



AGENCE NATIONALE DE LA RECHERCHE

ANR

Work Programme 2021

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A. Context, objectives and priorities of the 2021 Work Programme

A.1) General context of the 2021 Work Programme

The French National Research Agency (ANR) is the French funding agency for project-based research carried out by public operators in cooperation with each other or with companies. Under the authority of the Ministry of Higher Education, Research and Innovation, it is the operational agency for funding research based on a competitive peer-reviewed selection process, in compliance with international standards. In addition, the ANR was appointed in 2010 as the national operator in charge of managing major investment programmes in the field of higher education and research. The Agency can also provide easy access to various related calls for proposals through digital portals.

In connection with its primary mission devoted to funding public research, the ANR is involved in the process of implementing the French National Research Strategy (SNR). The Act of 22 July 2013 pertaining to Higher Education and Research established the need to define and implement a national research strategy. It has entrusted the Strategic Research Council (CSR) with the task of proposing the main guidelines for the French National Research Strategy and participating in the evaluation of its implementation through the Operational Research Committee (ComOp). It specifies that the Ministry in charge of Research is responsible for ensuring this strategy is consistent with the strategy established within the framework of the European Union. All the provisions pertaining to this strategy have been incorporated into the Research Code, and the missions of the ANR were specified upon revision of the decree on the Agency's organisation and operation dated 25 March 2014¹.

Beyond the French National Research Strategy, the ANR implements the programme determined by the Ministry in charge of Research, mainly through its "*Generic Call for proposals (AAPG)*" which has been designed to enable researchers from different scientific fields to gain access - in addition to the recurrent funding allocated to them - to co-funding opportunities based on a large number of research themes, whether targeted or not, within a disciplinary and interdisciplinary framework alike.

To this effect, the Agency's task is to fund and promote basic and targeted research, innovation in all research fields, technology transfer, as well as scientific, technical and industrial culture, and public-private partnerships. It aims to support the excellence of French research, both academically and technologically, through a rigorous and competitive peer-reviewed selection process, in compliance with international standards.

In addition, the ANR strives to strengthen scientific cooperation at the European and international levels, by linking its programmes with European and international initiatives and by following the guidelines of the international scientific strategy defined by its supervisory authority. Thus, it supports international consortia, in partnership with other funding agencies in Europe and around the world.

The Work Programme therefore reflects the research work carried out by France to help our society to address the major challenges it is facing, in connection with "*Societal Challenges*" under "*Horizon 2020 for Europe*" and the "*Sustainable Development Goals*" (SDGs) of the United Nations.

¹ <https://www.legifrance.gouv.fr/eli/decret/2014/3/24/2014-365/jo/texte>

Mobilising science to implement the 2030 Agenda² of the SDGs presents a major challenge for research and innovation for the next decade, particularly in terms of driving coherent digital, energy, social and ecological transitions without leaving anyone behind. This SDG approach is defining, both for Europe, which has made it the backdrop of its new Horizon Europe 2021-27 programme, and for France, which has been mobilised since 2019 through the establishment of a 2020-2030 roadmap involving all public, private and citizen stakeholders.

In this general context, the ANR Work Programme is the roadmap that integrates our country's research priorities. It also takes into account the contributions of the five Alliances,³ of the CNRS (French National Centre for Scientific Research) and the CPU (Conference of University Presidents), and implements the directions and priorities of the Ministry of Higher Education, Research and Innovation, which coordinates inter-ministerial action among the ministries concerned.⁴ The ANR thus makes public research funding efforts clearer to citizens, promotes scientific, technical and industrial culture and allows quantified monitoring of State action.

A.2) Specific context of the 2021 Work Programme: the Covid-19 context

Since late 2019, the world has been facing the COVID-19 pandemic and the health emergency has led to immediate and unprecedented action by governments, scientists and businesses. The ANR took action in March 2020 by launching a Covid-19 Flash Call, which was followed by an open call for Covid-19 Research-Action (RA Covid-19) for short- and medium-term projects. These calls have revealed the significant drive among scientific communities to help cope with an unprecedented situation not only in terms of health, but also in terms social, industrial, economic and environmental aspects.

To complete this multifaceted approach and to include research in connection with the Covid-19 pandemic, or more generally pandemics of this nature, and its long-term consequences, a Covid-19 priority has been established across the entire 2021 Work Programme, all instruments included. The aim is not only to continue controlling the Covid-19 pandemic, but also to better understand the environmental, anthropogenic, socio-economic and behavioural health factors that may play a role in the emergence, spread and impact of pandemics, to develop means to assess and mitigate risk and to monitor various impacts, as well as to analyse and support the potential social, economic, environmental and industrial changes that could arise as a result of navigating through the crisis. In particular, the lockdown policy, which has affected almost one in two of the planet's inhabitants, has led to a drastic decline of all aspects of economic activity (industry, transport, agriculture, fishing, culture, etc.), an increase in inequalities for the most vulnerable populations and, to a lesser extent, the human footprint on the environment. This situation serves as an exceptional opportunity to reshape human societies within the framework of economic recovery by better accounting for global changes to ensure greater resilience. It is thus clear that all scientific fields are concerned and that the world of Research must rally to support this crucial effort at all levels, whether on mainland, overseas territories and internationally, particularly the most vulnerable regions with their specificities. The priority actions have been described in the 2021 Generic Call for Proposals.

² <https://www.agenda-2030.fr/>

³ Allenvi (*Environmental Research Alliance*), Allistene (*Digital Science and Technology Alliance*), Ancre (*National Alliance for Coordination of Energy Research*), Athena (*National Alliance for Humanities and Social Sciences*), Aviesan (*National Alliance for Life and Health Sciences*).

⁴ Supervisory Ministry: Ministry of Higher Education, Research and Innovation (MESRI). Ministries of Agriculture, Ecology, Health, Industry, Defence, Foreign Affairs, Culture and Education.

A.3) Priorities of the 2021 Work Programme

The 2021 Work Programme describes the actions and calls for proposals⁵ offered by the ANR within the framework of the 2021 fiscal year, thus providing a general overview of its funding offer. **It is aimed at all scientific communities and all public or private stakeholders involved in French research**,⁶ including small and medium-sized enterprises (SMEs), very small enterprises (VSEs) as well as associations or foundations that contribute to research issues.

Particular attention is paid to the inter-disciplinary angle within cross-cutting research based on several disciplinary fields, such as:

- Health – Environment – Society
- Digital Technology – Health
- Digital Humanities
- Society – Digital Technology – Security
- Digital Technology – Energy – Environment – Society

The 2021 Work Programme also incorporates the strategic priorities⁷ defined by the State and implementation of government plans:

- Artificial intelligence
- Humanities and social sciences
- Quantum technologies
- Autism in neurodevelopmental disorders
- Translational research on rare diseases.
- Production of biopharmaceuticals

Finally, the Work Programme aims to strengthen France's position in the European Commission's forthcoming framework programme, as well as to step up strategic multilateral collaborations, especially in terms of consolidating the European Research Area (ERA), and strategic bilateral collaborations, especially between France and Germany.

The cross-cutting, strategic and Franco-German priorities (mentioned above) and the implementation of government plans will be subject to additional budgetary earmarking, as they have been since 2018.

A.4) Structure and objectives of the 2021 Work Programme

The 2021 Work Programme (2021 WP) is divided into four cross-cutting components, each with its own budget. Each component has funding instruments, calls for proposals and specific programmes. The main component, *Research and Innovation*, corresponds to the Generic Call for Proposals (AAPG).

The objectives of the funding instruments proposed by the ANR are briefly presented in Section C of this document. Each funding instrument has its own rationale, specific expected effects and distinct characteristics in terms of selection and monitoring.

These may be collaborative research instruments, instruments dedicated to individuals, or all other programmes and calls for proposals in the 2021 Work Programme.

The **four components** of the 2021 Work Programme are briefly described below, and consist of several strategic dimensions:

⁵ Research, development and innovation projects.

⁶ Any partner with an establishment or branch in France.

⁷ Each priority is broken down into one or more scientific themes of the Work Programme and its Generic Call for Proposals (see description of the scientific themes in the Generic Call for Proposals).

1. “Research and Innovation” component of the Generic Call for Proposals

The “Research and Innovation” component consists of both the acquisition of basic knowledge and mostly targeted research. It is the subject of the Generic Call for Proposals (AAPG) and uses all instruments (described in §C) that make it possible to fund either individual research projects coordinated by young researchers (JCJC), or collaborative research projects between public entities (and some private entities⁸) in a national (PRC) or bilateral international context (PRCI) and between public and private entities that may provide an opening to the business world (PRCE).

The societal challenges defined as the framework of the French National Research Strategy – France Europe 2020⁹ (SNR) are also the backdrop of the ANR 2021 Generic Call for Proposals (AAPG), with the exceptions of the “space” sector which falls under the competence of the CNES (French National Centre for Space Studies) and topics related to Cancer which are under INCa (French National Cancer Institute) or viral hepatitis and AIDS which are under the ANRS (French Agency for Research on AIDS and Viral Hepatitis). These major societal challenges¹⁰ require both basic and applied research, which helps meet the “Sustainable Development Goals (SDGs)” by boosting coherent digital, energy, social and ecological transitions, and based on an inclusive approach.

Hence, the main SDGs – towards which some of the research carried out under a theme can contribute – are now referenced in the research themes of the Generic Call for Proposals. In some cases, the novel contribution of research will contribute to a better understanding of complex interactions - positive and/or negative - in order to jointly achieve various SDGs.

The “*Research and Innovation*” component in the Generic Call for Proposals has been structured based on research themes, in a concerted manner, while accounting for the fundamentals of the French National Research Strategy (maintaining excellent disciplinary research, enhancing interdisciplinary focus, supporting digital technology, humanities and social sciences), the contributions of the five Alliances, the French National Centre for Scientific Research (CNRS) and the Conference of University Presidents (CPU) for potential updates, as well as the requests of the Ministry of Higher Education, Research and Innovation, which implements the State strategy by coordinating inter-ministerial action between the ministries concerned within the Programme Planning Advisory Committees.¹¹

- **37 research themes** are presented within **7 disciplinary** fields:
 - Environmental sciences
 - Energy and materials science
 - Life sciences
 - Humanities and social sciences
 - Digital sciences

⁸ See the ANR Financial Regulation: <https://anr.fr/fileadmin/documents/2018/ANR-RF-2018-1.pdf>

⁹ https://cache.media.enseignementsup-recherche.gouv.fr/file/Strategie_Recherche/26/9/strategie_nationale_recherche_397269.pdf

¹⁰ Titles of the France Europe 2020 societal challenges:

1. “Risk Management and Adaptation to Climate Change”
2. “Clean, Safe and Efficient Energy”
3. “Industrial Renewal”
4. “Life, Health and Well-Being”
5. “Food Security and the Demographic Challenge”
6. “Sustainable Urban Transport and Systems”
7. “Information and Communication Society”
8. “Innovative, Inclusive and Adaptive Societies”
9. “Freedom and Security of Europe, its Citizens and Residents”

¹¹ The Programme Planning Advisory Committees (CPP) replaced the former Challenge Scientific Steering Committees in 2018, which were dissolved in November 2017

- Mathematics and its interactions
- Physics of matter, high energy, earth and universe sciences
- **There are 13 research themes covering cross-disciplinary challenges** and integrating issues from various scientific fields.

Each theme of the Work Programme has its own scientific evaluation committee within the Generic Call for proposals. Thus, the composition of committees dealing with cross-cutting or interdisciplinary themes makes it possible to cover all the disciplines involved.

When submitting a proposal, researchers will have to choose the funding instrument that is most suited to the scientific objectives and needs of their proposal, as well as the research theme that matches a scientific evaluation committee.

2. **Specific actions beyond the Generic Call for Proposals (Flash, Challenges, specific calls...)**

Some topics with a strong focus on specific objectives warrant an extremely rapid response or a special arrangement. In order to support an urgent need for research whose scientific relevance is linked to an event or disaster of exceptional magnitude, the ANR has set up an emergency instrument: **the flash call**. The most recent call of this kind was the Covid-19 Flash Call that ran between March and April 2020). A broad publicity campaign (website, social networks, direct mail) in connection with the sudden event is made when a Flash call is decided.

Other topics require pitting teams developing competing approaches against each other in order to overcome major scientific or technological obstacles. The ANR has therefore devised a special scheme: **the Challenge**. The challenge is the subject of a specific call - usually co-funded - that defines its objectives and the type of tests considered.

Specific calls¹² can also be set up beyond the usual timetable of the generic call. These calls correspond to new priorities decided by the state or scientific issues proposed by an external (co-)funder. The latest example of these specific calls is the "Covid-19 Research-Action (RA-Covid-19)" call that was launched in April 2020.

3. **"Building the European Research Area (ERA) and France's International Attractiveness" component**

This component provides French researchers and teams with funding instruments to enhance the profile and attractiveness of French national research and help build the European Research Area (ERA). These are actions that clarify or complement those implemented under the Horizon 2020 programme. They aim to stimulate high-level research partnership dynamics and to develop the leadership capacity of French teams in European and international programmes.

The societal challenges of the SNR that form the backdrop of the 2021 Work Programme have a strong European and international dimension because they have been designed, sector by sector, in coherence and complementarity with the societal challenges of the Horizon 2020 European Framework Programme. The multilateral content of several of them have been designed in connection with European and international programmes.

It should also be noted that in addition to the PRCI bilateral instrument of the "Research and Innovation" component, bilateral agreements between the ANR and foreign agencies make it possible to set up strategic partnerships or to facilitate certain international collaborative efforts in a research area without borders. (See [§D.5](#), [§D.6](#) and [§D.7](#)).

¹² Specific calls are scheduled during the course of a year and announced on the Agency's website. The "ANR newsletter" provides regular news updates about the Agency.

The "Building the ERA and France's International Attractiveness" component of the 2021 Work Programme consists of several dedicated funding instruments, some of which are subject to a specific call for proposals:

- *"Establishing European or International Scientific Networks" (MRSEI)* which aims to strengthen the position and outreach of French research on the European and international scene (specific call: see [§D.5](#)).
- *"Springboard-ERC" (T-ERC)* which aims to reinforce the success of French researchers for the "Starting grants" and "Consolidator grants" calls for proposals of the European Research Council (ERC). (specific call: see [§D.6](#)).

In addition to these two dedicated instruments, the ANR finances French teams within the framework of strategic bilateral partnerships or through multilateral programmes such as Joint Programming Initiatives (JPI), European and Horizon 2020 instruments (such as ERA-NET COFUND), but also within the framework of other multinational actions on major global challenges (G8 research, Belmont Forum, etc.) (see [§D.7](#) and Tables 2 and 3 for the provisional summary of these international calls; the list of open and forthcoming calls is available on the ANR website).

4. "Economic Impact of Research and Competitiveness (IERC)" component

The aim of this component is to stimulate partnerships with businesses and the transfer of public research results to the economic world. The proposed actions strengthen cooperation and partnerships and make it possible to exploit public research results. As a result, they aim to encourage companies' R&D efforts by encouraging them to invent and innovate.

These actions hinge on increasing technological maturity (Technology Readiness Level - TRL), but also more or less enhanced integration of these inter-sectoral partnerships. Moreover, following the observation made in France that a relatively small number of SMEs and mid-caps offer service or product innovations because of the difficulties they have in forging links with the public research sector, certain actions are specifically geared towards these SMEs and mid-caps.

The IERC component is based on specific programmes:

- *LabCom (Joint Laboratory)*: to create and consolidate joint laboratories co-built between a public research laboratory and a small or medium-sized enterprise (SME) or an intermediate-sized enterprise (mid-cap). The technological maturity of the projects is intermediate. (See [§D.1](#)).
- *Industrial Chairs*: by creating chairs that are co-built and co-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 for which TRL levels are still low. (See [§D.2](#)).
- *Carnot Institute*: to develop contractual research between public research organisations and the socio-economic world. (See [§D.3](#)).

Partnership between businesses and public research is also encouraged in the "Research and Innovation" component (Generic Call for Proposals) through the instrument "Collaborative Research Projects Involving Enterprises (PRCE)" (see [§C.2-3](#)).

All these actions are determined with organisations that transfer academic research, which are funded under the Future Investments Programme (PIA) such as the SATTs (Technology Transfer Accelerator Offices), but also with public organisations closely linked to the socio-economic sector. Thus, as in the past, ANR calls will be opened in 2021 for labelling by competitive clusters.

A.5) Other funding opportunities, partnerships and co-funding

Consistent with its mission as a funder of project-based research, the ANR establishes partnerships with other funders (see [Table 4](#) in the appendix) such as:

- the French Agency for Biodiversity (AFB),
- the Defence Innovation Agency (AID),
- the General Directorate for Healthcare Provision (DGOS) of the Ministry of Solidarity and Health
- the M d ric Alzheimer's Foundation (FMA)
- the Ministry of Agriculture and Food (MAA)
- the Ministry of Ecological and Solidarity Transition (MTES)

These particularly valuable partnerships represent opportunities for funding or co-funding projects that complement the ANR's own operating budget.¹³ Examples include *the Astrid* and *Astrid Maturation* programmes, dedicated to dual research and implemented by ANR with funding from AID (Defence Innovation Agency) (see [SD.4](#)).

More recently, the ANR has partnered with the Medical Research Foundation (FRM), the Fondation de France (FdF) and R gions de France to co-fund the Flash Covid-19 and RA-Covid-19 calls.

The ANR has also forged partnerships with very large research infrastructures (TGIRs) or competitive clusters that can provide support for research projects funded by the Agency. For example, resource requests may be made to GENCI (*Large National Intensive Computing Facility*) for access to computing and storage resources for needs in digital simulation, massive data processing or artificial intelligence. Similarly, a label can be requested prior to submitting a proposal in order to benefit from the support and follow-up of the competitive clusters.

Finally, it is worth recalling that other public bodies provide project-based funding and organise their own calls for proposals, such as the French National Cancer Institute (INCa) or the French National Agency for Research on AIDS and Viral Hepatitis (ANRS). For the sake of efficiency, projects covered by these calls for proposals are not intended to be funded by the ANR. Thus, the eligibility of projects submitted to the ANR, regardless of any of the 2021 Work Programme call for proposals, and relating to themes likely to be supported by other funding organisations or agencies, will be jointly determined by the ANR and these bodies.

A.6) The values and commitments of the 2021 Work Programme

1. Scientific integrity

The ANR, a signatory to the National Charter of Ethics for Research Professions and in accordance with the March 2017 circular¹⁴ on the scientific integrity policy, ensures that the principles of this charter are respected for all actions programmed in the 2021 Work Programme.

In this respect, the ANR's Charter of Ethics has been revised and extended to include scientific integrity.¹⁵ The Agency will ensure that its beneficiaries adhere to all the rules and values that must govern research activity to guarantee honesty and scientific rigour. Maintaining society's trust in the research ecosystem hinges on respecting these principles.

This Charter is also backed by the appointment of an ethics and scientific integrity contact who will

¹³ Co-funding means that part of the aid allocated to the project (on the basis of the initial application) comes from an ANR partner. This is usually not additional funding.

¹⁴ Circular No. 2017-040 of 15-3-2017 - MENESR - DGRI - SPFCO B2.

¹⁵ <https://anr.fr/fr/lanr-et-la-recherche/engagements-et-valeurs/lintegrite-scientifique/>

ensure compliance with the fundamental principles, the prevention and proper management of links and conflicts of interest, and training of staff within and outside the Agency.

2. Gender

The ANR, keen to contribute to the implementation of a policy¹⁶ aimed at reducing inequalities between women and men in higher education and research, has integrated the principle of equality in its Charter of Ethics and Scientific Integrity. The aim is twofold:

- to encourage scientific communities to systematically consider the sex and/or gender dimension in their research, irrespective of the field, in order to produce quality knowledge;
- to train evaluators on gender issues in selection bias in order to ensure projects are considered with fairness, whether they are carried out by women or men.

Furthermore, in order to combat the mostly predominant male representation in science and to encourage young women to invest in fields in which they are absent or sparse, the ANR undertakes to value women of science who have obtained ANR funding or who have participated in scientific evaluation committees as chairs or committee members.

3. The Nagoya Protocol

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation, pertaining to the Convention on Biological Diversity was adopted on 29 October 2010. It contributes to the conservation of biological diversity and the sustainable use of its components, and to enhancing the contribution of biological diversity to sustainable development and human well-being.

The Nagoya Protocol thus significantly advances the third objective of the Convention by providing greater legal certainty and transparency for providers and users of genetic resources. European Regulation 511/2014 and French Act 2016-1087 determine the application modalities for the Protocol.¹⁷

Two control points are defined as follows:

- i) at the stage of funding research work under the supervision of the Ministry of Higher Education, Research and Innovation and
- ii) at the stage of final product development under the supervision of the Ministry of Ecological and Solidarity Transition (MTES).

In this respect, the ANR must obtain Due Diligence Declaration (DDD) receipts for the research projects it funds. This measure is applicable for projects funded in 2019 or 2020, and applicants in the 2021 calls will be invited to declare any genetic resources that may be potentially used during their projects.

DDDs for research purposes are registered directly online via the dedicated application on the Ministry of Higher Education, Research and Innovation website. Access may be requested from the head of the host institution. All information is available at the following address: <http://www.enseignementsup-recherche.gouv.fr/pid37627/utilisation-ressources-genetiques-associees.html>

¹⁶ Follow-up to the 9th European Conference on Gender Equality in Higher Education & Research – DGSIP – DGRI.

¹⁷ Act on recovery of biodiversity, nature and landscapes (Act No. 2016-1087 of 8 August 2016) and its implementation decree pertaining to access to genetic resources and sharing of benefits arising from their utilisation (Implementation Decree No. 2017-848 of 9 May 2017).

4. Open science: Scientific publications and research data

As part of the ANR's contribution to the promotion and implementation of open science, and in connection with the national plan for open science, the coordinator and the partners undertake to, in case of funding:

- submit the scientific publications (full text) arising from the R&D and innovation project to an open archive, either directly in HAL, or through a local institutional archive, under the conditions of Article 30 of the Act "For a Digital Republic"^{18,19}
- provide, within 6 months of the project start-up, a Data Management Plan (DMP)²⁰ according to the terms and conditions set out in the grant act and the ANR's financial regulations.

Lastly, ANR recommends prioritising publication in open access journals and publications. Finally, as a partner of cOAlition S, ANR recommends the use of the CCBY licence for publications resulting from projects it funds.

5. Commitment of researchers submitting a project

Irrespective of the call for proposals concerned, each scientific coordinator applying for a grant formally undertakes that his or her superiors, especially the competent administrative and financial departments and the persons authorised to legally represent the institution managing the grant, or its representatives, have consented to the application process under way and that the information relating to the application has been communicated to them. The list of submissions registered by the ANR may be sent by the ANR to the laboratory directors and administrative heads of the managing institutions for projects concerning them.

6. Promoting scientific, technical and industrial knowledge and relations between science and society

The ANR encourages the beneficiaries of ANR grants and, where appropriate, members of their consortium to carry out and/or participate in actions to transfer knowledge to citizens and decision-makers: publication of articles in the press, carrying out media interviews, public decision-making support, participation in science festivals, arranging public debates, outreach actions, writing articles in a free online encyclopaedia, etc.

B. Research themes related to the ANR 2021 Generic Call for Proposals (AAPG 2021)

The scientific themes are described in the 2021 Generic Call for Proposals with the associated keywords, associated ERC codes and where applicable the associated SDGs.

B.1) "Environmental Sciences" field

1. Fluid and solid earth
2. Living earth
3. Scientific and technological innovations to support the ecological transition

¹⁸ In this first case, in accordance with Article 30 of the Act "For a Digital Republic" (Article L533-4 of the French Research Code), the authors have exercised their right to make available - upon submission to the ANR - the final version of their manuscript accepted for publication free of charge, in an open format, through digital means.

¹⁹ The open access filing of monographs is also encouraged.

²⁰ One data management plan per funded project. The ANR draws the attention of the coordinators to the importance of considering the issue of data management and sharing from the outset of the project.

4. Biology of animals, photosynthetic organisms and micro-organisms
5. Food and food systems
6. Dynamics of socio-ecosystems and their components for their sustainable management

B.2) “Energy and Materials Science” field

1. Basic energy science
2. Sustainable, clean, safe and efficient energy
3. Polymers, composites, soft matter physics and chemistry, processes
4. Molecular chemistry
5. Metallic and inorganic materials and associated processes
6. Chemistry: analysis, theory, modelling

B.3) “Life Sciences” field

1. Biochemistry of living organisms
2. Characterisation of structures and structure-function relationships between biological macromolecules
3. Genetics, genomics and RNA
4. Cell biology - Developmental biology and evolution
5. Physiology and physiopathology
6. Immunology, infectiology and inflammation
7. Molecular and cellular neuroscience - Developmental neurobiology
8. Integrative and cognitive neuroscience
9. Translational health research
10. Biomedical innovation

B.4) “Humanities and Social Sciences” field

1. Innovation ; work
2. Culture, creations, heritage
3. Cognition, education and training
4. Inequalities, discriminations, migrations

B.5) “Digital Sciences” field

1. Digital foundations: computer science, automatic control, signal processing
2. Artificial intelligence
3. Micro- and nanotechnologies for information and communication processing
4. Software sciences and engineering - Multi-purpose communication networks, high-performance infrastructures
5. Interaction, Robotics
6. Digital models, simulations, applications
7. Quantum technologies

B.6) “Mathematics and its Interactions” field

1. Mathematics

B.7) “Physics of Matter, High Energy, Earth and Universe Sciences” field

1. Physics of condensed matter and diluted matter
2. Subatomic physics and astrophysics
3. Planetology science and structure and history of the Earth

B.8) Cross-cutting fields

1. Human-environment interactions
2. Contaminants, ecosystems and health
3. Infectious diseases and the environment
4. Public health, health and societies
5. Mathematics and digital sciences for biology and health
6. Digital revolution: relationships to knowledge and culture
7. Healthcare technologies
8. Global security, cybersecurity
9. Bioeconomy : chemistry, biotechnology, processes and system approaches, from biomass to usages
10. Urban societies, territories, constructions and mobility
11. Nanomaterials and nanotechnologies for the products of the future
12. Sensors, instrumentation
13. Industry and the factory of the future: People, organisations, technologies.

C. Proposed funding instruments under the Generic Call for Proposals

The ANR 2021 Generic Call for Proposals mobilises several funding instruments to meet the mission it has been assigned in connection with the French public research and innovation policy, and the project-based funding needs of research communities. There are two categories of instruments within the Generic Call for Proposals, whose expectations and characteristics determine key points in the selection and monitoring of related projects:

- The “**individual**” category solely concerns the “Young Researchers” instrument (**JCJC**).
- 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**).

C.1) Young Researchers Instrument (JCJC)

The goal of the JCJC funding instrument is to prepare the new generation of talented young researchers destined to become the future leaders or directors of French scientific research. This involves encouraging young researchers to take responsibility by encouraging them to tackle scientific or technological barriers using novel approaches.

The instrument thus aims to enable the young researcher to acquire scientific autonomy, to develop his or her own research theme, to set up or consolidate his or her own team within or outside the laboratory, to acquire a project-based research culture and to rapidly express his or her capacity for innovation. It is also a springboard for young researchers who, thanks to initial support from the ANR, will find it easier to consider submitting a proposal in response to calls from the European

Research Council (ERC), with a better chance of success.

Aimed at individuals, this instrument provides funding for the young researcher's team only. This instrument is open to researchers from research and knowledge dissemination organisations or institutions. It is not open to non-holders²¹ (*see AAPG 2021 Guide*).

C.2) Funding instruments dedicated to collaborative research

Collaborative projects aim to achieve scientific or technological results by pooling expertise and resources from various national or international public or private research teams or groups. The funding granted thus makes it possible to speed up the proposed research owing to collaborative efforts. These instruments encourage research teams to carry out work for which collaboration has scientific added value, either because it makes the work possible or because it makes it possible to contemplate results that are more ambitious or of superior quality. Interdisciplinary or multidisciplinary research is encouraged.

C.2-1) Collaborative Research Projects (PRC)

The Collaborative Research Projects (PRC) funding instrument is the ANR's main funding instrument. This instrument includes all forms of research projects other than those covered by the PRCI and PRCE instruments.

The collaborative nature of a project is not measured by the mere number of partners involved in the project, but by the skills and know-how applied to a project. In particular, in the case of projects showcasing outstanding scientific originality, a PRC may involve only one laboratory of a research and knowledge dissemination organisation or institution that is eligible for ANR funding.

C.2-2) International Collaborative Research Projects (PRCI)

The ANR works in collaboration with research funding agencies in other countries and proposes agreements to its parent ministry designed to facilitate collaboration between teams in these different countries. These bilateral agreements, which may focus on targeted themes or be open to all research themes funded by the ANR, are focused on priority objectives or geographical areas for limited periods of time, with the exception of the special case of Franco-German cooperation (Elysée Treaty, revised in 2019 in Aachen).

Depending on the case, the standard objectives of these agreements are: (i) to accelerate and develop the collaboration of French researchers with the best international teams on key themes; (ii) to promote partnerships with emerging countries based on themes of mutual interest and shared benefit; (iii) to foster the emergence of transnational teams of excellence by enabling research to be optimally conducted and shared at the global level.

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

The funding instrument "International Collaborative Research Projects" (PRCI) is dedicated to these bilateral collaborations that are established between at least one French partner (a laboratory of a research and knowledge dissemination organisation or institution eligible for ANR funding) and at least one foreign partner (eligible for funding from a foreign funding agency that has signed a bilateral agreement with ANR). Strong synergy is expected between the two partners submitting their proposals and should result in complementarity of scientific contributions from each country

²¹ In the sense of holders of a current (or future) contract linking them to the supervisory authority. The contract may not have started before the agreement.

and a precise identification of real scientific coordinators of projects in each country. For the 2021 Work Programme, the countries concerned by these bilateral agreements are:

- *In Europe: Germany, Austria, Luxembourg, Switzerland.*
- *Internationally: Brazil, Quebec, United States, Hong Kong, Russia, Singapore and Taiwan.*

Table 2 (in the appendix) gives details of the research issues involved in these collaborations.²²

In addition to the agreements linked to the PRCI instrument of the Generic Call for Proposals, bilateral agreements that are strategic for the State are subject to dedicated calls for proposals. Arising from a desire in common with partner agencies, these calls are subject to a dedicated budget and, in most cases, specific evaluation and selection conditions. Information on these specific international collaborations is available on the ANR website.

C.2-3) Collaborative Research Project Involving Enterprises (PRCE)

The funding instrument "Collaborative Research Projects Involving Enterprises" (PRCE) is dedicated to collaborations that are established between at least one laboratory of a research and knowledge dissemination organisation or institution eligible for ANR funding and at least one commercial company involved in R&D.²³

These projects aim to jointly achieve research results that will benefit both parties, by allowing public or private laboratories of research or knowledge dissemination institutions to address new research questions, or to approach them differently, and by giving companies access to better public research in order to improve their capacity for innovation in various ways.

D. Funding instruments subject to specific calls for proposals

The 2021 Work Programme proposes different **funding instruments**, each with specific expected impacts and distinct characteristics in terms of selection and monitoring.

This section is devoted to the presentation of funding instruments that can be used beyond the Generic Call for Proposals. They correspond to specific programmes or calls whose timetables should be consulted on the ANR website, on the publication page of the Work Programme.

1. Specific actions beyond the Generic Call for Proposals (Flash, Challenges, etc.)

Challenges and Flash calls²⁴ are subject to specific calls that define their objectives or the research concerned. Flash calls or Challenges are subject to specific communication when they are set up. To find out the scientific scope and timetables, it is advisable to regularly consult the 2021 agenda on the ANR website.

Since its creation, the Flash instrument has been used on numerous occasions (Haiti Flash, Fukushima Flash, Drones Flash, Ebola Flash, Asylum Flash, Genocides Flash, 2024OG Flash, Sargassum Flash, Covid-19 Flash, etc.).

The rapid intervention modalities make it possible to select and fund projects within a very short

²² List drawn up on the date of publication of the 2020 WP and likely to be completed or amended: applicants are invited to regularly consult the ANR website. Country-specific appendices (available on the ANR website dedicated to the Generic Call for Proposals) describe the eligible themes and the specific procedures for submission and selection. They describe additional conditions for eligibility for the Generic Call for Proposals and must therefore be consulted before any submission to the ANR or to the foreign partner.

²³ See the ANR Financial Regulation for the definition of a business (<http://www.agence-nationale-recherche.fr/fileadmin/documents/2018/ANR-RF-2018-1.pdf>).

²⁴ These calls are referenced on the "open calls" page (<https://anr.fr/en/appels/>) of the ANR website.

period of time, while guaranteeing competitive selection by peers based on the highest standards.

Mostly led by a co-funding partner, the challenges are aimed at selecting and funding several teams that will have to compare their respective approaches during a series of tests, mostly organised in cooperation with the LNE (National Testing Laboratory). For example, the latest challenges implemented concerned the DEtection of FALSifications in images (DEFALS), the Mastery of Indoor Localisation (MALIN), Robotics and Sensors at the Service of Ecophyto (ROSE Challenge).

2. “Economic Impact of Research and Competitiveness” component

One of the ANR's missions is to promote the transfer of the results of public research to the economic world. In addition to projects in collaboration with businesses²⁵ (see “Collaborative Research Projects Involving Enterprises” in §C.2-3) which is the instrument of the generic call that establishes a link with the socio-economic world, the ANR has a series of programmes aimed at boosting partnership between laboratories and businesses under modes of action other than project-based research.

This cross-cutting component brings together three programmes that are subject to specific calls: *LabCom*, *Industrial Chairs* and *Carnot Institute*, as well as two programmes funded entirely by the French Defence Innovation Agency (AID): *ASTRID* AND *ASTRID Maturation*. The instruments of the component all involve the participation of a research organisation(s) and company(ies).²⁴ The eligibility conditions and detailed characteristics of the expected proposals are explained in the corresponding calls for proposals available on the ANR website.

D.1) LabCom

The programme to support the creation of joint laboratories (*LabCom*)²⁶ between public or equivalent research bodies or institutions and small and medium-sized enterprises (SMEs) or intermediate-sized enterprises (mid-caps) aims to develop the potential for industrial partnership and transfer capacity with academic research players, particularly those operating under a non-partnership research activity. The aim of this programme is to help these players establish lasting bilateral partnerships with businesses, especially SMEs and mid-caps, as these links are crucial in the innovation chain. The transfer of results or know-how from public research to such companies can be an important factor in innovation, competitiveness and job creation.

For this programme, which has been open since 2013, ANR is offering €350,000 in funding from the public research laboratory. Setting-up such funding is simple, allowing very quick implementation and greater flexibility in the use of the grant. This programme will continue in 2021 according to the same terms & conditions and criteria as in 2020, including an agreement period extended to 5 years. The programme is subject to a specific call for proposals on a continuous flow basis (two to three evaluation sessions per year). It is advisable to consult the dedicated page on the ANR website. A specific LabCom AI call will be launched in late 2020 as part of the National AI Plan.

D.2) Industrial Chairs

The “*Industrial Chairs*” programme²⁷ aims to mobilise resources to consolidate and strengthen the competitiveness of French companies²⁸ and has a threefold objective:

- To enable French or foreign lecturers-researchers, of international renown and possibly on the move, to work on an ambitious and innovative research programme of indisputable

²⁵ In the sense of a commercial company.

²⁶ In the commercial companies sense; see the dedicated page on the ANR website: <https://anr.fr/fr/actualites-de-lanr/details/news/laboratoires-communs-un-instrument-de-financement-ouvert-au-fil-de-leau/>

²⁷ See the dedicated page on the ANR website: <https://anr.fr/fr/detail/call/chaieres-industrielles-7/>

²⁸ Or carrying out an R&D activity on French soil, i.e. with an establishment or branch in France.

industrial scope.

- To build and structure collaborative scientific research actions in areas that are a priority and strategic for public and private operators involved in the industrial chair through a strong and sustainable partnership.
- To ensure quality research training at the highest international level by including the long-term vision, methodologies and experience of players in the economic world when hosting doctoral or post-doctoral students in academic research laboratories.

This programme is characterised by a call for proposals open to all research themes, on topics defined jointly by the industrial chair's host institution²⁹ and one or more partner companies. The project is led by an eminent scientist, future incumbent of the industrial chair, and is financed equitably between the ANR and the partner companies. The selection process consists of a single application document containing the curriculum vitae of the candidate being considered for the industrial chair. The application is submitted by the institution hosting the chair, in close consultation with the partner company(ies) (which commit themselves in writing when submitting a proposal).

Funding is granted for a period of 48 months, with the ANR's contribution matching that of the companies (cash contribution paid to the host institution). This measure is subject to a specific call for proposals. Researchers are invited to consult the 2020 call for proposals agenda on the ANR website.

D.3) Carnot Institute

Since 2006, the *Carnot* label has been awarded by the Ministry of Higher Education, Research and Innovation to public research organisations known as the "*Carnot Institute*", which are committed to putting partnership-based research, particularly through bilateral contractual research, at the heart of their strategy.

In order to assist and support the convergence of the institutes with socio-economic players, an annual contribution, calculated according to the partnership revenues, is paid by the ANR to *Carnot institutes*. This contribution is dedicated to scientific resourcing, professionalising the partnership relationship and integration to the business world.

With more than ten years of existence and stability, the programme is sustainable over time and is increasingly viewed by companies as being highly credible. Its operation is based on a simple, empowering system with regular ex post evaluations and is unanimously recognised by the academic and socio-economic world for its effectiveness as a vector of technology transfer and innovation. The involvement of members of the *Carnot* Committee, who mostly come from the business world, reinforces this symbiosis and encourages the institutes in this approach.

Finally, in order to ensure that the *Carnot* programme is ramped up and to provide real leverage to the scheme, the "*Valorisation-Instituts Carnot*" (Enhancement of Carnot Institutes) programme benefits from an endowment within the framework of the "Investments for the Future" programme. Three calls for proposals^[2] have been launched in this context, the first on specific actions towards small and medium-sized enterprises (SMEs), the second on specific actions at international level and the third to allow a structuring of supply in response to the demand of economic sectors especially towards small and medium-sized enterprises or industries (SMEs/SMIs) or medium-sized

²⁹ The host institution must be a research partner: public or equivalent partner whose main purpose is to carry out research, such as public institutions for scientific and technical research, or a public scientific, cultural or professional institution, or a public industrial or commercial institution for research, university hospitals, etc.

enterprises (mid-caps) and the establishment of the *Carnot Springboard* scheme to help potential new entrants to upgrade to the level necessary to become a *Carnot Institute*.

D.4) ASTRID and ASTRID MATURATION

The ASTRID (Specific Support for Defence Research and Innovation) and ASTRID Maturation programmes, entirely funded by the French Defence Innovation Agency (AID), are subject to specific calls for proposals managed by the ANR. For these two programmes, the selection is carried out in one step (detailed proposal upon submission).

The ASTRID programme aims to stimulate the opening up of new avenues of research on themes of dual interest (civil and military applications), covering a wide range of disciplines. The aim is to explore scientific or technical hard points and to foster potential technological breakthroughs that benefit Defence, civil research and industry. The importance of the Defence requirement is among the selection criteria (potential spin-offs to be described at the time of submission).

The ASTRID programme is subject to an annual call broadly covering all key areas of the dual research. The organisation and timetable are close to those of the previous year's call (see ANR website³⁰). The launch of one or more complementary thematic calls is possible depending on the needs identified by the Defence agency (in 2020, a thematic call on quantum technologies was set up).

The ASTRID Maturation programme is intended to support the exploitation of scientific work carried out in research support schemes financed by the Defence agency (only eligible projects³¹) of which the projects of the ASTRID programme are a part. The ASTRID Maturation call for proposals has changed its mode of operation. Since 2020, a calendar edition corresponds to several possible submission sessions (quarterly), in order to encourage rapid selection of innovative projects.

3. "Building the European Research Area (ERA) and International Attractiveness" component

In addition to the International Collaborative Research Projects ("PRCI" (see §C-2.2) which constitute the main instrument of bilateral collaboration of the ANR, other types of European and international actions are scheduled under this component:

- Building European or International Scientific Networks (*MRSEI*)
- Springboard-ERC (*T-ERC*)
- Calls for specific European and international proposals (ERA-NET, JPI, Belmont, etc.)
- Strategic bilateral calls aimed at strengthening Franco-German cooperation in particular.

D.5) Building European or International Scientific Networks (MRSEI)

The programme dedicated to "*Building European or International Scientific Network*" (*MRSEI*) aims to facilitate French researchers' access to European (Horizon 2020 and soon Horizon Europe 2021-2027) and international funding programmes. The proposals submitted will therefore have to prefigure an application to a European or international call for proposals.

The objective of the instrument is to strengthen France's scientific position by coordinating a proposal submitted in response to a large-scale European or international call for proposals. Therefore, proposals expected under this call should demonstrate actions to be undertaken to build

³⁰ For more information: <https://anr.fr/fr/actualites-de-lanr/details/news/lessentiel-sur-les-programmes-astrid-et-astrid-maturation-en-3-questions/> and <https://www.defense.gouv.fr/aid/deposer-vos-projets/subventions/astrid>

³¹ For more information on the specific eligibility conditions, refer to the call for proposals documents: and <https://www.defense.gouv.fr/aid/deposer-vos-projets/subventions/astrid-maturation>.

a scientific network of a recognised international level, on subjects of all disciplines and which have a strategic, economic, technological, cultural or societal impact.

In order to be as consistent as possible with European calendars, and to provide a rapid response to project leaders, the MRSEI programme is, since 2018, subject to continuous submission with several evaluation and selection sessions per year.³²

D.6) Springboard-ERC (T-ERC)

The Tremplin-ERC funding instrument (*T-ERC*) is part of the national strategy to strengthen French research and technological innovation and to increase France's scientific outreach and attractiveness internationally. The *T-ERC* programme thus aims to enable young French or foreign researchers attached to a French public research and knowledge dissemination body or institution to submit a new application in response to a *European Research Council* (ERC) proposal for the “*Starting grants*” or “*Consolidator grants*” call, with the best chances of success.

The *T-ERC* programme is subject to two specific calls in 2020 (dedicated respectively to “*Starting grants*” and “*Consolidator grants*”). All applicants who have received an “A” evaluation from the ERC are eligible for ANR funding³³ without further evaluation of their application by the ANR.

D.7) Calls for specific proposals in European or international collaboration

In addition to the relations established with certain agencies at European and international levels in the Generic Call (PRCI instrument), the ANR establishes specific partnerships with foreign funding agencies which translate into specific calls for proposals. Mostly focusing on a specific theme, these actions can be carried out both bilaterally (NSF in the United States, JST in Japan) and multilaterally (CIRCNS/NEUC calls, ORA, or Belmont Forum, etc.).

In connection with the various societal challenges of Horizon 2020, the ANR develops multilateral partnerships with its European counterparts in the framework of European actions such as ERA-NET COFUND, EJP or Joint Programming Initiative (JPI). These actions are complementary to the classic collaborative projects of the framework programmes. With this in mind, emphasis is placed on a multiannual reasoning for prioritising European activities and linking national and European tools. The complementarity rationale of these actions is considered sector by sector and over time.

These actions carried out within the framework of EU programming may also be associated with each other (ERA-NET COFUND/JPI call) or with multilateral initiatives such as those carried out by the Belmont Forum (Belmont Forum/JPI call or ERA-NET COFUND/Belmont Forum call).

Finally, within the framework of strategic bilateral collaborations for the State, the ANR sets up dedicated calls for proposals with partner agencies or organisations. In this context, two Franco-German collaborations on the following themes are scheduled for 2021:

- Humanities and social sciences (ANR/DFG)
- Artificial intelligence (ANR/BmBF)

All international actions are subject to various calls for proposals announced on the ANR website. It is advisable to regularly consult the ANR website for the list of calls in progress (see tables 2 and 3) as well as their specific appendices (submission and eligibility conditions).³⁴

³² More information on the dedicated page on the ANR 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/>

³³ Subject to being able to apply to the same ERC programme within the period covered by ANR funding.

³⁴ ANR calls for proposals: <https://anr.fr/fr/>

E. Appendices

E.1) Table 1: Forecast bilateral collaborations under the Generic Call for Proposals for International Collaborative Research Projects (PRCI)

The **list of confirmed** collaborations will be published on the ANR website dedicated to the Generic Call for Proposals at a later date. Applicants are invited to consult the ANR website before submitting proposals to the ANR or the foreign partner.

Subscribing to the ANR newsletter makes it possible to be informed about new calls.³⁵

Countries (agencies)	Collaborative themes proposed by the ANR in 2021 (to be confirmed after consent of the foreign agency)	Lead Agency	Relevant scientific fields
Brazil (FAPESP)	<ul style="list-style-type: none"> • Mathematics and digital sciences • Humanities and social sciences • Materials • Engineering, chemistry, physics • Environment and biological resources 	ANR	All relevant scientific fields beyond Life Sciences
Brazil (FACEPE)	<ul style="list-style-type: none"> • Mathematics and digital sciences • Humanities and social sciences • Materials • Engineering, chemistry, physics • Environment and biological resources 	-	All relevant scientific fields beyond Life Sciences
Canada (Quebec) (FRQSC)	Social innovations in the face of demographic change and the future of work in the digital age	ANR	Humanities and social sciences
United States of America (NSF)	<ul style="list-style-type: none"> • Physics of living things • Mathematics and digital sciences (subject to conditions) 	ANR NSF (subject to conditions)	Physics Life sciences Mathematics and its interactions
Hong Kong (RGC)	All disciplinary fields funded by the ANR and RGC	-	All non-security-based scientific fields

³⁵ Subscribe to the newsletter: <https://anr.fr/fr/newsletter/>

Countries (agencies)	Collaborative themes proposed by the ANR in 2021 (to be confirmed after consent of the foreign agency)	Lead Agency	Relevant scientific fields
Russia (RSF)	<ul style="list-style-type: none"> • Physics • Humanities - Cultural heritage • Covid-19 pandemic 	-	Physics Humanities Scientific focus: <i>Infectious diseases and the environment</i>
Singapore (NRF)	<ul style="list-style-type: none"> • Materials, nanotechnologies, nanosystems • Information and communication society including quantum technologies and artificial intelligence • Applications of digital technologies to health, sustainable mobility, sustainable cities 	-	Energy and materials science Digital sciences Cross-cutting fields
Taiwan (MOST)	All disciplinary fields funded by the ANR and the Taiwanese agency (excluding Security)	-	All non-security-based scientific fields
Germany (DFG)	All disciplinary fields funded by the ANR and DFG, except humanities and social sciences*	ANR	All scientific fields beyond humanities and social sciences*
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

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

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

*This is a provisional list of actions in which France, via the ANR, is likely to engage.
Additional actions may be set up in H2 2020 or in 2021.*

Applicants are invited to consult the ANR website before submitting proposals to the ANR or the foreign partner.

Subscribing to the ANR newsletter makes it possible to be informed about new calls.³⁶

Countries (agencies)	Collaborative themes proposed by the ANR in 2021 to be confirmed after consent of foreign agency	Relevant Scientific fields
Germany (DFG) SHS	Franco-German call for proposals in humanities <u>and</u> social sciences.	Humanities and social sciences
Germany (BmBF) Artificial intelligence	Artificial Intelligence	Digital sciences Cross-cutting fields
Japan (JST) Within the framework of the CREST programme	The ANR collaborates with the Japan Science and Technology Agency (JST) as part of the Japanese CREST programme. <i>Themes are being defined and will be announced on the ANR website.</i>	Energy and materials science Digital sciences AI

³⁶ Subscribe to the newsletter: <https://anr.fr/fr/newsletter/>

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

This is a provisional list of actions in which France is likely to engage. Additional actions may be set up in H2 2020 or in 2021. Some calls may also be amended or delayed. Applicants are thus invited to consult the ANR website before submitting proposals to the ANR or foreign partners.

Subscribing to the ANR newsletter makes it possible to be informed about new calls.³⁷

Reference	Short description	Relevant scientific fields
JPI AMR / Co-fund JPI AMR-ACTION	1 st call from the ERA-NET Co-fund JPIAMR-ACTION, under the JPI AMR, co-funded by the EC, whose objective is to improve the understanding of the transmission mechanisms of antimicrobial resistance in humans, animals and the environment and to enable the implementation of surveillance measures and interventions to limit the transmission of resistance genes, antimicrobial residue and resistant organisms	Life sciences
JPI AMR / Co-fund JPI AMR-ACTION	Call for "Networks" from ERA-NET Co-fund JPIAMR-ACTION, in the framework of JPI AMR	Life sciences
NEURON	1 st call under the ERA-NET NEURON Co-fund2, which aims to coordinate international and European research in order to reduce the burden of neurodevelopmental diseases on patients and society.	Life sciences
JPND	Call for "working groups" Early detection and evaluation of the progression of neurodegenerative diseases within the JPI JPND, whose objective is to coordinate research aimed at understanding the causes of neurodegenerative diseases, developing treatments and identifying the best ways to care for patients with these diseases.	Life sciences
JPND / JP Co-fund 2	3 rd call from ERA-NET Co-fund JP Co-fund 2 whose objective is to coordinate research aimed at associating pre-diagnostic physiological disorders with the development of neurodegenerative diseases.	Life sciences
ERA PerMed	4 th call from ERA-NET Co-fund ERA PerMed The ERA-NET Co-fund ERA PerMed aims to support the international community conducting	Life sciences

³⁷ Subscribe to the newsletter: <https://anr.fr/fr/newsletter/>

Reference	Short description	Relevant scientific fields
	<p>research in the field of Personalised Medicine. ERA-NET Co-fund ERA PerMed launches calls for proposals on the themes identified in the Work Programme of the International Consortium for Personalised Medicine (ICPerMed).</p> <p>Final theme and title of the call to be announced.</p>	
ERA-HDHL	<p>Call from ERA-NET Co-fund ERA-HDHL, in connection with JPI HDHL</p> <p>“Standardised measurement/monitoring and biomarkers: food intake, physical activity and health”</p> <p>Among other things, the goal is to develop better methods, including new technologies, to assess an individual's diet and physical activity with the goal of adopting a healthier lifestyle.</p>	Life sciences
HDHL-INTIMIC	<p>Call from ERA-NET Co-fund HDHL-INTIMIC, in connection with JPI HDHL (Challenge 2)</p> <p>“Addressing adverse effects of foods, by modifications in food processing and studying underlying mechanisms”</p> <p>This call will address the role of food processing in the potential causes and solutions of the rise of intolerances and allergies in society, as well as understanding their mechanisms.</p>	Life sciences
EuroNanoMed 3	<p>12th call for proposals from the EuroNanoMed network, under the ERA-NET Co-fund EuroNanoMed 3.</p> <p>The objective of EuroNanoMed 3 is to accelerate the maturation of the field of nanomedicine at European level by encouraging collaborations between academic, clinical and industrial researchers and by promoting the transfer of nanotechnologies to clinics and/or companies.</p>	Life sciences
CRCNS (NEUC)	<p>Call for international proposals in computational neuroscience</p>	<p>Life sciences</p> <p>Digital sciences</p>
SUSCROP	<p>2nd call from ERA-NET Co-fund SusCrop, in connection with JPI FACCE.</p>	Environmental sciences

Reference	Short description	Relevant scientific fields
Belmont Forum/Soil resilience	“Towards sustainability of Soils and Groundwater for Society” call within the framework of the Belmont Forum	Environmental sciences
Belmont Forum/SDGs	“Pathways to Sustainable Development Goals (SDGs)” call within the framework of the Belmont Forum (call aimed at setting up preparatory networks)	All fields
BIODIVRESTORE	BIODIVRESTORE call under ERA-NET Co-fund Biodiversa 6 and JPI Water. The call aims to fund projects in the field of conservation and restoration of deteriorated ecosystems and their biodiversity, especially aquatic ecosystems.	Environmental sciences
PRIMA	PRIMA section 2 call as part of the Euro-Mediterranean PRIMA research programme	Environmental sciences
MARTERA	MARTERA call for proposals in connection with COFUND MARTERA and JPI Oceans	Environmental sciences
SARGASSUM	Transnational call whose goal is to fund projects for the development of forecasts and warning systems for stranded sargassum algae	Environmental sciences
Forest value	2 nd call from ERA-NET Co-fund Forest Value	Environmental sciences
ICT-AGRI-FOOD	2 nd call from ERA-NET Co-fund ICT-AGRI-FOOD	Environmental sciences Digital sciences
Aquatic pollutants / TAP	Thematic Annual Programming Action (TAP) on contaminants of emerging concern (CECs), pathogens and antimicrobial resistant bacteria in aquatic ecosystems under ERA-NET Co-fund Aquatic pollutants	Environmental sciences Life sciences Humanities and social sciences
Quant-ERA II	Call under ERA-NET Co-fund Quant-ERA II	Digital sciences
CHIST-ERA IV	“Call 2020”: under ERA-NET Chist-ERA IV	Digital sciences

Reference	Short description	Relevant scientific fields
CHIST-ERA IV / ORD	“Open Research Data” call under ERA-NET CHIST-ERA IV	Digital sciences
FLAG-ERA JTC 2021	Call under ERA-NET Co-fund FLAG-ERA III	Digital sciences Life sciences Energy and materials science
JPI MYBL / EWG	Call for proposals under JPI More Years Better Lives “Equality and Wellbeing across Generations”	Humanities and social sciences
JPI CH	Call on “Cultural Heritage, Identities & Perspectives: Responding to Changing Societies” under JPI Cultural Heritage	Humanities and social sciences
T-AP Transatlantic Platform	Call on "Recovery, Renewal and Resilience in a Post-Pandemic World"	Humanities and social sciences
EJP RD (Rare Diseases)	Call under EJP Rare Diseases “Social sciences and Humanities Research to improve health care implementation and everyday life of people living with a rare disease”	Humanities and social sciences
Solar-Chemistry	“Solar radiation chemistry” call	Energy and materials science
LEAP-RE	Call within the framework of the RIA LEAP-RE “Joint Europe-Africa Energy Programme”	Energy and materials science
JPI Urban Europe / UTC	“Urban Transformation Capacities” call under JPI Urban Europe	Energy and materials science Humanities and social sciences

E.4) Table 4: Partnerships and co-funding under the 2021 Work Programme

All partnerships and co-funding may be amended or supplemented.

Applicants are invited to consult the ANR website before submitting any proposals.

Partner	Main themes that may be concerned by co-funding	Relevant scientific fields
AID French Defence Innovation Agency	Themes of dual civilian and military interest (energy, global security, cyber security, RBCE, etc.)	Energy and materials science Digital sciences Security Life sciences MALIN and DEFALS Challenges Astrid and Astrid Maturation programmes
CNRS French National Scientific Research Centre	Participation in the European GENDER- NET Plus programme for the promotion of gender equality	Humanities and social sciences
DGOS French General Directorate of Health Care Provision	Translational health research (basic research/clinical research synergy)	Life sciences (3.1 to 3.10) and associated cross- cutting aspects (8.1 to 8.5 and 8.7)
FMA Médéric Alzheimer's Foundation	Participation in JPI-JPND on the topic of neurodegenerative diseases	Life sciences
FSP Foundation for Heritage Science	Participation in JPI-CH via the "Conservation, Protection and Uses" call	Humanities and social sciences
JU / Euro HPC Joint undertaking European high- performance computing	Joint funding of the programme EuroHPC	Digital sciences
MAA Ministry of Agriculture and Food	Agroecological plan for France, including Ecophyto aspects	Environmental sciences ROSE Challenge

Partner	Main themes that may be concerned by co-funding	Relevant scientific fields
<p>MESRI Ministry of Higher Education, Research and Innovation</p>	<p>Participation in the European GENDER-NET Plus programme for the promotion of gender equality</p>	<p>Humanities and social sciences</p>
<p>MTEs Ministry of Ecological and Solidarity Transition</p>	<p>Innovative projects in support of public policies, to redefine climate change adaptation policies and determine the conditions for their implementation, in the context of the ecological transition.</p>	<p>Environmental sciences</p>
<p>OFB French Office for Biodiversity</p>	<p>Part of the Ecophyto II+ national plan, including focus 2 “Improving knowledge and tools for tomorrow and encouraging research and innovation” or participation in the Ecophyto-Maturation plan Participation in ERA-Net SusCrop and JPI Waterworks</p>	<p>Environmental sciences</p>
<p>Regions <i>Normandy, Grand-Est, AURA, Hauts de France and Pays de la Loire</i></p>	<p>Themes specific to regions</p>	<p>All scientific fields</p>
<p>SGDSN General Secretariat for Defence and National Security</p>	<p>Topics related to the protection of citizens and the sovereignty of the nation (to be confirmed)</p>	<p>Global security and cyber security</p>
<p>SGPI General Secretariat for Investment</p>	<p>Funding the priority “Production of biopharmaceuticals” as part of the “Bioproduction” Grand Challenge</p>	<p>Life sciences Energy and materials science Environmental sciences</p>