TERMS OF REFERENCE FOR THE ASSESSMENT OF THE CNRS

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INTRODUCTION

This document presents the terms of reference for the 2022-2023 assessment of the Centre national de la recherche scientifique (CNRS).

These terms of reference identify the topics and criteria for the assessment of the CNRS – or, in mirror form, the elements expected in the self-assessment report of the CNRS. They are proposed by the High Council for the evaluation of research and higher education (Hcéres); they have been discussed with the CNRS management and with its supervisory ministry, the Ministry of higher education, research and innovation.

These terms of reference are public on the Hcéres website. They are based on the Reference assessment framework for national research organizations approved in October 2021 by the Hcéres College, and on the companion document entitled Guidelines for the self-assessment of a research organization.

Principles and objectives for the assessment of national research organizations

The core principles for the assessment are defined in the French Law and government regulations, and in the Reference assessment framework:

- The assessment is a peer review by a committee of experts.
- These experts are appointed by Hcéres in compliance with the principles of neutrality, expertise, absence of any conflict of interests, independence, integrity, appropriate balance within the committee.
- The assessment is performed on a collegial basis, under the responsibility of the chairperson of the expert committee.
- The assessment report is signed by the chairperson of the committee of experts, on their behalf, and countersigned by the president of Hcéres.
- The assessed research organization is given the opportunity to comment throughout the assessment process and at the end of it.
- The assessment is conducted with due respect to the autonomy of the research organization and to the responsibilities of its governing boards and executive management.

The assessment process also respects the following principles:

- The assessment objectives are explicit and public;
- The assessment process is based on appropriate procedures, known to both the assessors and the assessed entities;
- The assessment criteria are explicit and public;
- The self-assessment performed by the assessed organization is a major basis for the assessment.

The assessment takes into account all the missions of the assessed research organization. It reviews the implementation of the organization’s five-year contract of objectives and performance (COP) with the French State. The assessment’s objectives are twofold:

- to provide substantiated assessments of the quality of the results obtained, and to give recommendations;
- to provide valuable feedback to the research organization and to its supervisory ministries concerning the organization’s policy and its implementation, and the preparation of the next five-year contract.

The assessment focuses on five areas: 1) positioning and strategy; 2) organizational structure and governance; 3) strategy implementation; 4) activities and results; 5) strategic orientations for the coming years. For the first four areas, the assessment covers an explicitly identified reference period.

The self-assessment performed by the research organization

The self-assessment report (SAR) prepared by the assessed research organization is the main source of information for the expert committee at the beginning of the assessment process. The SAR contains two types of information:

- Information and factual data provided by the research organization about its strategy and positioning, its activities, its actions and its results;
- Self-assessments produced by the research organization: the organization is expected to perform a self-critical analysis of its results and of the successes and limitations of the actions taken to implement its strategy.
The SAR describes:
- the follow-up given by the organization to the recommendations of the last assessment;
- the orientations and objectives set in the organization’s strategy for each activity;
- the actions taken for each activity to deploy the strategy;
- the monitoring indicators selected for each activity;
- and the main results achieved by the organization during the assessed period, alone or in partnership.

In particular, these elements reflect the orientations, objectives, actions and indicators included in the organization’s five-year contract with the French State.

A major expectation is that the SAR highlights the ability of the research organization to:
- position itself in its local, national and international environment;
- qualify the results of the implementation of its strategy;
- characterize the evolution of each activity;
- mobilize its staff in line with its strategy;
- build strategic partnerships contributing to fulfill its missions;
- identify its strengths and weaknesses, and describe the analyses made to identify them.

**Adaptation for the assessment of the CNRS**

The Reference evaluation framework sets the principle that the assessment of each research organization is tailored to its missions, its situation, and the key issues at stake in its fields of action.

This adaptation is all the more important and necessary for the CNRS. Given its very large size (and the very large size of the whole set of affiliated research units, mostly joint research units with universities¹, and sometimes with other national research organizations), assessing the CNRS is a very unique exercise that requires a specific approach.

Hcéres chooses to focus the assessment on a limited number of subjects selected in the Reference assessment framework of national research organizations. This selection was made after discussion with the CNRS management and with its supervisory Ministry. The objective is that this focused – hence partial – nature of the assessment makes it possible to ensure:
- The assessment process feasibility
- The assessment is carried out by a committee of high-level experts, with Hcéres support. Because of the limited time the experts devote to the assessment and because of the very large size of the CNRS, it is not possible to cover all the subjects mentioned in the Reference assessment framework.
- Its relevance and usefulness (or added value) for the CNRS and its supervisory Ministry
- In particular, this objective of usefulness has led Hcéres to ignore some topics already considered by some government inspectorates.

Therefore, the assessment of the CNRS primarily focuses on the following major subjects:
- the CNRS scientific policy, its implementation, and the main results of the research units; a particular attention will be paid to the priorities identified in the 2019-2023 COP between the CNRS and the French State: priority themes, actions in support of interdisciplinarity and transversality, and societal challenges;
- the CNRS policy and activities regarding innovation and relations with companies;
- the CNRS contribution to the development of French universities, and its national role within the French higher education, research and innovation (HERI) system;
- key elements of the human resources policy, such as recruitment, attractiveness, staff mobility, and the recognition of all staff contributions in their careers;
- the CNRS European involvement;
- the factors supporting society’s trust in science, including scientific integrity, ethics and deontology;
- the CNRS open science policy and activities;
- the embedding of science in society.

¹ In this document, all French higher education institutions are referred to as “universities”, no matter they are “universités” or “grandes écoles”.

² The 2022-2023 assessment is the first ever assessment of the CNRS organized by Hcéres.
More precisely, the CNRS was assessed twice, but never with the methodological framework which now exists for the assessment of a national research organization:
- A first assessment was performed in 2012 by Aéres (the predecessor of Hcéres) at a time where Aéres had no reference framework for national research organizations.
- A second one was performed in 2016 by a committee of experts chosen by the CNRS management and with reference terms fixed by the CNRS itself.

The 2012 and 2016 assessment reports are made public on the Hcéres website during the 2022-2023 assessment.
Focusing the 2022-2023 CNRS assessment means that some of its activities are not accounted for, even though important. This is true in particular for the CNRS policy concerning very large research instruments, for its international collaborations outside Europe, and for most of the topics related to the administrative area or the support functions.

For the 2022-2023 assessment of the CNRS, the reference period is 2017-2021.

**Content of the Terms of reference**

The terms of reference below present the “criteria” selected for the assessment of the CNRS, and for its self-assessment report. These criteria are retrieved from the Reference assessment framework of national research organizations. They are grouped per areas or sub-areas and per questions following the Reference framework.

For some of these criteria, the terms of reference specify that the assessment consists in reviewing not only the CNRS as a whole, but also at the level of each of the ten CNRS institutes. A special attention is then to be paid to the action field of each institute, or to the specificities of each major scientific field, while keeping in mind that the ten institutes are all part of the CNRS and carry out actions in line with the CNRS policy, and that increasing expectations related to CNRS do concern actions or activities that are transverse between institutes.

In addition, Annex 1 includes some extracts from the CNRS 2019-2023 COP and from the 2012 and 2016 CNRS assessment reports. These extracts are reported hereafter to provide input for the self-assessment performed by the CNRS, and to stimulate the reflections of the expert committee. Selected by Hcéres, these extracts are intended to “challenge” the CNRS and the expert committee, while respecting their own roles: neither the CNRS nor the expert committee is bound by the analyses and recommendations of the previous assessments.

Annex 2 gives the table of Acronyms and Annex 3 gives a “recap at a glance” of the Terms of reference.
AREA 1: POSITIONING AND STRATEGY

1.1 CNRS positioning

Question: Is the CNRS capable of describing its position in the national, European and international HERI landscape and of analyzing its evolution?

a. The CNRS has a clear vision of its missions and its commitment to the French State and society, in line with its history, values and statutes.

b. For the CNRS as a whole and in the field of each institute. The CNRS describes its role in the national HERI system and in its institutional and economic environment, its place in Europe and internationally, its activities and operation modes. It defines the desired changes in its positioning.

c. For the CNRS as a whole and in the field of each institute. The CNRS defines its positioning on the basis of a diagnosis relying on international benchmarking.

d. In the field of each institute. The CNRS is capable of analyzing the changes in its positioning over the reference period.

1.2. Strategy

Question: Is the CNRS strategy clear and consistent with its missions and positioning?

a. For the CNRS as a whole and in the field of each institute. The CNRS strategy for the reference period is clear and formalized. It is consistent with its positioning and the evolution foreseen. It sets the orientations and objectives detailed in the COP.

b. For the CNRS as a whole and in the field of each institute. The CNRS strategy sets the priority orientations for its scientific policy, based on scientific prospective and on the analysis of its strengths and weaknesses.

c. The CNRS strategy includes orientations and objectives to increase its contribution to the nation’s economic, social, and cultural life, by developing innovation as well as scientific expertise in support of public policies, and more broadly by embedding science in society.

d. For the CNRS as a whole and in the field of each institute. The CNRS strategy includes orientations and objectives to favor the emergence of new research themes, risk-taking, interdisciplinarity and the professional development of young scientists.

e. The CNRS strategy includes orientations and objectives to actively contribute to the development and the recognition of its partner universities.

f. The CNRS strategy includes orientations and objectives concerning its involvement in the European research area.

g. The CNRS strategy includes orientations and objectives for scientific integrity, ethics and deontology.

AREA 2: ORGANIZATION AND GOVERNANCE

2.1 Organizational structure

Question: Is the CNRS organizational structure appropriate for its activities and strategy?

a. In the field of each institute. The organization into research units is consistent and suited to the strategy.

2.2 Governance for the strategy implementation

Question: What about the monitoring of the CNRS strategy implementation and its communication policy?

a. For the CNRS as a whole and in the field of each institute. The CNRS monitors the actions taken to implement its strategy and their results. It takes remedial actions if necessary.

b. The CNRS policy for external communication sustains a shared understanding of its missions, activities and strategy and highlights its results and successes. It appropriately involves its partners.

c. Its policy for internal communication favors the staff’s support for strategy, and an appropriate sharing of information. It involves the CNRS partners.
AREA 3: STRATEGY IMPLEMENTATION

3.1 Involvement in the development of universities and national role

Question: How is the CNRS involved in implementing shared “site policies”? with its main partner universities, with common objectives and joint actions?

a. The CNRS is involved in a “site governance” with its partner universities to implement a shared policy for each site, with common objectives and joint actions.

b. These site policies include common objectives and joint actions to promote the participation of the CNRS staff in teaching at the undergraduate and graduate levels, and in doctoral training.

c. They include common objectives and joint actions for the site’s scientific policy, for the scientific expertise in support of public policy and for embedding science in society.

d. They include common objectives and joint actions on innovation, as well as effective and shared arrangements for research contracts with companies and technology transfer.

e. They include common objectives and joint actions for joint research units, on topics such as recruitment of scientists or support staff, annual management dialogue, support services and administrative management tools, support to participation in European programs, etc.

f. They include common objectives and joint actions regarding the integration of HERI activities in the local environment and the dialogue with local authorities, as well as the site recognition and partnerships at national, European, and international levels.

Question: Is the national role of the CNRS in the French HERI system well identified? Is it implemented through relevant operating modes?

a. The CNRS leads national research and innovation programs for the benefit of all actors in the national HERI system. Its positioning is relevant and recognized, as are its operating modes.

b. The CNRS steers major research and innovation projects with partners from the national HERI system and with European and international partners.

c. The CNRS plays a specific role in the implementation of the public policies led by the ministry in charge of HERI and in the framework of the French national investment programs.

d. The role distribution with other national research organizations within the French HERI system is clear. Relations are constructive and favor joint actions.

3.2 Human resources policy

Question: Is the CNRS human resources policy in line with its strategy? Is the CNRS attractive to top talents? Are all activities valued in the staff assessment?

a. In the field of each institute. The CNRS implements a strong recruitment and attractiveness policy in line with its strategy. It mobilizes all possible recruitment channels. It attracts people with recognized talents and various backgrounds, trained outside its research units.

b. The CNRS policy promotes internal and external mobility of its staff.

c. The CNRS ensures that staff assessment and career development recognize the full range of their contributions to their missions.

d. The CNRS policy promotes gender balance in all its activities and at all career levels. It fights against discrimination.

3.3 European commitment

Question: How does the CNRS strengthen its contribution to the European research area?

a. For the CNRS as a whole and in the field of each institute. The CNRS implements an action plan to increase its participation in European research and innovation programs.

b. It contributes to increasing the participation of national HERI experts in European scientific and strategic bodies.

c. It develops strategic research and innovation partnerships with European actors. It plays a leading role in Europe in some identified fields.

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These “site policies” refer to the coordination of the higher education institutions and the national research organizations present on a given geographical site. The leading idea is to ensure that these institutions have a shared strategy for their HERI activities on the site, and that they identify common objectives and common actions to jointly implement this shared strategy.
3.4 Factors supporting society’s trust in the CNRS

Question: How does the CNRS promote scientific integrity, ethics and professional conduct?

a. The CNRS actively implements an active policy for scientific integrity, including awareness-raising and prevention activities, as well as measures to detect and address misconducts.

b. The CNRS contributes to discussions on ethical issues related to its research and innovation activities and carries out awareness-raising activities for its teams.

c. The CNRS makes sure that internal processes and reflections on professional ethics are of the highest quality for all professions and activities: research, innovation, expertise, support, etc.

AREA 4: ACTIVITIES AND RESULTS

4.1 Research

Question: How does the CNRS sustain the dynamics of its research activities? Does it identify and value its major results? Does it follow the orientations of its scientific policy?

a. For the CNRS as a whole and in the field of each institute. The CNRS is capable of assessing the quality of its scientific production in the international context. It identifies its major contributions and achievements during the reference period.

b. For the CNRS as a whole and in the field of each institute. The CNRS has a clear vision of the evolution of its research activities over the last 5 or 10 years.

c. For the CNRS as a whole and in the field of each institute. The CNRS analyzes the successes and limitations of its actions to implement its scientific policy, and to promote the emergence of new research themes, risk-taking and the professional development of young scientists.

d. In collaboration with its partner universities, the CNRS supports Ph.D. programs. It contributes to the quality of the Ph.D. theses and to the job-market integration of doctors. It monitors the results obtained.

e. The CNRS implements an open science policy and monitors its results. It uses the methods and tools needed to manage and open up access to research data.

4.2 Innovation

Question: How does the CNRS implement its innovation policy and value its achievements?

a. For the CNRS as a whole and in the field of each institute. The CNRS develops a culture of innovation within its teams and encourages risk-taking.

b. For the CNRS as a whole and in the field of each institute. The CNRS is capable of assessing the results of its innovation activities, both qualitatively and quantitatively. It identifies its major contributions and achievements during the reference period, and learns from its failures.

c. The CNRS is capable of evaluating the socio-economic impact of its activities.

d. The CNRS analyzes the successes and limitations of its actions to support relations with companies: research contracts, industrial chairs, joint laboratories, multi-year framework agreements, studies performed for companies, Ph.D. grants funded by companies, staff mobility, etc.

e. The CNRS analyzes the successes and limitations of the actions carried out as part of its policy of supporting transfer activities: support mechanisms for “project maturation” activities, technology transfer, competencies and know-how transfer, creation of startups, intellectual property policy, contribution to standardization work, awareness-raising activities and training programs for research teams, etc.

f. The CNRS is capable of assessing the added value of its public and private partnerships for innovation.

4.3 Expertise in support of public policies

Question: How does the CNRS develop the scientific expertise provided to the French State or local authorities, and to European or international public bodies, while ensuring its quality?

a. The CNRS analyzes the successes and limitations of its actions to promote its expertise activities in terms of staff training, ethics and compliance with scientific integrity requirements, but also to improve their recognition.

b. The CNRS develops collective and corporate expertise.
4.4 Embedding science in society

Question: How does the CNRS implement its strategic orientations for embedding science in society? Does it identify and value its achievements?

a. The CNRS is capable of assessing qualitatively and quantitatively its activities aimed at disseminating scientific and technical culture in society, including actions intended for young people. It identifies its major achievements during the reference period, and assesses their impact.
b. The CNRS develops and implements citizen science projects.
c. It provides training on how to express oneself as a scientific expert in the media and in the dialogue with non-specialized audiences, with due respect to scientific integrity requirements.
d. It analyzes the successes and limitations of its actions taken to promote activities aimed at embedding science in society, and to improve their recognition.

AREA 5: STRATEGIC ORIENTATIONS FOR THE COMING YEARS

5.1 Strategic orientations for the coming years

Question: What is the CNRS vision of its strategic orientations for the coming years and of the main evolutions to be led?

a. The CNRS is capable of assessing the trajectory followed for its various activities during the reference period. It analyzes its strengths and weaknesses as well as the main challenges for the coming years.
b. It presents a first vision of its strategic orientations and objectives for the coming years.
ANNEX 1: EXTRACTS FROM THE 2019-2023 CONTRACT AND PREVIOUS ASSESSMENT REPORTS

This annex brings together some extracts from the 2019-2023 COP between the CNRS and the French State, and from the 2012 and 2016 assessment reports (AR) of the CNRS. These extracts are reported hereafter to provide input for the self-assessment performed by the CNRS, and to stimulate the reflections of the expert committee. Selected by Hcéres, these extracts are intended to “challenge” the CNRS and the expert committee, while respecting their own roles: neither the CNRS nor the expert committee is bound by the analyses and recommendations of the previous assessments.

Assessment at the institute level

● Each institute has its own specificities in terms of missions and national position, number of sections within the CoNRS\(^1\), number and size of research units, staffing, age pyramid, and ETAs\(^2\) to researcher ratio (AR 2012, page 9).
● The institutes’ ability to develop strategies, build partnerships and coordinate with other national research organizations is uneven and has to be strengthened (development of research strategies, definition of funding priorities, etc.) (AR 2012, page 9).
● The importance of the institutes’ activities in their disciplinary field argues in favor of a regular external assessment\(^3\). (…) This assessment would be useful both for institutes and for the CNRS as a whole, particularly (…) because strategic capability varies from one institute to another (AR 2012, page 36).
● To develop national and international benchmarking, down to the institute level (AR 2012, page 36).

Interdisciplinarity

● (…) make substantial efforts to stimulate interdisciplinary research (...) there are barriers within the organization itself that will need to be lowered to benefit from the richness and diversity of the science produced (AR 2016, page 33).
● Interdisciplinarity is a major opportunity (…) for the CNRS. It is also a necessity for the future of many of its teams (AR 2016, page 33).
● The CNRS must do even better, by strengthening its interdisciplinary scientific policy at all levels between and within institutes, through actions to support interdisciplinarity, then through involvement in transversal actions and (…) the six major societal challenges that the CNRS identifies as priorities (COP, page 23).

Involvement in the development of universities

● Promoting the development of large research universities of the highest international level is a major objective of national HERI policies (…) the CNRS will strive to increase its contribution to this dynamics (COP, page 33).
● This requires the definition of strengthened and integrated “site policies”, built and carried out jointly by local actors, within the framework of a “site governance”. This governance must be built adequately for each site, in collaboration with the reference university and the main national research organizations involved on the site (COP, page 33).
● Within the framework of strengthened site policies (…), the CNRS aims at promoting the development of joint actions with universities and other innovation players in order to provide greater agility and efficiency to local innovation ecosystems and R&D partnerships with companies (COP, page 41).
● In addition to the development of large university sites, the work axes (…) include the reinforcement of “niches” at the best scientific level on the other sites and the support of national scientific and technical networks (AR 2012, page 13).
● The nomination of “referent scientific directors” (…) representing the CNRS to negotiate with the heads of major university sites (…) chosen among the directors of institutes (…). While several aspects of this system may be questioned (compatibility in terms of workload for institute directors, adequacy of the profile to the university site, weakness of the links with some research unit directors, paradox of centralized management for local policies), it is positive for the universities to benefit from a single interlocutor able to commit on behalf of the CNRS (AR 2012, page 11).

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\(^1\) Comité national de la recherche scientifique. Organized in more than 40 “sections” mainly corresponding to scientific disciplines, the CoNRS is in charge of the researchers’ individual assessments, for recruitment and promotion.

\(^2\) Engineers, technicians and administrative staff.

\(^3\) The 2016 AR includes a brief analysis of the actions of each institute, and recommendations.
Human resources policy
- To ensure support for young researchers from the very moment they are recruited (AR 2016, page 14).
- (...) to increase the mobility of more established researchers to universities (AR 2016, page 13). To increase the mobility of researchers to the university (AR 2016, page 14).
- (...) To adapt its assessment process (...) The transparency of the criteria for assessing professional value and the widening of the recognition of professional activities and the diversity of career paths are conditions for fairness in the development of careers, and therefore for the motivation and development of staff (AR 2012, page 31).
- To diversify careers (fundamental research, applied research, engineering, teaching, technical support, administration, mobility towards the socio-economic sector), and to develop an active policy of mobility for researchers, engineers, technicians and administrative staff (AR 2012, page 37).
- (...) The CNRS will ensure that it recruits and promotes researchers with varied profiles covering all its missions. The objective is to ensure that the assessment of researchers recognizes and values all dimensions of the CNRS missions. To make it easier, the application of each researcher for promotion will include a declarative foreword outlining the dimensions of his or her main contributions to the various missions of the CNRS, so that the applicant's assessment takes all of them into account (COP, page 52).
- (...) a plan to recruit Ph.D. students. Three priorities have been defined: interdisciplinary, questions arising from social issues (...) and international collaborations (COP, page 54).
- The CNRS has set gender balance as a priority in its human resources policy (...) to promote a proportion of women at least equal to the proportion of women in the pool of eligible applicants (and not to the proportion of actual female candidates, as female self-censorship is more important) (...) to increase the proportion of female directors of research units (COP, page 55).

European commitment and international collaborations
- (...) The CNRS is not to be only a participant in the dynamics of the European research area (ERA). Given its research capacity, it must be one of the main driving forces in the ERA (AR 2012, page 20).
- The main objective is to improve the results of the CNRS and of the whole French HERI system in the various calls for projects organized within the Framework Program and other European programs (COP, page 43).

Society’s trust in science
- In a context where the trust between our fellow citizens and science is sometimes shaken, the scientific community must strive for the highest standards of ethics and scientific integrity. The CNRS has the responsibility to pay the utmost attention to these issues, using the mechanisms it has set up (...) and through awareness-raising and training actions for laboratory staff and for the entire organization (COP, page 47).

Innovation
- The CNRS endorses the three urgent needs (...) the urgent need to create new companies based on findings from public research, that will be leaders and will create tomorrow's market breakthroughs; the urgent need to significantly increase the extent, intensity and continuity of the public-private, public-public and public-civil society interactions; and the urgent need to significantly improve simplicity, agility and responsiveness in order to effectively and fully reveal the potentialities of public laboratories for R&D partnerships with companies for innovation (...) (COP, page 37).
- To support the creation of 50 additional startups per year with high growth potential (COP, page 37).
- (...) to contribute to the reinforcement of the scientific potential of companies thanks to renewed listening, dialogue, and partnerships (COP, page 39).
- The increase of the relations with SMEs on R&D topics (...) with its partner universities (...) by offering "services" tailored to the size and needs of SMEs (COP, page 40).
- Bringing laboratories and companies closer together also means encouraging the mobility of people, in both directions, particularly in the context of part-time assignments (COP, page 40).
- To develop a pragmatic and agile management of intellectual property in the framework of integrated site policies (COP, page 41).
Embedding science in society

- The image of researchers working in a form of solitary confinement, or in an ivory tower, belongs more and more to the past, and must be relegated to it. Scientists must continue to take their full place in society, and definitively give up the top-down model of an academic authority that is supposed to impose itself on uninformed citizens. We need to clarify, discuss, debate sometimes to hope to overcome mistrust and help public decision making, with modesty, rigor and ambition (COP, page 47).
- (... ) to make the work and results of researchers available to all. ( ...) the CNRS will direct its communication and knowledge dissemination policy towards new audiences. In this context, a special effort will be made to reach out to schoolteachers, and a partnership policy with major cultural establishments and scientific culture centers will be pursued and deepened in conjunction with partner universities (COP, page 47).
- To develop new citizen science initiatives (COP, page 47).
- To promote and manage the capacity for collective expertise (COP, page 47).

On the self-assessment report in general

- The way the CNRS operates, based on the promotion of individual creativity, freedom of research and the recognition of the need to work over long periods of time on certain fundamental research projects, has contributed to the emergence of exceptional personalities and the achievement of remarkable scientific breakthroughs. All these characteristics make staff proud to belong to the CNRS. However, it is important to ensure that this attachment and positive view of the institution do not lead to unawareness or underestimation of its weaknesses. Results are not homogeneous, and excellence is not generalized. In addition, the available research capacity is offset by a certain cumbersomeness in its operations that may limit its ability to adapt to a changing environment. It is therefore striking to note that the documents and analyses provided do not put the results into perspective in relation to the resources committed, nor do they make much use of national and international benchmarks. Such approaches are essential to assess the efficiency of the CNRS in relation to international standards, and to gain insight on the policies to be pursued to ensure its long-term international reputation for scientific excellence (AR 2012, page 7).
- Lack of perspective on scientific choices in relation to external factors, both sectorial and global (few international benchmarks, distrust in external assessments) (AR 2012, page 36).
## ANNEX 2: TABLE OF ACRONYMS

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<th>Acronym</th>
<th>Definition</th>
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<tr>
<td>Aéres</td>
<td>Agence d’évaluation de la recherche et de l’enseignement supérieur</td>
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<tr>
<td>AR</td>
<td>Assessment report</td>
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<tr>
<td>CNRS</td>
<td>Centre national de la recherche scientifique</td>
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<td>CoNRS</td>
<td>Comité national de la recherche scientifique</td>
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<td>COP</td>
<td>Contrat d’objectifs et de performance</td>
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<tr>
<td>ERA</td>
<td>European research area</td>
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<tr>
<td>ETAs</td>
<td>Engineers, technicians and administrative staff</td>
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<tr>
<td>Hcéres</td>
<td>Haut Conseil de l’évaluation de la recherche et de l’enseignement supérieur</td>
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<tr>
<td>HERI</td>
<td>Higher education, research and innovation</td>
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<td>R&amp;D</td>
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## ANNEX 3: THE TERMS OF REFERENCE “AT A GLANCE”

### AREA 1: POSITIONING AND STRATEGY

<table>
<thead>
<tr>
<th>CNRS level</th>
<th>Institute level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Positioning: Is the CNRS capable of describing its position in the national, European and international HERI landscape and of analyzing its evolution?</td>
<td></td>
</tr>
<tr>
<td>a. Clear vision of its missions and commitment to the French State and society</td>
<td>x</td>
</tr>
<tr>
<td>b. Role in the national, European and international landscape</td>
<td>x</td>
</tr>
<tr>
<td>c. Positioning based on international benchmarks</td>
<td>x</td>
</tr>
<tr>
<td>d. Analysis of the changes in its positioning over the reference period</td>
<td>x</td>
</tr>
<tr>
<td>1.2 Strategy: Is the CNRS strategy clear and consistent with its missions and positioning?</td>
<td></td>
</tr>
<tr>
<td>a. Clear and formalized strategy, consistent with positioning</td>
<td>x</td>
</tr>
<tr>
<td>b. Priority orientations for the scientific policy</td>
<td>x</td>
</tr>
<tr>
<td>c. Strategy for innovation and contribution to the society</td>
<td>x</td>
</tr>
<tr>
<td>d. Strategy for emergence of new research themes, risk-taking, interdisciplinarity, professional development of young scientists</td>
<td>x</td>
</tr>
<tr>
<td>e. Contribution to the development and recognition of partner universities</td>
<td>x</td>
</tr>
<tr>
<td>f. Involvement in the European research area</td>
<td>x</td>
</tr>
<tr>
<td>g. Scientific integrity, ethics and deontology</td>
<td>x</td>
</tr>
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</table>

### AREA 2: ORGANIZATION AND GOVERNANCE

<table>
<thead>
<tr>
<th>CNRS level</th>
<th>Institute level</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Organizational structure: Is the CNRS organizational structure appropriate?</td>
<td></td>
</tr>
<tr>
<td>a. Consistency of the organization into research units</td>
<td>x</td>
</tr>
<tr>
<td>2.2 Governance for strategy implementation: What about the monitoring of the CNRS strategy implementation and its communication policy?</td>
<td></td>
</tr>
<tr>
<td>a. Monitoring of the strategy implementation</td>
<td>x</td>
</tr>
<tr>
<td>b. External communication</td>
<td>x</td>
</tr>
<tr>
<td>c. Internal communication</td>
<td>x</td>
</tr>
</tbody>
</table>

### AREA 3: STRATEGY IMPLEMENTATION

<table>
<thead>
<tr>
<th>CNRS level</th>
<th>Institute level</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Involvement in the development of universities: How is the CNRS involved in implementing shared “site policies” with its main partner universities, with common objectives and joint actions?</td>
<td></td>
</tr>
<tr>
<td>a. Involvement in a “site governance” with partner universities</td>
<td>x</td>
</tr>
<tr>
<td>b. Participation of CNRS staff in teaching activities</td>
<td>x</td>
</tr>
<tr>
<td>c. Joint actions in scientific policy, scientific expertise and embedding science in society</td>
<td>x</td>
</tr>
<tr>
<td>d. Joint actions for innovation and transfer to companies</td>
<td>x</td>
</tr>
<tr>
<td>e. Joint actions for recruitment, and for supporting the joint research units</td>
<td>x</td>
</tr>
<tr>
<td>f. Joint actions at the local level and for partnerships at national and international levels</td>
<td>x</td>
</tr>
<tr>
<td>National role: Is the national role of the CNRS in the French HERI system well identified? Is it implemented through relevant operating modes?</td>
<td></td>
</tr>
<tr>
<td>a. Operating research and innovation programs for the benefit of all national HERI actors</td>
<td>x</td>
</tr>
<tr>
<td>b. Steering major research and innovation projects with national, European and international actors</td>
<td>x</td>
</tr>
<tr>
<td>c. Role for the implementation of HERI public policies and in national investment programs</td>
<td>x</td>
</tr>
<tr>
<td>d. Complementarity with the other national research organizations</td>
<td>x</td>
</tr>
<tr>
<td>3.2 Human resources policy: Is the CNRS human resources policy in line with its strategy? Is the CNRS attractive to top talented people? Are all activities valued in the staff assessment?</td>
<td></td>
</tr>
<tr>
<td>a. Recruitment and attractiveness</td>
<td>x</td>
</tr>
<tr>
<td>b. Staff internal and external mobility</td>
<td>x</td>
</tr>
<tr>
<td>c. Recognition of all contributions, in staff assessment and career development</td>
<td>x</td>
</tr>
<tr>
<td>d. Gender balance</td>
<td>x</td>
</tr>
</tbody>
</table>
### 3.3 European commitment: How does the CNRS strengthen its contribution to the European research area?

- a. Increasing its participation in the European research and innovation programs
- b. Increasing the participation of national HERI experts in European scientific and strategic bodies
- c. Strategic partnerships with European research and innovation actors

### 3.4 Factors supporting society’s trust in the CNRS: How does the CNRS promote scientific integrity, ethics and professional conduct?

- a. Scientific integrity
- b. Discussions about ethical issues related to research and innovation activities
- c. Quality of the internal processes and reflections on professional ethics

### AREA 4: ACTIVITIES AND RESULTS

#### 4.1 Research: How does the CNRS sustain the dynamics of its research activities? Does it identify and value its major results? Does it follow the orientations of its scientific policy?

- a. Assessing the quality of its scientific production and identifying its major results
- b. Evolution of the research activities over the last 5 or 10 years
- c. Successes and limitations of the actions taken to implement scientific policy, promote the emergence of new research themes, risk taking and the development of young scientists
- d. Support to Ph.D. training and job-market integration of doctors
- e. Open science policy, methods and tools to open up access to research data

#### 4.2 Innovation: How does the CNRS implement its innovation policy and value its achievements?

- a. Culture of innovation and risk-taking
- b. Assessing the results of its innovation activities and identifying its major achievements
- c. Ability to evaluate the socio-economic impact of its activities
- d. Development of relationships with companies
- e. Development of technology transfer, including creation of startups
- f. Assessing the added value of its public and private partnerships for innovation

#### 4.3 Expertise in support of public policies: How does the CNRS develop the scientific expertise provided to the French State or local authorities, and to European or international public bodies, while ensuring its quality?

- a. Successes and limitations of the actions taken to promote expertise activities
- b. Development of collective and corporate expertise

#### 4.4 Embedding science in society: How does the CNRS implement its strategic orientations for embedding science in society? Does it identify and value its achievements?

- a. Assessing the activities aimed at disseminating scientific culture in society
- b. Development of citizen science projects
- c. Communication in the media and dialogue with non-specialized audiences
- d. Actions taken to promote activities aimed at embedding science in society

### AREA 5: STRATEGIC ORIENTATIONS FOR THE COMING YEARS

#### 5.1 Strategic orientations for the coming years: What is the CNRS vision of its strategic orientations for the coming years and of the main evolutions to be led?

- a. Strengths-weaknesses analysis and main challenges for the coming years
- b. First vision of its future strategic orientations and objectives