Appendix C
Standard Evaluation Protocol 2003 – 2009 for Public Research Organisations

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Preface

This protocol is a consequence of the report *'Kwaliteit verplicht'* ('Quality obliges') of the working group *'Kwaliteitszorg Wetenschappelijk Onderzoek'* (Quality Assurance Scientific Research)[14]. The report outlines a new national evaluation system for publicly funded research in the Netherlands.

Within these outlines the three main Dutch organisations responsible for publicly funded research -the universities, the Royal Netherlands Academy of Arts and Sciences (KNAW) and the Netherlands Organisation for Scientific Research (NWO)- defined this protocol for practical use in all coming research evaluations conducted under their auspices.

In this evaluation system all publicly funded research is evaluated once every six years. Once every three years research units will produce a self-evaluation, alternating between preparation for the external evaluation and serving as an internal mid-term evaluation. The evaluation system aims at three objectives with regard to research and research management:

- *Improvement* of the quality of research through an assessment carried out according to international standards of quality and relevance;
- *Improvement* of research management and leadership;
- *Accountability* to higher levels of the research organisations and funding agencies, government, and society at large.

An important condition is also to keep the administrative burden as low as possible. For that reason these evaluations are intended to serve all regular public evaluation goals.

This protocol is primarily directed toward the evaluation of scientific research. Traditionally, such evaluation focuses on the quality of work conducted according to the standards of scientific disciplines, and the ways in which results are communicated to a scientific audience. However, the work done in scientific institutions often entails more; that is, institutions have a broader mission. These broader missions might refer to certain socio-economic goals or to particular technical or infrastructural functions (for example with respect to the scientific information

[14]'Kwaliteit Verplicht. Naar een nieuw stelsel van kwaliteitszorg voor het wetenschappelijk onderzoek'. Rapport van de werkgroep Kwaliteitszorg Wetenschappelijk Onderzoek en standpuntbepaling KNAW, NWO en VSNU. April 2000 (Published in 2001)

structure). Also, scientific work can be of a multi- or transdisciplinary nature. In all these cases, standards of quality and relevance might differ, as do patterns of communication. The organisation responsible for evaluating individual institutes should therefore see to it that procedures necessary to assess these particular aspects of an institute's mission are employed. This should, for example, have consequences for the composition of the evaluation committee, and/or the data collection process (See literature for examples of these broader types of evaluations).

The results of the evaluation are intended to help the research organisation, the management of the research units and the individual researchers to make better decisions about future research, research management and research policy. The evaluations are both *retrospective* and *prospective*. This is reflected in the *assessment criteria* (chapter 2) for past performance and future plans that reflect the main questions that need to be answered by the evaluators.

The units of evaluation may differ between the participating organisations -the universities, KNAW and NWO- but they will be referred to throughout this protocol as 'institutes'. The boards of the three participating organisations, *i.e.* the board of the university, the board of KNAW and the board of NWO, under whose jurisdiction a research institute falls, are responsible for the organisation and proper procedures of the evaluation of that institute. An institute may be defined as 'a group of researchers with an articulated shared mission operating under the same management'. Each 'institute' will have a director, board and/or research leader(s) with a final responsibility. Throughout this document they will be referred to as 'the management'. A short description of the participating organisations is given in appendix 1.

1. Objectives of the evaluation system

Improvement and accountability are the main objectives of this system of quality assessment. Public accountability is both a requirement for publicly funded research and an inherent element in the improvement cycle in which this scheme of evaluation plays a dominant role.

With regard to the objective of *improvement*, the system is directed toward both the research and its management. Evaluators are explicitly asked to judge not only the performance of an institute's research and

researchers, but also its leadership, strategy and policy, and research organisation. If applicable, the quality questions also may refer to the socio-economic impact of research and to multi- and interdisciplinary research.

The evaluation system is a combination of *retrospective and prospective analysis.* The relationship between retro- and prospective evaluation is to some extent the result of acquired confidence for the future based on insight in the past. In other words: discussions about the future require knowledge of the past. The emphasis will be on the prospective analysis.

Public accountability is a requirement in the case of publicly funded research. The evaluation committee will report their findings to the board of the responsible research organisation. The responsible board will make policy decisions for the institute at hand based on the evaluation report and discussion with the institute. Together, the evaluation report and the decision of the board form the results of the evaluation. These results will be reported to the Minister of Education and Sciences as part of existing procedures in which the responsible research organisations report to the minister periodically (yearly) about evaluations conducted under their auspices. As such the results of the evaluation have a public character.

The system aims at operating with the least possible burden for the researchers: a self-evaluation once every three years, an external evaluation once every six years. On the basis of a yearly monitoring system, the institutes maintain data needed for these evaluations in a systematic way. The three research organisations aim at a national research information system, accessible through the Internet, to store all relevant data. This protocol prescribes which data are to be provided. In 2002 such a national information system is not yet available.

2. Assessment criteria

The assessment criteria for an institute as a whole and those for the research programmes are similar, but differ in scope and depth. The institute assessment puts emphasis on strategy and organisational aspects, whereas the programme assessments focus on the results and quality of the scientific research and on the future.

Together the criteria represent a comprehensive picture of the performance of an institute or research group in any given field, and of its future potential. It has to be noted though that the elaboration of these criteria may differ for different fields. Because publication traditions and contextual relations vary among different fields, articles in high ranking journals, for example, are much more telling and accepted as indicator in some fields than in other. This goes for the distinction at large between scientific areas (natural sciences, social sciences, humanities, medical sciences, agricultural sciences, technical sciences) as for sub fields in these areas. Having said that, the main criteria are elaborated as a guideline for the evaluators. The main criteria to be used in the evaluation are:
- Quality (international recognition and innovative potential)
- Productivity (scientific output)
- Relevance (scientific and socio-economic impact)
- Vitality and feasibility (flexibility, management, and leadership).

The evaluation committee presents its judgements on these criteria according to a five-point scale: excellent, very good, good, satisfactory, and unsatisfactory. An extended description of this scale is given in appendix 2.

The judgements of the evaluators will refer to the evaluation unit as a whole, and to relevant parts of the institute (research programmes). In cases where the evaluation committee's judgement is not unanimous, different views of members of the panel should be stated explicitly.

The main criteria should always be reviewed in relation to the mission of the institute or group, for instance, if the mission of the institute or group is restricted to national scientific tasks. The criteria may be interpreted in the following way.

Quality is to be seen as a measure of excellence and excitement. It refers to the eminence of a group's research activities, its abilities to perform at the highest level and its achievements in the international scientific community. It rests on the proficiency and rigour of research concepts and conduct; it shows in the success of the group at the forefront of scientific development. As a rule, experts in the field -the peers- judge this. They rely on their own knowledge and expertise, on discussions with the group leaders and other members, and on various kinds of systematic information. When an institute provides high quality state

of the art facilities to the research community this can be considered as a measure of excellence.

Productivity refers to the total output of the group; that is, the variegated ways in which results of research and knowledge development are publicised. Usually, quantitative indicators measure this. In most cases this will be bibliometrics, which are indicators concerned with publications and citations of publications. In some cases technometrics (largely concerned with patents and citations of patents); or sociometrics (concerned with socio-economic performance or embedment of research) can be applied. The output needs to be reviewed in relation to the input in terms of human resources.

It is important to remember that quantitative approaches have gained credibility in the physical and life sciences, but remain problematic in the social sciences and humanities where different publication traditions exist and publication patterns may vary widely between disciplines. The limitations of the ISI Citation Indexes, which are sometimes relied upon, must also be kept in mind (ISI databases do not cover the full range of journals, they are weak in emerging areas, impact scores differ between disciplines and even sub-disciplines).

Furthermore, new tools for mapping and analysing productivity are emerging to take account of changes in publication behaviour. As more and more results of research become available through the Internet, these tools become increasingly appropriate and valuable. The research organisations will follow these developments closely and consider the introduction of such new tools into the evaluation process once they have proven their credibility and can provide significant added value to the evaluation process.

Relevance is a criterion that covers both the scientific and the technical and socio-economic impact of the work. Here in particular research choices are assessed in relation to developments in the international scientific community or, in the case of technical and socio-economic impact, in relation to important developments or questions in society at large. Both qualitative and quantitative methods can be used here.

Vitality and feasibility. This dual criterion refers to the internal and external dynamics of the group in relation to the choices made and the success rate of projects. On the one hand, this criterion measures the

flexibility of a group, which appears in its ability to close research lines that have no future and to initiate new venture projects. On the other hand, it measures the capacity of the management to run projects in a professional way. Assessment of policy decisions is at stake, as well as assessment of project management, including cost-benefit analysis.

The questions to be answered with these assessments concern both the research institute and the research programmes. These questions are:

For past performance:

1. What are the quality and relevance of the institute?
2. What is the quality of the leadership, management, strategy and research programmes of the institute, its (human) resources, organisation and infrastructure and how can they be improved?
3. To what extent has the institute/research programme achieved its mission and goals formulated for the period under review?

For future plans:

1. Is the mission of the institute well chosen and phrased in view of the actual developments in the relevant research field(s)?
2. How do you assess the institute's research plans and is there sufficient coherence in the research portfolio of the institute?
3. What is the quality of the leadership, management and strategy of the institute, its (human) resources, organisation and infrastructure and how can they be improved?
4. Which of these aspects has room for improvement and how could that be accomplished?

The evaluation committee may be asked to answer additional questions from the board of the research organisation. These may refer to specific tasks of the institute not directly related to its research, specific situations such as major changes in the organisation or mission of the institute, or specific demands of stakeholders who help fund the institute in a substantial way.

3. Planning and procedures

As a key element in the cycle of improving research and regular accounting of past performance, the evaluation process needs to be carefully planned. Each of the responsible boards (KNAW, NWO, the uni-

versity boards), therefore, has to consider the following procedural steps carefully:

1. Planning and time table for all research institutes. This includes making a draft protocol for each specific evaluation
2. Protocol for the specific external evaluation
3. Selection of the chair and members of the evaluation committee
4. Self-evaluation document
5. The evaluation committee's working programme
6. Evaluation report
7. Conclusions by the board
8. Making the evaluation results public
9. Participation and meta-evaluation

3.1 Planning and timetable for all research institutes

The nature and size of the research units to be evaluated will be defined by each of the three participating organisations (KNAW, NWO, the universities) separately. Throughout this protocol, these units are referred to as institutes. Preferably, the organisations will define institutes as research units of some substance; the average size of a research school may serve as a guideline. An institute is loosely defined as a group of researchers with a shared mission operating under the same management. Different research groups can be part of one research unit.

The management (a director, board) is responsible for the integral performance of the institute. The evaluation is therefore a comprehensive form of quality control; that is, both research and managerial aspects are reviewed.

Each institute needs to be assessed by an external peer evaluation committee once every six years. The institute produces a self evaluation every three years, one in preparation of the external review, and one three years thereafter as a mid-term review. There might be overlap between different institutes; for example, researchers may work both in an Academy Institute and in a university-based research school. It is one of the goals of this system to avoid unnecessary overlap between the evaluations of the various institutes. A leading principle therefore is that information about groups, programmes or parts of the institute evaluated in one evaluation may be used in another.

The boards will plan their external and mid-term evaluations autonomously. They will produce an overall schedule for all the evalua-

tions within their jurisdiction for a six-year planning period. The schedule lists all institutes with their year of evaluation. The schedule is made public by the boards.

3.2 Protocol for the specific external evaluation

The board of the research organisation produces a draft evaluation protocol, i.e. this Standard Evaluation Protocol, augmented with:

- a list of additional input and background documents for the attention of the committee, such as the board's conclusions on the basis of the last mid-term evaluation or the results of relevant external evaluations of other institutes overlapping the institute at hand;
- the expertise profile of the evaluation committee to be appointed by the board (after consulting the institute's management);
- a possible list of additional questions from the board to the evaluation committee.

This draft protocol is discussed with the institute and finalised by the board.

3.3 Selection of the chair and members of the evaluation committee

The board is responsible for inviting and installing the committee, but will take proposals from the institutes to be evaluated into careful consideration. The board is also responsible for following the proper procedures.

The selection procedure for the committee's chair and members must make sure that:

1. the committee is fully competent to carry out the assessments
2. the committee is completely independent from the research institutes involved
3. the committee will receive proper legitimisation and acceptance within the institutes that are assessed, within the scientific community at large and in society.

In order to meet these requirements, the board and the institutes involved will consider carefully the required competencies, disciplinary expertise and professional backgrounds of the chair and the other members. Preferably, they will write this down in a profile, which will serve as a guideline for proposing actual candidates. The board may seek external advice on the profile and candidate list within the national and international scientific community.

It is recommended that the board first invite the chair for the committee. Then the board and the committee's chair will together invite the other members of the committee, according to the profile. The board is also responsible for appointing the supporting staff in the evaluation process. During this process of selection and invitation, the board keeps the institutes informed of the progress and finally makes a public announcement of the formal installation of the evaluation committee.

3.4 Self-evaluation document

The institute provides the self-evaluation document; for the format, see appendix 3. The board, responsible for both the institute and for the evaluation, approves the document as an input document for the evaluation. If not, it will inform the institute on which grounds the document is not acceptable and how this can be remedied. The self-evaluation document needs to be approved by the board before it is sent to the evaluation committee.

3.5 The evaluation committee's working programme

The evaluation committee visits the institute. The chair and the management of the institute will agree upon the programme for the visit. The evaluation committee receives all relevant material self evaluation document, this protocol, possible additional questions by the board and the visiting programme) four weeks in advance of their site visit. In case more institutes are involved, the duration of the visit will be extended.

The chairman may ask, possibly after consulting the other committee members, for additional information from the institute or the board.

The committee will meet in a closed session before the site visit, after being formally installed by a representative of the board. In that closed session, the committee decides on their working procedure for the visit and for writing the draft report.

During the visit, the committee meets with:

- The director (or board) of the institute;
- The research leaders of the institute;
- The advisory committee of the institute;
- Any (group of) person(s) of the institute asking to be heard bythe committee.

In order to avoid any factual errors or obvious mistakes, the chair asks the director to comment on the draft evaluation report. The report will

contain all issues as described in the section "Evaluation report" (see below). After having received these comments, the committee concludes its evaluation by completing the evaluation report and presenting it to the board.

3.6 Evaluation report

The objective of accountability can only be met by producing a transparent and informative public report of the evaluation's outcomes. On the other hand, to meet the objective of improvement and advice to the research management and the board of the institute, the evaluation committee should feel free to discuss the future of the research and of the institute. For this second objective, the evaluation committee can organise discussions with the institute's scientific leaders during their site visit and draw up a management letter to the board. Matters of personnel policy and sensitive decisions are generally treated in the confidential management letter to the board and do not form part of the public report.

The public part of the report should contain the following information and assessments: (see chapter 2: Assessment Criteria)

1. A review of the *entire institute*, containing:

1.1 A reflection on the leadership, strategy and policy of the institute

1.2 An assessment of the quality of the resources, funding policies and facilities

1.3 An assessment of the academic reputation of the institute

1.4 An assessment of the societal relevance of the institute

1.5 A reflection on the strengths and weaknesses the institute has formulated.

2. A review of *each research programme* of the institute, containing:

2.1 A quantified assessment of the quality, productivity, relevance and prospects of the research programme

2.2 An explanation for this quantified assessment, containing:

- A reflection on the leadership, strategy and policy of/for the research programme
- An assessment of the quality of the research staff, (human) resources, funding policies and facilities
- An assessment of the quality and quantity of the publications and of the publication strategies
- An assessment of the academic reputation of the group/programme

- An assessment of the relevance of the programme from an academic perspective and from a broader social perspective
- An assessment of the future perspectives of the group/programme.

If more than one institute is involved in the evaluation process, the evaluation committee is invited to reflect upon their various contributions to the discipline and upon the research portfolio they represent for the Netherlands within their field.

The board is responsible for checking that the report is complete and consistent, leading to its formal acceptance as an evaluation according to this national protocol. If the board does not accept the report, it will inform the evaluation committee on which grounds the board cannot accept the report. Also, the board may ask the evaluation committee to improve the report in order to make it acceptable for the board. The institute's management is asked by the board to reply to the issues raised by the evaluation committee in its report. This reply is added to the report as an appendix and forms an integral part of the final evaluation report.

3.7 Conclusions by the board

The final evaluation report will be sent to the institute's advisory board for advice on all relevant matters arising in the report. On the basis of the report, the advisory board's advice and preceding discussion with the institute, the board will draw conclusions for the future of the institute. Together, the self-evaluation document, the final evaluation report and the conclusions made by the board form the results of this external evaluation.

3.8 Making the evaluation results public

The board will report on both mid-term and the external evaluation results in its annual report. The board will make the outcome of the external evaluation available for anyone on request; preferably, it will be made available on the Internet.

3.9 Participation and meta-evaluation

Accountability not only implies obligations with respect to the individual research institutes in terms of evaluation and publication of the results, but also demands that the three organisations for research guarantee that all research within their jurisdiction participates in this system

of cyclic evaluations. To this end, three mechanisms for accountability will be in operation:

1. A schedule of planned evaluations. At the start of the cycle, the three organisations provide an overall schedule with the institutes that fall under their jurisdiction and the prospected year in which the external evaluation will be carried out.

Although such a planning inevitably will have to be adapted during the cycle due to organisational changes, it will give the institutes and society security and the meta-evaluation a starting point.

2. An account of the completed evaluations in the annual report of the organisations. KNAW, NWO and the universities will provide an overview in their annual reports of the evaluations that were held in that year and of the conclusions the boards have drawn. For evaluations pushed near the end of the year, the conclusions may be reported one year later. Also upon the completion of the three-year internal self-assessment, the annual report will give account of the progress that has been made since the last external evaluation of three years before.

3. A public meta-evaluation carried out by an independent committee. KNAW, NWO and VSNU, in consultation with the minister of Education, Culture and Science, will establish an independent committee that will perform a meta-evaluation of the evaluation process and its outcome. KNAW will take the initiative to organize this committee. The tasks of the committee are:

- Monitoring the research assessment process in universities, KNAW and NWO. Aspects: compliance with the Standard Evaluation Protocol; scientific level and disinterestedness of members of evaluation committees; transparency and information level of the evaluation reports from the viewpoint of policymakers;
- Assessing the impact of evaluation reports on the policies of universities, KNAW en NWO: which decisions have been made as a result of evaluation reports;
- Evaluation of the Standard Evaluation Protocol: recommendations for improving the efficiency and the effectiveness of the assessment process.

The Meta-evaluation committee will report once a year to the Boards of the universities, KNAW and NWO. The report will be made public.

4. Self-analysis: perspectives and expectations

Because the main objective of the evaluation system is to improve an institute's research and research programmes, it is not enough just to present the documentation as required in appendix 3. The institute is asked to make an analysis of its situation (as a whole, but also for each research programme) as given in the documentation, to draw their conclusions and to give an outline of the consequences for the future. The analysis will serve as the starting point for the assessment by the evaluation committee. In most cases, a common 'SWOT'-analysis[15] will provide sufficient insight for this purpose, but in difficult cases, specific management tools or external help may be invoked. The analysis may thus take the following outline:

1. *Strengths*: A recapitulation of the strongest aspects that emerge from the documentation
2. *Weaknesses*: A recapitulation of the weakest aspects that emerge from the documentation
3. *Opportunities*: An analysis of developments in science and in society at large that may affect the institute's or group's research in a positive way
4. *Threats*: An analysis of developments in science and in society at large that may affect the institute's or group's research in a negative way
5. *Analysis*: Conclusions drawn from the SWOT analysis with respect to the necessity for a change in research objectives and strategy.
6. *Adjusted goals*: (If applicable) a new set of goals for the medium and longer term that meet the SWOT analysis.
7. *Adjusted strategy*: (If applicable) the outline of an adjusted strategy that will replace the existing one outlined in the documentation.

The evaluation committee is asked to take both past performance and future prospects, according to this analysis of the institute and groups, into account.

[15] An analysis of strengths (S), weaknesses (W), opportunities (O) and threats (T). Strengths and weaknesses constitute the internal, compliant factors, the opportunities and threats the external factors.

Appendices

Appendix 1: Participating research organisations in this evaluation system

Appendix 2: Extended description of the five point scale

Appendix 3: Contents of the documentation
A. Documentation regarding the level of the institute
A.1 Mission statement
A.2 Leadership
A.3 Strategy and policy
A.4 Researchers and other personnel
A.5 Resources, funding and facilities
A.6 Processes in research, internal and external collaboration
A.7 Academic reputation
A.8 Internal evaluation
A.9 External validation
A.10 Overview of the results
A.11 Analysis, perspectives and expectations for the institute
B. Documentation regarding the level of the research programme
B.1 Leadership
B.2 Strategy and policy
B.3 Processes in research, internal and external collaboration
B.4 Academic reputation
B.5 Internal evaluation
B.6 External validation
B.7 Researchers and other personnel
B.8 Resources, funding and facilities
B.9 Overview of the results
B.10 Analysis, perspectives and expectations for the research programme

Appendix 4: Checklists for internal use by the committee

Appendix 1: Participating research organisations in this evaluation system

KNAW: The Royal Netherlands Academy of Arts and Sciences
The Academy has four primary tasks 1. It advises the government on matters of science and technology. 2. It helps guard the quality of research in the Netherlands through general control mechanisms (organising peer review) and specific programs (accreditation of research schools). 3. It provides a forum for the scientific community and promotes international scientific co-operation (international contacts, conferences, funding and infrastructure). 4. It operates as an umbrella organisation for some twenty institutes in the life sciences, the humanities and scientific information. This protocol relates specifically to this last responsibility and the research schools mentioned under 2. (More info on http://www.knaw.nl)

NWO: Netherlands Organisation for Scientific Research
NWO is the national organisation for fundamental and strategic scientific research. NWO encompasses all fields of scholarship. The organisation of NWO is divided into a granting organisation and a number of institutes.

The granting organisation consists of seven councils, one for each of the following research areas: the Humanities, the Social Sciences, the Physical Sciences, the Chemical Sciences, the Earth and Life Sciences, the Medical Sciences and Technology. Each council is responsible for the implementation of its research policy and resource distribution. The councils are accountable to the governing board of NWO.

The board and management of each of the ten Institutes that operate under the umbrella of NWO work within a specific guideline that encompasses the institute's mission, strategy and research programme(s). The governing board of NWO makes budgetary decisions regarding an institute on the basis of the results of an external evaluation of the institute. (More info on http://www.nwo.nl)

Universities
The fourteen universities in the Netherlands have organised their research into coherent units, which participate as such in the evaluation process. Each university decides which departments, research institutes

or (participating units in) research schools comply with the definition of an 'institute' given in this protocol (see Preface).

The evaluation process presumes that each of these university institutes form a coherent, managed research organisation. Each institute consists of one or more research groups, where each group works within the framework of a research programme under a programme or group leader.

The Association of the Universities (VSNU) co-ordinates the scheduling process for the six-year cycle and for each year, aiming at disciplinary and interdisciplinary synergy between the universities in the evaluation processes. The university boards have the primary responsibility for making choices with regard to evaluations of their institutes. (More info on http://www.vsnu.nl)

Appendix 2: Extended description of the five-point scale

Excellent
Work that is at the forefront internationally, and which most likely will have an important and substantial impact in the field. Institute is considered an international leader.
Very good
Work that is internationally competitive and is expected to make a significant contribution; nationally speaking at the forefront in the field. Institute is considered international player, national leader.
Good
Work that competitive at the national level and will probably make a valuable contribution in the international field. Institute is considered internationally visible and a national player.
Satisfactory
Work that is solid but not exciting, will add to our understanding and is in principle worthy of support. It is considered of less priority than work in the above categories. Institute is nationally visible.
Unsatisfactory
Work that is neither solid nor exciting, flawed in the scientific and or technical approach, repetitions of other work, etc. Work not worthy of pursuing.

Appendix 3: Contents of the documentation

To prepare for an evaluation -self-evaluation and external evaluation- the institute is asked to provide a set of documents containing all the relevant information. This documentation reflects both the level of the institute as a whole (A) and the research programmes or research groups (B) that work within the jurisdiction of the institute. Research conducted outside the scope of a programme and other work within the institute may be added separately. Both the level of the institute and the level of the programmes or groups are specified comprehensively in annual units, which means that the factual data of the research programmes and other research add up to the total of the institute's data.

A Documentation regarding the level of the institute

A short characterisation of the institute is provided, including:
Name of the institute
Date of establishment
Institutional affiliations and formal responsibilities
Research area and mission
Formal co-operations and relations with other national and international research establishments

A.1 Mission statement
Data:
Description of the mission

A.2 Leadership
On the basis of an organisation chart, including the names of director(s) and department heads, the formal leadership and steering mechanisms of the institute are explained.

A description is provided of the decision-making procedures, management style, means of motivation, communication and control and processes of improvement and innovation.

Data:
Organisation chart
Names of directors and department heads

List of research programmes and programme leaders

A.3 Strategy and policy
The research area is repeated and together with the mission explained in a historical and future context: changes in research subjects and strategies and plans for the short and long term.

If applicable, strategy and policy are also explained within the wider organisational context of the institute, such as university, research school, national body, etc.

A.4 Researchers and other personnel
The actual personnel policy is explained, including recruitment, selection, training, personal development opportunities, mobility and exchange policies.

Data:
A list is provided of the research input – i.e. research staff employed by the institute in the previous six years

Table 1
Research staff at institutional level

Name and present title		Year-5	Year-4	Year-3	Year-2	Year-1	Year now
Institutional level	Entire institute	fte	fte	fte	fte	fte	fte
Tenured staff	Entire institute	fte	fte	fte	fte	fte	fte
Non-tenured staff	Entire institute	fte	fte	fte	fte	fte	fte
PhD students	Entire institute	fte	fte	fte	fte	fte	fte
Total research staff	Entire institute	sum	sum	sum	sum	sum	Sum
Supporting staff	Entire institute	fte	fte	fte	fte	fte	Fte
Total staff	Entire institute	sum	sum	sum	sum	sum	sum

Research Programme level (add for each programme)

Name and present title	Programme nr. (or 'other')	Year-5	Year-4	Year-3	Year-2	Year-1	Year now
Programme 1		fte	fte	fte	fte	fte	fte
Tenured staff		fte	fte	fte	fte	fte	fte
Non-tenured staff		fte	fte	fte	fte	fte	fte
Ph.D. students		fte	fte	fte	fte	fte	fte
(sub) Total research staff		sum	sum	sum	sum	sum	Sum
Programme 2							
…….							
Total Staff		sum	sum	sum	sum	sum	sum

(Due to shifts from one programme to another, research projects may be listed more than once; all fulltime equivalents in this table represent the actual fraction of the fte available for research, i.e. appointment times agreed research fraction)

Distinctions according to research input and financial resources are reported in the next section.

A.5 Resources, funding and facilities

The financial situation and policy of the institute are explained both in terms of funding and expenditure. The future funding situation and consequences are discussed. The research facilities and/or substantial capital investments (installations, equipment, computers, library, etc.) are described with their budget and their conditions evaluated. Funding trends (see data table) are explained. Future funding targets are specified. The data are provided in two sets: in k€ and in percentages.

Data:
Table 2
Funding and expenditure at institutional level

Institutional level:

Funding:	Year –5	Year -4	Year -3	Year -2	Year -1	Year now
Direct funding	€/%	€/%	€/%	€/%	€/%	€/%
Research funds	€/%	€/%	€/%	€/%	€/%	€/%
Contracts	€/%	€/%	€/%	€/%	€/%	€/%
Other	€/%	€/%	€/%	€/%	€/%	€/%
Total	sum	sum	sum	sum	sum	Sum
Expenditure:	Year-5	Year-4	Year-3	Year-2	Year-1	Year now
Personnel costs[16]	€/%	€/%	€/%	€/%	€/%	€/%
Other costs	€/%	€/%	€/%	€/%	€/%	€/%
Total	sum	sum	sum	sum	sum	sum

Research programme level:

Funding:	Programme nr (or 'other')	Year 5	Year-4	Year-3	Year-2	Year-1	Year now
	1	%	%	%	%	%	%
	1 + x	%	%	%	%	%	%
		%	%	%	%	%	%
Total		100%	100%	100%	100%	100%	100%

Explanation:
Direct funding: funds provided directly by the higher authority for research and exploitation

[16] Personnel costs: all wages, salaries of the personnel including the social security charges, the donation to the provision 'wachtgelden' (=reduced pay in case of unemployment), the cost of temporary workers or agency staff and other personnel costs such as allowances for child care and commuter travel.

Research funds: funds received in competition from national and international science foundations (NWO, KNAW, ESF)
Contracts: funds from third parties for specific research activities, from charities, EU-framework programmes, industry, etc.
Other funding: include interest from property, legacies, etc.

A.6 Processes in research, internal and external collaboration
Current research processes and the research culture at the institute are described and evaluated. Attention will be paid to teamwork vs. individual research activities; processes in which research strategies are redirected; the communication and exchange channels; supervision of junior researchers; quality control and methodological safeguarding. If applicable, research school activities -in particular the objectives, programme and outcomes of the Ph.D. training and supervision activities- may be described in a separate section. This section -and its external assessment- may later serve in the recognition procedure for research schools. If the institute/research programme wants to use the present assessment in this way, the research school recognition procedures and protocol should also be taken into account. Objectives and results of internal and external collaboration are analysed and form the basis for the external validation below.

A.7 Academic reputation
The academic reputation of the institute may be indicated in several ways. Institutes and disciplines may refer to the practice of presenting a bibliometric analysis of the citations of the scientific results. Previous peer reviews, rewards and prizes may be cited.

A.8 Internal evaluation
Here an evaluation by the institute's own community of its management, support, research climate and culture, and facilities, is inserted.

A.9 External validation
Here the effects of collaboration and dissemination of research results outside the scientific community is evaluated. In analogy with a bibliometric analysis, a methodical analysis of the institute's environment and its appreciation of the institute's conduct and results may be added.

A.10 Overview of the results

The aggregated results of the institute are presented in the following tables and listings. The full results are reported in the research programme documentation. It should be stressed that all relevant results and outcomes of the institute's activities, in particular all results that contribute to the mission and goals of the institute, will be reported to the review committee and thereby taken into account in the assessment. However, for some of these results, especially academic publications which by their nature must result from original research work, numerical information makes sense.

In Table 6 similar figures are provided at the level of the research programme. In Table 7 the research groups are requested to list all research results, including patents, awards, etc.

Data:

Table 3

Aggregated results of the institute

		Year-5	Year-4	Year-3	Year-2	Year-1	Year now	Total
1. Academic publications	a. In referred journals	#	#	#	#	#	#	sum
	b. In other journals	#	#	#	#	#	#	sum
	c. Book chapters	#	#	#	#	#	#	sum
Total		sum	sum	sum	sum	sum	sum	sum
2, Monographs		#	#	#	#	#	#	sum
3. Ph.D. theses		#	#	#	#	#	#	sum
4. Professional publications and products		#	#	#	#	#	#	sum

Explanation:
(No distinction is made between paper and electronic information bearers)

1. *Academic publications: scientific papers aimed at an audience of scientists and researchers*

a. *Refereed journals: papers in academic journals that employ an anonymous peer referee system separated from the editorial staff. If in a discipline the distinction is not customarily made, this category will be left blank*
b. *Other journals: papers in all other academic journals*
c. *Book chapters are included here if they fall within the definition of academic publications (books are listed separately).*

2. *Monographs: books written for a learned audience, reporting results of scientific research.*
3. *Ph.D. theses are listed that are predominantly (>50%) the result of research carried out within the institute/programme. Ph.D. theses that are supervised by researchers from the institute, but for which the research was mainly carried out elsewhere may be listed separately within the framework of Table 7.*
4. *Professional publications and products: scientific papers aimed at a broader professional audience, chapters, books and reports aiming at the dissemination of scientific knowledge, software, CD-ROM's, etc.*

A list is added of (a) patents granted (titles) and (b) other commendable results, awards and activities that contribute to the mission of the institute. The elements in this additional list are not counted; they may be repeated in the programme documentation (see Table 7) if they are attributed to a single programme.

A.11 Analysis, perspectives and expectations for the institute
An analysis according to chapter 4 is given for the institute under consideration.

B. Documentation regarding the level of the research programme

A short characterisation of the programme is provided, including:
Title of the programme
Research area and mission

NABS code (or other code more suitable for the research area)
Programme leader(s) during the review period
Starting date of the programme
Affiliations outside the institute (e.g. research school) and other cooperations and relations with national and international research groups
The documentation must indicate in what phase a research programme is at the moment of evaluation. Programmes in the start-up phase will have minimum output in comparison with finished programmes that will have reached their maximum. In evaluating recent/future research, evaluators will focus on input and plans. In finished programmes focus will be more on outcome and performance.

B.1 Leadership
Management style, means of motivation, communication and control and processes of improvement and innovation.

B.2 Strategy and policy
The research area and mission are repeated and explained in their historical and future context: changes in research subjects of the programme and strategies and plans for the short and long term. If applicable, the strategy and policy are also explained within the wider organisational context of the programme, such as teaching obligations, research school and national affiliations.

B.3 Processes in research, internal and external collaboration
Current research processes and the research culture within the group are described and evaluated. Attention will be paid to teamwork vs. individual research activities; processes in which research strategies are redirected; the communication and exchange channels; supervision of junior researchers; quality control and methodological safeguarding. Objectives and results of internal and external collaboration are analysed and form the basis for the external validation below.

B.4 Academic reputation
The evaluation of the academic reputation of the programme will meet the approach taken at the level of the institute as a whole. Previous peer reviews of the programme, rewards and prizes may be cited. If desired, a list is added with editorships in academic journals, memberships in scientific boards and other proofs of academic reputation.

B.5 Internal evaluation
The evaluation by the members of the programme will meet the approach taken at the level of the institute as a whole.

B.6 External validation
Here the effects of collaboration and dissemination of research results outside the scientific community is evaluated.

B.7 Researchers and other personnel
The programme personnel policy is explained, including recruitment, selection, training, personal development opportunities, mobility and exchange policies.

Data:
A list is provided of research staff attached to the programme in the previous six years.

Table 4
Research staff at programme level

Name and present title		Year-5	Year-4	Year-3	Year-2	Year-1	Year now
Full professors	Name1	fte	fte	fte	fte	fte	fte
	Name2	fte	fte	fte	fte	fte	fte
Associate professors[17]	Name1	fte	fte	fte	fte	fte	fte
	Name2	fte	fte	fte	fte	fte	fte
Assistant professor[18]	Name1	fte	fte	fte	fte	fte	fte
	Name2	fte	fte	fte	fte	fte	fte
Other tenured research staff	Name1	fte	fte	fte	fte	fte	fte
	Name2	fte	fte	fte	fte	fte	fte
Total tenured staff		sum	sum	sum	sum	sum	Sum
Non tenured staff	Name1	fte	fte	fte	fte	fte	fte
	Name2	fte	fte	fte	fte	fte	fte
Ph.D. students	Name1	fte	fte	fte	fte	fte	fte
	Name2	fte	fte	fte	fte	fte	fte
Total non tenured staff		sum	sum	sum	sum	sum	sum
Total research staff		sum	sum	sum	sum	sum	sum

NB: the fte's in the last column, last row will become the reference for the group's size in the assessment procedure.

B.8 Resources, funding and facilities
The research facilities (installations, equipment, computers, library, etc.) are described and their condition evaluated. Personnel funding trends (see data table) are explained. Future funding targets are specified.

[17] Also: senior lecturer (UDH) or senior researcher
[18] Also: lecturer (UD) or researcher

Table 5
Funding at programme level

Funding	Year-5	Year-4	Year-3	Year-2	Year-1	Year now	Six year average
Direct funding fte's	%	%	%	%	%	%	%
Research funds	%	%	%	%	%	%	%
Contracts	%	%	%	%	%	%	%
Other	%	%	%	%	%	%	%
Total	100%	100%	100%	100%	100%	100%	100%

For an explanation see institute documentation. In the documentation per programme only the proportional funding of fte's is specified, absolute figures are not required. If applicable, a list of external funds to the programme for facilities or equipment may be added.

B.9 Overview of the results
The research outcomes of the group are presented in three ways:
1. A selection of *three to five* publications (or other demonstrable results, such as patents) that represent the quality and impact of the research
2. A numerical overview of the results in a fixed format of categories
3. A full list of the publications and other outcomes using that same format.

Ad 1. The key publications are selected to demonstrate the quality and impact of the research in the given period. They are listed in the self evaluation report as below, *the first three* are added full text (three copies) to the documentation that is provided to the evaluation committee.

Key publications:

1	
2	
3	
4	(Not to be added in full text)
5	(Not to be added in full text)

Ad 2. In the same way as the results of the institute as a whole are presented, the programme results are presented in a comprehensive list.

Table 6
Programme results: concrete numbers

		Year-5	Year-4	Year-3	Year-2	Year-1	Year now	Total
1. Academic publications	a. In referred journals	#	#	#	#	#	#	sum
	b. In other journals	#	#	#	#	#	#	sum
	c. Book chapters	#	#	#	#	#	#	sum
Total		sum	sum	sum	sum	sum	sum	sum
2, Monographs		#	#	#	#	#	#	sum
3. Ph.D. theses		#	#	#	#	#	#	sum
4. Professional publications and products		#	#	#	#	#	#	sum

Explanation: see table 3
Ad 3. A full list of the results of the programme is provided per year and per category.

Table 7

Programme results: full outcome list

Year minus 5

Academic publications				
In referred journals				
Author(s)	Title	Journal	Vol.-pp	Year
In other journals				
Author(s)	Title	Journal	Vol.-pp	Year
Book chapters				
Author(s)	Title	Journal	Vol.-pp	Year
Monographs				
Author(s)	Title	Publisher	pp	Year
Ph.D. theses				
Author(s)	Title	Supervisor	pp	Year
Professional publications and products				
Author(s)	Title	Journal	Vol.-pp	Year
Other results				
Patent (title, status, year)				
Award (name, year)				
Prizes				
Other outcomes and results				

Year minus 4

Academic publications				
In referred journals				
Author(s)	Title	Journal	Vol.-pp	Year
Etc.				

B.10 Analysis, perspectives and expectations for the research programme

An analysis according to chapter 4 is given for the research programme under consideration.

Appendix 4: Checklists for internal use by the committee

The evaluation committee may use the following checklists for the assessment of an institute and its research programmes. Filled in checklists will not be published but are meant as a tool only.

5 = excellent, 4 = very good, 3 = good, 2 = satisfactory,
1 = unsatisfactory

Institute (see also section 3.7)

How do you evaluate the institute with respect to	5	4	3	2	1
1.1 Leadership					
1.2 Mission and goals					
1.3 Strategy and policy					
1.4 Adequacy of the resources					
1.5 Funding policies					
1.6 Facilities					
1.7 Academic reputation of the institute					
1.8 Societal relevance of the institute					
1.9 Balance of the strengths and weaknesses of the institute					
Overall assessment of the institute					

Remarks and questions:

Research Programme (see section 3.7)

How do you evaluate the institute with respect to	5	4	3	2	1
1.1 Leadership					
1.2 Mission and goals					
1.3 Strategy and policy					
1.4 Adequacy of the resources					
1.5 Funding policies					
1.6 Facilities					
1.7 Academic reputation					
1.8 Societal relevance					
1.9 Balance of the strengths and weaknesses					
Overall					

Quality

How do you evaluate the institute with respect to	5	4	3	2	1
1. Originality of the approach and ideas					
2. Significance of the contribution to the field					
3. Coherence of the programme					
4. Publication strategy					
5. Prominence of the programme director					
6. Prominence of the other members of the research group					
7. Quality of scientific publications (science impact)					
8. Quality of other results					
Overall assessment of quality					

Productivity

Considering the number of staff, how do you evaluate the productivity with respect to	5	4	3	2	1
1. Number of Ph.D. theses					
2. Number of Scientific publications					
3. Number of professional publications					
4. Other results (if applicable)					
5. Distribution of published output within the group					
Overall assessment of productivity					

Relevance

Considering the stated mission of this programme, how do you evaluate the relevance of the research with respect to	5	4	3	2	1
1. The advancement of knowledge					
2. The dissemination of knowledge					
3. The implementation of knowledge					
Overall assessment of relevance					

Vitality and feasibility

Considering the present status and future developments (if known) of staff and facilities, how do you evaluate the long-term viability of the programme:	5	4	3	2	1
1. In view of the past scientific performance					
2. In view of the future plans and ideas					
3. In view of staff age and mobility					
Overall assessment of vitality					

Appendix D
Acronyms and Abbreviations

ALLEA	All European Academies
CERN	Centre Européenne pour la Recherche Nucléaire / European Organisation for Nuclear Research
COS	Cooperation in the field of Scientific and Technical Research
CRAF	Committee on Radio Astronomy Frequencies
EC	European Commission or European Community
ECRP	European Commission Research Programmes
ECSC	European Coal and Steel Community
EEC	European Economic Community
EIRMA	European Industrial Research Management Association
EMBO	European Molecular Biology Organisation
EMRC	European Medical Research Councils (ESF Standing Committee)
EPB	European Polar Board
ERA	European Research Area
ERC	European Research Council
ESA	European Space Agency
ESF	European Science Foundation
ESSC	European Space Science Committee
EU	European Union
EUA	European University Association
EURATOM	European Atomic Energy Community
EUREKA	European Research Coordination Agency
EURESCO	European Research Conferences
EUROCORES	European Science Foundation Collaborative Research Programmes
EUROHORCS	European Union Research Organisations Heads Of Research Councils
EURYI	European Young Investigators
JRC	Joint Research Centre
KNAW	Koninklijke Nederlandse Akademie van Wetenschappen / Royal Netherlands Academy of Arts and Sciences
NuPECC	Nuclear Physics European Collaboration Committee

NWO	Nederlandse Organisatie voor Wetenschappelijk Onderzoek / Netherlands Organisation for Scientific Research
S&T	Science and Technology
SCH	Standing Committee on Humanities
SCLESC	Standing Committee on Life, Environmental and Earth Sciences
SCPESC	Standing Committee on Physical and Engineering Sciences
SCSS	Standing Committee on Social Sciences
VSNU	Vereniging van Universiteiten / Association of Universities in The Netherlands