Protocol.

Ethical aspects

Research proposals that can elicit ethical questions must be considered carefully before the research starts. For certain research projects, a statement of approval is needed from a recognised medical ethics review committee (MREC) or the central animal experiments committee (CCD). In addition, for certain research proposals a licence is needed in accordance with the Population Screening Act (WBO). Further information about the MRECs is available from the Central Committee on Research Involving Human Subjects (CCMO). Information about the CCD can be obtained from the Dutch Association of Animal Experiment Committees (NVDEC). Information about the WBO can be obtained, for example, from the Health Council of the Netherlands.

Researchers who make use of infrastructure are responsible for ascertaining whether their research proposal elicits ethical questions and, if applicable, for obtaining a statement of approval from the appropriate ethics committee and/or obtaining a licence in accordance with the WBO, or from similar organisations, if necessary.
NWO endorses the Animal Experiments Openness Code and the Biosecurity Code of Conduct. Researchers who wish to make use of infrastructure with the help of NWO funding should endorse and comply with the existing codes. These projects can only start if NWO has received a copy of the ethical statement of approval and/or WBO licence (if applicable).

If, after consulting with the applicant, NWO is of the opinion that an ethical assessment is required for an application, then the applicant is still required to take measures for an assessment by an ethics committee. If the necessary statement of approval from the ethics committee is not obtained, the funding will be withdrawn.

### 3.6 Submitting an application

An application can only be submitted via the online application system ISAAC. Applications not submitted via ISAAC will not be taken into consideration.

A main applicant must submit his/her application via their own ISAAC account. Main applicants who do not have an ISAAC account should create an account at least one day before submitting the application. This is to ensure that any registration problems can be resolved in time. If the main applicant already has an NWO account, then he/she does not need to create a new account to submit an application.

For technical questions please contact the ISAAC helpdesk, see Section 5.1.2.
4 Assessment procedure

4.1 Procedure

4.1.1 General

NWO will appoint a selection committee (SC) for the assessment of the applications, which will be given the task of carrying out the assessment within the frameworks established in this Call and the National Roadmap. The SC will be composed of experienced senior researchers with a broad knowledge of scientific developments and experience with large scientific consortia/institutes. The SC will not have any overlap with the Permanent Committee for Large-Scale Research Infrastructure (PC).

The NWO Code of Conduct on Conflicts of Interest applies to all persons and NWO staff involved in the assessment and/or decision-making process (www.isaac.nwo.nl).

4.1.2 Eligibility

The first step in the assessment procedure is to determine the eligibility of the application. The PC does this based on the conditions stated in Section 3 of this Call for proposals. The PC will subsequently advise the NWO executive board about the eligibility of the applications received. The executive board will then take a decision about the eligibility. Non-eligible applications will be excluded from further assessment and will not be eligible for the bridge funding described in Section 4.3.

4.1.3 Peer review and selection

For all eligible applications, at least four referees’ reports will be requested. Applicants will then be given an opportunity to respond. After that, the applications and information obtained will be studied by the SC. The SC will select the applications in two phases. In the first phase, the SC will draw up a ranking of all applications based on the assessment criteria (see Section 4.2) and will invite the applicants with the highest-ranked applications for an interview. In this process, the SC also takes into account the framework referred to in Section 1.2 for the allocation of resources across the scientific disciplines.

In the second phase, the SC has an opportunity to ask questions during an interview, including new questions not yet raised by the referees. The applicant can respond during the interview in the discussion with the SC. This again provides an opportunity for a hearing and rebuttal. The interview is an important part of the assessment and can result in an adjustment of the assessment and the proposal’s score to date. After the interview, the SC draws up a final ranking of the applications, based on the criteria stated in Section 4.2.

Based on the SC’s final ranking, the PC draws up a recommendation for the NWO executive board concerning the applications to be approved or rejected. The PC may deviate from the SC’s ranking if there is reason to do so based on the allocation framework laid down in Section 1.2.

In the event of a deviation from the SC’s ranking, the PC applies the following principles:
Applications will be approved within each of the three discipline groups (provided that admissible applications meeting the minimum quality requirements of this call have been submitted within those groups); the budgetary allocation framework as laid down in Section 1.2 will be used in allocating the resources.

The SC’s ranking and the PC’s award recommendation are submitted to the NWO Executive Board to aid decision-making.

**Decision**
If admissible, the NWO executive board will take a funding decision about the applications.

NWO will give each application a qualification. This qualification will be announced to the applicant together with the funding decision. To be eligible for funding, an application must have the qualification “excellent” or “very good”. For further information about the qualifications, please refer to: Fout! De hyperlinkverwijzing is ongeldig.[https://www.nwo.nl/qualifications](https://www.nwo.nl/qualifications).

### 4.1.4 Indicative timetable

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Description</th>
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<tbody>
<tr>
<td>Tuesday 4 June 2019, 14:00 CE(S)T</td>
<td>Deadline for submitting applications via ISAAC</td>
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<tr>
<td>June 2019</td>
<td>Applications assessed for eligibility</td>
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<tr>
<td>July – October 2019</td>
<td>Consultation of referees</td>
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<tr>
<td>October – November 2019</td>
<td>Obtaining rebuttals from applicants. Applicants are given around 2 weeks to submit a response.</td>
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<tr>
<td>November – December 2019</td>
<td>First meeting of selection committee</td>
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<tr>
<td>January 2020</td>
<td>Interviews and second meeting of the selection committee</td>
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<td>February 2020</td>
<td>Meeting of the Permanent Committee for Large-Scale Research Infrastructure about the use of the bridge funding</td>
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<td>March/April 2020</td>
<td>Decision of NWO executive board</td>
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4.2 Criteria

The selection committee will assess the necessity for the financial stimulation of the LSRI included in the National Roadmap. The application will be assessed according to the following four criteria:

1. Science and excellence case (see Section 4.2.1)
2. Strategic case and innovation (see Section 4.2.2)
3. Technical, business and management case (see Section 4.2.3)
4. Financial case (see Section 4.2.4)

The criteria are weighted as follows in the assessment:
Criteria 1 and 2 have equal weight and each make up 1/3 of the final score.
Criteria 3 and 4 have equal weight and each make up 1/6 of the final score.

The criteria are explained in more detail below. For all criteria, if the requested investment is part of a larger whole, such as the expansion or renewal of an existing LSRI, the added value of the investment must be made clear.

4.2.1 Criterion 1. Science and excellence case

The following two factors are relevant to this criterion:

a. The importance of the investment for science and the potential to attract researchers
   Aspects taken into account in assessing this factor include:
   • the scientific quality and urgency of the intended investment in the light of developments in the disciplines concerned;
   • the extent to which the investment contributes to scientific and technological innovation;
   • the extent to which the investment increases the likelihood of scientific breakthroughs in the scientific field concerned;
   • the quality, competence and international position of the researchers and research groups involved;
   • the potential to attract Dutch and international researchers;
   • relevant results from recent external research reviews or other evaluations;
   • the quality of results achieved so far which are relevant to the LSRI, if applicable in the light of previous investments.

b. Embedding of the investment
   An LSRI must be financially and institutionally well embedded in the Dutch knowledge infrastructure. This also applies to an LSRI where the Netherlands does not fulfil the role of lead party. The institutional and financial embedding can for example become apparent from:
   • the consolidation of research groups within the Netherlands;
   • the embedding of Dutch research groups in European networks;
   • investments of the Dutch government in the research field concerned.
4.2.2 Criterion 2. Strategic case and innovation

The following two factors are relevant to this criterion:

a. The importance for Dutch science and international positioning and appeal
Aspects taken into account in assessing this factor include:
   • how well the investment in the LSRI fits in the long-term planning of the scientific field concerned;
   • the extent to which the investment will enable the Netherlands to acquire an internationally leading or unique position in the scientific area or sub-area concerned.
   • a thorough analysis of possible alternative Dutch or international research facilities, and any reasons why the use of such alternatives has been rejected.

b. The importance for society and industry and the connection with societal developments
Aspects taken into account in assessing this factor include:
   • the LSRI’s connection to the national policy frameworks and trends, such as the top sector policy, the Dutch National Research Agenda, sector plans and current social and scientific themes within the Netherlands and Europe;
   • the extent to which the investment makes the LSRI attractive to large and small companies as well as innovative government bodies and the appeal of the LSRI in terms of valorisation and other non-scientific use.

4.2.3 Criterion 3. Management case

The following three factors are relevant to this criterion:

a. Organisation and governance
   Setting up and exploiting an LSRI requires clear agreements between the national and international partners and a clear organisational framework. The organisation of the LSRI should facilitate its adequate and efficient realisation and exploitation.

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3 If foreign research groups have already assumed a leading international position, there still can be other reasons to invest. For example, to assume a position considered necessary in order to strengthen the national interest.

In the case of Dutch participation in the construction of or a major modification to an international LSRI, the committee will assess the interest for Dutch science and the visibility of the Dutch contribution in the international collaboration. Aspects taken into account here include:

• is there sufficient focus and critical mass to play a role in an international context?
• is there sufficient confidence in the structure and quality of the international project of which the investment will form a part?
• is the form and scope of the Dutch contribution appropriate?
It will be assessed whether the agreements concerning the LSRI lead to a clear and feasible situation, by means of:

- a good embedding in the Dutch knowledge infrastructure, by means of a consortium agreement, where necessary;
- a clear decision-taking structure with sufficient mandate and independence;
- a clear organisation structure that contains the tasks and competencies of the governance and the management;
- a suitable procedure for dealing with budget and time overruns;
- a sound strategy in terms of procurement, intellectual property rights and commercial activities that is in line with prevailing legislation and guidelines and for which the associated legal and contractual issues have been identified and resolved;
- a proposal for suitable key performance indicators, milestones and deliverables for the purpose of regular reporting and interim and final evaluation, which facilitates the reporting of the technical and financial realisation and which makes it clear how exploitation benefits science, industry and society.

b. Accessibility

AN LSRI that is also part of the National Roadmap for Large-Scale Research Infrastructure must at least provide excellence-driven access or implement a wide access policy. It will be assessed whether the access procedure is appropriate. It is important here for the applicants to describe:

- which research groups will use the LSRI;
- what part of the capacity will be available for external users;
- the average extent of use per external researcher.

c. ICT infrastructure

Large-scale Research Infrastructure requires support involving information and communications technology (IT) infrastructure. The quality, completeness and appropriateness of the analysis and quantification of the required IT infrastructure and of the required expertise and implementation will be assessed. Aspects taken into account in assessing this factor include:

- how the IT resources and infrastructure will be used;
- the relevance of using the IT resources and infrastructure;
- the effectiveness and feasibility of using IT resources and the use of IT infrastructure and the harmonisation with SURF;
- the knowledge of IT resources and structure within the team;
- appropriate policy in place to encourage academic users to make data generated by the LSRI (or its users) available according to FAIR principles (findable, accessible, interoperable and reusable) (see also Section 3.5.2).

4.2.4 Criterion 4. Technical and business case

The following three factors are relevant to this criterion:

a. Technical feasibility

It will be assessed whether it is technically possible to build the intended LSRI. Aspects taken into account in assessing this factor include:

- a suitable plan for the technical realisation, including timetable with milestones, deliverables and (the role of) participating parties;
- an overview of which technical challenges play a role in achieving the desired specifications;
b. Risk analysis
It will be assessed whether the risks with regard to the realisation and exploitation of the requested LSRI have been properly identified and covered (e.g. with regard to the funding of the LSRI, the technical feasibility, the requirements for the required IT infrastructure and the governance and management of the LSRI).
Aspects taken into account in assessing this factor include:
- possible financial and other consequences of technical risks or not being able to achieve the technical requirements;
- realistic alternative scenarios and their possible consequences for the scientific ambitions of the LSRI;
- a good track record in the area of comparable technical solutions of the (intended) realising parties, within the consortium, or among other connected parties;
- possible risks related to the exploitation of the LSRI;
- (where possible) the allocation in phases of the realisation and funding with clearly measurable (SMART) objectives.

c. Financial feasibility
The application must indicate clearly which investments are planned, what the associated costs are, how the applicants will fund these costs and what the commitment of the applying parties is. In this regard, it is also important that the organisation and management have sufficient possibilities to efficiently realise and exploit the LSRI.

If the investment is part of a larger whole, such as the expansion or renewal of an existing LSRI, a distinction should be made between the requested investment (NWO contribution + co-funding) and the total LSRI.

The committee will assess the financial feasibility and effectiveness of the requested investment as well as the soundness of the budget analysis, the degree of co-funding and the continuity of the LSRI after the award period. It is therefore important that applicants:

(1) give a complete picture of the costs and financing by providing:
- a reasoned, sufficiently specified* and balanced budget for the requested investment (NWO contribution + co-funding) for a period of 10 years;
- a complete and sufficiently specified overview of the total costs and resources that are necessary for the successful realisation, exploitation and monitoring of, and participation in the LSRI, even if any of these aspects are not eligible for funding. This applies to both in cash and in-kind (expressible in money) contributions. If the lifespan is longer than 10 years, an overview is requested of the costs of the LSRI for the entire lifespan, including the costs for dismantling the LSRI.

* A detailed explanation of the breakdown of the application budget is given in the application form.

(2) provide sufficient certainty about the financial income through:
- a description of the possible sources for funding and which of these will be tapped;
- the financial commitment of the institutions involved with respect to both the investment as well as the running costs of the LSRI;
4.3 Bridge funding

The investment ambitions of Dutch researchers are significantly larger than the funds available. This means that it is not possible for all initiatives to be financed in this funding round. The NWO executive board has therefore reserved a limited budget of €2 million as a bridge fund until the next Roadmap round.

The NWO executive board will ask the Permanent Committee Large-Scale Research Infrastructure (PC) to advise about the use of these funds and about the conditions – besides the NWO Regulation on Granting 2017 – under which these funds can be awarded. Applicants who have submitted an admissible proposal within the National Roadmap for Large-Scale Research Infrastructure round 2019–2020 will be invited in a separate call for proposals to submit a short proposal to claim this bridge funding. The funds are intended for LSRI that cannot be awarded funding in this round and for which it can reasonably be expected that their continued existence will be put at severe risk. Examples are a threat to the continuity of the LSRI, not being able to meet international obligations or not being able to maintain collaborations.

The PC will assess the quality of the applications and then submit a ranking recommendation to the NWO executive board, indicating which proposals are of sufficient quality to be considered for bridge funding. The NWO executive board will take a decision about the use of these funds. The basic principle for the use of these funds is that the institutions involved with the LSRI also contribute to solving the problem with respect to the continued existence of the LSRI.
5 Contact and other information

5.1 Contact

5.1.1 Specific questions

For specific questions about the National Roadmap for Large-Scale Research Infrastructure and this call for proposals, please contact:

Contact: Jelte Wouda
Telephone: +31 70 344 0590
E-mail: roadmap@nwo.nl

5.1.2 Technical questions about the electronic application system ISAAC

For technical questions about the use of ISAAC, please contact the ISAAC helpdesk. Please read the manual first before consulting the helpdesk. The ISAAC helpdesk can be contacted from Monday to Friday between 10:00 and 17:00 CE(S)T on +31 20 346 7179. However, you can also submit your question by e-mail to isaac.helpdesk@nwo.nl. You will then receive an answer within two working days.

5.2 Other information

The Dutch version of the Call for Proposals supersedes the English translation. No rights can be derived from the English translation.