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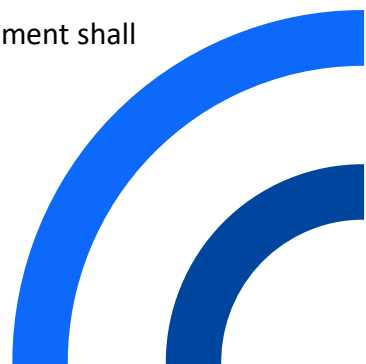
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Work Programme 2023

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A. Context, objectives and priorities of the 2023 Work Programme

A.1) General context of the 2023 Work Programme

The French National Research Agency (ANR) is the funding agency for project-based research conducted by public operators working together or with companies. Under the authority of the French Ministry of Higher Education, Research and Innovation, it is the operational research funding agency. In addition, in 2010 the ANR was appointed as the State operator for the management of major investment programmes in higher education and research. The agency can also provide easy access, through digital portals, to various related calls for proposals.

Given that its primary mission is to fund public research, the ANR must implement the national research strategy, which was recently redefined in the Research Programming Law¹ (LPR) for 2021-2030 and establishes various provisions relating to higher education and research. By way of the LPR, the ANR's missions have been reinforced and its resources for intervention increased. Thus, the ANR will keep a substantial part of the funding granted on a "investigator-driven" basis, i.e. through non-targeted calls for proposals such as its "Generic Call for Proposals (AAPG)", which should help researchers from various scientific fields to access, in addition to recurrent funding granted, co-funding opportunities on a large number of research themes, whether targeted or not, within both a disciplinary and interdisciplinary framework. In this context, the 2023 Work Programme aims to better consider how the needs of disciplines and projects vary (namely in terms of resources and duration), while providing strong support to young researchers.

The LPR provides for an increase in research project funding allocated by the ANR. This increase in resources will make the following objectives possible by 2027:

- i) the calls for proposals managed by the ANR should reach a 30% success rate (mainly on the Generic Call for Proposals),
- ii) the *overheads* rate (current management and preciput costs) should double (40% target) to increase funding for institutions and laboratories.

The Research Programming Law also provides for the ANR to become a "key instrument to contribute to the dialogue between science and society", with at least 1% of its funding budget dedicated to actions supporting the dissemination of scientific culture. Its attached report also provides for increased partnership-based research funding, with twice the number of industrial chairs and Labcoms by 2027 and more than double the amount dedicated to the Carnot programme during the LPR period of application.

Therefore, the ANR is confirmed and reinforced in its role as a key instrument "to help increase contributions by research to all public policies implemented by the French State and regional authorities".² Its mission is to support the excellence of French research, both academically and technologically, through a competitive and thorough peer-reviewed selection process in line with international standards.

Additionally, the ANR strives to strengthen European and international scientific cooperation by combining its programme with European and international initiatives, and by following the directions set out in the international scientific strategy defined by its supervising authority.

Thus, the ANR supports international consortia, in partnership with other funding agencies in Europe and worldwide within bilateral or multilateral programmes (see appendices in [SE](#)). Its

¹ <https://www.enseignementsup-recherche.gouv.fr/pid39124/loi-de-programmation-de-la-recherche-2021-2030.html>

² See in particular the report attached to the LPR.

activities are also part of the implementation of the “National action plan for the improvement of French participation in European research and innovation funding schemes” (PAPFE) (see [D.6](#)).³

Therefore, the ANR’s Work Programme reflects part of the research efforts carried out by France to support our society in addressing the major issues it faces, in relation with the themes defined in the European Commission’s⁴ “Horizon Europe” plan or the United Nations’ “Sustainable Development Goals” (SDG).⁵ Mobilising science to implement the SGD 2030 schedule is a major research and innovation issue for the next decade, particularly to encourage coherent digital, energy, social and ecological transitions. This SGD approach is defining, both for Europe, which uses it as a backdrop for its new “Horizon Europe” 2021-2027 programme, and for France, which has been mobilised since 2019 through the establishment of a 2020-2030 roadmap involving all public or private research stakeholders and citizens.

To put it simply, the ANR’s Work Programme is, in this general context, the roadmap that integrates our country’s research priorities. It also takes into account the contributions made by the five Alliances⁶, CNRS (French National Centre for Scientific Research) and CPU (Conference of University Presidents), and implements the directions and priorities of MESRI, which coordinates inter-ministerial actions among the ministries involved.⁷ Thereby, the ANR makes public research funding efforts clearer to citizens, it promotes scientific, technical and industrial culture and ensures a quantified monitoring of the French State’s action.

A.2) Priorities of the 2023 Work Programme

The 2023 Work Programme outlines the actions and calls for proposals⁸ offered by the ANR as part of the 2023 financial year, thereby providing an overview of its funding offer. **It is addressed to all scientific communities and public or private stakeholders involved in French research**,⁹ including small and medium-sized enterprises (SMEs), very small enterprises (VSEs) and associations or foundations contributing to research issues.

Particular attention is paid to the entire research continuum in terms of “disciplinarity” (mono-, multi-, inter- and transdisciplinarity), including in cross-disciplinary areas of research and within the 7 cross-cutting fields of the 2023 WP (see [SB - Cross-cutting fields](#)). To further improve its evaluation processes and serve the whole continuum, the ANR considers the inter-disciplinarity or transdisciplinarity in the projects through the composition of its panels and peer review procedures.

The 2023 Work Programme also includes strategic priorities¹⁰ set by the French State and the implementation of government plans such as artificial intelligence; humanities and social sciences;

³ The “PAPFE”, or European Action Plan, approved mid-2018, aims to call on French ESRI (higher education, research and innovation) communities to harness their potential, motivate researchers to invest and increase the involvement of public and private French stakeholders, in the PRCI (European Framework Programme for Research and Innovation) and all European research and innovation research funding schemes. The objective is to provide French knowledge, know-how and values to build the European Research Area.

⁴ Horizon Europe (European Framework Programme for Research and Innovation for 2021-2027): <https://www.horizon-europe.gouv.fr>

⁵ <https://www.agenda-2030.fr/>

⁶ Allenvi (Environmental Research Alliance), Allistene (Digital Science and Technology Alliance), Ancre (National Alliance for Energy Research Coordination), Athena (National Alliance for Social Sciences and Humanities), Aviesan (National Alliance for Life and Health Sciences).

⁷ Supervising Ministry: French Ministry of Higher Education, Research and Innovation (MESRI). French Ministries for Agriculture, Ecology, Health, Industry, Defence, Foreign Affairs, Culture, and National Education.

⁸ Research, experimental development and innovation projects.

⁹ Any partner with an establishment or branch in France.

¹⁰ Each priority is broken down in one of more scientific themes of the Work Programme and its Generic Call for Proposals (see the full description of these scientific themes in the Generic Call for Proposals).

quantum technologies; autism in neurodevelopmental disorders; and translational research on rare diseases. These priorities are detailed in the scientific themes outlined in the Generic Call for Proposals. They will also revolve, if required, around the “France 2030 Investment Plan”, with “Priority Research Programmes and Equipment” ([PEPR](#)), under the directed section of the 4th Investments for the Future Programmes ([PIA4](#)).

Finally, the ANR’s 2023 Work Programme aims to strengthen France’s participation in the European Commission’s Horizon Europe Framework Programme, and to intensify multilateral strategic collaborations, mainly in consolidating the European Research Area (ERA), and bilateral strategic collaborations, particularly between France and Germany.

A.3) Structure and objectives of the 2023 Work Programme

The 2023 Work Programme (2023 WP) is structured around four cross-cutting components, each with its own budget. Each component has specific funding instruments, calls for proposals and programmes. The main “*Research and innovation*” component corresponds to the Generic Call for Proposals (AAPG).

The objectives of the funding instruments offered by the ANR are presented below, in section [C](#) of this document. Each funding instrument has a purpose, specific expectations and different eligibility, selection and monitoring characteristics. These may be collaborative research instruments, instruments devoted to individuals or any other programme or call for proposal described below. As in 2022, a number of calls or programmes will be conducted in 2023, as pilot or experimental calls. This includes republishing the following calls: supporting European or international scientific networks (SRSEI), Access-ERC in SSH, programme for the scientific exploitation of data from research infrastructures (PESDIR) or the future call for public-private research proposals (PRPP).

The **four components** of the 2023 Work Programme, who integrate several strategic aspects, are outlined below:

1. [The “*Research and innovation*” component covered by the Generic Call for Proposals](#)

The “*Research and innovation*” component includes both the acquisition of fundamental knowledge and targeted research. It is covered by the Generic Call for Proposals (AAPG) and makes use of all the instruments (detailed in [§C](#)) to fund:

- individual research projects coordinated by young researchers under the “*Young Researcher*” (JCJC) instrument,
- ambitious and innovative research projects coordinated by a team under the “*Single-Team Research Project*” (PRME) instrument,
- collaborative research projects:
 - between national public entities under the “*Collaborative Research Project*” (PRC) instrument,
 - between public and private entities, at national level, under the “*Collaborative Research Project involving Enterprises*” (PRCE) instrument¹¹, or
 - between public entities and foreign partners, in a bilateral international context¹², under the “*International Collaborative Research Project*” (PRCI) instrument.

The “*Research and innovation*” component covered by the AAPG has been structured, collaboratively, around research themes, taking into account the fundamentals of the national research strategy

¹¹ See the ANR’s funding regulations: <https://anr.fr/fileadmin/documents/2018/ANR-RF-2018-1.pdf>

¹² The ANR has entered into a number of bilateral agreements with foreign agencies (see Appendix; [§E](#)) to fund projects conducted between teams from two signatory countries ([Table 2 - Appendix E](#)).

outlined in the LPR (maintaining excellent disciplinary research, developing inter-disciplinarity, supporting digital technology and HSS), the contributions made by the five Alliances, CNRS and CPU for possible updates, and the requests from MESRI, which is in charge of implementing the French State's strategy by coordinating the inter-ministerial action between the ministries involved within Programming Advisory Panels.¹³

Thus, the "Research and innovation" component covered by the AAPG consists of 56 research themes:

- **37 research themes** are introduced within 7 **disciplinary** fields:
 - *Environmental Sciences*
 - *Materials and Engineering Sciences*
 - *Life Sciences*
 - *Humanities and Social Sciences*
 - *Digital Sciences*
 - *Mathematics and its interactions*
 - *Sub-atomic Physics, Sciences of the universe, and Earth sciences*
- **19 research themes** corresponding to **cross-cutting** (trans- or inter-disciplinary) issues at a crossroads between several scientific sectors.
 - *Sustainability Science*
 - *One Health*
 - *Ecological and environmental transition*
 - *Energy transition*
 - *Technological transitions*
 - *Digital transformation*
 - *Transformation of socio-technical systems*

Each research theme has its own Scientific Evaluation Panel set up in the Generic Call for Proposals (AAPG). Panels dealing with cross-cutting or inter-disciplinary themes are therefore accordingly arranged to cover all disciplines.

When submitting a proposal for the 2023 AAPG, researchers should choose the funding instrument that will best meet the scientific objectives and needs of their proposal, as well as the research theme that matches a Scientific Evaluation Panel.

2. [Specific actions not included in the AAPG \(Flash, Challenges, specific calls, etc.\)](#)

A number of topics highly focusing on specific objectives warrant an urgent response or a specific instrument. The ANR has set up an emergency instrument: **the Flash call**, to support an urgent need for research whose scientific relevance is connected to an unprecedented event or disaster. When a Flash call is opened, extensive advertising (website, newsletter, social networks, mailshot) regarding the sudden event is provided.

Specific calls¹⁴ may also be established outside the usual Generic call timetable. They correspond to:

- new priorities decided by the French State,
- the implementation of scientific plans or problems suggested by external (co-)funders,

¹³ In 2018, Programming Advisory Panels (CPP) replaced former Scientific Challenge Steering Committees, which were disbanded in November 2017. CPP and inter-CPP meetings were held from January to May 2022, as part of the development of the 2023 Work Programme.

¹⁴ Specific calls are scheduled over the course of the year and announced on the agency's website. The "ANR newsletter" regularly provides regular news updates about the Agency.

- pilot or experimental calls that best meet the needs and expectations expressed by scientific communities within Programming Advisory Panels (CPP).

The most recent examples of these specific calls launched by the ANR are:

- the 2nd “Sargassum” call, in partnership with Brazil (FACEPE agency), Mexico (CONACYT agency) and the Netherlands (NWO agency), launched in 2022,
- the 1st “Chlordecone” joint call, in partnership with the regional authority of Martinique and the Guadeloupe region, launched in 2022,
- the programme to host Ukrainian scientists, in partnership with the PAUSE – Solidarity with Ukraine emergency fund, launched in 2022.

The specific, pilot or experimental calls launched under the 2023 Work Programme will be announced through statements issued by the supervising authority, the ANR or funding institutions, and will be posted on the Agency’s website or its social networks.

Other topics require teams developing competing approaches to remove major scientific or technological barriers. Therefore, the ANR has elaborated a specific scheme: the **Challenge**. The challenge is subject to a specific call, usually co-funded, outlining its objectives and the type of tests considered. These calls are also announced on the Agency’s website and extensively advertised. The last challenge operated by the ANR at the end of 2021 is the “IA-Biodiv” Challenge, in partnership with the French Development Agency (AFD).

3. The “Building the European Research Area (ERA) and France’s international attractiveness” component

This component provides French researchers and teams with funding instruments to increase the impact and attractivity of French national research and help build the European Research Area (ERA). These actions specify or supplement those carried out under the Horizon Europe programme. They aim to stimulate high-level partnership-based research dynamics and develop the leadership of French teams in European and international programmes.

Within the 2023 Work Programme, the “Building the European Research Area (ERA) and France’s international attractiveness” component proposes several funding instruments falling under the implementation of the “National action plan for the improvement of French participation in European research and innovation funding schemes” (PAPFE)³:

- “Setting up European or International Scientific Networks” (MRSEI), which aims to strengthen the position and impact of French research in Europe and internationally (see D.6).
- “Supporting European or International Scientific Networks” (SRSEI), which aims to strengthen the quality of applications submitted by project coordinators to fund a research project in European (Horizon Europe) or international collaborative calls (see D.7).
- “Tremplin-ERC” (T-ERC), which aims to extend the success of French researchers for “Starting grants” and “Consolidator grants” calls for proposals of the European Research Council (ERC). (see D.8).
- “Access-ERC in HSS”¹⁵ to fund the hosting of young post-doctoral researchers (French or foreign PhDs who defended their doctoral thesis less than 4 years ago) in a French laboratory,

¹⁵ The first “Access-ERC in SSH” call for proposals opened in 2022 exclusively covers, for experimentation, Social Sciences and Humanities. The feedback acquired by the ANR will help expand this new “Access-ERC” instrument to other scientific sectors.

who are seeking to boost their international visibility and submit a future application to an ERC programme, particularly Starting grants and Consolidator grants (see [D.9](#)).

In addition to these individual-targeted instruments, the ANR contributes in funding French teams through multilateral programmes such as Joint Programming Initiatives (JPI), European instruments (including the most recent “*Horizon 2020*” calls and those co-funded by the European Commission under the new “*Horizon Europe*” programme) but also as part of other multilateral actions on major global challenges (G7 research, Belmont Forum, etc.) (see [D.10](#)) and [E.3](#) for the projected summary of these international calls; the updated list of open and forthcoming calls is available on the ANR’s website).

Finally, bilateral agreements between the ANR and foreign agencies help set up strategic partnerships or encourage a number of international collaborations. There is, on the one hand, the “International Collaborative Research Project” (PRCI) included in the “*Research and Innovation*” component and, on the other hand, dedicated bilateral themed calls operated separately from the Generic Call for Proposals (see [D.10](#) and [E.2](#)).

4. The “Economic impact of research and competitiveness (IERC)” component

This component aims to stimulate company partnerships and the transfer of results stemming from public research to the economic world. The actions proposed strengthen cooperation and partnerships, and enable the exploitation of public research results. As a result, they aim to support companies’ R&D efforts by encouraging them to invent and innovate.

These actions follow increasing technological maturity (*Technology Readiness level – TRL*), but also a more or less strengthened integration of these cross-sectoral partnerships. In addition, it has become apparent that, in France, relatively few SMEs and intermediate-sized enterprises (ETIs) provide service or product innovations due to their difficulties in forging links with the public research sector, which leads to a number of actions being directed towards these SMEs and ETIs.

Therefore, the IERC component is based on specific programmes supplementing the “Collaborative Research Projects involving Enterprises” instrument in the “*Research and innovation*” component (see [au-dessous](#)):

- **LabCom (Joint laboratory):** to create and strengthen joint laboratories built jointly between a public research laboratory and a small or medium-sized enterprise (PME) or an intermediate-sized enterprise (ETI). The level of technological or social maturity of the projects is intermediate (see [D.1](#)).
- **Industrial chairs:** by creating chairs that are jointly built and funded between public laboratories and companies, this action aims to strengthen the potential for innovative and strategic research in priority areas for French industry, and where technological or social maturity levels are still low (see [D.2](#)).
- **Carnot Institute:** to develop contractual research between public research organisations and the socio-economic world (see [D.4](#)).
- **Astrid and Astrid Maturation:** calls run by the ANR and funded by the *French Defence Innovation Agency* (AID) to develop dual research (see [D.5](#)).

In addition to these various collaborative instruments, the 2023 Work Programme includes a new instrument to fund public-private partnerships:

- the **Public-private research project (PRPP)**. The purpose of this collaborative instrument is to encourage the development of new public-private dynamics (see [D.3](#)). The first PRPP call was planned, as an experiment, for the first half of 2023.

All these actions focusing on public-private partnerships are coordinated with academic research transfer structures, funded in particular under the Investments for the Future Programme (PIA) such as SATTs (Technology Transfer Acceleration Companies), but also public organisations close to the socio-economic world.

A.4) Other funding, partnership and co-funding opportunities

In keeping with its mission to fund project-based research, the ANR establishes partnerships with other funding institutions (see [Table 4](#): Partnerships and co-funding under the 2023 Work Programme in appendix), such as:

- *the French Biodiversity Agency (OFB),*
- *the French Development Agency (AFD),*
- *the French Defence Innovation Agency (AID),*
- *the General Directorate for Healthcare Provision (DGOS) of the French Ministry for Solidarity and Health,*
- *the French Foundation for Medical Research (FMR),*
- *the Fondation de France (FdF),*
- *the Fondation Médéric Alzheimer (FMA),*
- *the French Ministry of Agriculture and Food (MAA),*
- *the French Ministry of Ecological Transition (MTE).*

These highly significant partnerships represent project funding or co-funding opportunities that supplement the ANR's own funding budget.¹⁶ Examples include the *Astrid* and *Astrid Maturation* programmes dedicated to dual research and implemented by the ANR, under the aegis and with funding from the AID (see [D.5](#)). More recently, the ANR partnered with the French Development Agency (AFD) as part of specific "Partnerships with African Higher Education" calls (PEA1 in 2021 and PEA2 in 2022) funded by the AFD.

The ANR also established partnerships with very large research infrastructures (see PESDIR call), which can support research projects funded by the agency. Requests for resources may, for instance, be made to GENCI (*Big National Equipment for Intensive Computing*) to access computing and storage resources for needs in digital simulation, massive data processing or artificial intelligence.

All these calls and actions carried out in partnership or not will be announced on the Agency's website and the [national calls for proposals portal](#).

Labelling by competitive clusters

For many years, the ANR has been enjoying privileged relationships with competitive clusters. A label may be requested before submitting projects (regardless of the call) to benefit from support and monitoring provided by competitive clusters.¹⁷

Funding by other agencies or foundations

Public entities other than the ANR provide project-based funding and organise their own calls, such as the *French National Cancer Institute (INCa)*, *French National Agency for Research on AIDS and Viral Hepatitis – Emerging infectious diseases (ANRS-MIE)*, and *French Foundation for Medical Research (FRM)*.

To ensure efficiency, projects covered by these calls for proposals are not intended to be funded by the ANR. Thus, the eligibility of the projects submitted to the ANR, regardless of the 2023 Work Programme's call for proposals, and falling under themes likely to be supported by other

¹⁶ Co-funding means that part of the aid allocated to the project (based on the initial application) comes from an ANR partner. Usually, this is not additional funding.

¹⁷ <https://www.economie.gouv.fr/entreprises/tout-savoir-sur-poles-competitivite>.

organisations or funding agencies, will be jointly evaluated by the ANR and these organisations. Projects funded by other agencies, foundations or regional authorities under similar instruments and with identical expectations will not be eligible for double funding.

A.5) The ANR's values and commitments within the 2023 Work Programme

Calls for proposals or programmes of the 2023 Work Programme are all involved. All participants in the proposals submitted to these calls and everyone involved in ANR-funded projects undertake to abide by these values and commitments.

1. Ethics and Scientific integrity

The ANR, who signed the French National Charter for Research Integrity, in accordance with the March 2017 circular¹⁸ on the scientific integrity policy, makes sure that the principles of this Charter are respected for all the actions provided for in the 2023 Work Programme. As such, the ANR's Code of Ethics has been revised and extended to scientific integrity. The agency makes sure that its beneficiaries comply with all the rules and values governing research activity to ensure honesty and scientific accuracy. Maintaining society's trust in research stakeholders depends on the compliance to these principles. This Charter is also backed with the appointment of an ethics and scientific integrity contact responsible for the compliance of these fundamental principles, the prevention and proper management of conflicts of interests, and training of staff internal or external to the agency.

In this context, a project coordinator (regardless of the call for proposals) undertakes to ensure that all project participants (seeking funding or not) comply with the principles reflected in the [French National Charter for Scientific Integrity](#)¹⁹ and the [ANR's Ethics and Scientific Integrity Charter](#)²⁰.

In addition, each project coordinator applying for a grant formally declares that his or her superior (namely their unit director, the relevant administrative and financial departments and person(s) authorised to legally represent the institution managing the grant, or its representatives) has approved the ongoing submission procedure and that the information regarding the application has been communicated to them. The ANR may send the list of registered to laboratory directors and administrative officers of the managing institutions for projects that concern them.

2. Gender equality

In efforts to contribute to the implementation of a policy²¹ aiming to reduce gender inequalities in higher education and research (ESR), the ANR added the principle of equality in its Ethics and Scientific Integrity Charter, and rolled out an equality action plan. The objective is to encourage scientific communities to always consider the sex and/or gender aspect in their research, regardless of the field, to produce quality knowledge and to train peer reviewers on the issue of potential gender bias in the selection process to ensure equal treatment for projects carried out by women or men.

To address an overly masculine representation in science and to encourage young women to pursue careers in fields where they are either absent or a minority, the ANR is committed to promote women in science who secured ANR funding or contributed to Scientific Evaluation Panels as chairs or panel members.

In this context, a coordinator of an ANR-funded project undertakes to provide equal visibility to all research efforts produced, whether it is conducted by women or men.

¹⁸ Decree No.2020-256 of 13 March 2020 pursuant to Article 80 of the Civil Service Transformation Act.

¹⁹ https://www.cnrs.fr/comets/IMG/pdf/charte_nationale_deontologie_signe_e_janvier2015.pdf.

²⁰ <https://anr.fr/en/anrs-role-in-research/commitments/scientific-integrity/>

²¹ Decree No.2020-256 of 13 March 2020 pursuant to Article 80 of the Civil Service Transformation Act.

Moreover, a project coordinator undertakes, where relevant, to consider the sex and/or gender aspect in his or her research, regardless of the field, to set aside gender biases in the production of knowledge and to anticipate the possible consequences of its application.

3. Scientific publications, research data, source codes and software

As part of the ANR's support to Open Science and in line with the French National action plan for Open Science (PNSO) and the international Plan S, ANR beneficiaries undertake to:

- **Ensure immediate open access to peer-reviewed scientific publications.** Thus, all scientific publications stemming from ANR-funded projects under the 2023 Work Programme will be made available in open access under the *Creative Commons CC-BY* license or equivalent, by using one of the three following approaches:

- publication in a natively open access journal,
- publication in a subscription journal that is part of a transformative agreement of transformative journal²²,
- publication in a subscription journal. The publisher's version or the manuscript accepted for publication will be deposited in the Open archive HAL by its authors under a *CC-BY* license, implementing the Rights retention Strategy (RRS), according to the terms specified in the special conditions of the funding decision or agreement.²³

Furthermore, the project coordinator undertakes to ensure that the full text of these scientific publications (version approved for publication of publisher's version) is deposited in the national Open archive HAL, no later than the time of publication, and to mention the ANR research project reference (e.g. ANR-22-CE64-0001) from which they result, by associating a permanent identifier (e.g. DOI).

Additionally, the ANR encourages open access publication of books or monographs²⁴ and recommends the submission of *preprints* in open platforms or archives.

- **Facilitate research data sharing and re-use** – particularly for publication data²⁵ – **by adopting a FAIR approach** (*Findable, Accessible, Interoperable, Reusable*) in line with the “*as open as possible and as closed as necessary*” principle.

Therefore, the project coordinator undertakes to provide, within 6 months after the start of the project, a first version of the Data Management Plan (DMP), under the terms set out in the special conditions.

Finally, pursuant to the 2nd National plan for Open Science, the ANR recommends that any software developed during the project be made available under a free license²⁶ and that source codes be stored in the Software Heritage archive²⁷ by indicating the ANR-funding reference.

4. Promoting scientific, technical and industrial culture

The ANR encourages its funding beneficiaries to carry out and/or participate in actions to transfer knowledge to citizens and decision-makers, such as publication of articles in the press, media

²² Definition of a [transformative agreement](https://www.coalition-s.org/faq-theme/publication-fees-costs-prices-business-models/) or [transformative journal](https://www.coalition-s.org/faq-theme/publication-fees-costs-prices-business-models/): <https://www.coalition-s.org/faq-theme/publication-fees-costs-prices-business-models/>

²³ <https://www.ouvrirlascience.fr/mettre-en-oeuvre-la-strategie-de-non-cession-des-droits-sur-les-publications-scientifiques/>

²⁴ The DOAB website (<https://www.doabooks.org/>) lists all books published in open access.

²⁵ Data sharing for scientific publications. Researchers' guide: <https://www.ouvrirlascience.fr/partager-les-donnees-liees-aux-publications-scientifiques-guide-pour-les-chercheurs/>

²⁶ <https://opensource.org/licenses>

²⁷ <https://www.softwareheritage.org>

interviews, public decision-making support, involvement in science festivals, organising public debates, outreach efforts, writing articles in a free online encyclopaedia, etc.

Further to a call for expressions of interests (AMI-SAPS) launched in March 2021, several calls for proposals have been planned since 2021, under the National plan “*Science with and for Society*” to:

- i) support research in scientific and communication, and
- ii) encourage the development of scientific, technical and industrial culture in research and knowledge dissemination institutions and organisations.

Details of this multi-year programme will be provided during dedicated webinars held on the 2023 ANR Tour (September 2022) and will be communicated on the Agency’s website.

5. Accessing genetic resources and traditional knowledge associated with genetic resources

The Nagoya Protocol on the Access to Genetic Resources and the traditional knowledge associated with genetic resources, and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity was adopted on 29 October 2010. It contributes to the conservation of biological diversity, sustainable use of its components, and increasing the contribution of biological diversity to sustainable development and human well-being.

The Nagoya Protocol significantly pushes forward the third objective of the Convention by ensuring greater legal certainty and transparency for genetic resources suppliers and users. The European Regulation No. 511/2014 and French Act No. 2016-1087 determined the terms of implementation for this protocol.²⁸ Therefore, two check points are defined:

- i) during the funding stage for research efforts under the supervision of the French Ministry of Higher Education, Research and Innovation (MESRI), and
- ii) during the final product development stage, under the supervision of the French Ministry of Ecological Transition (MTE).

In this context, the ANR must obtain “*Due Diligence*” Declaration receipts (DDD) for all research projects it has been funding since 2019. Applicants in the 2023 Generic Call for Proposals will be asked to report any possible use of genetic resources throughout their projects.

As part of research, DDDs can be registered online through the dedicated application on the MESRI website. Credentials to access the application can be obtained from the director of the hosting institution.

All information is available at <http://www.enseignementsup-recherche.gouv.fr/pid37627/utilisation-ressources-genetiques-associees.html>.

6. Scheme to protect the nation’s scientific and technical potential (PPST)

The scheme to protect the nation’s scientific and technical potential (PPST) aims to protect the access, within public and private institutions, to their strategic knowledge and know-how, and their sensitive technologies. It provides more effective protection against attempts to capture strategic or sensitive information that may be used for malicious purposes. The ANR encourages the beneficiaries of its grants and project applicants to the ANR’s 2023 WP calls to contact their institution

²⁸ Act for the recovery of biodiversity, nature and landscapes (Act No. 2016-1087 of 8 August 2016) and its implementation Decree on the access to genetic resources and sharing of benefits arising from their use (Implementation Decree No. 2017-848 of 9 May 2017).

to implement the scheme to protect the nation's scientific and technical potential (PPST), pursuant to the recommendations of the French General Secretariat for National Defence and Security (SGDSN).²⁹

In addition, as part of the 2023 Work Programme and the 2023 Generic Call for Proposals, as recommended by MESRI's Department of Defence and Security High Official, the ANR implemented the PPST for submitted projects that include, within their consortia, foreign public or private partners. Therefore, scientific or technical international cooperation projects identified by the ANR will be submitted to SHFDS/MESRI for an opinion, while taking into account the national directions established by the SGDSN. Projects will not be selected if SHFDS/MESRI provides a negative opinion. SHFDS/MESRI is not required to justify its opinion to the applicant.

Important: Before submitting a project to the ANR (all calls and instruments are involved), applicants are invited to contact their Defence and Security Official (FSD) or the departments responsible for the application of the PPST within their institution in order to check the eligibility of their project as soon as possible.

B. Research themes covered by the 2023 Generic Call For Proposals

The scientific themes are described in the 2023 Generic Call for Proposals with the associated keywords, ERC codes and, where relevant, SDGs.

Environmental Sciences

Theme A.1. Solid earth and fluid envelopes

Theme A.2. Living earth

Theme A.3. Biology of animals, photosynthetic organisms and micro-organisms

Theme A.4. Food and food systems

Materials Science and Engineering

Theme B.1. Physics of condensed matter and diluted matter

Theme B.2. Polymers, composites, chemical physics of soft matter

Theme B.3. Metallic and inorganic materials

Theme B.4. Engineering and Process Sciences

Theme B.5. Molecular Chemistry

Theme B.6. Analytical chemistry, theoretical chemistry and modelling

Life Sciences

Theme C.1. Biochemistry and chemistry of living organisms

Theme C.2. Characterisation of structures and structure-function relations of biological macromolecules

Theme C.3. Genetics, genomics et RNA

Theme C.4. Cellular biology, developmental biology and evolution

²⁹ <http://www.sgdsn.gouv.fr/missions/protection-du-potentiel-scientifique-et-technique-de-la-nation/> (CIR No. 3415/SGDSN/AIST/PST of 7 November 2012).

Theme C.5. Physiology and physiopathology

Theme C.6. Immunology, Infectiology and Inflammation

Theme C.7. Molecular and cellular neuroscience – Developmental neurobiology

Theme C.8. Integrative and cognitive neurosciences

Theme C.9. Translational health research

Theme C.10. Biomedical innovation

Theme C.11. Regenerative Medicine

Humanities and Social Sciences

Theme D.1. Individuals, companies, markets, finance, management

Theme D.2. Institutions and organisations, legal frameworks and standards, governance, international relations

Theme D.3. Contemporary societies: state of, dynamics and transformations

Theme D.4. Cognition, behaviour, language

Theme D.5. Arts, languages, literatures, philosophies

Theme D.6. Studies of the past, heritage, cultures

Theme D.7. Societies and territories in transition

Digital Sciences

Theme E.1. Foundations of digital technology: information technology, automation, signal processing

Theme E.2. Artificial intelligence and data science

Theme E.3. Software Science and Engineering – Multi-purpose communication networks, high performance infrastructures

Theme E.4. Interaction, Robotics

Theme E.5. Digital models, simulation, applications

Theme E.6. Quantum technologies

Mathematics and its interactions

Theme F.1. Mathematics

Sub-atomic Physics, Sciences of the universe, and Earth sciences

Theme G.1. Planetary science, structure and history of the Earth

Theme G.2. Subatomic physics and astrophysics

Cross-cutting fields

Sustainability Science

Theme H.1. The Science of sustainability

One Health

Theme H.2. Contaminants, ecosystems and health

Theme H.3. Infectious diseases and environment

Theme H.4. Public health, health and societies

Ecological and environmental transition

Theme H.5. Methodologies, instrumentations, sensors and solutions for the ecological transition

Theme H.6. Dynamics of socio-ecosystems and their components

Theme H.7. Bioeconomy, from biomass to uses: chemistry, materials, systematic approaches and processes

Energy transition

Theme H.8. Basic energy sciences

Theme H.9. Sustainable, clean, safe and efficient energy

Technological transitions

Theme H.10. Nano-objects and functional nanomaterials, interfaces

Theme H.11. Sensors, imagers and instrumentation

Theme H.12. Micro and nanotechnologies for information and communication technology

Theme H.13. Healthcare technologies

Digital transformation

Theme H.14. Interfaces: Mathematics, Digital Sciences – Biology, Health

Theme H.15. Interfaces: Digital Sciences – Humanities and Social Sciences

Theme H.16. Interfaces: Mathematics, Digital Sciences – Earth system and Environmental Sciences

Transformation of socio-technical systems

Theme H.17. Global security, resilience and crisis management, cybersecurity

Theme H.18. Transports and mobility, constructions in urban and peri-urban areas

Theme H.19. Industry and factory of the future: people, organisations, technologies

C. Funding instruments provided under the Generic Call for Proposals

The ANR's 2023 Generic Call for Proposals mobilises several funding instruments to respond to both its mission in France's public research and innovation policy, and the project-funding needs expressed by research communities. There are three categories of instruments within the Generic Call for Proposals whose expectations and characteristics determine key points in project selection and monitoring:

- The “**individual**” category solely includes the “Young researchers” (JCJC) instrument.
- The “**team**” category solely includes the “Single-team research project” (PRME) instrument.

- The “collaborative research” category proposes three instruments:
 - the “Collaborative research project” (PRC),
 - the “Collaborative research project involving enterprises” (PRCE),
 - the “International collaborative research project” (PRCI).

All eligibility and evaluation rules are outlined in the Generic Call for Proposals itself and the AAPG 2022 Guide (available in early September 2022). As some rules or criteria have slightly changed between 2022 and 2023, these documents must be read before submitting a proposal.

C.1) Young researchers instruments (JCJC)

The JCJC funding instrument aims to prepare the new generation of talented young researchers of French scientific research. Therefore, we must encourage young researchers to take responsibility by prompting them to tackle scientific or technological obstacles using original approaches.

The instrument aims to help young researchers acquire scientific autonomy, develop their own research theme, set up or strengthen their own team within or outside their laboratory, acquire project-based culture and quickly demonstrate their capacity to innovate. It is also a springboard for young researchers who, thanks to initial support from the ANR, will be more willing to consider submitting a proposal in response to the calls launched by the European Research Council (ERC), with better chances of success.

Focusing on the individual, this instrument provides funding solely for the young researcher’s team. This instrument is open solely for researchers from research and knowledge dissemination organisations and institutions eligible for ANR funding. It is not open to non-holders and cannot be used to fund the coordinator’s salary.³⁰

C.2) Single-team research projects (PRME)

The “Single-team research project” (PRME) funding instrument is intended to fund a single team or laboratory from a research and knowledge dissemination organisation or institution eligible for ANR funding.³¹

A PRME project corresponds to research directed towards outstandingly ambitious and innovative scientific objectives. The PRME is coordinated by a team manager with all the skills and know-how required to achieve these ambitious and innovative objectives.³² A PRME coordinator is expected to be strongly involved.³³ The applicant team or laboratory must justify its continuity, in the application file, over the duration of the project.

PRME eligibility, evaluation and funding rules are explained in the 2023 Generic Call for Proposals (available in July 2022) and the 2023 AAPG Guide (available in September 2022). As some rules have slightly changed between 2022 and 2023, researchers seeking to apply for a PRME must carefully read the strict eligibility rules that apply to this funding instrument.

C.3) Funding instruments devoted to collaborative research

³⁰ In the sense that they have a current (or future) contract with the supervising authority. The contract may have not started before the agreement. See the new eligibility rules listed in the 2023 AAPG Guide.

³¹ Applicants should ensure not to submit a project that may be considered as a collaborative project. As such, a project submitted by several teams from the same laboratory should be considered as a collaborative research project (PRC) and not a PRME.

³² Only the coordinator’s team or laboratory is funded under the single-team research project.

³³ As such, funding under a PRME is incompatible with funding from the ERC obtained by the PRME coordinator.

Collaborative projects aim to achieve scientific or technological objectives by sharing knowledge and resources stemming from various national or international public or private research teams or groups.

Therefore, the funding granted helps fast-track the research proposed through collaborative efforts. These instruments encourage research team to carry out research for which a collaboration provides a scientific added value, either because research can be conducted or because it makes it possible to consider results of greater ambition or quality. Inter-disciplinary or multidisciplinary research is encouraged as part of these collaborative instruments.

A collaborative project is led by a coordinating partner (also referred to as coordinator), acting on behalf of all partners (at least two) and making up the consortium. A scientific leader is appointed for each partner.³⁴

C.3-1) Collaborative Research Projects (PRC)

The “Collaborative Research Project” (PRC) funding instrument is the ANR’s main funding instrument. It includes all types of multi-partner research projects other than those covered by PRCI and PRCE instruments.

It involves at least two partners³⁵ from research and knowledge dissemination organisations or institutions eligible for ANR funding. Collaborations using own funds are possible, particularly for foreign team(s) from countries that are not eligible for the PRCI (see C.3-2)), in which case the consortium must include at least one team from research and knowledge dissemination organisations or institutions eligible for ANR funding.

All types of projects can be considered, without limitation, for the PRC instrument: projects aiming for breakthrough objectives or concepts, projects aiming to overcome scientific barriers that are well identified within the community, projects that are part of a mainstream research perspective, projects that follow up on previous projects and make it possible to consider new objectives.

C.3-2) International collaborative research projects (PRCI)

The ANR is working in collaboration with research funding agencies from other countries and provides agreements facilitating collaborations between teams from these various countries to its supervisory ministry. These bilateral agreements, which may cover targeted themes or be open to all research themes funded by the ANR, focus on priority objectives or geographical areas for limited periods of time, except for the special case of the Franco-German collaboration (Elysée Treaty, revised in 2019 in Aix-La-Chapelle).

Depending on the case, these agreements aim to:

- fast-track and develop collaborations between French researchers and the best international teams on key themes,
- promote partnerships with emerging countries based on themes of mutual interest and shared benefits,
- enable the development of transnational teams of excellence to conduct and share research worldwide.

³⁴ See Appendix 1 – Definitions (pages 19 and 2020) of the ANR’s Funding Regulations. <https://anr.fr/en/funding-regulations/>

³⁵ A PRC may involve two teams from the same laboratory, with each being considered a partner in the collaborative project. In this case, it is not a PRME ([§C.2](#)).

For agreements targeting specific themes, the ANR and its partner agencies aim to renew the theme over two to three years to strengthen collaborations and foster the emergence of quality projects.

The “International Collaborative Research Projects” (PRCI) funding instrument is devoted to these bilateral collaborations, which are established between at least a French partner (a laboratory from a research and knowledge dissemination organisation or institution eligible for ANR funding) and a foreign partner (eligible for funding from a foreign funding agency, which has signed a bilateral agreement with the ANR).

A strong synergy is expected between the two partners submitting their proposal and should reflect by complementarity of each country’s scientific contributions and clear identification of real scientific project coordinators for each country. For the 2023 Work Programme, the countries involved in these bilateral agreements would be (subject to confirmation):

- *Europe: Germany, Austria, Luxembourg and Switzerland.*
- *International: Brazil, Quebec, United States, Hong Kong and Taiwan.*

Table 1: Bilateral collaborations under the Generic Call for Proposals - International Collaborative Research Projects (PRCI) (in appendix [Appendices](#)) provides details on the research issues and themes covered by these collaborations.³⁶ In addition to the agreements linked to the PRCI instrument of the Generic Call for Proposals, bilateral agreements that are strategic for the French State are subject to specific calls for proposals. Following a common will with partner agencies, these calls are subject to a specific budget and, most often, to specific evaluation and selection conditions ([Table 2: Specific bilateral collaborations beyond the Generic Call for Proposals - International Collaborative Research Projects \(beyond PRCI\)](#) in appendix [Appendices](#)).

Information on these specific international collaborations is available on the ANR’s website and updated regularly as negotiations progress.

C.3-3 Collaborative Research Projects involving enterprises (PRCE)

The “Collaborative Research Project involving Enterprises” (PRCE) funding instrument is dedicated to collaborations established between at least one laboratory from a research and knowledge dissemination organisation or institution eligible for ANR funding and at least one company or trading company involved in R&D.³⁷ The project may be coordinated by the public partner or the private partner.

These projects aim to jointly reach research results which will be beneficial to both parties, by allowing public or private laboratories from research or knowledge dissemination institutions to address new research issues, or to approach them differently, and by giving companies access to the best public research so they can improve their capacity for innovation in various ways.

³⁶ The list is established on the date of publication of the 2023 WP and likely to be completed or changed: applications are invited to regularly check the ANR’s website. Specific appendices for each country (available on the ANR’s Generic Call for Proposals web page) outline the themes eligible and the specific submission and selection procedures. They describe additional conditions of eligibility to the Generic Call for Proposals and must therefore be consulted before being submission to the ANR or any foreign partner.

³⁷ For the definition of a company or trading company, see: Appendix 1 – Definitions (pages 19 and 20) in the ANR’s Financial Regulation. <https://anr.fr/en/funding-regulations/>

D. Funding instruments subject to specific calls for proposals

The 2023 Work Programme provides various **funding instruments**, each with specific expected impacts and distinct characteristics in terms of selection and monitoring.

This part is devoted to presenting funding instruments that may be used beyond the Generic Call for Proposals. They correspond to specific programmes or calls whose timetables should be consulted on the ANR's website and the Work Programme's publication page.

1. Specific actions beyond the AAPG (Flash, Challenges, etc.)

Challenges and Flash calls³⁸ are subject to specific calls that determine their objectives, or the research covered. Flash or Challenges calls are subject to specific communication when they are launched. To know the scientific scope and timetables, it is recommended to regularly check the 2023 schedule on the ANR's website.

Since its inception, the **Flash** instrument has been used on numerous occasions (Flash Haiti, Flash Fukushima, Flash Drones, Flash Ebola, Flash Asylum, Flash Genocides, Flash OG2024, Flash Sargassum, Flash Covid-19, etc.).

The arrangements for a quick intervention allow projects to be selected and funded in a very limited timeframe (two to three months), while guarantying a competitive peer selection process of the highest standards.

The **Challenge** instrument, most often led by a co-funding partner, aims to select and fund several teams that will have to compare their respective approaches during a series of tests, mostly organised in collaboration with the LNE (French National Laboratory of Metrology and Testing). For instance, the most recent Challenges set up focused on Image Forgery Detection (DEFALS), Indoor Person Positioning Challenge (MALIN), Robotics and Sensors Serving Ecophyto (Challenge ROSE), Research in Artificial Intelligence in the field of Biodiversity (IA_Biodiv).

Other specific calls may be set up at the initiative of the supervising ministry, other ministries, the ANR, co-funders, regional partners, other French or foreign partners, or under the implementation of the PEPR of the PIA4.

The information regarding these specific calls, which were still unknown when the 2023 Work Programme was published, will be posted on the Agency's website and will be widely promoted within communities, namely through the [national calls for proposals portal](#).

2. The "Economic impact of research and competitiveness (IERC)" component

One of the ANR's missions is to promote the transfer of public research results to the economic world. In addition to collaborative projects with companies (see "Collaborative Research Projects involving Enterprises" in [C.3-3](#)), which constitute the instrument of the Generic Call in the relationship with the socio-economic world, the ANR has a set of programmes aiming to galvanise the partnership between laboratories and companies.

This cross-cutting component brings together four programmes, which are subject to specific calls for proposals: *LabCom*, *Industrial Chairs*, *Public-private research projects (PRPP)* and *Carnot Institute*, as well as two programmes funded entirely by the French Defence Innovation Agency

³⁸ These calls are referenced on the "open calls" page (<https://anr.fr/en/open-calls-and-preannouncements/>) on the ANR's website.

(AID): *ASTRID* and *ASTRID Maturation*.

All the instruments of the IERC component imply the involvement of research organisation(s) and company(ies).³⁹ The conditions of eligibility and the detailed characteristics of the expected proposals are explained in the corresponding calls for proposals available on the ANR's website.

D.1) Joint Laboratories (LabCom)

The support programme for the creation of joint laboratories (*LabCom*) between public research or knowledge dissemination institutions or organisations and small and medium-sized enterprises (SMEs) or intermediate-sized enterprises (ETIs) aims to develop the potential for industrial partnership and transfer that already exists among academic research stakeholders, particularly those involved in non-partnership research activities. The purpose of this programme is to support these stakeholders in the establishment of sustainable bilateral partnerships with companies, especially SMEs and ETIs, insofar as these links are essential in the innovation chain. The transfer of results or know-how from public research towards this type of companies can be a major factor in innovation, competitiveness and job creation.

For this programme, which has been open since 2013, the ANR provides €350k funding for the laboratory of a public research or knowledge dissemination institution or organisation. It is simple to set-up such funding, which allows for very quick implementation and greater flexibility in how the grant is used. This programme continues in 2023, mainly with the terms of agreement being extended to 5 years. The programme is subject to a specific call on an *ad hoc* basis (two to three evaluation sessions per year). It is recommended to consult the dedicated page on the ANR's website.⁴⁰

Thanks to partnerships currently being finalised, the LabCom instrument may be subjected, in 2023, to specific calls for proposals launched with national partners. These specific calls for proposals will be announced on the LabCom instrument's page on the Agency's website and on the co-funding partners' website.

D.2) Industrial Chairs

The "*Industrial Chairs*" programme aims to mobilise resources to reaffirm and strengthen the competitiveness of French companies, and its objectives are threefold:

- Enabling French or foreign research professors or researchers, internationally recognised and possibly on the move, to work on an ambitious, innovative research programme of indisputable industrial scope.
- Building and structuring collaborative scientific research actions in priority and strategic areas, through a strong and sustainable partnership, for public and private stakeholders involved in the industrial chair.
- Providing quality research training at the highest international level by including the long-term vision, methods and experience of stakeholders from the economic world when hosting doctoral or post-doctoral students in academic research laboratories.

This programme features a call for proposals open to all research themes, on topics jointly

³⁹ Meaning a trading company. For the definition of company or trading company, see: Appendix 1 – Definitions (pages 19 and 20) in the ANR's Funding Regulations. <https://anr.fr/en/funding-regulations/>

⁴⁰ See the dedicated page on the ANR's website: <https://anr.fr/fr/detail/call/laboratoires-communs-organismes-de-recherche-publics-tpepme-eti-labcom-appel-a-propositions-ed-1/>

determined by the hosting institution⁴¹ of the industrial chair and one or more partner company(ies). The proposal is led by a distinguished scientist, future tenured of the industrial chair, and funded equally between the ANR and the partner company(ies). The selection process is based on a single submission document that includes the curriculum vitae of the candidate being considered for the tenure position of the industrial chair. The application is submitted by the chair's hosting institution, in close consultation with the company or partner companies (which sign a commitment letter when submitting the proposal).

Funding is granted for 48 months, with the ANR's contribution (€1.2 million maximum) being matched by that of the companies (cash contribution paid to the hosting institution). This action is subject to a specific call once a year (*the call is planned to be published in the last quarter of 2022*). Researchers are invited to consult the 2023 calls for proposals schedule on the ANR's website.⁴²

D.3) Public-private research projects (PRPP) (with reservations)

In addition to these collaborative instruments proposed by the ANR for many years now, the 2022 Work Programme provided a new funding instrument for public-private partnerships: the "*Public-Private Research Project*" (PRPP). The PRPP, which is planned to be launched as a pilot instrument in the last quarter of 2022 and be extended in 2023, would involve at least one academic partner and one private partner. It was directed at all disciplinary fields. However, the implementation of similar instruments by the innovation ecosystem as from the autumn of 2022 now raises questions as to the originality and relevance of this new instrument in the format initially proposed. The most recent studies carried out by the ANR and its supervisory authority are currently directing the purpose of a possible PRPP towards the development of new public-private partnership-based dynamics based on needs or scientific barriers that were especially identified by the company and on strong interoperation with the Work Programme's existing instruments.

Thus, this new PRPP would primarily focus, under short and low-budget projects, on the emergence or structuring of new partnerships to i) either achieve ground-breaking scientific results from the academic world within companies; ii) or to ensure the scientific resourcing of private research as part of a collaboration with an academic laboratory. Just like MRSEI or SRSEI programmes, the PRPP instrument could therefore supplement, upstream (elaboration, initiation) or downstream (overcoming new barriers), the funding of the AAPG's PRCE, Labcoms, Industrial Chairs or complement the actions carried out with Carnot Institutes.

The ongoing discussions with various stakeholders and supervisory authorities is leading towards the implementation of the PRPP being determined by the definition of an instrument with a non-redundant format, if possible, by the end of 2022 or early 2023.

D.4) Carnot Institute

Since 2006, the *Carnot* label is awarded by the French Ministry of Higher Education, Research and Innovation, to public research structures qualified as "*Carnot Institute*", which are committed to put partnership-based research, namely through bilateral contractual research, at the heart of their strategy.

To guide and support the coming together of the institutes with the stakeholders of the socio-economic world, an annual contribution, calculated according to partnership revenues, is paid by the ANR to *Carnot Institutes*. This contribution is dedicated to scientific resourcing, the

⁴¹ The hosting institution must be a research partner : public partner or equivalent, whose main purpose is to conduct research such as public scientific and technical research institutions (EPST), universities, public scientific, cultural and professional institutions (EPSCP), public industrial and commercial research institutions, university hospitals, etc.

⁴² See the dedicated page on the ANR's website : <https://anr.fr/fr/detail/call/chaieres-industrielles-edition-2021-1/>

professionalisation of the partnership relationship and integration with the business world.

With more than ten years of existence and stability, this long-lasting programme enjoys increasing visibility with companies. Its operation is based on a scheme involving regular retrospective evaluations and is internationally recognised by the academic and socio-economic world for its efficiency as a vector of technology transfer and innovation. The involvement of the *Carnot* panel members, who are mainly from the business world, strengthen this symbiosis and encourages the institutes in this approach.

Finally, to ensure that the *Carnot* programme is implemented and provide a genuine leverage effect, the “*Valorisation-Instituts Carnots*” (Development of Carnot Institutes) benefits from an endowment under the Investments for the Future Programmes. Three calls for proposals^[2] were launched in these circumstances: the first focuses on specific actions towards small and medium-sized enterprises (SMEs), the second on specific international actions, and the third to structure the supply in response to needs expressed by the economic sector, particularly towards small and medium-sized enterprises or industries (SME/SMIs) or intermediate-sized enterprises (ETIs) and the implementation of the *Tremplin Carnot* scheme to help potential new entrants to reach the level required to become a *Carnot Institute*.

D.5) ASTRID and ASTRID Maturation

The [ASTRID](#) (Specific Support for Defence Research Projects and Innovation) and [ASTRID Maturation](#) programmes, funded entirely by the [French Defence Innovation Agency](#) (AID), are subject to specific calls for proposals managed by the ANR. The selection process, for both programmes, is carried out in a single stage (detailed proposal upon submission).

The ASTRID programme aims to foster the opening of new research avenues on themes of dual interest (civil and military applications), and cover a wide range of disciplines. The objective is to explore scientific or technical hard points and encourage potential technological breakthroughs that benefit Defence, civil research and the industry. The significance of the Defence requirement is one of the selection criteria (possible impacts to be outlined upon submission).

The ASTRID programme is subject to an annual call which extensively covers all the key areas of dual research. The organisation and timetable are similar to the previous year’s call (see the ANR’s website⁴³). The launch of one or more additional thematic calls is possible, depending on the needs identified by the AID.

The ASTRID Maturation programme is intended to support the exploitation of scientific efforts conducted under research support schemes funded by the AID (only eligible projects⁴⁴), and include projects from the ASTRID programme. The ASTRID Maturation call for proposals has changed its operating mode. Since 2020, one calendar edition covers several submission sessions (a tri-annual timetable is planned) to encourage the fast selection of innovative projects.

3. The “Building the European Research Area (ERA) and France’s international attractiveness” component

In addition to International Collaborative Research Projects (“PRCI” (see [C.3-2](#))) which constitute the ANR’s main instrument of bilateral collaboration, other types of European and international actions are planned under this component:

⁴³ For more information: <https://anr.fr/en/latest-news/read/news/the-essentials-of-the-astrid-and-astrid-maturation-programmes-in-3-questions/> and <https://www.defense.gouv.fr/aid/deposer-vos-projets/subventions/astrid>

⁴⁴ For more information on the exact conditions of eligibility, please refer to the documents of the call for proposals and <https://www.defense.gouv.fr/aid/deposer-vos-projets/subventions/astrid-maturation>.

- Setting up European or international scientific networks (*MRSEI*)
- Supporting European or international scientific networks (*SRSEI*)
- Tremplin-ERC (*T-ERC*)
- **Access-ERC**
- Specific European and international calls for proposals (ERA-NET, JPI, Belmont, etc.)
- Strategic bilateral calls focusing on strengthening the Franco-German collaboration.

The *MRSEI*, *SRSEI*, *T-ERC* and *Access-ERC* funding instruments fall more specifically under the implementation of the “National action plan for the improvement of French participation in European research and innovation funding schemes” ([PAPFE](#)).

D.6) Setting up European or international scientific networks (MRSEI)

The “Setting up European or international scientific networks” (MRSEI) programme aims to help French researchers access European (Horizon Europe 2021-2027) and international funding programmes. Therefore, the proposals submitted must foreshadow an application to a European or international call for proposals.

The purpose of this instrument is to strengthen France’s scientific position through the coordination of a proposal submitted to a major European or international call for proposals. The proposals expected under this call must demonstrate the actions to be carried out to build a scientific network recognised internationally, on topics from all disciplines and with a strategic, economic, technological, cultural or social impact.

To be as consistent as possible with European timetables and to quickly respond to project coordinators, the **MRSEI** programme has been the subject of continuous submissions, since 2018, with several evaluation and selection sessions per year.⁴⁵

D.7) Supporting European or international scientific networks (SRSEI)

The SRSEI programme was created in 2022 to provide scientists working in French laboratories, who submitted a research project to European (Horizon Europe) or international collaborative calls as coordinator, with the resources to improve the quality of their application (full proposal or interview) for the final stage of the call.

Under this programme, the expected proposals must strengthen a European or international scientific network coordinated by a French team and having been invited to further its application to the final stage of a European and international call organised in several stages. The applications selected, as part of a call for proposals continuously open throughout the year, will benefit from lump sum funding.

D.8) Tremplin ERC (T-ERC)

The Tremplin-ERC (T-ERC) funding instrument falls under the national strategy to strengthen French technological research and innovation and increase France’s scientific outreach and attractiveness internationally.

Therefore, the **T-ERC** programme aims to help French or foreign young researchers attached⁴⁶ with a French public research and knowledge dissemination institution to submit a new application, with

⁴⁵ For more information, please visit the dedicated page on the ANR’s website: <http://www.agence-nationale-recherche.fr/suivi-bilan/construction-de-l-espace-europeen-de-la-recherche-et-attractivite-internationale-de-la-france/mrsei-montage-de-reseaux-scientifiques-europeens-ou-internationaux/>

⁴⁶ Researchers in the process of being attached are eligible for the T-ERC programme.

the best chances of success, in response to a *European Research Council* (ERC) proposal for the “*Starting grants*” or “*Consolidated grants*” call.

The T-ERC programme is subject to two specific calls in 2023 (dedicated respectively to “*Starting grants*” and “*Consolidated grants*”). All applicants who received an “A” rating under these ERC calls are eligible for ANR funding without any further evaluation of their application by the ANR. Switching from “*Starting grants*” to “*Consolidator grants*” is allowed under the “*T-ERC Starting grants*” call since the 2022 Work Programme.

D.9) Access-ERC in HSS

As part of the National action plan for the improvement of French participation in European research and innovation funding schemes (PAPFE), the 2023 Work Programme also provides for the possibility to further an experimental “Access-ERC” call.

The purpose of the **Access-ERC** instrument is to allow the funding and hosting of young researchers and post-doctoral student members in a French research laboratory, regardless of their nationality, who are committed to submit an application to an ERC (*European Research Council*) programme.

The applications submitted to the ANR will be subject to a two-stage evaluation and selection process:

- i) Selection based on application and interview of the applicants (French or foreign PhDs who defended their doctorate less than 3 years ago),
- ii) Assignment of successful applicants to a research laboratory, based on the latter’s commitment to provide the best hosting and preparation conditions for the future ERC application.

As part of an experimentation stage in 2022, the first “Access-ERC” call for proposals exclusively revolved around Humanities and Social Sciences (“Access-ERC in HSS”). This experimentation is renewed in 2023. The feedback acquired by the ANR will help expand the “Access-ERC” instrument to other scientific sectors.

D.10) Specific calls for proposals in European or international collaboration

In addition to the relationships established with some European and international agencies under the Generic call (C.3-2) instrument), the ANR is developing strategic partnerships with foreign funding agencies resulting in international specific calls for proposals.

These actions are usually focusing on a specific theme and carried out under a multilateral partnership (e.g. CRCNS/NEUC, ORA or Belmont Forum calls).

In line with “*H2020*” and now “*Horizon Europe*” programmes, the ANR is also developing multilateral partnerships with its counterpart as part of European actions such as ERA-NET, EJP, Article 185, Joint Programming Initiatives (JPI), and within new European partnerships.⁴⁷ These actions are complementary to the other sections and funding of EU framework programmes. With this in mind, particular attention is paid to a multi-annual approach to prioritise activities and combine national and European tools. The synergy of these actions is considered, in the long run, sector by sector and may also lead to a combination of initiatives (e.g. joint calls between ERA-NET Cofund and Belmont Forum).

⁴⁷ <https://www.horizon2020.gouv.fr/cid154360/partenariats-dans-horizon-europe.html>

Finally, the ANR is setting up specific calls for proposals under strategic bilateral collaborations for the French State. In this context and at this stage, Franco-German and Franco-Japanese collaborations on the following themes are considered for 2023:

- Social Sciences and Humanities (ANR/DFG) (call confirmed)
- ANR-JST with reservations (theme currently being determined)

All international actions are subject to various calls for proposals announced on the ANR's website.

It is recommended to regularly check the list of ongoing calls on the ANR's website (see [30](#)) and their specific appendices (submission and eligibility conditions).⁴⁸

⁴⁸ The ANR's calls for proposals: <https://anr.fr/en/>

E. Appendices

E.1) Table 1: Bilateral collaborations under the Generic Call for Proposals - International Collaborative Projects (PRCI)

The list of confirmed collaborations will be posted on the ANR Generic call for proposals web page at a later date. Applicants are invited to consult the ANR's website before submitting a proposal to the ANR or the foreign partner.)

Subscribe to the ANR's newsletter to be kept up to date on any new calls.⁴⁹

Country (agencies)	Themes for collaboration proposed in 2022 (to be confirmed after agreement from the foreign agency)	Lead Agency	Relevant scientific fields
Brazil (FAPESP)	<ul style="list-style-type: none"> • Mathematics and Digital Sciences • Social Sciences and Humanities • Materials • Engineering, chemistry, physics • Environment and biological resources 	ANR	Themes A.1 to A.4, Themes B.1 to B.6, Themes D.1 to D.7, Themes E.1 to E.6, Theme F.1, Themes G.1 and G.2, Themes H.1 and H.2, H.4 to H.7, H.11 and H.12, H.14 to H.16 and H.19
Brazil (FACEPE)	<ul style="list-style-type: none"> • Mathematics and Digital Sciences • Social Sciences and Humanities • Materials • Engineering, chemistry, physics • Environment and biological resources 	-	Themes A.1 to A.4, Themes B.1 to B.6, Themes D.1 to D.7, Themes E.1 to E.6, Theme F.1, Themes G.1 and G.2, Themes H.1 and H.2, H.4 to H.7, H.11 and H.12, H.14 to H.16 and H.19

⁴⁹ Register for the newsletter: <https://anr.fr/en/newsletter>

Country (agencies)	Themes for collaboration proposed in 2022 (to be confirmed after agreement from the foreign agency)	Lead Agency	Relevant scientific fields
Canada Quebec (FRQSC)	Innovation, work, cognition, education, training and, in particular: <ul style="list-style-type: none"> • Education in the digital age: teaching and pedagogical challenges, practical issues and perspectives • The circular economy in partnership with cities: challenges and opportunities 	ANR	Themes D.3 and D.4
United States of America (NSF)	<ul style="list-style-type: none"> • Physics of living systems • Digital Sciences • Mathematics and its interactions 	ANR NSF	Theme B.1, Themes C.2 to C.4, Theme H.14 Themes E.1 to E.6, Theme F.1, Themes H.12 and H.14
Hong Kong (RGC)	All disciplinary fields funded by the ANR and RGC (except Security)	-	All themes except H.17
Taiwan (MOST)	All disciplinary fields funded by the ANR and the Taiwanese agency (except Security)	-	All themes except H.17
Germany (DFG)	All disciplinary fields funded by the ANR and DFG, except Social Sciences and Humanities*	ANR	All themes except D.1 to D.7 and H.4
Austria (FWF)	All disciplinary fields funded by the ANR and FWF	ANR	All scientific fields
Luxembourg (FNR)	All disciplinary fields funded by the ANR and FNR	ANR	All scientific fields
Switzerland (FNS)	All disciplinary fields funded by the ANR and FNS	ANR	All scientific fields

* Social Sciences and Humanities are subject to a specific ANR-DFG call for proposals (see Table 2).

E.2) Table 2: Specific bilateral collaborations beyond the Generic Call for Proposals - International Collaborative Research Projects (beyond PRCI)

This list is a provisional list of actions in which France, through the ANR, is likely to engage. Additional actions may be implemented during the second half of 2022 or throughout 2023.

Applicants are invited to consult the ANR's website before submitting a proposal to the ANR or the foreign partner.

Subscribe to the ANR's newsletter to be kept up to date on any new calls.⁵⁰

Country (agencies)	Themes for collaboration proposed in 2021, to be confirmed after agreement from the foreign agency	Relevant scientific fields
Germany (DFG) SHS	Franco-German call for proposals in Social Sciences and Humanities	Social Sciences and Humanities
Japan (JST) and under the CREST programme	The ANR is still collaborating with the <i>Japan Science and Technology Agency (JST)</i> , namely as part of the Japanese CREST programme. <i>The themes are currently being determined and will be announced at a later date</i>	<i>Currently being determined</i>

⁵⁰ Register for the newsletter: <https://anr.fr/en/newsletter>

E.3) Table 3: Specific calls for proposals in European or international collaboration beyond the Generic Call for Proposals and bilateral calls.

This list is a provisional list of actions in which France, through the ANR, is likely to engage. Additional actions may be implemented during the second half of 2022 or throughout 2023. Some calls may also be altered or rescheduled over time. Applicants are invited to consult the ANR's website before submitting a proposal to the ANR or the foreign partner.

Subscribe to the ANR's newsletter to be kept up to date on any new calls.⁵¹

Reference	Brief description	Relevant scientific fields
EJP RD	Call for proposals under the EJP Rare Diseases	Life Sciences
ERA4HEALTH	Call for proposals for the <i>ERA4HEALTH</i> partnership	Life Sciences
JPI AMR / Cofund JPI AMR-ACTION	4 th call by the ERA-NET Cofund JPIAMR-ACTION, under the JPI AMR The JPI AMR aims to improve the understanding of the transmission mechanisms of antimicrobial resistance among humans, animals and the environment, and to enable the implementation of surveillance and actions to limit the transmission of resistance genes, antimicrobial residues and resistant organisms.	Life Sciences
JPI AMR / Cofund JPI AMR- ACTION	"Networks" call for proposals by the ERA-NET Cofund JPIAMR-ACTION, under the JPI AMR	Life Sciences
JPND / JPcoFund 2	5 th call by the ERA-NET Cofund JPcoFund 2, under the JPI JPND. The JPcoFund 2 aims to coordinate research to understand the origins of neurodegenerative diseases, find treatments and identify the best resources to care for patients with these diseases.	Life Sciences

⁵¹ Register for the newsletter: <https://anr.fr/en/newsletter>

Reference	Brief description	Relevant scientific fields
JPI JPND	<i>Projected working groups (title with reservations): “Enhancing early detection and measurement of progression for Neurodegenerative Diseases” and “Health and Social Care research with a focus on the moderate and late stages of ND”</i>	Life Sciences
NEURON	3 rd call under the ERA-NET NEURO Cofund 2, aiming to coordinate international and European research on mental health to reduce the burden of mental, neurological and sensory system disorders for patients and society. “Mechanisms of resilience and susceptibility in mental disorders”	Life Sciences
NEURON	“Working groups” call for proposals under the ERA-NET NEURON Cofund2	Life Sciences
CRCNS (NEUC)	International call for proposals in Computational neuroscience	Life Sciences Digital Sciences
ICRAD	3 rd call by the ERA-NET Cofund ICRAD <i>(International Coordination of Research on Infectious Animal Diseases)</i> <i>Call under development. Subject to confirmation</i>	Life Sciences Environmental Sciences
Transforming Health and Care Systems	1 st call for proposals by the European Partnership <i>Transforming Health and Care Systems</i>	Life Sciences Social Sciences and Humanities
Biodiversa+	2 nd call for proposals by the European Partnership <i>Biodiversa+: Improved transnational monitoring of biodiversity and ecosystem change, and research synthesis for societal relevance</i>	Environmental Sciences
Blue economy (SBEP)	1 st call for proposals by the European Partnership <i>Blue economy (SBEP): A climate-neutral, sustainable and productive Blue Economy</i>	Environmental Sciences
EJP Soil / JPI FACCE	2 nd external EJP SOIL call for proposals, under the JPI FACCE <i>Agricultural soil management</i>	Environmental Sciences
SIOMPA (Eparses)	SIOMPA call for proposals on marine areas in the South-West Indian Ocean <i>Call under development. To be confirmed</i>	Environmental Sciences

Reference	Brief description	Relevant scientific fields
PRIMA	PRIMA Section 2 “2022 Call” under the PRIMA Euro-Mediterranean research programme NB: Closing date for the 1 st stage: 22/03/2022. Closing date for the 2 nd stage: 13/09/2022. “2023 Call” (2024 ANR Work Programme) opening date: January 2023	Environmental Sciences
Water4all	1 st call for proposals by the Partnership <i>Water Security for the Planet</i> (Water4all) <i>Management of water resources: resilience, adaptation and mitigation to hydroclimatic extreme events and management tools</i>	Environmental Sciences
Belmont Forum CEH2	Climate-Environment-Health2 <i>Under development – Subject to confirmation</i>	Environmental Sciences Biology - Health
CHIST-ERA IV	“2022 Call”: call for proposals under the ERA-NET Cofund Chist-ERA IV	Digital Sciences
CHIST-ERA IV / Challenge 1	“Challenge” call under the ERA-NET Cofund CHIST-ERA IV	Digital Sciences
CHIST-ERA IV / Appel SO	“Open Science” call under the ERA-NET Cofund CHIST-ERA IV	All fields
FLAG-ERA JTC 2023	Call for proposals under the ERA-NET Cofund FLAG-ERA 3, aiming to contribute to building two “FET Flagships” Graphene and Human Brain projects	Digital Sciences
IA ANR-DFG- JST2	2 nd French-German-Japanese call for proposals on artificial intelligence <i>Call under development. Subject to confirmation</i>	Digital Sciences
QUANTERA	2 nd call by the ERA-NET QuantERA 2 on quantum technologies	Digital Sciences
JPI CH	Call under the JPI <i>Cultural heritage “Heritage and climate”</i> <i>(subject to confirmation)</i>	Humanities Environmental Sciences
CETP	1 st call for proposals by the European Partnership <i>CETP Clean energy transition Partnership</i>	Energy and Materials Sciences

Reference	Brief description	Relevant scientific fields
DUT	1 st call for proposals by the European Partnership <i>Driving urban transitions to a sustainable future</i>	Energy and Materials Sciences Social Sciences and Humanities
LEAP-RE	2 nd call by the LEAP-RE initiative “Call for transnational research and innovation proposals on renewable energies in Africa”	Energy and Materials Sciences
M-ERA.NET	“2022 Call” under the ERA-NET M-era.Net 3: Materials Science and Engineering for Innovation in Europe Closing date for the 1 st stage: 15/06/2022 Closing date for the 2 nd stage: 17/11/2022	Energy and Materials Sciences

E.4) Table 4: Partnerships and co-funding under the 2023 Work Programme

All partnerships and co-fundings are likely to be changed or supplemented.

Applicants are invited to consult the ANR's website before submitting a proposal.

Partner	Major themes that may be covered by co-fundings	Relevant scientific fields
AID French Defence Innovation Agency	Themes of dual civil and military interest (energy, global security, cybersecurity, RBCE, etc.)	Astrid and Astrid Maturation programmes
DGOS French General Directorate for Healthcare Provision	Transnational health research (synergy between basic research and clinical research)	Life Sciences and "One Health" cross-cutting fields
FRM	French Foundation for Medical Research	Life Sciences
FdF	Fondation de France	Pause – Ukraine Action
FMA Fondation Médéric Alzheimer	Involvement in JPI-JPND on neurodegenerative diseases	Life Sciences
FSP Heritage Sciences Foundation	Involvement in JPI-CH through the "Conservation, Protection and Use" call	Social Sciences and Humanities
JU / Euro HPC Joint undertaking European high- performance computing	Funding of the EuroHPC programme	Digital Sciences
MAA French Ministry of Agriculture and Food	Agroecological plan for France, including Ecophyto	Environmental Sciences Challenge ROSE

Partner	Major themes that may be covered by co-fundings	Relevant scientific fields
<p>MTE French Ministry of Ecological Transition</p>	<p>Innovative projects in support of public policies, to redefine climate change adaptation policies and determine their terms of implementation under the ecological transition.</p>	<p>Environmental Sciences</p>
<p>OFB French Biodiversity Agency</p>	<p>Implementation of part of the Ecophyto II+ National plan, including Theme 2 “Improving the knowledge and tools of tomorrow and encouraging research and innovation” or involvement in the Ecophyto-Maturation plan Involvement in ERA-Net SusCrop and JPI Waterworks</p>	<p>Environmental Sciences</p>
<p>Regions Normandy, Grand-Est, AURA, Occitania, Hauts-de-France, Pays de la Loire, Centre Val de Loire, Guadeloupe</p>	<p>Specific regional themes</p>	<p>All scientific fields</p>
<p>SGDSN French General Secretariat for National Defence and Security</p>	<p>Themes related to public protection and the sovereignty of the nation (to be confirmed)</p>	<p>Global security and cybersecurity</p>
<p>SGPI French General Secretariat for Investment</p>	<p>Funding of the “<i>Production of biopharmaceuticals</i>” priority under the “<i>Bioproduction</i>” Grand Challenge</p>	<p>Life Sciences Energy and Materials Sciences Environmental Sciences</p>