

# National Roadmap for Large-Scale Research Facilities

Programme brochure round 2011



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Netherlands Organisation for Scientific Research

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# 1 Introduction

## 1.1 Background

The first National Roadmap for Large-Scale Research Facilities was presented to the Netherlands Minister of Education, Culture and Science by a specially appointed committee (the Van Velzen Committee) at the end of 2008. The Minister responded by structurally earmarking € 20 million within NWO's budget for facilities of this kind.

The first Roadmap is now out of date. A number of projects which were not ready for funding in 2008 have matured since then. In addition, new projects have been launched. Some of these are Dutch initiatives, while others are proposals for Dutch participation in international projects. All of them are, of course, seeking political and financial support.

In its recent report to the Minister of Education, Culture and Science, the Taskforce for the Promotion of Large-Scale Research Facilities has pointed out the importance of periodically updating the Roadmap.

On 3 February 2011, the State Secretary for Education, Culture and Science asked NWO to organise the process of updating the National Roadmap.

## 1.2 Available budget

The coming round will account for the entire NWO budget for Large-Scale Research Facilities for the 2012-2014 period. The resources available for the round amounts to approx. € 80 million.

## 1.3 Validity of brochure

This brochure applies to the call for proposals for the Roadmap Update, which closes on 31 August 2011.

## 2 Aim

The current round of the National Roadmap for Large-Scale Research Facilities has two aims:

1. to update the National Roadmap for Large-Scale Research Facilities;
2. to produce prioritisation and funding decisions for the allocation of NWO's Roadmap funds for large-scale research facilities.

NWO funds for large-scale research facilities are intended to be invested in:

- the establishment or upgrading of Dutch research facilities of international importance;
- Dutch participation in the construction or substantial modification of international research facilities (and therefore *not* exclusively the procurement of use rights, although the acquisition of use rights may, of course, be a consequence of such participation).

The present call is intended for:

1. new facilities wishing to be considered for inclusion in the Roadmap;
2. new facilities wishing to be considered for inclusion in the Roadmap *and* to apply for funding;
3. facilities that were included in the first Roadmap and now wish to apply for continued (or additional) funding;
4. facilities that were included in the first Roadmap and do not need continued (or additional) funding but do still wish to be included in the new Roadmap.

### 2.1 Definition of large-scale research facility

The proposed facility must represent a substantial addition to the European research infrastructure in the field of study concerned and must also enhance the standing of Dutch research in that field of study.

Examples of large-scale research facilities include:

- clean rooms with state-of-the-art equipment and furnishings;
- telescopes and accelerators;
- facilities for biomedical research;
- laser, neutron and synchrotron radiation sources, molecular imaging techniques, high-magnetic fields, etc;
- advanced vessels for maritime research;
- research collections;
- databases, e.g. for social science or medical research;
- broadband connections, high-performance supercomputers and grids (including those for use in research in the humanities, social sciences and life sciences).

A proposed facility may be monodisciplinary (i.e. with users generally drawn from a single discipline) or multidisciplinary (i.e. likely to serve researchers in a broad range of disciplines). It may consist of a single piece of equipment in one building or take the form of a number of related pieces of equipment in highly specialised premises (for example, a clean room). It may even be a facility spread over several different locations but with a centralised core support facility for researchers. Whatever form it takes, it will need to have a core team of technical experts/researchers.

The facility must have an 'Open Access' policy for fundamental research; in other words, all researchers must be able to apply for access to the facility and applications must be judged solely on the basis of scientific merit, assessed via a process of international peer review.

## 3 Guidelines for applicants

### 3.1 Who can apply

Researchers at the following research institutions can act as principal applicants:

- a. Dutch universities;
- b. NWO and KNAW institutes;
- c. The Netherlands Cancer Institute;
- d. the Max Planck Institute for Psycholinguistics in Nijmegen;
- e. the Dutch-Belgian Beamline at ESRF in Grenoble.

In addition, for this particular call, the following institutions can act as principal applicants (decision of NWO Governing Board dated 20 April 2011):

- a. Dutch academic libraries;
- b. TNO and Large Technological Institutes, provided that – as the criteria suggest – their applications are backed principally by ‘tools for science’ arguments. This implies that, irrespective of whether the research concerned is fundamental, industrial or pre-competitive in nature, a basic condition of subsidy will be that the research facility must increase the likelihood of achieving a scientific breakthrough. The application must show why it will do this.

Top Technological Institutes (TTIs) and R&D-intensive companies may participate in applications by the institutes listed above, provided that they are not to be suppliers of the facility (or any part of it).

Applications must be submitted by the highest administrative organ of the relevant institution or organisation or by the proposed project administrator.

### 3.2 What can be applied for

Applications may concern the following (see also application form):

1. Inclusion in the National Roadmap for Large-Scale Research Facilities;
2. Funding for:
  - a. The entire cost of developing, purchasing/constructing and accommodating the proposed facility, or the entire cost of modifying an existing facility in such a way that it can be used to try to achieve a scientific breakthrough.
  - b. The staff and non-staff costs of operating the proposed facility for a period not exceeding 5 years. In this case, operating means technically maintaining the facility in working order. Operating costs may only be requested if funds under 2a. are requested and on condition that no subsidy award has previously been made to cover operating costs.
  - c. Dutch membership of/participation in the construction or upgrading of an international facility or project.

Costs that have already been incurred or concerning which commitments have been given prior to the award of subsidy are not eligible for subsidy under this programme. The same applies to research costs previously subsidised by NWO or otherwise funded out of university budgets or by the public purse.

The lower limit for NWO project subsidies requested under this programme is € 10 million.

Inclusion in the new version of the Roadmap is a precondition of funding in this round. Projects which were not included in the first Roadmap must therefore apply for inclusion in the new one (point 1 above) at the same time as applying for funding (point 2).

### 3.3 When can applications be submitted

The deadline for the submission of applications is **Wednesday 31 August 2011 at 23.59** (Netherlands time).

### 3.4 Drawing up an application

The application must comprise the following elements:

- Submission letter from the principal applicant
- Completed application form
- Letter of intent from each co-applicant, signed by the competent administrative organ, or alternatively the signed consortium agreement .

The obligatory application form can be downloaded from <http://www.nwo.nl/roadmap>

All parts of the application must be written in English and they must be submitted **in the form of a single PDF file** via NWO's Iris electronic application system. The maximum permitted size of the PDF file is 40 pages (in 8.5-point Verdana), including all annexes but excluding the letters of intent/consortium agreement.

### 3.5 Specific conditions

**To qualify for consideration**, applications must satisfy the following conditions:

1. the application must concern a Large-Scale Research Facility (see definition in 2.1);
2. if the application is seeking funding under the programme, it must be for an amount totalling no less than € 10 million;
3. the application must be submitted via NWO's Iris electronic application system;
4. the application must be received by the submission deadline (23.59 hours on 31 August 2011);
5. the application must comprise all the specified elements and the application form must have been completed in full;
6. the application must be written in English;
7. the size of the application must not exceed 40 pages, including any annexes but excluding the letters of intent/consortium agreement;
8. the submission letter must be signed by the highest administrative organ of the institution concerned or by the proposed project administrator;
9. projects under the aegis of international organisations of which the Netherlands is a member (e.g. ESA, ESO, CERN, EMBL/EMBC) may seek funding only for parts of the facility which cannot be funded from the mainstream budget of the council of the relevant international organisation or from national contributions. The submission letter accompanying the application must explicitly state that this is the case.

### **The Community Framework for State aid for Research and Development and Innovation**

In view of the government decision that bodies such as companies or public-private partnerships (PPPs) may participate in applications, it is important to stress that subsidies can only be awarded to such bodies if their applications satisfy the conditions laid down in the Community Framework for State aid for Research and Development and Innovation. This may mean that an applicant PPP must be reported to and approved by the European Commission (EC) before being awarded a subsidy. The Dutch Ministry of Education, Culture and Science is responsible for reporting such PPPs to the EC. If the PPP needs to be reported and approved, any award decision under the programme will include a proviso that the subsidy is conditional on the receipt of EC approval.

Applications involving PPPs and companies must in any case state:

1. Whether the prospective benefits are likely to be economic or social in nature. If both, in what proportion?
2. What percentage of the proposed activities relate to (a) fundamental research, (b) industrial research, (c) pre-competitive development and how the budget is broken down between these types of research;
3. Whether each private-sector partner can be categorised as a large enterprise or an SME;
4. The planned or expected extent of cooperation and exchange between industry and research institutions, both in the context of the proposal and in the longer term, and also the extent to which any exchange of staff is institutionally embedded.

In the light of the Community Framework for State aid for Research and Development and Innovation (2006/C 323/01), the maximum amounts of aid permitted are:

- fundamental research: max. 100%
- industrial research: max. 50%
- pre-competitive research: max. 25%

However, the General Block Exemption Regulations (Commission Regulations (EC) 800/2008) permit the following exceptions to be made in this respect:

- 10% extra if SMEs are involved;
- 5 or 10% extra for research in areas covered by regional aid schemes;
- 15% extra for research aligned with the EU Framework Programme;
- 25% extra for practical cross-border cooperation.

Finally, State aid to public-private research and development projects is subject to the anti-cumulation condition. This means that, irrespective of the source of the funds, the government funding received for a project may never exceed the current aid thresholds.

## **3.6 Submitting an application**

Applications can be submitted to NWO, attn. the chairman of the Committee for the Update of the National Roadmap for Large-Scale Research Facilities.

Applications to NWO must invariably be submitted via the Iris electronic application system. Any application that is not submitted via Iris will not be considered. Principal applicants must submit their applications via their own personal Iris accounts. Principal applicants who do not yet have an Iris account should set one up at least 24 hours before submitting the application. Once a principal applicant has an Iris account, he/she need not set up another one in order to submit a new application.

# 4 Assessment procedure

## 4.1 Procedure

The projects listed in the first Roadmap will be the starting point for the new one. The Roadmap committee will review the current status of these projects. If the facilities concerned wish to remain on the Roadmap list, they must submit an application in accordance with the procedure specified in subsection 3.4.

The first stage of the assessment procedure will be to decide which applications comply with the basic conditions listed in subsection 3.5 of this brochure and therefore qualify for consideration.

To assess the proposals, the NWO Governing Board has appointed an ad hoc committee to update the National Roadmap for Large-Scale Research Facilities. The members of this committee are all independent experts in the field of scientific research drawn from the following organisations (albeit acting in a personal capacity): KNAW, VSNU, VNO-NCW, NFU, TNO-Large Technological Institutes, and the EU (ESFRI).

The committee will consider the applications/progress reports in the light of the criteria listed in this brochure. In doing so, it will also make use of a national or international peer review process operated by the NWO Office with the assistance of NL Agency. Moreover, the committee will seek the advice of KNAW with regard to criteria 1 ('science case') and 2 ('talent case', see 4.2). In accordance with the usual NWO procedures, applicants will be offered the opportunity to respond to the peer review reports and KNAW advice.

Based on this input, the committee will hold an initial meeting to decide which projects are eligible for inclusion in the new Roadmap and which are not eligible for inclusion or should perhaps be dropped from the existing Roadmap list. The committee will then select a limited number of projects for interview. (N.B. selection or non-selection for interview will not in itself be a decisive success factor). Finally, based on earlier discussion and the results of the interviews, the committee will produce selection recommendations and prioritisation proposals for the new Roadmap. The committee will then present these to the NWO Governing Board. The Governing Board will take a decision on the advice and ultimately present this to the Minister of Education, Culture and Science.

### Timetable

31 August 2011	Deadline for submission of proposals
September-October 2011	Consultation with referees and applicants' responses
November 2011	First meeting of selection committee
December 2011- early January 2012	Second meeting of selection committee and interviews
January 2012	Selection committee recommendations go to Governing Board
Late January 2012	Decision finalised by NWO Governing Board
Late Spring 2012	Governing Board decision presented to Minister of Education, Culture and Science

Once the Governing Board has presented its recommendations to the Minister of Education, Culture and Science, the Minister will inform the House of

Representatives of his standpoint with regard to the proposed new version of the National Roadmap and the associated budgetary proposals.

As soon as possible after this, the Minister will communicate his decision on the Roadmap and the funding of the proposals to the Governing Board of NWO. NWO will then notify applicants of the outcome.

## 4.2 Criteria

The proposed facilities will be expected to fulfil the ambition encapsulated in the aims of this programme. Proposals will be assessed on the basis of the following eleven criteria:

### *1. The likelihood of scientific breakthroughs (science case)*

Innovation is dependent on scientific breakthroughs. If major investments are to be made in research facilities, those facilities should produce a greater likelihood of scientific breakthroughs in the research field concerned, or at least aid in that process.

### *2. The potential for 'brain gain' (talent case)*

Top research talent is essential to any knowledge-driven economy. Highly talented researchers will only come to the Netherlands – or remain here – if they are offered an attractive and challenging working environment. Advanced research facilities are vital in this respect.

### *3. Social and commercial relevance (innovation case)*

Research facilities are necessary for business and industry and for innovative public bodies. Large-scale research facilities act as a magnet for new knowledge and expertise, creating an excellent climate for companies both large and small. To maintain broad public support in the Netherlands and the wider European Union, especially as regards additional funding, it is important that such facilities should, wherever possible, reflect the *top sectors* designated by the present Dutch government and current hot *social issues* in the Netherlands and Europe at large.

### *4. Collaboration and competition (partnership case)*

Large-scale research facilities are embedded in wide-ranging networks. Research at such facilities is conducted via national and international networks. Moreover, facilities with a large critical mass ensure synergy between knowledge workers. The establishment of a large-scale facility calls for effective agreements between the partners (in the Netherlands and elsewhere), reached via a governance and management model.

### *5. Financial aspects (business case)*

Innovation costs money. The cost of bringing a facility of international importance to the Netherlands and operating it here, or of participating in an international research facility outside the Netherlands, will exceed the available budgets. Careful budgetary analysis is therefore essential.

### *6. Technical feasibility/technical challenges (technical case)*

Since new facilities inevitably involve risks, it is important to know whether it is technically possible to construct the proposed facility. It is also a good idea to estimate the technical challenges because these may constitute additional reasons for or against embarking on the establishment of the facility.

### *7. Possible focus for the Netherlands*

The following questions will be asked:

- a. Is the Netherlands an international leader in the field concerned?
- b. Can the Netherlands achieve a unique position in this field or part of it?
- c. Even if foreign research groups are the international leaders in the field, are there reasons to invest in the proposed facility and so to enter into competition with them?

### *8. Critical mass*

Large-scale research facilities exist mainly to serve the needs of researchers. This means that investment needs to be focused on facilities in those fields where the Netherlands has a good supply of top researchers, both as regards quality and numbers. It also means that there must be guaranteed access to the facility for external researchers. The results of recent external assessments should also show that Dutch research groups are international leaders in their fields.

### *9. Embedding*

Large-scale international research facilities need to be financially and institutionally embedded within the Dutch knowledge infrastructure. This also applies to large-scale international research facilities in which the Netherlands does not play the leading role. Such institutional and financial embedding can be demonstrated by, for example, the concentration of research groups within the Netherlands, the presence of Dutch research groups within European networks, and the investment made by Dutch government authorities in the relevant research field, for example through the Economic Structure Enhancement Fund (FES).

### *10. Proven willingness to collaborate*

The large-scale research facility must strengthen collaboration between the Dutch research groups concerned in the relevant field of research. To achieve this, it is essential that the facility is properly managed and cooperation well-organised. The research groups concerned can confirm their will to collaborate financially as well as otherwise by earmarking a certain percentage of their research budget for the operation of the large-scale research facility concerned.

### *11. Reflection of social trends*

It is important to pay attention not only to scientific and economic aspects but also to national social developments and trends. This can be done by, so far as possible, reflecting present/future policy frameworks and scientific priorities in the Netherlands and the European Union.

# 5 Other information

## 5.1 Contact

### 5.1.1 Questions about the Roadmap

Questions about the Roadmap itself can be addressed to the NWO Policy Development and Support Department.

- contact: Stefania Usai
- tel: +31 (0)70 344 05 69
- e-mail: [roadmap@nwo.nl](mailto:roadmap@nwo.nl)

### 5.1.2 Technical questions about the Iris electronic application system

For technical queries regarding the use of Iris, contact the Iris helpdesk but please read the manual before seeking help.

Iris helpdesk opening hours: Monday – Friday, 11.00 – 17.00, tel. 0900 – 6964747 (15ct/min). Unfortunately, some foreign providers do not permit calls to 0900 numbers. In that case, mail your query to [iris@nwo.nl](mailto:iris@nwo.nl)