



Applied and Engineering Sciences

# **Guidelines for Members of the Jury**

## **Open Technology Programme**

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# Introduction

## NWO domain TTW research

NWO domain Applied and Engineering Sciences (NWO domain TTW) is part of the Netherlands Organisation for Scientific Research (NWO).

NWO domain TTW funds research in the technical sciences, the results of which will in due course be applied outside the applicant's field. Those who make use of the knowledge arising from TTW research include industry, governments and other public bodies or groups. Utilisation is the term used by NWO domain TTW to describe use of this knowledge by those outside the profession. Another feature of NWO domain TTW is that it welcomes proposals from all natural science disciplines, as long as the utilisation criterion is met.

## Apples and oranges

Due to the lack of disciplinary restrictions, proposals from a variety of fields covering an enormous range of topics compete for funds from NWO domain TTW. It is already difficult to compare proposals from a single scientific field, never mind when proposals that come from civil engineering, electrical engineering, biology or computer science have to be assessed side by side. NWO domain TTW is in fact being set the task of comparing apples with oranges. That is why there are no permanent committees of experts at NWO domain TTW who make recommendations about allocating funds. Each time an assessment has to be made, a jury of 12 members is assembled in an ad hoc fashion to advise the Board of NWO domain TTW. The constantly changing composition of the jury prevents particular fields from being favoured above others. Moreover, this gives a better guarantee that the new crop of researchers will have the same chance of receiving funding as the established order.

## Assessment procedure

NWO domain TTW has a limited budget and so unfortunately only some of the proposals can be funded. In order to be able to select the best project proposals objectively and independently, NWO domain TTW makes use of a two-step assessment procedure.

### Step 1:

At least three experts, the referees, assess a proposal. Referees are experts in the specific research field; they comment on the proposal by means of a number of questions. These comments and the rebuttal from applicants represent both sides of the expert argument for the proposal. These comments and the rebuttals are incorporated into a protocol.

### Step 2:

A multidisciplinary jury generally assesses 20 project proposals and their protocols. The jury comprises experienced, highly-educated people with an affinity for technology development. They are not called upon to make use of their specific professional expertise in their assessment; they assess the proposals as laypeople. Each member of the jury awards two ratings which both count in equal measure: one for scientific quality and one for utilisation. This assessment method therefore differs substantially from the content-based assessment conducted by the referees.

## Conflicts of interest

In order to give applicants optimal objectivity and transparency, NWO domain TTW uses the NWO Code of Conduct on Conflicts on Interests to ensure there is no conflict of interest. The possible forms conflict of interest may take and the measures to be taken to avoid conflict of interest are identified in the code of conduct. Parties to which the code of conduct applies are: referees, members of the jury and of the committees, members of decision-making bodies and employees of NWO.

For members of the jury for the Open Technology Programme, this means specifically that members who cannot give an independent assessment of a particular project proposal may not award ratings for that proposal. The member of the jury in question must state this explicitly on the ranking list. NWO domain TTW oversees this, checks for possible involvement in project proposals and coordinates this with the members of the jury.

The full text of the NWO Code of Conduct on Conflicts of Interest can be found on the website:

<http://www.nwo.nl/documents/nwo/juridisch/gedragscode-belangenverstrengeling-nwo> (in Dutch) or <http://www.nwo.nl/en/documents/nwo/legal/nwo-code-of-conduct-on-conflicts-of-interest> (in English).

## Who are the members of the jury?

The members of the jury are drawn from universities, technology institutes, industry or other relevant public organisations. Roughly speaking, two-thirds of the members of the jury come from universities. Members of the jury are invited on account of their experience and good record of service, and not on account of their expertise in the field covered by the proposals. This experience and record of service enables them to form a judgment, on the basis of the information contained in the proposal and the protocol, about the scientific quality of the proposal and the chance of the results being utilised. Because the juries contain such a wide range of people, they reflect that part of Dutch society that is closely involved with science and technology. By extension, the societal support base for the research is then guaranteed and there is a permanent exploration of the needs in society that can be met by science and technology.

## The jury's approach

- The procedure is in writing. The jury does not meet to discuss the proposals.
- The material they start from is a package of generally 20 proposals with their associated protocols. Each proposal contains a summary of the research plan and the utilisation plan. These summaries plus the protocol provide information about the basis for the proposal.
- Each member of the jury works completely independently, because they do not know who the other 11 members of the jury are at that moment. NWO domain TTW publishes the names of the people who have served on a jury in a particular year in its annual report.
- The jury has over three weeks to assess the proposals.
- Each member of the jury awards two ratings: one for its scientific quality and one for utilisation, according to the evaluation scales on pages 7, 8 and 9. The scale runs from 1 = excellent to 9 = sub-standard.
- Each member of the jury assesses each proposal in its own right. The explicit intention is that each proposal is given a rating in its own right according to the evaluation scale. The rating must not be derived from a position in the ranking. Different proposals may therefore receive the same rating.
- The TTW office will collect the ratings from all the members of the jury and, for each proposal individually, will calculate the arithmetic mean for both criteria: quality and utilisation. If this calculation results in an undesirable equal ranking, the board may decide to make use of the geometric mean of the assessment ratings.
- The outcome of the calculation of the means determines the final ranking of the proposals in an assessment round. The ratings for scientific quality and utilisation carry equal weight.

- The Board makes funding decisions on the basis of the quality of the ranking decided by the jury. The number of projects to be funded will in practice often be determined by the limited budget available for each jury round.
- The Board does not assess the content of the project proposals. It uses the ranking decided upon by the jury. The available budget for each jury round is a secondary consideration.
- The Board may attach additional conditions to the funding. These could relate to intellectual property, for example, or co-financing by users or potential users, major investments or special infrastructural facilities.
- Once the decision has been made, the jury will be informed of the outcome in writing.
- The composition of the jury by jury chamber will be published in the annual report.

## Points for attention

When assessing a proposal, jury members should be led by the information in the application and the protocol. The most essential information about the proposal is to be found in the summaries. The protocol contains the referees' comments. NWO domain TTW asks the referees of a proposal to focus on a number of aspects and to make comments accordingly. These aspects are set out below, sub-divided into the two categories: scientific quality and utilisation. The full list of questions can be found on NWO domain TTW's website. (Evaluation items: <http://www.ttw.nwo.nl/nl/aanvrager> (in Dutch) and <http://www.ttw.nwo.nl/en/applicant> (in English)).

## Scientific quality

- Competency and reputation of the applicants
- Originality of the proposal
- Research methods and research programme
- Available infrastructure
- Number of personnel requested and other expenses

## Utilisation

- Reputation of researchers as regards the application of results from their own research
- Strengths and weaknesses of the utilisation plan.
- Feasibility of its application
- Economic importance of the research
- Position as regards patents
- Users and their contribution to the research, in financial or other terms

The comments of the referees and the rebuttals from the applicants are set out in this order in the protocol.

## **Non-permissible criteria**

### **Own opinions on relevance to society and ethics**

The chance of the field of research being applied must not be confused with a personal value judgment about its societal relevance in the widest sense. An assessment of the utilisation of the research results from the written research which is to be assessed by the jury is different from one's own estimation of the usefulness and necessity of, for example, research into energy and the environment, or one's position on the permissibility of, for instance, biotechnological techniques. Members of the jury are purely being asked to assess the question of whether the written research will lead to its actual application.

If, on the other hand, the referees have commented on these types of societal and ethical aspects, members of the jury should, of course, include them in their consideration. However, regardless of the comments the referees make about it, the assessment by members of the jury of the utilisation of the research can only be negatively affected if public debate leads irrevocably to the impossibility of application in this specific case.

### **Policy considerations**

Members of the jury may not take account of any policy considerations in their assessment. Examples of arguments members of the jury may not include in their assessment are:

- This type of research does not fall under the remit of NWO domain TTW. This is a matter for the Board. If the proposal is under consideration, you may assume that it is in line with the aims of NWO domain TTW.
- Its general usefulness or aim for society is unclear.
- The government has already invested large sums of money in this research field.
- The research is not one of the government's priorities.
- The share of NWO domain TTW's budget it is claiming is too great.
- The university ought to bear the cost of this.
- The group has already had a great deal of additional support in the past. Funding will be at the expense of support to other groups.
- The proposal is not in line with the national division of tasks in this research field.

### **In conclusion**

NWO domain TTW is very committed to its method for assessing project proposals in the Open Technology Programme. To a significant degree, this method guarantees equal opportunities for everyone. This can only be achieved if the project proposals are not only assessed by expert referees, but also by a jury whose composition changes regularly.

It is NWO domain TTW's aim to maintain the high quality of assessments now and in the future. The help of many people, referees and members of the jury, is indispensable in this respect. NWO domain TTW greatly appreciates the contributions made by its referees and members of the jury.

# Appendix 5: Evaluation scales for members of the jury

## Scientific quality

### 1. Excellent

- An excellent researcher or outstanding research team.
- A well-chosen problem.
- The method is especially/pre-eminently effective and original.
- Very urgent.

### 2. Excellent to very good

### 3. Very good

- A competent researcher or competent research team.
- A significant problem.
- The method is original and effective.
- An urgent approach is important.

### 4. Very good to good

### 5. Good

- An average researcher or average research team.
- A routine problem.
- The method, which has some original details, can be used to address the project, although other possibilities are conceivable.

### 6. Good to moderate

### 7. Moderate

- It is far from certain that this work is within the capacity of the researcher and / or the research team: the proposal itself contains no obvious errors.
- The problem is moderately interesting.
- Whether the project can be successfully tackled with this standard method, is questionable.
- The project may well be postponed.

### 8. Moderate to poor

### 9. Poor

- The competence of the investigator or research team is inadequate.
- The proposal contains serious errors or mistakes.
- This old method is not good for this project.
- Not to be executed, even if there is money left.

## Utilisation

### 1. Excellent

- This will certainly lead to important new techniques or to very important applications in industry, society and other sciences.
- This research is urgently needed to make an estimate of the consequences of the use of this technology or technique.
- The utilisation is very well thought out and the approach ensures the greatest likelihood of an effective use of the results.

### 2. Excellent to very good

### 3. Very good

- This research will likely lead to important new techniques or to important applications in industry, society, or in other sciences.
- This research is highly desirable for making an estimate of the consequences of the use of this technology or technique.
- The utilisation is well thought out and the approach makes it plausible that the results of this work will be used well.

### 4. Very good to good

### 5. Good

- This work will possibly lead to new technologies or applications that might be useful for industry, society, or other sciences.
- This research will be needed to make an estimate of the impact of this technology or technique.
- The utilisation is sufficiently thought through; it can probably be improved during the execution of the work. The results of this work will probably be used.

6. **Good to moderate**

7. **Moderate**

- Technically this work could possibly be useful at some time or it is conceivable that in due course another science, industry or society or of the results could make use of it.
- The results of this research are not exactly awaited, but they may be useful in the future if an evaluation is made of the consequences of using this technology or technique.
- The utilisation is very unsatisfactory. This should certainly be improved; otherwise it is likely that the results of this work will not be used.

8. **Moderate to poor**

9. **Poor**

- Technically the work is bad and redundant, i.e. different, better or similar techniques, which are cheaper, are already available.
- This study does not evaluate the consequences of using this technology or technique; moreover, it increases the confusion.
- The utilisation is completely wrong.