

Initiative NExT
Call for proposals “Internal Interdisciplinary Projects”
Vague 2 - 2018
Cahier des charges



Opening of candidatures : 3 décembre 2018

Deadline for sending the abstract : 28 janvier 2019, 17h (pour la constitution des panels d'experts)

Deadline for submission of the application: 18 février 2019, 17h

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1. CONTEXT OF THE CALL FOR PROPOSALS

The Isite NExT initiative is based on an ambitious action in order to develop Nantes university reputation

The founding members, CNRS, NExT partners aim for a substantial progression in the ranking of the best worldwide universities within 10 years. To reach this ambition, they claim to become well-known specialists in the Industry and Future Health sectors, based on the disciplinary excellence of the site's researchers, reinforced by an interdisciplinary approach.

The strategy to make the site's researches as strong as it can be is based on internationalization (attractiveness of new researchers on the site, creation of networks) and on the development of interdisciplinary approaches around the two priorities axes.

Main priorities of NExT

Health of the future This priority focuses on three themes :

- The **innovative biotherapeutics** to treat multiple pathologies which are characterized by loss of function of an organ, tissue, cell or gene and require replacement (transplantation), repair, regeneration (cell therapy, medicine regenerative) or represents OGRAMMING Au (regenerative medicine);
- Therapies related to **oncology and nuclear medicine** , by using theranostic approaches to treat different types of cancer. These approaches using combination of targeted therapies (eg immunotherapies) and / or combinations (radioimmunotherapies, combined immunotherapies) and diagnostics (eg multimodal imaging) are leading to healings or at least significant prolonged lives for the patient.
- These innovative and preventive therapeutic approaches are supported by advances in **precision medicine** : multiparametric approaches to the massive data allowed by the new epidemiological, bioinformatic and biological tools. Thanks to these different approaches, we will be able to prepare a specific treatment to a specific case.

Industry of the future : Based on scientific excellence in areas such as process engineering and materials characterization, ocean engineering and hydrodynamics, robotics, numerical modeling, simulation and optimization, the goal of nExT project is to develop the following two Thematatic :

- **Advanced production technology**: the gain energy by relief structures (transition from metal to composite x) is a first challenge. The replacement of raw materials related to the oil sector by sustainable sources (for example plant fiber) or from recycling is a second working point. These gains and replacements require innovative process. In this context, we must design our reflexion on an optimal relationship between man and robotics, from a societal acceptability and technicality point of view.
- The **ocean engineering**: control of production technologies based on green energies at a reasonable cost, with the ability to integrate a multi-use fonction to optimize the use of land are key issues. In the naval aera, the drastic reduction of ship consumption without losing the driving control in high seas must be realized in a very short term timeline.

The NExT Initiative raises funds and subventions for projects sponsored by members of the scientific community of the founding institutions , CNRS and NExT partner institutions . For more information on the NExT initiative, you can visit <http://next-isite.fr> .

In the area of research, the financing solutions in NExT are :

- Program n ° 1 : Internationalization of research
 - **The aim of the NExT Junior Talent system** is to support the arrival of high-potential scientific profiles on the Nantes site until obtaining a permanent position in one of the founding institution of NExT. This channel gives to the young researcher all the needed means to develop his own research project with a dedicated team. Another point for the researchers is to gain faster access to recognition of the international scientific community.
 - **The NExT Senior Talent scheme** aims to support the arrival on the area of Nantes of experienced researchers holding with a permanent position. This arrangement gives the researcher the means to accelerate his world-class research activities in one of NExT's founding institutions.
 - **The International Research Partnerships** aim to establish long-term, international specialized networks in priority areas of NExT. The network gathers 4-6 partners and allows cross-mobility between sites to both researchers and students.
- Program n ° 2 : Talent Development Program
 - **The purpose of the Junior Research Fellowships** is to strengthen the research potential of early-stage researchers by granting them, doctoral or post-doctoral funding, in addition of the reduction of their teaching load, as well as the accompaniment by an experienced researcher.
 - **The Senior Research Fellowships** aim to promote the thematic reconversion of experienced researchers around the NExT's scientific priorities, by bringing them to develop new research work (reduction of teaching load, award of postdoctoral fellowships, etc.).
 - ➤ **Program 3 : Encourage interdisciplinarity**
 - **The Integrated Research Clusters** will enable the animation and structuring of interdisciplinary research communities on key topics for the development of NExT's priority axes (see list of projects selected in 2018) .
 - **The projects Interdisciplinary** : subject of this call for projects (see list of projects selected in 2018).

These instruments are mainly allocated to the priority themes of NExT .

1 DEFINITION OF EXEPECTED PROJECTS

1.1 Scientific scope and type of activities

This call for proposals aims to select **interdisciplinary research projects** with the goal of initiating or extending collaboration between research teams working on complementary themes. These projects aim to create partnerships between researchers **distinct and complementary scientific fields** in order to address new scientific questions through an interdisciplinary approach.

The proposed research projects will have to concern one of the priority axes of the NExT Initiative (mentioned on page 2 of this document) . However, the projects will be located in one of the following frameworks:

- Interface Health / Engineering interdisciplinary
- Interdisciplinarity for the health of the future
- Interdisciplinarity for the industry of the future

The eligibility of the applications will be studied according to the project's theme, the research teams involved may come from all the research sectors.

A special attention will be paid to projects that significantly integrate research in the human and social sciences, and/or that use artificial intelligence or virtual reality technologies.

1.2 Composition of the partnerships

The consortium consists of Researchers from at least 2 distinct research units.

Research units and clinical investigation units under the oversight of a founding member or NExT partner are eligible. Other French or foreign partners, from the public or private sector, can be associated with the Cluster, but can not receive funds from NExT.

The administrative and financial aspects of the project is provided by one of the founding members of NExT or by CNRS .

1.3 Duration of projects

Projects will have to present a research program over 4 years. Given the highly exploratory dimension of this research, the projects will support a first 12 month start-up phase. An intermediate assessment at 10 months during the "start-up" phase will validate the entire project for the following 3 years.

The intermediate assessment will be conducted by a Project Evaluation Committee.

At this point in time or at any other time, the holder will report any malfunction or issue that lead to the impossibility to achieve the objectives. He will also report any change in strategic direction related to a hazard or on the contrary, a major opportunity that would lead to a change in the described project. The project and the associated funding may be stopped or reviewed in consultation. The final decision on any changes to the project (extension beyond first year or other major change) will be taken by the Committee of Founders of the NExT Initiative.

1.4 Budget Projects

The NExT initiative grant can reach a maximal of 170 000 € over 4 years :

- Up to 30 000 € for the first phase of 12 months ,
- Up to 140 000 € for the next 3 years (depends on the outcome of the intermediate assessment).

The allocated funds must use to the recruitment of at least one research staff (PhD student, researcher or research engineer), who is recruited by one of the four Founding Members of NExT. The other expenses must concern the operation of the project such as, the research equipment needed for the project. All the expenditures must be validated before using.

The teaching researchers could consider using the budget in a teaching release (NExT or financing or financing institution) but to make sure that the hours of unrealized lessons will be supported by the research staff recruited for the project. The proposed release quota and implementation modalities must be declared in the project description.

The details of the eligible expenditure are given in Annex 1 of these specifications.

In order to make the administrative process of the project simple, the totality of the grant allocated by NExT may be managed by the coordinating institution for its activities and those of its partners.

2 CRITERIA FOR EVALUATION AND SELECTION OF PROJECTS

Following a first analysis of their eligibility, the selected projects are analysed by an independent expert panel (2 per project). The Project Evaluation Committee will draw on this expertise to classify the projects. The subvention will be decided by the Committee Founders of the NExT Initiative.

The quality of the projects will be determinate on the following criteria :

- Carrier quality : CV and ability to raise funds for research projects on related themes
- Quality of the partnership and level of interdisciplinarity
- Innovative nature of the scientific project
- Contribution of the project to the scientific priorities of NExT
- Feasibility of the project over 4 years and budget consistency

Special attention will be paid on :

- demonstrating the ability to obtain additional funding . It will be required to present the funding obtained on a similar theme during the past three years.
- Significantly integration of the Humanities and Social Sciences
- Using call technology of Artificial Intelligence or virtual reality.

3 SUBMISSION MODALITIES

3.1 Dossier to submit

The project leaders are invited to submit with the NExT Initiative :

- 1) **before 28 January 2019**, a an abstract in English according to the proposed model. This summary will allow the selection of the experts who will conduct the evaluation of the project but also to confirm the eligibility of the project and to validate the relevance of the research subject according to the priority themes.
- 2) **before 18 February 2019** , a complete application file consisting of :
 - a form to complete in English
 - a budget in the form of a table
 - an administrative file signed by the coordinator, the unit director and the supporting institution

Document templates can be downloaded from the NExT website at the following address :
<http://next-isite.fr/interdisciplinary-projects-2018/>

The documents must be transmitted electronically, on time to the instructor service (aap@next-isite.fr subject of the mail : AAPIP2018_...). These items will be sent to the supporting institutions.