

## **THE DESCARTES CHALLENGE**

### **ELECTRO-CHEMICAL STORAGE ASSOCIATED WITH REMOTE-CONTROLLED ROBOTS**

#### **2013 Edition**

Deadline for submissions to the Call for Projects  
***3 June 2013 at 13:00 Paris time***

Call for Projects published by  
<http://www.agence-nationale-recherche.fr/en/research-programmes/aap-en/descartes-challenge-on-electro-chemical-storage-associated-with-remote-controlled-robots-2013>

Power storage, technological challenge, breakthrough concepts,  
electro-chemical batteries, supercapacitors, fuel cells, hybrid systems,  
dual-purpose research (civilian and military)

## **IMPORTANT DATES**

### **DEADLINE FOR SUBMISSIONS**

Project proposals must be submitted to the ANR submissions website (link provided in the ANR Call for Projects web page, see address on page 1) before the deadline for submissions to the Call for Projects:

**03/06/2013 AT 13:00 PARIS TIME**

(see paragraph 5: "Project Submission Procedures")

### **DOCUMENTS MUST BE SIGNED AND SCANNED**

All partners must certify their participation in the project proposal by signing their administrative and financial documents. These may be printed from the ANR submissions website after the submissions deadline. Once the administrative and financial documents have been signed and scanned, the coordinator must upload them to the submissions website at the latest by:

04/07/2013 at 13:00 Paris time

(see paragraph 5 ? : "Submission Procedures")

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Applicants must carefully read through this document and the rules governing the allocation of ANR funding (<http://www.agence-nationale-recherche.fr/en/magazine/documents/detail/regulations-pertaining-to-the-conditions-of-allocation-of-anr-funding>) before sending their research project proposal.

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## 1. CONTEXT AND OBJECTIVES OF THE DESCARTES CHALLENGE

Improving the performance of electro-chemical power storage is one of today's foremost technological challenges. This is a complex field that is delivering proven solutions but where innovation cycles are relatively long.

In order to stimulate creativity, promote innovation and boost research dynamics in this scientific sector, the ANR and DGA have jointly launched this challenge on power storage. Organised over 3 years, this challenge is designed to foster the emergence of breakthrough solutions for electro-chemical storage that differ from existing commercial solutions and open prospects for quantum leaps in technical performance.

The aim is to stimulate imaginative and inventive design concepts for a variety of storage systems (electro-chemical batteries, supercapacitors, fuel cells or their hybrids, etc.), particularly as regards innovative system design (use of new materials, electrode architecture, etc.) that open up prospects for breakthrough advances in relation to mature or sub-mature solutions.

The DESCARTES power storage challenge (*DEfi sur le Stockage électro-Chimique Associé à des Robots TELécommandéS*) is organised in partnership with the DGA (General Directorate for Armaments -) in the context of ongoing activities under the PROGELEC power production and management programme.

The main goals are:

- 1- to assess and validate innovative or entirely new formulations of materials and new components for environmentally compatible embedded power storage that are compatible with the REACH regulations.
- 2- to stimulate the creativity of research teams around a common technological objective.

The major issues are to increase energy and power density, increase safety and reduce costs. Batteries, supercapacitors and fuel cells or their hybrids can provide efficient solutions but further progress is absolutely necessary. There are numerous potential niches for innovation, in high and low temperature applications, peak power, safety, recharge potential, durability and more environmentally compatible solutions, all of which may have both civilian and military applications.

## 2. CHARACTERISTICS OF THE DESCARTES CHALLENGE

The proposed projects must be able to deliver, within 3 years an electro-chemical power storage system (battery, supercapacitor, fuel cell or hybrids) based on an original concept with high development potential and levels of technical performance that offer a significant improvement over existing commercial products.

## 2.1. TECHNICAL SPECIFICATIONS

The orders of magnitude for the design of the energy sources to be developed are as follows: supplied voltage  $U=12$  to  $20$  V, continuous discharge current  $I=8$  A, peak current  $I_{MAX}=16$  A, capacity  $C=1$  Ah, longest possible lifetime, system supporting several recharging cycles.

One of the goals would also be to obtain significant advances over the current state of the art as regards mass and volume.

## 2.2. KEY STAGES IN THE CHALLENGE

The challenge is open to academic and partnership teams, (cf. 6.5) who are invited to submit projects for the development of electro-chemical storage systems. The steering committee will select several projects to take part in a series of tests including:

- an exhaustive assessment of the solution, its originality and its performance,
- final testing of the power supply to a mobile robot land vehicle, to be organised on a testing site selected by the DGA.

More specifically, the projects selected to participate in the challenge must successfully complete 3 stages of increasing and varying difficulty over 3 consecutive years.

- 1. Year 1:** assessment of the originality and potential of the proposed solution in the light of the development work undertaken, and decision by the follow-up committee to continue with the project or not (Go/ No Go).
- 2. Year 2:** testing of the storage module against different functional electro-chemical parameters and validation after a simple testing procedure.
- 3. Year 3:** testing under realistic conditions on a DGA platform and full characterisation of the proposed solutions through specific laboratory tests to be jointly defined by the selected teams. The robot vehicle will be supplied by the DGA and the selected teams will be required to develop only the power supply segment, including the interface.

The detailed procedure for each of these stages will be established, in consultation with the participants whose projects have been selected for the challenge, by a follow-up committee (cf. paragraph 3) to ensure a proper balance between testing difficulties and feasibility.

Particular attention will be given to the actual state of progress of the project, at the end of each stage, in relation to the planned state of progress.

It should also be noted that the results will be assessed against the degree of success in the tests conducted under realistic conditions. If an electro-chemical couple or electrolysis system is considered promising or original, it will be given a chance even if it does not immediately achieve the same performance as a more conventional system.

The follow-up committee will reach its decision on the basis of all the results obtained.

### 3. EXAMINATION OF PROJECT PROPOSALS

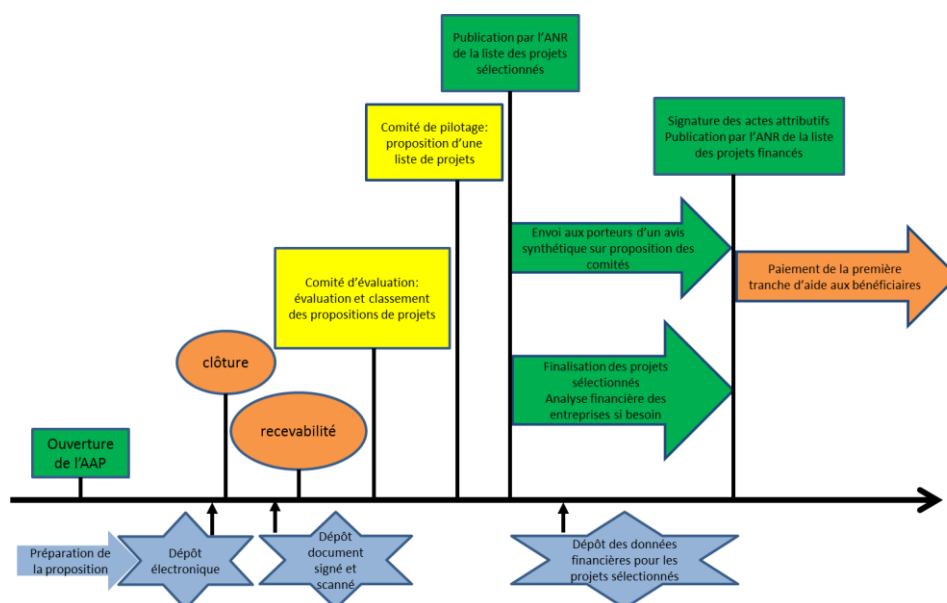
The ANR selection process involves different players whose respective roles are as follows:

- The role of the evaluation committee is to assess the project proposals and classify them according to excellence into “List A”, “List B” and “List C not selected”. Its members are French and foreign members of the research community concerned, working in the public or private sphere.
- The steering committee members are the Chair and Vice-Chair of the evaluation committee and representatives of the ANR and DGA. Their role is to propose a list of projects for financing by the ANR and DGA, in the light of the evaluation committee’s findings.

All those involved in the selection of project proposals undertake to comply with the provisions of the ANR’s code of ethics, in particular those concerning confidentiality and conflicts of interest. The ANR’s code of ethics may be consulted on the ANR website<sup>1</sup>.

On publication of the list of selected projects, the members of the programme’s evaluation committee will be posted to the ANR website<sup>2</sup>.

The ANR and DGA will also set up a follow-up committee. Its members will be academic and industrial scientists from the civilian and military fields, whose role will be to ensure a proper balance between the difficulty and feasibility of the tests throughout the project.



<sup>1</sup> [http://www.agence-nationale-recherche.fr/fileadmin/user\\_upload/documents/uploaded/2009/code-of-ethics.pdf](http://www.agence-nationale-recherche.fr/fileadmin/user_upload/documents/uploaded/2009/code-of-ethics.pdf)

<sup>2</sup> Cf. web address on page 1

The main steps in the selection procedure are as follows:

- examination by the ANR of the **admissibility** of project proposals against the criteria set out in paragraph 3.1.,
- examination the evaluation committee of the **eligibility** of the project proposals against the criteria set out in paragraph 3.2.,
- assessment of the project proposals by the evaluation committee,
- examination of the project proposals by the steering committee and proposal of a list of projects to be financed by the ANR and DGA,
- preparation of the list of projects selected by the ANR and DGA and publication of the list on the ANR website in the Calls for Projects page,
- summary opinion proposed by the committees sent to project coordinators,
- review and finalisation of the scientific, financial and administrative documents for the selected projects (exchanges between ANR and applicants), including those of any participating companies as indicated in paragraph 6.1:
  - verification of their capacity for receiving financing under State aid schemes for research, development and innovation (RDI).
  - verification of their capacity to meet their financing commitments for the project,
  - establishment of the incentive effect of research funding,
- signature of the funding agreements with the beneficiaries,
- publication of the list of projects selected for financing on the ANR website in the Calls for Projects page,
- initial payments to beneficiaries in accordance with the procedures set out in the rules on the allocation of ANR funding (see link on the ANR website given on page 3).

### 3.1. ADMISSIBILITY CRITERIA

#### IMPORTANT

After examination by the ANR, project proposals that do not meet the admissibility criteria will not be assessed and may under no circumstances be financed by the ANR.

- 1) The **administrative and financial information** must be given in full on the ANR submissions website before the deadline for submissions.
- 2) **The scientific document must be in an unprotected PDF format and no longer than 30 pages**, and drafted imperatively in accordance with the instructions provided by the template available on the ANR website in the Call for Projects page. It must be uploaded to the ANR submissions website in its final form before the deadline for submissions to the call for projects.
- 3) The **coordinator** of the project proposal is authorised to submit one project proposal only to the ANR as coordinator under the 2013 edition of ANR calls for projects.
- 4) The coordinator of the project proposal must not be a member of the evaluation committee or steering committee under the programme for this call for projects.
- 5) The project **duration** is 36 months.

**Minimum number of partner(s): 1**

### 3.2. ELIGIBILITY CRITERIA

**IMPORTANT**

After examination by the ANR, project proposals that do not meet the eligibility criteria will not be assessed and may under no circumstances be financed by the ANR.

- 1) The project proposal must not be deemed by the evaluation committee to infringe any intellectual property right.
- 2) The project must be **within the scope** of the call for projects, as described in paragraph 2.
  - **Type of research:** this call for projects is exclusively open to industrial research projects<sup>3</sup>,
- 3) **Membership of the consortium<sup>4</sup>:** The consortium must comprise at least one partner belonging to the research organisation category (university, EPST<sup>5</sup>, EPIC<sup>6</sup>, etc.).

### 3.3. EVALUATION CRITERIA

**IMPORTANT**

Only project proposals that meet the admissibility and eligibility criteria will be submitted to the full assessment process

The evaluation committee members will be required to examine the project proposals against the evaluation criteria given below. To assist them in their evaluation, appraisal guidelines will be suggested for each criterion; these are neither limitative nor compulsory.

- 1) **Relevance of the proposal to the guidelines for this call for projects**
  - relevance to the objectives of the Descartes Challenge (cf. 1),
  - relevance to the characteristics of the Descartes Challenge (cf. 2).
- 2) **Scientific and technical originality**
  - scientific excellence in terms of advances in knowledge compared to the state of the art, conceptual breakthrough,

<sup>3</sup> See definitions of research categories in paragraph 6.4.

<sup>4</sup> See the definitions concerning project organisation and research establishments (paragraphs 6.5 and 6.6).

<sup>5</sup> EPST – Public scientific and technical institution

<sup>6</sup> EPIC – Public industrial and commercial institution



- innovative nature, in terms of technological innovation or prospects for innovation compared to existing technologies,
- resolution of scientific and technological barriers.
- Originality of the concept and technological breakthrough potential.

### 3) Methodology, quality of the project's construction and coordination

- scientific and technical feasibility of the project, choice of methods.

### 4) Quality of the project team

- level of scientific excellence or expertise of each team,
- relevance to the competences and objectives sought by the Descartes Challenge.

## 3.4. SELECTION CRITERIA

The steering committee proposes the final ranking of the project proposals

The main points for deliberation on which the steering committee will rank the proposals are:

- relevance of the proposal to the objectives of the Challenge,
- originality of the proposed solution and technological breakthrough potential,
- dual civilian and military nature,
- capacity for the proposed solution to evolve to a high level of technological maturity (TRL 6),
- risk/added value coefficient (potential for economic added value).

The steering committee may, as an option, consider a competitiveness cluster label for the project proposal.

## 3.5. RECOMMENDATION

RECOMMENDATION FOR PROJECTS THAT INCLUDE FOREIGN PARTNERS WHERE THERE IS NO BILATERAL AGREEMENT BETWEEN THE ANR AND A FOREIGN FUNDING AGENCY IN THE PROJECT'S THEMATIC SCOPE

The DESCARTES call for projects is open to consortiums between French and foreign partners. Only teams from European Community Member states and the Swiss Confederation are eligible. The foreign partners must meet their own financing requirements. They will be asked to specify, in the scientific document:

- whether the activities are to be financed from their own funds,
- whether they are already receiving national funding for their contribution to the project, or
- whether they have applied for national funding for their participation in the project by submitting the same project proposal to an agency in their country. In this case, the full contact details of the funding agency must be supplied along with the name, function, email address and telephone number of the programme officer in their country.

Failure to provide this information may be considered as failure to implement the necessary means.

## **4. SPECIFIC PROVISIONS ON FINANCING**

This chapter supplements the general provisions set out in paragraph 6. Once the selection process has been completed, the ANR will not consider, for any project proposal selected, any planned expenditure that does not meet the conditions set out below.

### PROJECT FINANCING

Under this call for projects, applicants are asked to present projects with a maximum budget of 500 K€.

### RECOMMENDATION FOR POST-DOC FINANCING

Financing for each post-doc must cover a period of no less than 12 months.

### DOCTORAL STUDENTS

Financing for doctoral theses is not authorised under the Descartes Challenge.

## **5. SUBMISSION PROCEDURES**

### 5.1. CONTENT OF THE SUBMISSION

The submission must be written in English and must cover all the necessary points to support scientific and technical assessment of the project proposal. The document must be completed before the submissions deadline (date and time given on page 1 of this call for projects).

#### **IMPORTANT**

No additional material will be accepted after the deadline for submissions to this call for projects (date and time given on page 1 of this call for projects).

The full submission comprises two documents that must be completed in full:

- a) The “scientific document” is the scientific and technical description of the project proposal. The instructions for completing this document are set out in the template available from the ANR website on the Calls for Projects page (cf. address on page 1). This document must be uploaded under the “Scientific document” tab on the submissions website, **IMPERATIVELY** in unprotected PDF format.
- b) The “administrative and financial document” for the project proposal. This document is generated from the submissions website after the required information has been provided on line.

## 5.2. SUBMISSIONS PROCEDURE

1) ON LINE SUBMISSIONS, imperatively:

- before the submissions deadline given on Page 1,
- via the link available from 15 April 2013,
- to the Calls for Projects page on the ANR website (address on page 1).

**The project proposal may be modified up to the closure of this call for projects.**

Only the information present on the submissions website at the time of closure of the call for projects will be considered.

**The coordinators of the project proposals will receive an acknowledgement of receipt of their submissions by email at the time of closure of the call for projects, provided that a scientific document has been uploaded to the submissions site AND that the funding request form has been completed (non nil total).**

2) TRANSMISSION OF THE SIGNED AND SCANNED (PDF format) ADMINISTRATIVE AND FINANCIAL DOCUMENT.

This document is generated from the submissions website after the required information has been provided on line.

The document should be downloaded from the submissions website, printed, signed by all partners, then scanned (in PDF format) and uploaded to the ANR submissions website by the project coordinator no later than the deadline given on page 2.

All partners belonging to a public organisation or research foundation are reminded that the scientific and technical project manager and the director of the laboratory or host unit **must sign** the administrative and financial document. Applicants must ensure that this document is transmitted to the representative of their supervisory body at the earliest possible date.

For partners with a different status, only the legal representative **must sign** the document.

This document is not to be signed by foreign partners.

## 5.3. ADVICE ON SUBMISSIONS

Applicants are strongly advised:

- Not to wait for the closing date of the call for projects to finalise the procedure for submitting their project proposals.
- To start entering the administrative and financial information on line no later than one week before the closure of the call for projects. A non-exhaustive list of the information required is given below for indicative purposes:
  - partner's full name, acronym and category,

- baseline information for calculating the funding amount
- membership of a Carnot Institute,
- for a public research laboratory: type and number of the unit, supervisory management and hosting bodies,
- business registration number (SIRET) and payroll (for SMEs),
- address where the work is conducted,
- funding request: cost per month (excluding VAT) of permanent and non-permanent staff, scientific environment coefficient,
- To save the information entered on the submissions website before exiting each page;
- To consult the programme's website, at the address given on page 1, on a regular basis to check for updated information on the programme (submissions website user guide, budgeting guide, glossary, FAQ, etc.);
- To contact, if necessary, the correspondents by email at the address(es) given on page 2 of this call for projects.

#### 5.4. SUBMISSION PROCEDURES TO REQUEST A COMPETITIVENESS CLUSTER LABEL<sup>7</sup>

Requests for labelling of the project proposal by one or more competitiveness clusters should be submitted to the ANR submissions website under the tab for competitiveness clusters.

Project partners are asked to contact the cluster as early as possible to ensure that it is able to provide the best possible assistance for the submission of the project proposal.

## 6. GENERAL PROVISIONS AND DEFINITIONS

### 6.1. ANR FUNDING

#### FUNDING PROCEDURES

The funding awarded by the ANR to each partner will be provided in the form of a non reimbursable grant in accordance with the provisions of the ANR funding regulations<sup>8</sup> available from the ANR website<sup>8</sup>.

#### IMPORTANT

The minimum amount of ANR aid to a project partner is **15 000€**. This does not preclude partners who are not requesting funding from being included in the consortium (self-financed participation in the project).

<sup>7</sup> See additional provisions on competitiveness clusters in paragraph 6.3.

<sup>8</sup> <http://www.agence-nationale-recherche.fr/en/magazine/documents/detail/regulations-pertaining-to-the-conditions-of-allocation-of-anr-funding/>

ANR funding may only be awarded to partners who are resident in France, the international associated laboratories (LIA) of the research organisations and French higher education and research establishments or French institutions working abroad. Foreign partners may participate provided that they meet their own financing needs for the project.

#### CONDITIONS FOR AID TO COMPANIES

##### **IMPORTANT**

Under Community regulations governing State aid to enterprises, ANR aid to companies must comply with a number of conditions. If a company participating in a selected project proposal does not meet these conditions, the ANR will not award funding to that company.

- 1) Enterprises in difficulty<sup>9</sup> are not eligible for State aid to research, development and innovation (RDI). The ANR will therefore verify, for all projects selected for financing by the ANR after completion of the selection process, that none of the companies partnering the research project are in one of the situations defined in paragraph 6.7.
- 2) The ANR will verify the capacity of these companies to finance the share of work for which they must meet the costs. The ANR will therefore verify, for all projects selected for financing by the ANR after completion of the selection process, that any companies partnering the research project have the capacity to meet the costs of the share of work not covered by the ANR funding.
- 3) The incentive effect<sup>10</sup> of ANR aid to a company other than an SME must be established. Consequently, companies other than SMEs selected under this call for projects will be asked, during the finalisation of the administrative and financial documents, to provide the necessary evidence.

In all cases, when a company is not financed, this may call ANR funding of the project as a whole into question if the ANR considers that the consortium's capacity for reaching the project objectives is thereby compromised.

For companies<sup>11</sup>, minimum ANR funding amounts under this call for projects are as follows:

<sup>9</sup> See definition of enterprises in difficulty in paragraph 6.7.

<sup>10</sup> See definition of the incentive effect in paragraph 6.7.

<sup>11</sup> See definitions of organisations in paragraph 6.6.

Designation	Maximum funding for SMEs	Maximum funding for larger companies
Industrial research <sup>12</sup>	45% of eligible expenses (*)	30% of eligible expenses (*)

(\*) For projects that do not call on effective cooperation between a company and a research organisation, the minimum rate is 35%.

Cooperation between a company and a research organisation is effective when the research organisation bears at least 10% of the costs that can be financed by the research grant and is authorised to publish the results of the research project, insofar as these results are from research conducted by the research organisation itself.

## 6.2. STATUTORY AND CONTRACTUAL OBLIGATIONS

### FUNDING AGREEMENTS

The rules governing the execution and financing of the research projects selected for financing by the ANR on completion of the selection process will be set out in the funding agreements comprising general conditions (available from the ANR website<sup>13</sup>) and various specific conditions. The specific conditions in the funding agreements will be signed by the ANR and by each of the partners in the research project.

### CONSORTIUM AGREEMENTS

For projects conducted as a research organisation and company partnership<sup>14</sup>, the partners must sign an agreement, under the aegis of the project coordinator, which sets out, in particular:

- rules for sharing the intellectual property rights in the results obtained under the project;
- rules for the publication / dissemination of the results;
- rules on spin-offs from project results.

These agreements will determine any indirect financial support included in the calculation of the maximum percentage of aid authorised under the Community Framework for aid to research, development and innovation (referred to below as “the Community Framework”).

The absence of indirect support is presumed if at least one of the following conditions is met:

- the participating companies will bear all of the costs of the research project;
- results that do not generate intellectual property rights may be widely disseminated and the research organisation is the holder of any intellectual property rights that result from its RDI activities;

<sup>12</sup> See definitions of research categories in paragraph 6.4.

<sup>13</sup> See page at <http://www.agence-nationale-recherche.fr/en/magazine/documents/detail/regulations-pertaining-to-the-conditions-of-allocation-of-anr-funding>

<sup>14</sup> See definition in paragraph 6.5.

- the research organisation receives a licence fee from the participating companies equivalent to the market rate for the use of intellectual property rights resulting from the activities it has undertaken for the project and transfers to the participating companies. Any contribution from the participating companies to the research organisation's costs are deducted from the above-mentioned fee.

#### SCIENTIFIC FOLLOW-UP OF PROJECTS

The projects financed will be subject to scientific follow-up by the ANR and DGA during the period of execution and up to one year after their completion. Scientific follow-up covers:

- participation by the coordinator in the launch seminar for the project under this call for projects,
- participation in the annual tests,
- participation in the consultation phases conducted by the follow-up committee,
- delivery of up-to-date summaries of project objectives, work and results, for inclusion in ANR publications through any medium;
- delivery of two mid-term reports, the first to support the Go/NoGo assessment,
- delivery of an end-of-project report required for payment of the final funding instalment by the ANR and DGA,
- collection of project impact information up to two years after completion of the project,
- participation in (one or two) seminars organised by the ANR.

The project proposals must allow for the necessary workload in their work schedules.

#### MORAL RESPONSIBILITY

ANR financing for a project does not dispense the project partners from the statutory compliance and ethical obligations applying to their field of activity.

The coordinator undertakes, on behalf of all the project partners, to keep the ANR informed about any changes that may change the content, partnership and schedule for the execution of the project proposal from the time of project submission to the publication of the list of selected projects.

All the partners undertake to abide by the good research practices described in the code of ethics applying to those involved in ANR projects, available from the ANR website<sup>15</sup>, during the project preparation phase and during its implementation if the proposal is selected and financed by the ANR.

#### EXPERT STUDIES CONDUCTED FOR THE ANR

The ANR may request the coordinators and scientific and technical managers of the partners in the project proposals to conduct expert studies for other calls for projects and/or programmes. They undertake to examine such requests with all due diligence.

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<sup>15</sup> [http://www.agence-nationale-recherche.fr/fileadmin/user\\_upload/documents/uploaded/2009/code-of-ethics.pdf](http://www.agence-nationale-recherche.fr/fileadmin/user_upload/documents/uploaded/2009/code-of-ethics.pdf)

### 6.3. ADDITIONAL PROVISIONS

#### COMPETITIVENESS CLUSTERS<sup>16</sup>

The partners in a project proposal may request labelling by one or more competitiveness clusters. The labelling procedure for a project denotes recognition by a cluster of the interest of the project in terms of the cluster's strategic orientations.

The partners of projects under construction are advised to approach one or more clusters for this purpose at the earliest possible stage.

As labelling requests require strategic, scientific and financial project information to be made available to the cluster, the partner initiating the approach is advised to secure agreement from the other project partners beforehand.

Labelling agreements must be transmitted before the submissions deadline.

If a project with a label is financed by the ANR, the partners undertake to transmit the mid-term and final project reports to the relevant competitiveness cluster. The ANR reserves the possibility of inviting representatives of the competitiveness cluster to attend any project review or project follow-up operation.

A competitiveness cluster label is a point taken into consideration by the steering committee in the ANR selection process.

Projects with a competitiveness cluster label financed under the 2013 edition will not be eligible for additional financing from the ANR.

#### TAX INCENTIVE FOR RESEARCH (CRÉDIT D'IMPÔT RECHERCHE – CIR)

Costs paid by companies to finance research operations may be eligible for the CIR tax incentive scheme (cf. Article 244.d.B of the general tax code).

Companies participating in projects selected by the ANR may be eligible for the CIR in addition to ANR funding, for the non-subsidised share of the research operation's budget.

A prior opinion on the operation's eligibility for the CIR may be obtained by requesting an advance tax ruling (prior agreement) from the ANR (cf. Article L80B3.b of the fiscal procedures document). To be eligible for this provision, companies must choose the scheme under paragraph 3.b of Article L80B (cf. paragraph 1 in the request form available from the address given below):

<http://www.agence-nationale-recherche.fr/CIR>

The ANR agents examining a request for appraisal of CIR applications are bound by the same professional non-disclosure obligations as tax officials, under the conditions set out in Article L103 of the fiscal procedures document.

<sup>16</sup> Cf. definition of a competitiveness cluster in paragraph 6.6



#### 6.4. DEFINITIONS OF RESEARCH CATEGORIES

These definitions are given in the Community Framework for State aid to research, development and innovation<sup>17</sup>.

**Fundamental research:** “experimental and theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any direct practical application or use in view”.

**Industrial (applied) research:** “the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes and services. It comprises the creation of components of complex systems, which is necessary for the industrial research, notably for generic technology validation, to the exclusion of prototypes [covered by the definition of experimental development]”.

**Experimental development:** “the acquiring, combining, shaping and using [of] existing scientific, technological, business and other relevant knowledge and skills for the purpose of producing plans and arrangements or designs for new, altered or improved products, processes or services. These may also include, e.g., other activities aiming at the conceptual definition, planning and documentation of new products, processes and services. The activities may comprise producing drafts, drawings, plans and other documentation, provided that they are not intended for commercial use.

The development of commercially usable prototypes and pilot projects is also included where the prototype is necessarily the final commercial product and where it is too expensive to produce for it to be used only for demonstration and validation purposes. In case of a subsequent commercial use of demonstration or pilot projects, any revenue generated from such use must be deducted from the eligible costs.

The experimental production and testing of products, processes and services are also eligible, provided that these cannot be used in industrial applications or commercially”.

Experimental development shall not include routine or periodic changes made to products, production lines, manufacturing processes; existing services and other operations in progress, even if such changes may represent improvements”.

#### 6.5. DEFINITIONS CONCERNING PROJECT ORGANISATION

**Coordinator:** the person responsible for the scientific and technical coordination of the project, the implementation and formalisation of collaboration between partners, the

<sup>17</sup> Cf. OJEU 30/12/2006 C323/9-10 <http://www.agence-nationale-recherche.fr/Encadrement>

production of project deliverables, the organisation of progress meetings and the communication of results. The coordinator is the main contact person for the ANR.

**Partner:** unit of a research organisation, company (see definitions of organisations in paragraph 6.6) or other corporate entity.

**Scientific and technical manager:** the person responsible for the production of each partner's deliverables. S/he is the main contact person for the ANR.

**Partnership project between a research organisation and a company:** a research project in which at least one of the partners is a company and at least one of the partners is a research organisation (cf. definitions in paragraph 6.6 of this document).

## 6.6. DEFINITIONS OF ORGANISATIONS

**Research organisation:** an entity, such as a university or research institute, irrespective of its legal status (organised under public or private law) or way of financing whose primary goal is to conduct fundamental research, industrial research or experimental development and to disseminate their results by way of teaching, publication or technology transfer. All profits must be reinvested in these activities, the dissemination of their results or teaching. Undertakings that can exert influence upon such an organisation, for instance in their capacity of shareholders or members of the organisation, shall enjoy no preferential access to the research capacities of such an organisation or to the results generated by it<sup>18</sup>.

Technical centres, associations and foundations, except in duly justified cases, are considered as research organisations.

**Enterprise:** any entity engaged in an economic activity irrespective of its legal form. An economic activity is any activity that consists of offering goods and/or services in a given market<sup>18</sup>. Included in the definition of an enterprise are the self-employed, family firms, partnerships and associations regularly engaged in an economic activity<sup>19</sup>.

**Small and medium enterprise (SME):** an enterprise meeting the European Commission's definition of an SME<sup>19</sup>. In particular, an SME is an autonomous enterprise with fewer than 249 employees and an annual turnover not exceeding 50 M€ and/or an annual balance sheet total not exceeding 43 M€.

**Competitiveness cluster:** an association, in a given region or area, of enterprises, research centres and training organisations engaged in a partnership approach (common

<sup>18</sup> Cf. Community Framework for State aid to research, development and innovation, OJEU 30/12/2006 C323/9-11 (<http://www.agence-nationale-recherche.fr/Encadrement>)

<sup>19</sup> Cf. European Commission Guide of 1st January 2005 on the definition of small and medium enterprises. <http://ec.europa.eu/enterprise/policies/sme>.

development strategy) for the purpose of developing synergies centred on innovative projects conducted jointly to reach one or more markets<sup>20</sup>.

## 6.7. OTHER DEFINITIONS

**Incentive effect:** Under Community provisions, having an incentive effect means that the aid must bring about an intensification of the beneficiary's R&D activities: its effect must be to increase the size, scope, budget or rhythm of R&D activities. The incentive effect is analysed by comparing the situation with and without aid, based on a questionnaire sent to the company. Various indicators may be used for this purpose: total cost of the project, R&D staff working for the project, scale of the project, degree of risk, increase in the work risk, increase in the company's R&D expenditures, etc.

**Enterprises in difficulty:** Enterprises in difficulty are defined in point 2.1 of the "Community guidelines concerning state aid for rescuing and restructuring firms in difficulty (2004/C 244/02)". An enterprise is considered to be in difficulty when the following criteria are met:

- a) in the case of a **limited liability company**, where more than half of its registered capital has disappeared and more than one quarter of that capital has been lost over the preceding 12 months, or
- b) in the case of a **company where at least some members have unlimited liability** for the company's debts, where more than half of its capital as shown in the company accounts has disappeared, more than one quarter of that capital has been lost over the preceding 12 months, or
- c) whatever the type of company concerned, where it fulfils the criteria under its domestic law for being the subject of collective insolvency proceedings (**receivership, liquidation, judicial reorganisation procedure**).

Enterprises established for less than three years will only be considered in difficulty when they fulfil the criteria for being the subject of collective insolvency proceedings (point c).

**Teacher-researcher research time:** the time spent by teacher-researchers on the project is assessed on the basis of their research time (taken as 100%). Thus, teacher-researchers who devote their entire research time to a project for a period of one year will be considered as participants during 12 person-months. However, the full cost calculation will take 50% of their salary into account.

## 6.8. REFERENCE DOCUMENTS

The following reference documents may be useful for preparing project proposals and are available from the ANR website:

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<sup>20</sup> Cf. <http://competitivite.gouv.fr/>

## PROGRAMMING DOCUMENT

This document presents annual ANR programming: <http://www.agence-nationale-recherche.fr/Programmation>

## DOCUMENTS ON SUBMITTING PROJECT PROPOSALS

- Instructions for drafting the **scientific document** and a document template are available from the Calls for Projects web page (see address on page 1).
- The link to the submissions website is given in the Calls for Projects page (see address on page 1)
- The user guide to **on-line submissions** (guide to project proposal submissions to the ANR platform) is available from the FAQ page at (<http://www.agence-nationale-recherche.fr/FAQ>).
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- The budgeting guide for project proposals submitted to ANR calls for projects is available from the FAQ page at <http://www.agence-nationale-recherche.fr/FAQ>.
- The code of ethics for all participants in ANR projects describes the ethical practices that must be complied with by all those involved in research projects submitted to and financed by the ANR in order to guarantee the purpose of the research work and respect for the partners, men and women, animals, the environment and the objects of study:  
<http://www.agence-nationale-recherche.fr/CharteDeontologieSoumission/>  
[http://www.agence-nationale-recherche.fr/fileadmin/user\\_upload/documents/uploaded/2009/code-of-ethics.pdf](http://www.agence-nationale-recherche.fr/fileadmin/user_upload/documents/uploaded/2009/code-of-ethics.pdf)

## DOCUMENTS ON PROJECT FINANCING

The following documents are available from the “funding regulations” page at (<http://www.agence-nationale-recherche.fr/RF>):

- rules on the allocation of ANR funding,
- general conditions governing funding agreements,
- example of specific provisions in a funding agreement.

A user guide for on-line finalisation of the administrative and financial documents (guide to the financing phase on the ANR platform) is available from the FAQ page at <http://www.agence-nationale-recherche.fr/FAQ>.

## DOCUMENTS AND INFORMATION ON THE SELECTION PROCEDURE

- The membership of the evaluation and steering committees is given on line on the Calls for Projects web page (address on page 1) on publication of the list of selected projects.
- The rules of procedure of the evaluation committee are available from the “committees and panels” web page at <http://www.agence-nationale-recherche.fr/Comites>
- The code of ethics is available at <http://www.agence-nationale-recherche.fr/CharteDeontologieSelection>