Agència
per a la Qualitat
del Sistema Universitari
de **Catalunya**

GUIDE OF THE EXTERNAL ASSESSMENT OF R&D INSTITUTES

INDEX

FOREWORD

The *Agència per a la Qualitat del Sistema Universitari a Catalunya* was legally established as a consortium between the Autonomous Government of Catalonia and the Catalan public universities on 26 September 1996. Law 1/2003 of February on the Universities in Catalonia (the Catalan Universities Act) converted the consortium into an organization with its own legal structure, which changed its name to AQU Catalunya (*Agència per a la Qualitat del Sistema Universitari de Catalunya*). While upholding the legacy of the former Agency, AQU Catalunya has since gone on to extend membership of consortium to include, among others, representatives of the private universities, and to develop new competencies in the fields of quality assessment and teaching staff and research assessment.

The ends pursued by the AQU are quality assessment, process certification and accreditation of the learning process in the higher education system in Catalonia. These serve as a constant guide for the Agency to adapt to the demands of society, the quality requirements for university education and the continuous enhancement of its processes within the framework of the European Higher Education Area.

The Agency's Activities Plan includes various lines of action aimed at the level of the universities and higher education institutions in Catalonia. As a result of prior experience gained in the evaluation of the Research Institutes Programme in the 3rd Research Plan for Catalonia, promoted by the Interministerial Council for Research and Technological Innovation (CIRIT), the Agency's current Activities Plan also envisages the possibility of the evaluation of different types of institute and unit as a way to contribute to the improvement of their planning, administration and policy-making towards excellence.

The Guide has been designed mainly for the evaluation of research and development institutes and R+D units (both basic and applied research). It can however be applied to the evaluation of other institutions and institutes, such as those dealing with services, knowledge transfer and technology innovation of both a public (either belonging to the university framework or government-funded) and private nature. Within the context of this Guide, the term *institute* is used for all institutes, institutes and units of this type, irrespectively.

The Guide has been conceived for the evaluation of institutes that have been running for a certain period of time or their completion of a specific period of activity. This means that it is not applicable to ex ante assessment and the setting up of institutes or the evaluation of institutes that have recently been set up.

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INTRODUCTION

The concept of evaluation, within the framework of this Guide, consists of making a judgment and assessment of an *object* or *intervention*, in this case of an institute. The main purpose of evaluating an institute is to contribute to the review of the design and definition of its mission; provide data in order for it to establish its vision and the priorities for its strategic policy; assist in the more efficient distribution of its resources; enhance its quality and inform on its performance and the fulfilment of its goals as defined in a contract programme or pre-established strategic plan.

As in other evaluation processes, the evaluation of institutes can be classified according to different criteria (see table 1), such as the moment when it is carried out (ex ante; follow-up, and ex post), the parties involved (internal and external) and its purpose (formative, summative).

The dimensions of structure, activity and results need to be included in the institutional evaluation methodology (Juárez et al., 2005):

Structure: This involves determining the institute's prospective capability or potential, with consideration being given to its context and the opportunities available to the institute so it can develop. Examples of this type of evaluation include the analysis of developments achieved in a particular field or discipline, the analysis of the staff's research qualifications (capabilities, experience, adaptability, etc.), technological capability (access to instrumentation, pilot installations, etc.), economic and administrative organisation (adaptability, level of bureaucracy, etc.), as well as the analysis of structural factors that facilitate or hinder the institute's activities.

Activity: This normally focuses on examining the institute's mission and vision as these determine its lines of action. It includes the analysis of aspects such as the purpose of research that is carried out and its diffusion and relevance in relation to the existing culture. Other elements of scientific activity are analysed together with these aspects, including staff training, the publicising of scientific developments, technology transfer, etc.

Results: This evaluation includes an assessment of the degree to which the goals are fulfilled, an examination of scientific production and the impact of the activities carried out, expressed in the form of targets achieved. Examples are the number of publications, the number of theses defended, the number of patents obtained, the institute's academic reputation and recognition at the international level, and the institute's influence on other institutions, amongst others.

Table 1. Classification of the types of institutional evaluation.

Criterion 1. Moment of the evaluation

Ex ante	Carried out prior to the institute being set up (prospective evaluation).

Goals:

- To analyse the adequacy and possibilities of the institute's success.
- Analyse the technical project and the institute's organisational chart.
- To contribute to the institute's design and the defining of its mission.
- To contribute to the coherency of activities planned with the strategic goals.
- To make for greater transparency and impartiality.
- To provide instruments for information collection and analysis for the monitoring and ex post assessment of the results of the institute's activities.

Interim or follow-up	This is made when the institute has been running for a period of time. The moment for the follow-up evaluation must be very clearly defined from the start of a specific period of activities. Fulfilment of the institute's activities and envisaged goals is checked and any necessary modifications introduced. This, together with the ex post assessment, constitutes the retrospective evaluation.

Goals:

- Facilitate the ex post evaluation through the gathering and systematisation of relevant information in intermediary stages.
- To permit the detection and correction of deviations between activities that have been programmed and those actually carried out.
- To expedite the ex post assessment through the collection and systemisation of relevant information in the intermediate stages.
- Enhance the visibility and increase awareness of the effects and impact of the institute's activities.

Ex post	This determines the rate of achievement of pre-established goals. This assessment is made when an institute's activity comes to an end or a period of specific activities is completed.

Goals:

- To know the direct results achieved by the institute and the impact of its activities and the results obtained.
- To provide information in order for the institution to improve the design and performance of its activity.

- To determine the effectiveness and efficiency of resource management.

Criterion 2. Parties involved

Internal   Those responsible for the institute mainly carry out the evaluation, although external members may also participate. It enables the organisation to understand what is going on internally.

External   Persons from outside the institute make the evaluation, often after a self-evaluation, and they analyse the results obtained in relation to other institutes in the same field. The goal of the external review consists basically of the validation of the institute's self-evaluation process. This process enhances the credibility of the evaluation through reinforcement of the independence, objectivity and transparency of the process, as well as helping to improve the diagnosis made by the evaluated unit and make use of the different expertise of the members from outside the institute.

Criterion 3. Purpose

Formative   Ways to improve and enhance the efficiency and administration of institutes are examined. This type of evaluation normally focuses on the institute's managers, the aim being to improve work at the managerial level.

Summative   This focuses on the institute's accountability, according to its effectiveness and efficiency, which may lead to assessment of the prospective allocation of funding (financial resources).

The methodology set out in this Guide has been designed mainly for the evaluation of research and development institutes and R+D units (both basic and applied research). It can however be applied to the evaluation of other institutions and institutes, such as those dealing with services, knowledge transfer and technology innovation of both a public (either belonging to the university framework or government-funded) and private nature.

It is important to point out that there is a great diversity of institutes, according to their size and management structure. In certain case, the institute's physical structure is very well defined, with a governing body in charge of the management and decision-making, under which come boards dealing with scientific and commercial matters, and there is often a board of trustees that watches over compliance with the contract programme. In other cases, the institute or R+D unit may come under a university (or faculty in the university), with an independent structure (with independent management, facilities, support staff, etc.) and with a more or less collegial organisation. The institute or unit may also be run online. This wide diversity of types of institute may lead to different variations in the evaluation process. Nevertheless, the purpose of the evaluation is to assist decision-making by the institute's governing body or director on the

pathway to excellence, by way of the proposal with means for improvement to enhance the institute's structure, activities and results.

The proposed institutional evaluation process is, in principle, retrospective and focuses on broadening the understanding of the institute's characteristics for the purpose of continuous improvement and, where necessary, accountability to the entity that funds the running of the institute. In addition, the methodology has been conceived for the evaluation of institutes that have been running for a certain period of time or that are completing a specific period of activity, i.e. that are considering an interim or ex post evaluation. In specific terms, for institutes that have been running for a certain period of time, an evaluation is proposed of the previous five years of activity is proposed; shorter periods are proposed in the case of institutes set up in the previous five years.

With regards to those involved in the evaluation, **self-evaluation** is proposed, followed by an **external evaluation**, which lead to a final report that includes the **improvement plan** as the fundamental diagnostic tool. The improvement plan contains a series of proposals for action, resulting from the preliminary diagnosis process, which sets out and formulates the goals for improvement and the actions aimed at enhancing the strong points and resolving the weak ones, according to priority and a given schedule (EC, 2004).

INSTITUTIONAL EVALUATION

Institutional evaluation needs to include the assessment of activities over which an institute has responsibility and will need to principally deal with aspects associated with research, teaching (where applicable), services and administration.

Institutional evaluation has the following basic goals (modified from VSNU et al., 2003):

- To define, confirm and/or redefine the institute's mission and vision.

- To enhance the quality of its activities through an internal and external diagnosis (including the running of support services).

- Improved management and flexibility of administration.

- Analyse the adequacy of the institute's governing structure.

- Enhance the institute's competitiveness and visibility.

- To provide accountability to the organisations that an institute depends on and ultimately to society in general.

The results of the evaluation need to assist the institute's organisation, management and researchers in making decisions associated with the institute's future, from the management and research point of view. The main criteria according to which the evaluation is structured are (VSNU et al., 2003):

- Quality, which is a measure of the institute's excellence through its recognition at both national and international levels and the institute's innovative potential, in addition to its facilities and equipment.

- Productivity, which mainly refers to scientific productivity (for example, publications, theses, patents, etc.), how the results of the institute's activities are publicised, and the institute's cultural (for example, services, artistic works, exhibitions, etc.) and socio-economic (for example, technology transfer) activities.

- Relevance, which covers the scientific, technical, socio-economic and artistic impact of the work.

- Vitality and feasibility, which refers to the external and internal dynamics of the institute, the success rate of projects and activities, and its adaptability to initiate and close research lines.

Figure 1 summarises the institutional evaluation process.
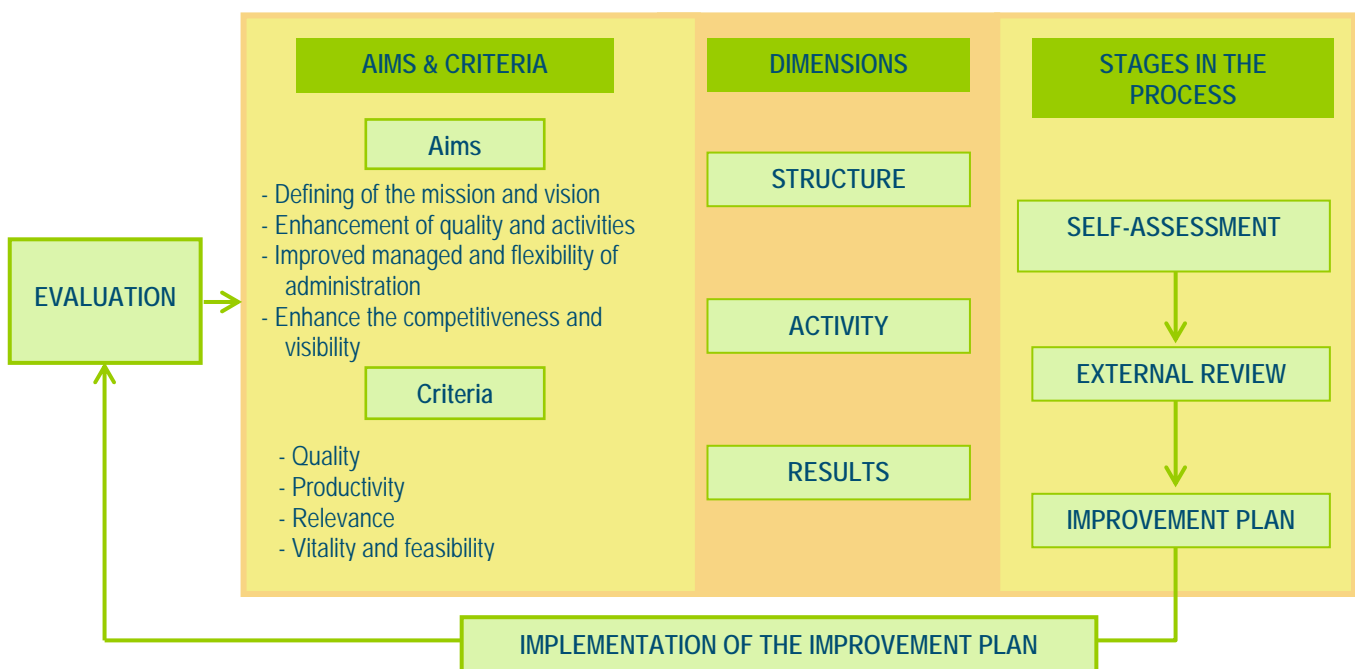
Figure 1. Diagram of the institutional evaluation process

STAGES IN THE EVALUATION PROCESS

The evaluation starts with an analysis of the institute's current situation by its self-evaluation committee, which draws up the self-evaluation document. This report sets out the committee's appraisal of the questions formulated in the evaluation protocol, together with an analysis of the situation for each element and aspect evaluated. The analysis must be supported by evidence

(documentation, statistics, administrative data and/or indicators) available to the institute. Once this document has been drawn up, it is then reviewed by the external review panel. The external review panel's function is, amongst others, to validate the adequateness of the self-evaluation process by analysing the self-evaluation document. The external review panel then drafts a report with its impressions regarding its analysis of the self-evaluation document, the evidence submitted by the self-evaluation committee, the site visit to the institute and its own experience. This document is then sent to the self-evaluation committee so it can make any adequate amendments. The revised and consensual document is subsequently returned to the external review panel, which draws up the final evaluation report.

Figure 2 shows the stages in the evaluation process.

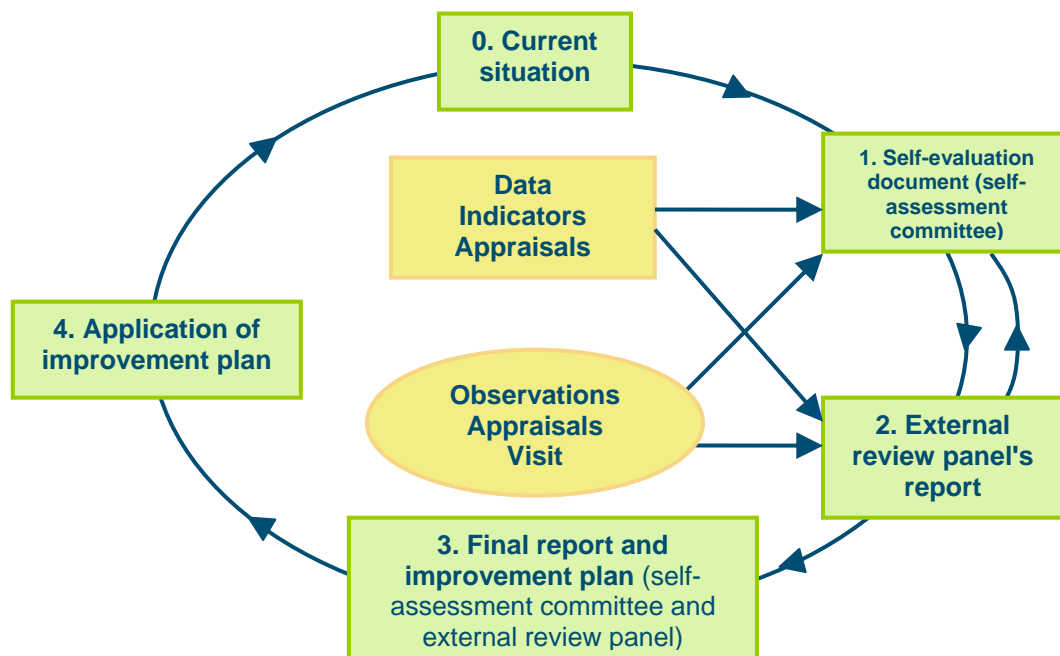**Figure 2.** Evaluation process and application of the improvement plan

The AQU committee dealing with the quality assessment of university institutions and activities (ACAU) shall validate the evaluation methodology, give its approval to the final external review report and the executive summary of the same. Responsibility for appointing the members of the external review panel lies with the AQU Quality Assessment Committee.

Self-evaluation

The self-evaluation is a diagnostic process to detect and enhance as objectively and thoroughly as possible the institute's areas and activities of excellence, and also to detect areas capable of being improved.

The process starts with the setting up of the self-evaluation committee, which drafts the self-evaluation document on the basis of the guidelines given in this Guide. The self-evaluation committee is responsible for establishing the mechanisms for collecting information on the institute in the form of documents (for example, by referring to the institute's mission, vision and organisation) and statistics, administrative data and indicators suggested in the Guide on the structure, inputs, processes and results of the institute's activities. It must be pointed out that the self-evaluation committee is free to increase the amount of evidence with the aim of broadening the scope of information provided and thereby improve the evaluation. Analysing the evidence will help the self-evaluation committee to better appraise the questions given in the evaluation protocol, which, together with the analysis of the institute's prospects and expectations, as well as new opinions and appraisals arising throughout the process, constitute the self-evaluation document.

The self-evaluation committee

The most important job of the self-evaluation committee is to draw up the self-evaluation document on the basis of the guidelines given in the Guide.

The self-evaluation committee should not be too large in number although it does need to ensure the credibility of the self-evaluation process, which involves the participation of all the institute's significant stakeholders. Its composition may vary according to the institute's organisational model. In the case of an institute with a governing body, a self-evaluation committee model is proposed which, in addition to the director, includes members of the governing board, scientific advisory board, business affairs committee, and the heads of research and administration. In cases where decisions are made on the basis of collegial responsibility, a possible model would be the institute's director, between two to four researchers (who should represent all of the institute's areas and groups, and include both junior and senior members), one pre-doctoral research fellow, one member of the research support staff and one member from administration.

The procedures that are adopted for gathering information that will form part of the self-evaluation report need to allow (where applicable) for the opinion of the different stakeholders and levels in the organisation to be included. Mention is made of the fact that, wherever the institute's organisational model makes it possible, the self-evaluation report is to be disclosed to and checked by members of the institute's different stakeholders.

General structure of the self-evaluation document

The self-evaluation document represents the key part of the evaluation model and the main evidence for the external review process. The drawing up of the self-evaluation document by the self-evaluation committee must enable both the community at the institute and the external review panel to know about and understand the institute's standing. In order to lay the foundations for a good improvement plan, the self-evaluation document must fulfil, amongst other things, the following requirements:

- Complete and rigorous. It needs to analyse and assess the key elements in the situation that is to be assessed and improved.

- Based on evidence, in order for it to be more sound, objective and contestable, and less questionable.

- Systematic and detailed with regard to the analysis of the causes and therefore whatever is necessary for dealing with improvements.

- Balanced, in terms of both the positive aspects as well as those that need improving.

- Shared by the stakeholders or the communities affected, in order to ensure they are represented in the analysis, where the institute's organisational model allows for this.

The structure and length of the document are described in the Guide. The **self-evaluation document** starts with an **introductory chapter** and a description of the origins and context in which the institute was set up, its present context, the defining moments in its development, the institute's mission and vision, the research and administration policy of the institution that it depends on, previous experience with evaluation, etc.

For each of the **aspects** below to be evaluated, the self-evaluation committee will need to appraise the questions formulated in the evaluation protocol in relation to the aspects to be evaluated, for which a list of **elements** is given. The protocol must permit an evaluation to be based on the criteria of quality, productivity, relevance, vitality and feasibility. The appraisals made in this part are judged according to a four-point scale. The protocol also gives indications of **standards** to orientate the committee's value judgment and a list of **evidence** to support and justify the opinions and appraisals made.

In the case of this Guide, the evaluation protocol, which has been drafted following the recommendations of different international agencies (VSNU et al., 2003; EFQM, 2003), is structured according to the following aspects:

- Mission

- Vision: policy and strategic plan

- Organisation and leadership

- Human resources

- Infrastructure

- External relations

- Interaction with society, communication and image

- Results

- Generating financial resources (funding). Projects and agreements

- Teaching activity (where applicable)

- Evaluation process

For each aspect, the self-evaluation committee must prepare a **comprehensive vision** or **analysis of the situation** of up to no more than 1,500 words on each aspect. On the one hand, an evaluation needs to be made of the quality (sufficiency, relevance and suitability) of the evidence provided. Details of any significant changes in the institute's course of development in recent years need to be given. Recent progress achieved by the institute may constitute an important piece of data to be included in the institute's current situation, within the framework of the strategic policy of the institutions that it depends on. This part must also include the reasoning and justification for the judgments issued in relation to the questions formulated in the evaluation protocol. The analysis of the situation of each aspect is completed with a SWOT analysis (strengths, weaknesses, opportunities, threats). Strengths and weaknesses are the strong and weak points, respectively, which emerge from the analysis of the documentation. The analysis of opportunities and threats is based on an examination of developments in the scientific and social frameworks that may affect the institute's activities either positively or negatively, respectively. The self-evaluation committee may, as a result of the SWOT analysis, propose changes in goals and strategic policy, modify the institute's mission, establish a new group of goals, or adapt the strategy to replace the current one.

The self-evaluation document must point out the strategies that seek to mitigate the weak points detected and enhance the strong ones, which are aspects that will serve as the basis for establishing the institute's **improvement plan**. Proposals for improvement need to be shown clearly and in an orderly way, and their relationship established with each strong and weak point detected during the self-evaluation process. The proposals for improvement must specify the level of priority (low, medium, maximum), the time period for execution and impact (for example, short term, 3-6 months; medium term, 6-12 months; long term, 12-24 months), the stakeholders who are involved and the designation of responsibilities, and their justification and feasibility.

It is recommended that the self-evaluation committee replies to the **key questions in the evaluation protocol** after answering the specific questions and analysing the situation of each aspect.

Forms are provided in the document annexes for the self-evaluation committee to complete the evidence (data and additional indicators; composition of the self-evaluation committee; minutes of meetings and work schedule of the self-evaluation committee) for the evaluation process.

The self-evaluation committee has three months to prepare the self-evaluation document from the start of the evaluation process. The self-evaluation document must be drawn up in English in order for the members of the external review panel to read and understand it, as it is envisaged that its members will be international experts.

A training session for the members of the self-evaluation committee will be organised by the AQU in which the special features of the evaluation methodology will be explained and any doubts resolved concerning the drafting of the self-evaluation document and the evaluation process in general.

External review

The aim of the external review is to assist the institute in making the analysis, i.e. to validate the diagnosis made by the self-evaluation committee and enable it to collaborate in the preparation of an improvement plan. The credibility and validity of the self-evaluation document need to be confirmed by the external review panel.

The external review panel analyses the self-evaluation document and visits the institute being evaluated. On the basis of its observations and information, evidence, and opinions and appraisals made during the review of the self-evaluation document and the visit, it issues an external review report. This report is sent to the self-evaluation committee for its consideration and to make any pleas or adequate remarks.

The external review panel

The members of the external review panel shall be appointed by the Quality Assessment Committee. The institute shall be informed of the external review panel's composition to prevent any conflict of interests. The external review panel will be made up of at least three experts in the institute's field of knowledge and one methodologist who ensures that the methodology is applied correctly. It is emphasised that, wherever possible, the external review panel shall be made up mostly of international QA experts in the institute's same area of knowledge, and external to the framework of the institute.

One of the reviewers shall chair the external review panel. A training session for the members of the external review panel will be organised by the AQU in which the special features of the evaluation methodology will be explained and any doubts resolved concerning the evaluation process in general.

The site visit to the institute

Following an interval of at least three weeks after the self-evaluation document has been received, the visit is made to the institute. The external review panel prepares the contents of each interview with the groups at the institute that will take place during the two-day visit.

Once the interviews with these groups have been completed, the external review panel's visit to the institute finishes with a meeting with the self-evaluation committee, where the external review panel orally presents a draft version of its report.

General structure of the external review report

The external review report is drawn up from an appraisal of the self-evaluation document, the replies to the key questions in the evaluation protocol on each aspect, and also additional information collected during the interviews. The report shall include the following sections:

- Introduction: composition of the external review panel, aims, work schedule, incidents.

- Assessment of the self-evaluation process and the self-evaluation document.

- Assessment of just the key questions of each aspect covered in the evaluation Protocol, including justification for each value judgment.

- General assessment: strong and weak points, and the improvement plan.

Final report

The institute being evaluated has the possibility, through its self-evaluation committee, to qualify the external review report drafted by the external review panel using a formal mechanism that ensures that the contentions of the self-evaluation committee are put on record. Once the self-evaluation committee's amendments have been examined and accepted or not according to the criteria of the members of the external review panel, the external review panel then considers the external report to be final, which then constitutes the final evaluation report. The evaluation process is considered to have ended with the ACAU's approval of the final report. To ensure the transparency of the process and the visibility of the evaluation, the executive summary of the external review report shall be made public. The institute shall have the opportunity to submit amendments to the content of the executive summary. The executive summary must be validated by the ACAU prior to being published.

The institute may, if it considers this to be adequate, draw up its own report for the institute community and distribute the final report in order to safeguard its commitment to the community to carry out the actions for improvement proposed in the report.

Meta-evaluation

The aim of this stage, which is conducted by the AQU, is to improve the evaluation process through the participation of the different stakeholders involved in both the internal and external stages of evaluation.

Evaluation protocol

Index:

1. Mission

2. Vision: policy and strategic plan

3. Organisation and leadership

4. Human resources

5. Infrastructure

6. External relations

7. Interaction with society, communication and image

8. Results

9. Generating financial resources (funding). Projects and agreements.

10. Teaching activity (where applicable)

11. Evaluation process

Scale of assessment:

a)   Highly positive / Highly adequate   / Highly favourable

b)   Positive   / Adequate   / Favourable

c)   Satisfactory   / Not very adequate / Not very favourable

d)   Unsatisfactory / Inadequate   / Unfavourable

1. Mission

The institute's mission expresses the institute's raison d' être and is communicated by way of a statement that defines the fundamental aim of its existence and activity, thereby distinguishing it from other institutes.

Assessment of the mission helps to determine whether the institute is capable of achieving what is actually stated in the mission and whether it is well defined, explained and known by both members of the institute and society in general.

Standards

- The institute's mission must be defined and documented.

- The mission is relevant in relation to the general demands of the social context.

- The mission is duly made public, the members of the institute know about it, and it forms part of the culture of the institute.

- The mission is implemented in basic elements and specific aims that are coherent and relevant.

- The mission is coherent with the aims of the institution that the institute depends on.

Evidence

- Explicit documentation on the mission and its implementation in basic elements and specific aims.

- Validation reports on the relevance of the mission as regards the demands of the context and the institute's characteristics.

- Evidence (for example, surveys) of the degree to which groups in the institute are familiar with the mission.

Indicators

1.1. Degree to which the institute's mission is defined

1.2. The institute's independence to define its mission

1.3. Relevance of the mission in relation to the general scientific framework

1.4. Degree to which the members of the institute know about the mission

1.5. Publicity of the mission in the adequate format and means

1.6. Visibility and knowledge of the mission outside of the institute

1.7. The mission is coherent with the aims established by the institute

Assessment by the external review panel:

Key question: Is the institute's mission adequately specified?

Highly adequate	A	Adequate	B	not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

2. Vision: policy and strategic plan

The vision has to do with the expectations generated by the institute. The vision needs to be an idealised appraisal of what the institute seeks to be in the future and of what the members want the institute to become in the medium and long terms. The vision may be the result of a benchmarking study carried out by the institute itself.

The vision is communicated by way of a vision statement that presents the institute's values and principles, together with its commitments. The institute's policy, understood as being the criteria for making decisions and designing actions to be undertaken, will guide the defining of the processes that make up a strategic plan designed to reach a predefined state for the institute, which will help the institute to plan how it needs to project itself in terms of the future. It is important to point out that the institute's activities must be flexible and dynamic enough to not just adapt themselves to and follow the institute's mission, but to be coherent with the vision and the short and long term strategic plan for its activities.

Standards

- The institute's vision is well defined and documented.
- The institute's vision is viable.
- The institute's policy and strategic activities plan are well defined and documented.
- The institute's policy and strategic activities plan are duly made public and are known by the members of the institute and those who have relations with it.
- The strategic plan gives a clear definition of the institution's aims, the main fields of action and the actions to be undertaken.
- The strategic plan provides support for decision-making and the effective allocation of resources.
- Decision-making mechanisms exist to broaden, reorientate and close research lines.
- The institute needs to consolidate a quality culture based on a policy and goals for quality that are both known about and publicly accessible.

Evidence

- Explicit documentation on the institute's vision.
- Explicit documentation on the institute's policy and strategic plan.
- Explicit documentation on the institute's policy and goals for quality.
- Number and description of the institute's research lines.
- Evidence (for example, surveys) of the degree to which groups in the institute are familiar with the vision.
- Evidence (for example, surveys) of the degree to which members of the institute are satisfied with the institute's policy.

Indicators

2.1. Degree to which to the institute's vision is defined

2.2. Level of feasibility of the institute's vision

2.3. The institute's independence to define its vision

2.4. External participation in constructing the institute's vision

2.5. Degree to which the institute community knows about the vision

2.6. Adequacy of the institute's policy in relation to its mission and vision

2.7. Adequacy of the institute's policy in relation to its context (university / authority that it depends on)

2.8. Adequacy of the strategic plan in relation to the institute's mission, vision and making decisions

2.9. Assessment and satisfaction of the institute's staff in relation to the way in which policies and strategies defined to develop the institute are applied

2.10. Capacity of existing mechanisms to adapt, renew, adjust and close research lines

2.11. Coherence and innovativeness of the institute's research programmes and activities

2.12. Degree to which the institute's quality policy is known by the members of the institute

2.13. Adequacy of the actions to define, approve, review and enhance the policy and goals for quality

Assessment by the external review panel:

Key question: Are the institute's policy and strategic plan adequate in relation to its mission and vision?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

3. Organisation and leadership in the institute

Part of the evaluation of the institute involves the examination of the institute's management organisation and procedures, which affect the running of the institute and decision-making. One key aspect in the assessment of this aspect is the understanding of the institute's organisational and management structure and its adequacy for accomplishing the institute's mission and vision.

Standards

- The institute's organisation and leadership - defined and documented - is relevant in relation to the institute's mission, vision, decision-making and activities.

- The institute has a quality assurance system linked to follow-up and enhancement actions.

- The institute has identified the persons responsible and the processes for internal quality management.

Evidence

- Institute's hierarchy.

- List of the institute's consolidated research groups.

- Description of the areas of research.

- Names of the director and head of the institute's consolidated research groups and/or areas.

- List of the research programmes and activities, and of the respective persons in charge (heads).

- Description of the team in charge of internal quality management.

- Existence of a process map and/or standardised processes.

Indicators

3.1. Adequacy of the institute's hierarchy and organisational structure

3.2. Suitability of the mechanisms for the institute's management and decision-making to fulfil the mission and vision

3.3. Mechanisms to coordinate the institute's consolidated groups

3.4. Synergy resulting from the grouping of consolidated groups in the institute

3.5. Degree of affinity and development of the areas of knowledge associated with the institute

3.6. Degree of vitality and feasibility of the institute's research lines

3.7. Suitability of the mechanisms for arranging the work of research, teaching, administration and services.

3.8. Adequacy of the procedures for organising relations between the institute and other closely linked entities

3.9. Suitability of the mechanisms for motivating and recognising staff and the internal communication of decisions that have been made

3.10. Adequacy of the processes within the framework of the internal quality assurance system

3.11. Adequacy of the composition of the body responsible for the follow-up and quality assurance process

Assessment by the external review panel:

Key question: Are the institute's organisation and leadership adequate in relation to its mission and vision?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

4. Human resources

The adequacy and structure of human resources is a key element in the institute's strategic plan. Thought needs to be given to the degree to which human resources are currently adequate in relation to the institute's mission and vision, and necessary actions for improvement identified in order to correct any possible shortcomings.

Standards

- The institute has an established staff profile.

- Recruitment mechanisms are public.

- Publicity and staff recruitment material clearly and accurately represent the institute's activity.

- The institute has an established system for staff recruitment, hiring and professional development, including models for training, assessment and promotion.

- The institute provides the technical research staff with support to develop research.

- The institute provides researchers with auxiliary administration and services staff to carry out administration work.

Evidence

- Existence of documents on specific and transparent human resources policies (recruitment, selection, promotion, training and mobility).

- Promotion plan for researchers.

- Tables 1 - 6 (Annex II) give data and indicators on human resources and staff training at the institute during the period to be evaluated.

- Evidence (for example, surveys) of the staff's degree of satisfaction regarding the institute's human resources policy.

- Evidence (for example, surveys) of the degree of satisfaction in relation to the suitability of auxiliary research staff and administration and services staff.

Indicators

4.1. Adequacy of the human resources policy (staff recruitment, selection and promotion)

4.2. Adequacy of staff training plans

4.3. Adequacy of staff mobility and exchange plans

4.4. Beneficial effect on human resources recruitment as a result of the institute's existence

4.5. Suitability of auxiliary technical staff for research, administration and services

4.6. The institute's staff's satisfaction with the human resources policy (recruitment, selection, training, promotion and mobility)

Assessment by the external review panel:

Key question: Is the staff make-up (qualifications, skills, diversity, experience) adequate in relation to the institute's mission and vision?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

5. Infrastructure

The institute's mission and vision and its activities, both short and long term, call for the existence of facilities and equipment (offices, administrative premises, laboratories, instruments, computer resources, etc.), backed up by an infrastructure plan that is adapted to the institute's requirements.

Standards

- The institute has analysed its requirements concerning infrastructure so as to ensure that these requirements are sufficiently met.

- The institute has an infrastructure plan.

- The institute guarantees the infrastructure's level of functionality (such as availability and accessibility) and promotes its correct use.

Evidence

- Documentation connected with the institute's infrastructure plan.

- Documentation on the analysis of the institute's requirements.

- Evidence (for example, records) on the functionality and good use made of the infrastructure, as well as the time that it is in use.

- Evidence (for example, surveys) of the degree of staff satisfaction with the infrastructure.

- Tables 7 and 8 (Annex II) give data and indicators on the institute's infrastructure (facilities and equipment).

Indicators

5.1. Degree to which the facilities and equipment are suitable for the development of the institute's activities

5.2. Comparison of the institute's facilities and equipment with other well-known institutes in the same area of knowledge.

5.3. Level at which the infrastructure development plan has been realised

5.4. Level of use of the infrastructure

5.5. Degree of access to research data bases

5.6. Degree of accessibility to equipment and facilities in other institutions

5.7. Staff satisfaction with the available infrastructure

5.8. Degree to which available infrastructures are profitable

5.9. Adequacy of the processes for controlling, periodically reviewing and improving infrastructures

Assessment by the external review panel:

Key question: Is the infrastructure adequate to the institute's mission and vision?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

6. External relations

The institute's external relations with its surrounding context need to be examined at both the national and international levels, with special emphasis put on its relations with the private sector.

Standards

- The institute has an established model for its external relations that indicates its basic strategic priorities.

- The institute ensures the necessary support to promote its relations with other institutes.

- The means used to publicise scientific developments represent the institute's activity in a clear and accurate way.

Evidence

- Existence of a model for its external relations, with the definition of priorities and strategies for developing this.

- Documentation connected with the need for external relations (at the national, international and private sector levels).

- Agreements signed with other national and international/foreign institutions.

- Documentation relative to its policies for the diffusion and publicising of scientific developments.

- Table 9 (Annex II) gives data on the institute's external relations and the organisation of its scientific-technical and artistic activities.

Indicators

6.1. Adequacy of the mechanisms established to manage external relations

6.2. Projection and adequacy of the institute's relations at the national level

6.3. Projection and adequacy of the institute relations at the international level

6.4. Mobility of the institute's staff

6.5. Degree to which stable alliances have been developed

6.6. Relations with the private sector

6.7. Degree to which the institute participates in projects that form part of programmes promoted by Spanish institutions (e.g. Ministry, etc.)

6.8. Degree to which the institute participates in projects that form part of programmes promoted by international institutions (e.g. European Union, etc.)

6.9. Adequacy of mechanisms for the diffusion of the institute's activities in the scientific community

Assessment by the external review panel:

Key question: Are the institute's external relations adequate for the development of its activities?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

7. Interaction with society, communication and image

Communication with society constitutes a central issue for institutes. An institute's prestige is a function of its capability to offer quality products and services, and of its skill in placing them in the market.

The assessment of the institute's service to society is based on its high input potential in cultural and economic sectors (technology, production, industry, etc.). In relation to its input in the cultural sector, one of its great strengths is the fact that many lines of research are of great social interest, while its contribution to the economic sector, aside from creating products, is also based on the training of more highly qualified technical experts to develop projects involving applied research and technological development.

Standards

- The institute publicises its activities in society, using media that clearly and accurately describe the institute's activity.

- The institute promotes its social contribution.

Evidence

- Documentary evidence of social publicising policies, marketing and communication.

- Existence of marketing studies.

- Internet presence of the institute's website.

- Evidence (for example, surveys) of the degree to which society's opinion of the institute is known.

- Table 9 (Annex II) gives data on the institute's communication activities.

Indicators

7.1. Capacity to provide added value to the cultural and production sector

7.2. Relevance and social interest of the activities carried out by the institute

7.3. Mechanisms to establish the level of social demand and the target market for the institute's activities

7.4. Mechanisms to project the institute's potential in scientific and financial circles

7.5. Mechanisms for publicising the knowledge produced to society as a whole

7.6. Existence and updating of the institute's website

7.7. Degree to which there is knowledge of opinions held by society

7.8. Mechanisms to establish the level of satisfaction of the institute's funding bodies and users

Assessment by the external review panel:

Key question: Are the institute's interaction with society, communication and image adequate to the activity that it develops?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

8. Results

The two basic mainstays for evaluating the institute's results are production and the impact of its activities. According to the institute's characteristics and the areas covered by its activities, it may be possible to easily quantify the results, although in certain cases a more qualitative assessment of the results may be necessary (for example, services, artistic works, the organisation of exhibitions, etc.).

Standards

- The institute has a policy for publishing and publicising its activities.

- The institute has mechanisms to collect evidence of the results of its activity (publications, services provided, artistic works, etc.).

- The institute improves its academic reputation through the impact of its production.

- The institute has procedures that allow it to ensure that results are measured and analysed for decision-making and enhancement of the institute's quality.

Evidence

- Tables 10 and 11 (Annex II) give data and indicators on the results of the institute's activities.

- Adequacy of the technological results (where applicable).

- Link between the institute's research groups and the corporate world.

- Existence of documentation on the information collection system.

- Description of the quality management processes relative to decision-making and improvement of the results.

Indicators

8.1. Adequacy of the number of scientific publications with review and their development over time

8.2. Adequacy of the number of scientific publications without review and their development over time

8.3. Quality of the publications and their impact on their field of knowledge or area

8.4. Adequacy of the number of theses in progress and defended

8.5. Adequacy of the number of papers in congresses

8.6. Existence and adequacy of a publications policy

8.7. Degree to which results of R+D are concentrated

8.8. Adequacy of other results not associated with publications (software, services; artistic works; exhibitions; etc)

8.9. Adequacy of the number of patents and utility models

8.10. Adequacy of the institute's support to industrial incubators and the setting up of spin-off companies

8.11. The institute's capacity to establish technology 1transfer agreements with private enterprise

8.12. The institute's academic reputation and international recognition by other institutes in the same field

8.13. Degree to which the institute has an influence over other institutions

8.14. Degree to which the members of the institute participate in science management committees and national and international programme evaluation

8.15. Adequacy of the systems for gathering information that provide data on the institute's results

8.16. Adequacy of the strategies and systematics for enhancing the results

8.17. Adequacy of the processes available to the institute for regulating and assuring decision-making processes relative to the results

Assessment by the external review panel:

Key question: How adequate are the results achieved by the institute?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

9. Generation of financial resources. Projects and agreements

The financial resources that the institute generates in the form of projects and agreements, especially those obtained in competitive schemes, are another important aspect to be evaluated, particularly in comparison with those from direct allocations by government authorities and the institutions that it depends on. It is important to reflect on whether the setting up and existence of the institute has improved funding, in comparison with what the scenario would be as defined by just the constituent groups. It should be pointed out that some of the elements under study are analysed according to the source of origin, i.e. of Catalan, Spanish or international origin, and from public or private sources.

Standards

- The institute has a fund-raising policy for financial resources.

- The institute ensures its staff receives the necessary technical and administrative support in order to obtain financial resources.

Evidence

- Analysis of the adequacy of financial resources obtained.

- Tables 12 -15 (Annex II) give data and indicators on the generation of financial resources and also operating expenses.

- Evidence (for example, surveys) of the degree of satisfaction of researchers concerning the support received to obtain economic resources.

Indicators

9.1. Trend over time of the generation of resources

9.2. Adequacy of financial resources from competitive schemes

9.3. Adequacy of the resources originating from sources other than competitive schemes

9.4. Adequacy of resources of Catalan origin

9.5. Adequacy of resources of Spanish origin

9.6. Adequacy of resources of foreign origin

9.7. Adequacy of resources of public origin

9.8. Adequacy of resources of private origin

9.9. Contribution to resources being generated as a result of the setting up and existence of the institute

9.10. Satisfaction of the institute's staff in relation to the support received for generating resources

9.11. Degree to which the institute is dependent on public funding from the institution or authority that it depends on

9.12. Degree of coherence of funding received with the institute's lines of research

Assessment by the external review panel:

Key question: Is the generation of financial resources adequate for the activity developed by the institute?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

10. Teaching activity

In certain institutes, as in the case of university institutes, teaching is one of the activities carried out by the staff. Consideration needs to be given to teaching in both the university context (in one or more undergraduate and postgraduate degree programmes) and in non-university courses.

The purpose of analysing this aspect is not to evaluate university degree programmes or teaching staff, but to reflect on the integration of teaching with the rest of the institute's activities in which the staff are involved.

Standards

- The institute considers teaching to be one of the institute staff's activities.

Evidence

- Documentation concerning the institute staff's teaching activity.

- Table 16 (Annex II) describes university teaching activity (undergraduate and postgraduate/PhD degree programmes) in which the institute's staff participates.

- Documentation on non-university teaching activity in which the institute's staff participates.

Indicators

10.1. Teaching of undergraduate degree programmes

10.2. Teaching of postgraduate and PhD degree programmes

10.3. Level of the interdisciplinary nature of teaching undergraduate and postgraduate/PhD programmes

10.4. Adequacy of the university teaching load of the institute's staff

10.5. Adequacy of the number of teaching staff in relation to the number of students

10.6. Teaching of non-university courses

10.7. The institute staff's motivation to teach

10.8. Assessment of the institute staff's level of satisfaction with teaching

10.9 Adequacy and integration of teaching with the institute staff's other activities

Assessment by the external review panel:

Key question: Is teaching adequate in relation to the institute's mission and vision?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

11. Evaluation process

One final aspect of the evaluation is to assess how much the evaluation process itself ensures the quality of the self-evaluation document in particular, and of the evaluation in general. It is important to reflect on the relationship established between the institute's QA committee (if it existed beforehand) and the self-evaluation committee.

The structure and content of the proposed evaluations should make it easy for the self-evaluation committee to clarify or expand on any issue or point where it considers this to be adequate. One should bear in mind that the process of planning the actions for improvement must assure the quality of the starting point, namely, the self-evaluation.

In order to enhance the usefulness of the external review process, it is suggested that the self-evaluation committee explains the preliminary remarks that it wishes to make to the external review panel in order to contextualise both the reading and analysis of the self-evaluation document itself, and with regard to the external review process. This point should be the self-evaluation committee's final reflexion regarding the self-evaluation process and in particular the self-evaluation document, and serves to contextualise and validate the document's content and to adequately prepare the external review process.

Standards

- The institute has a quality assurance committee.

- The self-evaluation committee ensures the diffusion of information referring to the evaluation process to the institute community.

Evidence

- List of the members of the quality assurance committee.

- List of the members of the self-evaluation committee.

- Calendar and minutes of the meeting of the self-evaluation committee.

- Documentary archive of the communications, requests for information, suggestions received, notices, etc., made by the self-evaluation committee.

- Reports by the self-evaluation committee prior to the self-evaluation document.

- Individual assessments (anonymous) by each member of the self-evaluation committee of each element in the protocol.

Indicators

11.1. Adequacy of the composition of the self-evaluation committee

11.2. Attitude and response of the institute community to the evaluation process

11.3. Support and collaboration of the institute's QA committee

11.4. Adequacy of the process to draw up the self-evaluation document

11.5. Actions for the diffusion of the self-evaluation document and to encourage participation in the evaluation process

11.6. Overall assessment of the self-evaluation document

Assessment by the external review panel:

Key question: Is the evaluation process positive and adequate?

Highly adequate	A	Adequate	B	Not very adequate	C	Inadequate	D

1. Assess the situation of the indicators, and the evidence provided in the self-evaluation report and/or obtained during the site visit. Give reasons, where applicable, for discrepancies with the assessment made by the self-evaluation committee and for a judgment not being given due to the lack of quality in the evidence provided.

2. Comment your assessment of the key question, and describe its course of development in recent years.

3. Assess the approach of the proposals made in the self-evaluation report, and, if appropriate, prioritise them, together with suggestions for new actions and measures for improvement.

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