

2027

Generic call for proposals

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STEP 1

DEADLINE

FOR THE SUBMISSION OF PRE-PROPOSALS (PRC, PRME, JCJC)
AND REGISTRATION (PRCI and PRCE)

October, 13th 2026 at 5.00 pm (Paris time)

STEP 2

DEADLINE FOR THE SUBMISSION OF FULL PROPOSALS

The deadline for the submission of full proposals is scheduled for late March 2027. The exact date and time will be specified in the invitation to submit a full proposal (February 2027).

In case of any difference of interpretation, the French version of the present document shall prevail.

Before submitting or registering a project, you must carefully read this entire document, as well as the 2027 AAPG Guide (available in September 2026 on the dedicated 2027 AAPG webpage) and the regulations on the conditions of allocation of ANR funding applicable to the chosen funding instrument (<http://www.anr.fr/RF>).

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For any questions whilst preparing your project registration or submission:

- regarding the **scientific structure** of your application, its eligibility based on the criteria of the call, or its submission/registration on IRIS: aapg.science@anr.fr
- regarding the **administrative and financial structure** of your project, eligibility of expenditure: aapg.adfi@anr.fr

Are you familiar with the 'ANR RDVs'?

These are a series of webinars organised by ANR and aimed at researchers, research managers and institutional stakeholders, to present the specific features of the 2027 Work Programme and upcoming calls for proposals, including the AAPG. The programme and registration details will soon be available on ANR's website.

Did you know that ANR has a portal dedicated to exploring its data?

On [data ANR](#), you can find the key figures of the agency, by call and by theme, including the key figures for the generic call for proposals by scientific theme.

[appelsprojetsrecherche.fr](#) portal: to find out about upcoming calls for proposals run by the ANR and its partners

Search by keywords or by characteristics of your project (e.g. international, in partnership with a company, etc.) and set up alerts to be notified when calls matching your search criteria are published: [appelsprojetsrecherche.fr - Welcome](#)

A. Context and objectives of the 2027 Generic Call for Proposals (2027 AAPG)

The 2027 General Call for Proposals is part of the 'Research and Innovation' component of ANR's 2027 Work programme. It is aimed at all scientific communities and all public or private stakeholders involved in French research, as well as stakeholders from the socio-economic sector – such as associations, foundations and commercial companies. It is designed to enable researchers from various scientific fields to fund their research projects across a wide range of themes, whether finalized or not.

The AAPG applies to all types of research - fundamental, industrial and experimental development -. All types of project are possible: projects targeting original, disruptive or exploratory objectives or concepts; proposals aiming to remove scientific obstacles; projects exploiting data generated by research infrastructures; projects building on previous work and enabling new objectives to be pursued. Consequently, research projects at any TRL/SRL level may be submitted to the AAPG call (see the annexes on the use of [the TRL](#) and [SRL scales](#) to characterise projects submitted or registered under the 2027 call).

A project submitted to the AAPG call may have a duration of 24, 30, 36, 42, 48, 54 or 60 months.

The '*Research and Innovation*' component of the ANR's 2027 Work Programme, covered by the 2027 AAPG, is structured around **57 research themes**:

- **38 research themes** are presented within seven scientific fields:
 - Environmental Sciences (4 themes)
 - Materials and Engineering Sciences (7 themes)
 - Life Sciences (11 themes)
 - Humanities and Social Sciences (7 themes)
 - Digital Sciences (6 themes)
 - Mathematics and its Interactions (1 theme)
 - Subatomic Physics, Space Sciences and Earth Sciences (2 themes)
- **19 research themes** correspond to cross-cutting issues that integrate challenges from several scientific fields, organised into 7 cross-cutting themes:
 - Sustainability Science (1 eponymous theme)
 - Digital Transformation (3 themes)
 - One Health (3 themes)
 - Ecological and Environmental Transition (3 themes)
 - Energy Transition (2 themes)
 - Technological transitions (4 themes)
 - Transformations of socio-technical systems (3 themes)

Each research theme corresponds to a scientific evaluation panel (CES) of the same name.

In step 1, when submitting a pre-proposal (PRC, JCJC and PRME) or registering a project (PRCI and PRCE), scientific coordinators must select the research theme, and consequently the scientific evaluation panel, most closely aligned with their scientific objectives. These research themes are detailed by scientific field or cross cutting in section [§Erreur ! Source du renvoi introuvable.](#) .

Particular attention is paid to the entire research continuum relating to 'disciplinarity' (mono-, multi-, inter- and transdisciplinarity), particularly within the cross-cutting research themes

spanning several disciplinary fields.

The 2027 Work Programme also includes strategic priorities set by the French Government, which have been carried over from the 2026 call, revised or introduced as new: artificial intelligence; SHS at interfaces; quantum technologies; mathematics; neurodevelopmental disorders; exploitation of data generated by IRs, IR*s and OSIs; therapeutic proofs of concept in rare diseases; mental health; PFAS. Each priority is addressed within one or more scientific themes (see the section on [Strategic Priorities](#)).

B. Submission, evaluation and funding of projects under the 2027 AAPG

The generic call for proposals is open to all tenured researchers affiliated with a public or private research organisation. ‘Tenured’ is to be understood as meaning researchers holding a current or forthcoming contract binding them to the managing authority for at least the duration of the project¹.

Regardless of the funding instrument, the project must include *at least* one organisation participating in the public research service, i.e.:

- at least one public-law partner engaged in research and knowledge dissemination (such as an EPST, university, research EPIC, etc.) established in France and applying for ANR funding;
- or at least one private-law partner engaged in research and knowledge dissemination, applying for ANR funding, having an establishment or branch in France and not being a commercial company².

Regardless of the funding instrument applied for, submitting or registering a project under the 2027 Generic Call for Proposals (AAPG) as a coordinator or partner’s scientific manager is compatible with funding under a Junior Professorship (CPJ), even where the remaining duration of the CPJ at the time of submission or registration does not cover the entire duration of the project.

If the project is selected for funding, validation of the project by the administering institution will constitute an agreement in principle confirming that the coordinator or partner’s scientific manager will have a contract, and therefore a source of remuneration, covering the period of the project not covered by the CPJ.

B.1. Funding instruments

The 2027 AAPG mobilises a range of instruments to fund:

- either research projects built around one coordinator, via the ‘young researcher’ (JCJC) and ‘single-team research project’ (PRME) instruments;
- or collaborative research projects (PRC), aimed at engaging with the socio-economic sector (PRCE), or in a bilateral international context (PRCI).

As part of the 2027 Work Programme and its efforts to strengthen its support for European priorities, ANR supports researchers in developing their research strategies, by encouraging the transition from a

¹ The contract may not have started prior to the agreement. The salaries of the coordinator and the partners’ scientific managers are not eligible for ANR funding.

² For the purposes of this call for proposals, Consular Higher Education Institutions (EESC) are not considered to be commercial companies.

national to a European research dynamic, and by aligning the requirements of the AAPG instruments with those of the European Horizon Europe calls:

- *the international visibility of laboratories, the involvement of early-career researchers and/or the establishment of links with one or more socio-economic partners are becoming new eligibility criteria for the PRC instrument;*
- *the PRME instrument is refocused on the coordinator, who, when submitting their project to the AAPG, undertakes to submit a project in response to a Horizon Europe call during their PRME project;*
- *the JCJC and PRCI instruments offer funding opportunities to complement projects selected in previous editions of the call – namely ‘Percée JCJC’ and ‘Jeton MRSEI’ – aimed at supporting research teams in securing European funding. See the 2027 Work Programme for a description of all the instruments under the ‘PAPFE’ (National Action Plan to Improve French Participation in European Research and Innovation Funding Schemes).*

Applicants are invited to carefully read the descriptions of the 2027 AAPG funding instruments below before submitting or registering to the call, in order to understand their objectives, submission procedures, and specific eligibility and evaluation criteria.

In Step 1, when submitting a pre-proposal (PRC, JCJC and PRME instruments) or registering a project (PRCI and PRCE instruments), coordinators must select the funding instrument best suited to their objectives and the composition of their partnership or team.

Coordinators therefore define the partnership within the framework of the collaborative instruments, as well as the role of each member within the partnership: coordinator, partner’s scientific manager³, or participant. The coordinator acts as the scientific lead for the coordinating partner. It should be noted that, within the framework of a PRCI project, it is mandatory to appoint two coordinators: one to coordinate the French part of the project and one to coordinate the foreign part of the project.

During the selection process, the identity of the project coordinator⁴, the funding instrument and the research theme defined when submitting a PRC / PRME / JCJC pre-proposal, or when registering a PRCI or PRCE, or when submitting a PRCI to a foreign agency acting as the lead agency, cannot be changed. Consequently, before submitting or registering a project, coordinators must carefully read the 2027 AAPG Guide⁵, and the scientific content of the research themes provided in [section Erreur ! Source du renvoi introuvable.](#)

As the scope of the research themes may have changed since the last edition of the call for proposals, it is essential to ensure that your project is appropriate for the chosen research theme, including in the case of resubmitting a project.

‘Young Researcher’ (JCJC)

³ Please note that the same person may not act as the scientific manager for two partners within the same project.

⁴ This rule applies except in cases of force majeure. A specific request must then be made to ANR, setting out the circumstances of force majeure requiring a change of coordinator, so that a decision can be made on the ‘force majeure’ aspect.

⁵ Document available in September 2026 on the webpage dedicated to the 2027 Call for Proposals (AAPG 2027). The 2027 Call for Proposals Guide serves as the reference document for researchers wishing to submit a project, as well as for committee members and experts, covering project submission, eligibility, evaluation, selection and funding.

Objectives

The aim of the JCJC funding instrument is to prepare the next generation of talented young researchers by encouraging them to take on responsibility and to overcome scientific or technological barriers through original approaches.

This funding instrument thus aims to enable young researchers to achieve scientific autonomy, develop their own research topic, build a team around that topic, acquire a culture of project-based research and rapidly demonstrate their capacity for innovation. It also serves as a springboard for young researchers who, thanks to initial support from ANR, will be more willing to consider submitting a project in response to calls for proposals from the European Research Council (ERC).

Focused on the individual⁶, this funding instrument provides funding solely for the young researcher's team and requires a high level of involvement from the coordinator. This instrument is open only to researchers from research organisations participating in the public research service⁷.

The team formed around the early-career researcher to carry out the project may need to include researchers from their laboratory or institution, at national and/or international level, with the resulting team thus possessing all the skills required to achieve the objectives.

Eligibility criteria specific to the funding instrument

To qualify as a 'young researcher', the applicant must have defended their doctoral thesis (or defended any degree or qualification equivalent to the international PhD standard) less than 10 years ago, i.e. on or after 01 January 2016.

Furthermore, eligibility for the 'young researcher' instrument is limited to five years after taking up a position⁸ in an organization participating in the public research service, i.e. after 01 January 2021⁹.

Funding under the JCJC instrument may only be obtained once during a researcher's career.

A coordinator of a JCJC project currently funded by the ANR may not act as coordinator of another PRC, PRME or JCJC project submitted under the 2027 AAPG call, or a PRCE or PRCI project registered under the 2027 AAPG call, or a 2027 FRAL SHS project, for the entire duration of their JCJC project¹⁰.

⁶ A change of coordinator is not permitted whilst a JCJC is being carried out.

⁷ i.e. a public-law partner engaged in research and the dissemination of knowledge (such as an EPST, university, research EPIC, etc.) established in France, or a private-law partner engaged in research and the dissemination of knowledge with an establishment or branch in France and which is not a commercial company. For the purposes of this call for proposals, Consular Higher Education Institutions (EESC) are not considered to be commercial companies.

⁸ The term 'taking up a position' should be understood as taking up a post as a lecturer-researcher or as a permanent researcher within an institution participating in the public research service, in France or abroad. Excluding postdoctoral contracts, engineering posts, and teaching posts without research responsibilities (i.e. PRAG). Any probationary period or traineeship is included.

⁹ Exceptions are provided for these two eligibility criteria for the funding instrument. The following events may be taken into account and are cumulative: maternity/paternity leave, parental leave, parental presence leave, long-term sick leave (exceeding 90 days), national service, and integrated dual degree programmes. The deadline is extended by a period corresponding to the actual duration of the event, or by four years in the case of an integrated dual degree programme. Furthermore, for women, the deadline is extended by one year per dependent child. Supporting documentation for exemptions must be submitted online when submitting the pre-proposal in step 1.

¹⁰ Submission as a coordinator is permitted in the final year of a JCJC project, provided that the current project has a

It should be noted that a researcher eligible to the JCJC instrument (respecting the deadline for the doctoral thesis defence and the date of first employment) **is not required to apply for this funding instrument** if their project does not meet the objectives of the JCJC funding instrument, due to its size, the partnership established, or the scientific autonomy already acquired by the coordinator (see §B.6, evaluation sub-criterion specific to the JCJC instrument: *‘Project contribution to the empowerment and team development of the coordinator’*).

Single-Team Research Project (PRME)

Objectives

New 2027

The PRME funding instrument is designed to support a researcher who brings together a team to work on a project of remarkable ambition, with a view to aligning their research strategy with European calls for proposals. The PRME project, as designed – with its ambition and the pooling of expertise by the assembled team – thus becomes a catalyst for submitting a proposal to Horizon Europe (see §B.6, evaluation sub-criterion specific to the PRME instrument: *‘Strategy for the dissemination and exploitation of results; promotion of scientific, technical and industrial culture; contribution of the project to the coordinator’s strategy for targeted European calls’*).

Focused on the individual¹¹, this instrument provides funding solely for the coordinator, a researcher from a research institution participating in the public research service¹², and requires a high level of involvement in the project.

The team brought together by the coordinator to carry out the project may include researchers from their laboratory or institution, as well as national or international collaborators, provided that this team possesses all the skills necessary to achieve the scientific objectives (see §B.6, evaluation sub-criterion for the PRME funding instrument: *‘Quality and expertise of the team’*).

Eligibility criteria specific to the funding instrument

A coordinator of a PRME project currently receiving funding may not act as coordinator of another PRME project for the entire duration of their PRME project¹³.

A PRME project must correspond to one of the themes in the ANR's field of intervention which does not overlap with those of other funding agencies, in particular INCa and ANRS-MIE. The assessment of the eligibility of projects addressing themes supported by these organisations – notably cancer, AIDS, viral hepatitis and tuberculosis – is carried out jointly by the ANR and either the INCa or the ANRS-MIE.

scientific end date prior to 31 December 2027.

¹¹ A change of coordinator is not permitted whilst a PRME is being carried out.

¹² i.e. a public-law partner engaged in research and the dissemination of knowledge (such as an EPST, university, research EPIC, etc.) established in France, or a private-law partner engaged in research and the dissemination of knowledge with an establishment or branch in France and which is not a commercial company. For the purposes of this call for proposals, Consular Higher Education Institutions (EESC) are not considered to be commercial companies.

¹³ Applications may be submitted as a coordinator during the final year of a PRME project, provided that the current project has a scientific end date prior to 31 December 2027.

Specific conditions for scientific monitoring of projects

New 2027

Any coordinator of a PRME project funded under the 2027 AAPG undertakes to submit an application to a European call for proposals during the duration of the PRME project and up to a maximum of one year following the scientific end date of the PRME project:

- as a coordinator, WP leader or partner's principal investigator;
- across all ERC calls, the Marie Curie 'MSCA Doctoral Networks' and 'MSCA Staff Exchanges' schemes, Pillar 2 schemes (excluding Partnership, CoFund and CSA schemes without research activities), Pillar 3 schemes, and calls for research projects from other Directorates-General of the European Commission¹⁴.

Proof of submission to one of the calls listed, in accordance with one of the specified roles, must be provided to ANR in accordance with the procedures set out during the administrative and financial monitoring of the PRME project. **This proof is a condition for the payment of funding to the PRME project funded by ANR.**

Prior to submitting a PRME project, all applicants are advised to contact their institution and the support service for European project submissions to plan ahead for their future PRME and European project submissions, ensuring they form a seamless continuum.

Collaborative Research Project – Enterprise (PRCE)

Objectives

The 'Collaborative Research Project – Enterprise' (PRCE) funding instrument is dedicated to effective collaborations¹⁵ established between at least one institution participating in the public research service¹⁶ **and** at least one commercial company conducting R&D work in France¹⁷ (see [SB.6](#), evaluation sub-criterion applicable to the PRCE instrument: 'Quality of the consortium and complementarity of contributions').

This collaboration, whether prior to the submission of a PRCE project or newly materialized by the submission of this PRCE project, aims to jointly achieve research outcomes that benefit both parties, (1) by enabling research institution laboratories to tackle new research questions, or to approach them differently, and (2) by enabling commercial companies conducting R&D to access higher-calibre 'academic' research in order to enhance their capacity for innovation in various ways. PRCE collaboration must therefore have an innovation objective for the socio-economic sphere, as specified in the project (see [SB.6](#), evaluation sub-criterion dedicated to the PRCE

¹⁴ The list of relevant European calls and instruments may be revised in the event of a revision of the European programme.

¹⁵ Effective collaboration involves jointly defined objectives, and the sharing of expertise, tasks, risks, results and even intellectual property.

¹⁶ i.e. at least one public-law partner engaged in research and the dissemination of knowledge (such as an EPST, a university, a research-focused EPIC, etc.) established in France, or at least one private-law partner engaged in research and the dissemination of knowledge with an establishment or branch in France, which is not a commercial company. For the purposes of this call, Consular Higher Education Institutions (EESC) are not considered to be commercial companies.

¹⁷ This includes large, small and medium-sized companies whose project-related R&D work is carried out in France. Commercial companies whose registered office is 'outside France' must therefore have an establishment or branch in France.

instrument ‘Action for the transfer of technology and innovation to the socio-economic world; promotion of scientific, technical and industrial culture’): the generation of knowledge through the PRCE project leads to the creation of value in the short, medium or long term for the ‘commercial company’ partner.

The project may be coordinated by the ‘research institution’ partner or by the ‘commercial company’ partner.

Provided that it involves at least one ‘public research institution’ partner **and** at least one ‘commercial company’ partner (see the specific eligibility criteria for this instrument below) collaborating effectively, the PRCE partnership may include other categories of partner, whether foreign or French (associations, foundations, local authorities, hospitals, etc.). If these partners are self-funded, they may contribute skills, knowledge, data, human resources and/or equipment that support the scientific objectives, without themselves carrying out research tasks.

New 2027

Under the PRCE scheme, the ANR and the ANRT are introducing a simplified procedure for any commercial company involved in a PRCE project which, when submitting its full proposal in step 2, indicates a need for ‘CIFRE thesis’ human resources. Should the PRCE project be selected for funding under the 2027 AAPG, the ANRT will not carry out a duplicate scientific assessment of the application, basing the funding for the ‘CIFRE PhD’ on the scientific assessment carried out by the AAPG evaluation panel.

For PRCE projects that indicated a request for a CIFRE thesis at submission, applicants must submit a request for support to the ANRT upon notification of selection by the ANR and no later than 12 months following the date on which expenditure becomes eligible for funding by the ANR, in accordance with the procedures required by the ANRT (including clear identification of the PRCE project selected by the ANR and giving rise to the application for a CIFRE thesis). Compliance with this deadline for notification to the ANRT will ensure that the CIFRE thesis is carried out during the initial duration of the PRCE project, in line with the PhD student’s involvement in the delivery of the project’s outputs.

Specific submission procedures

In Step 1, PRCE projects are required only to register their intention to submit. No scientific document is therefore required at this step. The coordinator completes the scientific description form for their project and the administrative form online via the submission and registration website. This registration is subject to a check of eligibility against the criteria applicable in Step 1 (in particular the ‘limited coordination’ and ‘limited participation’; see [§B.2. Eligibility](#)). Provided they meet the eligibility criteria in Step 1, PRCE projects are automatically invited to Step 2 of the call, without evaluation of their value by the scientific evaluation panels.

Eligibility criteria specific to the instrument

Any PRCE project must involve at least one ‘commercial company’ partner¹⁸ (large, small and medium-sized company) with its registered office in France or with an establishment or branch in France. As such, consular higher education institutions (EESC), private higher education institutions of general interest (EESPIG), public industrial and commercial establishments (EPIC), commercialisation subsidiaries of ORDCs, SATTs, technical centres, private healthcare institutions of collective interest (ESPIC), economic interest groups (GIE), associations or foundations do not meet the criteria for a partner defined as a ‘commercial company carrying out

¹⁸ The definition of a PRCE project is therefore not based on the European dichotomy of ‘research organisation’ versus ‘enterprise’ set out in the Financial Regulation, but on the partner category of ‘commercial company’.

R&D in France’ in a PRCE project, even if they may be categorised as ‘enterprises’ within the European meaning.

Any project invited to step 2 of the call that includes a ‘commercial company’ partner and/or a non-EU partner is subject to an opinion from the HFDS with regard to the PPST (see §D.7). Consequently, PRCE projects invited to step 2 of the call are **systematically** subject to an opinion from the HFDS. A negative opinion from the HFDS will prevent the project from receiving funding at the end of the evaluation process. Consequently, coordinators of a PRCE project are invited to contact the departments responsible for implementing the PPST within their institutions in order to find out in advance about the eligibility of their project with regard to the PPST.

Collaborative Research Project – International (PRCI)

Objectives

The ANR works in collaboration with research funding agencies in other countries and provides agreements facilitating collaborations between teams from these various countries to its supervisory ministry. These bilateral agreements, which may cover specific themes or be open to all research topics funded by the ANR, focus on priority objectives or geographical areas for limited periods.

The objectives of these agreements are:

- to accelerate and develop collaborations between French teams and leading international teams on key themes;
- to promote partnerships with emerging countries on topics of mutual interest and shared benefits;
- to foster the emergence of transnational teams of excellence by enabling research to be conducted and shared at the highest global level.

The ‘Collaborative Research Project - International’ (PRCI) funding instrument is dedicated to these bilateral collaborations established between at least one participating public research institution¹⁹ applying for funding from the ANR **and** at least one foreign partner eligible for funding from a foreign funding agency that has signed a bilateral agreement with the ANR.

Strong synergy is expected between the partners submitting the project and must be demonstrated through the complementary nature of the scientific contributions of each country and a clear identification of a scientific coordinators for each country, one on the French side and one on the foreign side.

Specific submission and evaluation procedures

Collaborations open to the PRCI instrument can take 3 submission and evaluation modalities:

- ‘ANR *Lead Agency*’ modality: the ANR is responsible for the main submission and evaluation of projects. These collaborations require the registration of the project to the ANR in step 1 of the AAPG call, then the submission of a full proposal to the ANR in step 2. The foreign

¹⁹ i.e. at least one public-law partner engaged in research and knowledge dissemination (such as an EPST, university, research EPIC, etc.) established in France, or at least one private-law partner engaged in research and knowledge dissemination with an establishment or branch in France and which is not a commercial company. For the purposes of this call, Consular Higher Education Institutions (EESC) are not considered to be commercial companies.

partner may be required to submit a copy of the project to the foreign funding agency, in accordance with its schedule and procedures.

- ‘Foreign Agency as Lead Agency’ modality: the collaborating funding agency is responsible for the main submission and evaluation of projects. The collaborations in question do not require the project to be registered during step 1 of the AAPG. However, a copy of the project as submitted to the foreign agency must be provided to ANR within a specific schedule.
- ‘Non-Lead Agency’ modality: projects are submitted to both funding agencies, in accordance with the schedule and procedures of each agency. The evaluation is carried out by each funding agency according to its own evaluation process and timetable. Such collaborations therefore require the project to be registered to ANR from Step 1 of the AAPG call, followed by the submission of a full proposal to ANR in Step 2.

Regardless of the type of PRCI collaboration targeted, selection for funding is made by joint agreement between the two funding agencies, and each agency funds the teams in its own country, in accordance with its own funding procedures.

[Annex 4](#) provides a provisional overview of the PRCI collaborations to be opened under the 2027 AAPG, the relevant research themes, and the terms and conditions of the collaborations. If you wish to submit a PRCI project, you should **check, upon publication of the dedicated PRCI annexes** (from September 2026 on the webpage dedicated to the 2027 Call for Proposals), **whether the collaboration has actually been opened, the confirmed research themes and the modality.**

Eligibility criteria specific to the funding instrument

The consortium must include at least one institution participating in the public research service²⁰ applying for funding from the ANR for the French part, **and** at least one foreign partner covered by the bilateral agreement applying for funding from the foreign funding agency. Two scientific coordinators must be identified: one for the French part **and** one for the country concerned by the bilateral agreement.

A copy of the project must be submitted to ANR or to the foreign agency, depending on whether the PRCI collaboration in question follows the ‘ANR Lead Agency’ or ‘Foreign Agency Lead Agency’ modality, within the timeframe and in accordance with the procedure specified by the funding agency. **It is therefore important to identify the PRCI collaboration modality – ‘ANR lead agency’, ‘Foreign Agency lead agency’ or ‘non-lead agency’ – in order to plan the steps to be taken with the ANR and any steps to be taken with the foreign agency.**

Any project invited to Step 2 of the call that includes a ‘commercial entity’ partner and/or a non-EU foreign partner is subject to an opinion from the HFDS with regard to the PPST (see [§D.7](#)). Consequently, PRCI projects based on a non-EU collaboration that are invited to Step 2 of the call are **systematically** subject to an opinion from the HFDS. A negative opinion from the HFDS will prevent the project from receiving funding at the end of the evaluation process. Consequently, coordinators of a PRCI project are invited to contact the department responsible for implementing the PPST within their institutions in order to find out in advance about the eligibility of their project with regard to the PPST.

²⁰ i.e. at least one public-law partner engaged in research and knowledge dissemination (such as an EPST, a university, a research EPIC, etc.) established in France, or at least one private-law partner engaged in research and knowledge dissemination with an establishment or branch in France and which is not a commercial company. For the purposes of this call for proposals, Consular Higher Education Institutions (EESC) are not considered to be commercial companies.

In addition to the eligibility criteria applicable to all AAPG funding instruments, there are criteria specific to each PRCI collaboration applied by the ANR, as well as specific eligibility criteria applied by foreign funding agencies. A PRCI project must therefore meet **both** the ANR's eligibility criteria **and** those of the foreign funding agency²¹.

Collaborative Research Project (PRC)

Objectives

The 'Collaborative Research Project' (PRC) funding instrument is the main funding instrument of the AAPG call. It includes all forms of multi-partner research projects other than those covered by PRCI and PRCE. The partners involved pool their expertise and resources to jointly carry out work that offers scientific added value, either by making the work possible or by enabling results of a higher standard or greater ambition to be achieved.

The PRC partnership involves at least two partners²² collaborating effectively²³, one of which must be an 'institution participating in public-service research²⁴' and applying for funding from the ANR. Any other partner(s) may be an institution participating in the public research service, a foreign partner using its own funds, a commercial company using its own funds (established in France or having a branch in France), or any other category of partner (association, foundation, local authority, hospital, etc.)²⁵.

In addition to the minimum of two partners actively collaborating, other partners may contribute skills, knowledge, data, human and/or material resources that support the project's scientific goals without actually carrying out their own research tasks.

Eligibility criteria specific to the funding instrument

New 2027

Any PRC project must include *at least* two partners, at least one of which must be a 'public research institution' applying for ANR funding. In addition to this minimum requirement, the PRC partnership as recorded on IRIS at the closing date and time for submission must meet **at least one of the following three criteria**:

- PRC involving a young researcher as a partner's scientific manager: the partner's scientific manager of one French partner 'institution participating in the public research service' meets the expectations of the JCJC instrument in terms of date of thesis defense and the date he/she took up his/her post, including any possible exemption from these dates as applicable to the JCJC

²¹ Specific annexes for each PRCI collaboration will be available on the web page dedicated to the AAPG 2027. These will set out: the eligible research themes, the specific procedures for submission and evaluation, and any additional eligibility criteria. It is therefore essential to consult these annexes before submitting any application to the ANR and/or the foreign agency.

²² A PRC may involve two teams from the same laboratory, provided that there is effective collaboration between the teams, with each team then being considered a partner in the collaborative project, provided that it meets one of the three possible criteria set out in the PRC instrument.

²³ An effective collaboration refers to jointly defined objectives, and the sharing of expertise, tasks, risks, results and even intellectual property.

²⁴ i.e. at least one public-law partner engaged in research and the dissemination of knowledge (such as an EPST, a university, a research-focused EPIC, etc.) established in France, or at least one private-law partner engaged in research and the dissemination of knowledge with an establishment or branch in France and which is not a commercial company. For the purposes of this call, Consular Higher Education Institutions (EESC) are not considered to be commercial companies.

²⁵ A list of the different types of partner is available in [Annex 2](#).

instrument (see JCJC description in the [dedicated section](#))²⁶ ;

AND/OR

- PRC involving an international partner: the partnership includes a foreign partner funded from its own resources;

AND/OR

- PRC involving a socio-economic partner: the partnership includes a socio-economic partner, i.e. a partner that does not meet the criteria for a 'public research institution': an association, a foundation, a technical centre, a private healthcare institution serving the public interest (ESPIC), an economic interest group (GIE), a commercial company using its own funds (established in France or having a branch in France), etc.²⁷

When submitting his/her PRC project online, the coordinator must specify the configuration(s) to which his/her project corresponds. The ANR then verifies, at the close of the call, that the PRC partnership as entered on IRIS corresponds to one of the classifications indicated online.

A PRC project must correspond to one of the themes in the ANR's field of intervention which does not overlap with those of other funding agencies, in particular INCa and ANRS-MIE. The assessment of the eligibility of projects addressing themes supported by these organisations – notably cancer, AIDS, viral hepatitis and tuberculosis – is carried out jointly by the ANR and either the INCa or the ANRS-MIE.

B.2. Eligibility

Project eligibility is assessed by the ANR **throughout the submission, evaluation, selection and funding process** on the basis of the rules governing submissions under the 2027 AAPG (see [§B.1](#) for a description of the funding instruments, 2027 AAPG Guide and the annexes specific to PRCI collaborations in the case of the registration and submission of a PRCI project) and on [the ANR's financial regulations](#).

Under the PRCI funding instrument, eligibility is also verified by the foreign funding agency in accordance with its own eligibility criteria: a PRCI project must therefore meet **both** the eligibility criteria of the 2027 AAPG **and** those of the partner funding agency.

The eligibility checks carried out by the ANR are based on the information and documents available on the submission website at the closing date and time of the call.

²⁶ The partner's scientific manager, who must qualify as a young researcher, is not required to have been awarded a JCJC project; they must simply meet the instrument's requirements in terms of the date of their thesis defence and the start of their post. Thus, when the coordinator describes their PRC project submitted under the AAPG 2027 call for proposals as a 'PRC involving a young researcher as partner's scientific manager', the coordinator must provide the dates of the young researcher's thesis defence and commencement of duties.

²⁷ The following types of institutions therefore do not meet the eligibility criterion for socio-economic partners: institutions involved in public-service research, university research units (PUIs), technology transfer companies (SATTs), competitiveness clusters, commercial spin-offs of institutions involved in public-service research, and institutions controlled by one or more institutions involved in public-service research. See the list of partners in [Annex 2](#).

No changes or additions to data are permitted after the closing date and time, including to rectify a project's status after the deadline in relation to the eligibility criteria listed here.

Applicants must read these documents and the eligibility rules carefully before submitting or registering a project under the 2027 AAPG.

B.3. Eligibility criteria regarding applicants under the 2027 AAPG

Limited coordination

New 2027

A coordinator of a PRC, PRCE, PRCI, PRME or JCJC project funded under the 2025 or 2026 edition of the AAPG may not register or submit, as a coordinator, a PRC, PRCE, PRME, JCJC or PRCI project in the 2027 call for proposals (including PRCI projects under the 'Foreign Lead Agency' modality), nor may he/she submit a 2027 FRAL SHS project as a coordinator.

A coordinator of a FRAL SHS project funded under the 2025 or 2026 call for proposals may not register or submit, as coordinator, a PRC, PRCE, PRME, JCJC or PRCI project in the 2027 AAPG (including PRCI projects under the 'Foreign Lead Agency' modality).

A coordinator of a PRME project currently receiving funding may not act as coordinator of another PRME project submitted to the 2027 AAPG whilst his/her PRME project is ongoing²⁸.

A coordinator of a JCJC project currently receiving funding may not act as coordinator of a JCJC, PRC, PRCE, PRME or PRCI project submitted to the 2027 AAPG, or of a project submitted to the 2027 FRAL SHS, for the duration of his/her JCJC project²⁹.

A coordinator of a JCJC project selected for funding in a previous call for proposals and now closed may not act as coordinator of a new JCJC project submitted to the 2027 AAPG. The number of times a person may act as coordinator of a JCJC project is limited to once in their career.

Limited participation

New 2027

An applicant may register or submit only one PRC, PRCE, PRME, JCJC or PRCI project (including PRCI under the 'Foreign Lead Agency' modality) as a coordinator³⁰ for the 2027 AAPG and the FRAL SHS 2027 call. They may not be involved as a coordinator or partner's scientific manager in more than **two projects submitted or registered under the 2027 AAPG** (regardless of the funding instrument, including PRCI under the 'Foreign Lead Agency' modality³¹) **and the FRAL SHS 2027 call**. Consequently,

²⁸ Submission as a coordinator is permitted in the final year of the current PRME project, provided that the current PRME project has a scientific end date prior to 31 December 2027.

²⁹ Submission as a coordinator (PRC, PRCE, PRME, PRCI, or FRAL SHS) is permitted in the final year of a JCJC project, provided that the current JCJC project has a scientific end date prior to 31 December 2027.

³⁰ The term 'coordinator' refers to the individual responsible for the scientific implementation of the project on behalf of the coordinating partner. In the context of a PRCI project, a coordinator is systematically appointed for both the French and international parts of the project. The term 'partner's scientific manager' refers to the individual responsible for the scientific implementation of the project on behalf of a partner.

³¹ The limit of two roles as coordinator and partner's scientific manager applies to the registration of PRCE and PRCI projects in Step 1, and to PRCI projects submitted under the 'Foreign Lead Agency' modality. Consequently, a coordinator of a PRCE or PRCI project registered in Step 1, or submitted to a foreign Lead Agency, may not act as coordinator of another PRC, PRME, or JCJC project submitted to the 2027 AAPG call, or a FRAL SHS 2027 project,

an applicant may act as, at most: **one coordinator and one partner's scientific manager, OR two partner's scientific manager**, across the 2027 AAPG and FRAL SHS 2027 calls combined.

The rules relating to applicants set out above are cumulative.

They apply from step 1 of the 2027 AAPG, including in the context of the registration of PRCI and PRCE projects, and the submission of a PRCI project to a foreign agency under the 'Foreign Lead Agency' modality, and across both steps of the 2027 AAPG combined, regardless of the outcome of the Step 1 evaluation. The FRAL SHS call under the 2027 Work Programme is also concerned.

Failure to comply with the rules listed above will result in the ineligibility of all projects concerned. Project coordinators must therefore check with the partner's scientific managers with whom they are submitting proposals to ensure that they are complying with these rules. ***The submission website cannot replace the vigilance of applicants.***

In addition to these eligibility criteria specific to the funding instruments or relating to applicants, there are criteria relating to the project itself. These are described in the 2027 AAPG Guide, which serves as the reference for eligibility.

B.4. Procedures for submitting a project

The evaluation and selection process for projects submitted under the 2027 general call for proposals takes place in two steps (see the provisional timetable for the call in [Annex 3](#)).

In step 1, the submission of a PRC, PRME or JCJC pre-proposal involves completing an online project description form and an administrative form, the submission of a scientific document (drafted in accordance with the template to be published on the webpage dedicated to the 2027 General Call for Proposals, which must not exceed 4 pages including the bibliography³², diagrams and references) and the online completion of the CVs of the coordinators and the partner's scientific managers.

In Step 1, PRCE projects do not require the submission of a scientific document, but only the online completion of a project characterisation form, an administrative form and the online submission of the CVs of the coordinators and the partner's scientific managers. Provided the application meets the eligibility criteria applicable in Step 1, this registration results in an automatic invitation to Step 2, without evaluation of their value by the scientific evaluation panels.

Special provision: *if resubmitted in Stage 1 of the 2027 Call for Proposals, projects ranked in the complementary list for the 2026 Call for Proposals but not selected for funding at the end of the process are automatically invited to Stage 2 of the 2027 Call for Proposals, without assessment by the scientific evaluation panels, subject to eligibility. The projects concerned must have the same coordinator, the same funding instrument, the same title and a comparable consortium (these points will be verified by the ANR prior to automatic invitation to Stage 2), and must be complete on the submission website by the closing date and time of Stage 1 of the call.*

For the 2027 edition of the AAPG, PRCE projects ranked in the complementary list for the 2026

regardless of the outcome of the evaluation of the PRC, PRME or JCJC project at the end of step 1 of the AAPG call.

³² Since the 2019 call, the CVs of the coordinator and their partners may include preprints not yet published in peer-reviewed scientific journals. Furthermore, the ANR encourages applicants to cite preprints in the bibliography, particularly when referencing preliminary data.

AAPG benefit from the simplified registration procedure in Stage 1 of the call.

In stage 2, the submission of a full PRC, PRCE, JCJC or PRME proposal involves completing an online project characterisation form and an administrative and financial form, submitting a scientific document (drafted in accordance with the provided template, not exceeding 20 pages including the bibliography, diagrams and references), and completing the CVs of the coordinators and partner's scientific manager online.

Regarding the registration and submission of a PRCI project to the AAPG, the submission procedures depend on the terms of the collaboration; see the instrument description [Collaborative Research Project – International \(PRCI\)](#) and in the annexes dedicated to PRCI collaborations, to be published in September 2026.

Details of the information required online and in the scientific document are set out in the forthcoming 2027 AAPG Guide.

The submission form, including the administrative and financial sections, must be completed online, and the scientific documents (pre-proposal in stage 1 or full proposal in stage 2), along with any supporting documentation for exemptions from the JCJC instrument, must be submitted via the ANR submission portal by the closing date and time of the call.

Any application that is incomplete by the closing date and time of the call is ineligible.

B.5. Evaluation and selection of projects

The project selection conducted by the ANR is based on the peer-review principle. The selection process of the ANR includes the organisation of panels and mobilises peer-reviewers beyond these panels.

Scientific Evaluation Panels (CES) consist of highly qualified scientists – working in France or outside of France - from the relevant research communities. They are in charge of evaluating preproposals in step 1 and full proposals in step 2, with the help of external peer reviewers, exceptionally in step 1 and systematically in step 2.

Each scientific evaluation panel is chaired by a chairperson whose mandate is one year, renewable twice³³. They attend training courses organised by the ANR on the evaluation and selection process, as well as on ethics. They head the board of the panel which includes one or more vice-chairs³⁴ who assist them in the preparation and work of the panel. A scientific project officer assists the panel, both prior to and during panel meetings, in implementing the AAPG evaluation and selection process, which is ISO 9001-certified (certification obtained in 2018 and renewed for every edition since).

New 2027

In the interests of transparency in the evaluation process, the list of chairs of the 2027 AAPG 2027 panels will be published on the webpage dedicated to 2027 AAPG prior to the evaluation process, once all panel chairs have been appointed (expected: November 2026).

Under no circumstances should panel chairs be contacted by applicants, prospective applicants or

³³ The recruitment of chairpersons takes place via calls for applications, published on the ANR website in the run-up to each edition of the call.

³⁴ Depending on the size of the committee, there are between one and three vice-chairs.

their host institutions. Reviewers of ANR calls are bound by confidentiality during and after the review process, both regarding the conduct of the review process and the applications under review.

The full list of chairs, vice-chairs and panel members for the 2027 AAPG will be published at the end of the evaluation and selection process, in late July 2027.

External reviewers are proposed by panel members, and requested by the scientific project manager after verifying the absence of conflict of interest. External reviewers carry out written evaluations of one or more projects, without participating in panel meetings. They operate independently and confidentially, without exchange with third parties, on the basis of the elements constituting the pre-proposal or the full proposal as completed on the submission Website on the closing date and time of the call.

The provisions of the ANR's [Charter of Ethical Conduct and Scientific Integrity](#) apply to all persons involved in the evaluation and selection of projects.

In Step 1 of the call

The evaluation in Step 1 (excluding registered PRCI and PRCE projects) involves panel members identifying, during a plenary meeting, the PRC, PRME and JCJC pre-proposals for which the drafting of a full proposal is justified, particularly in terms of quality and scientific ambition (decisive criterion; see [§B.6](#) and the 2027 AAPG Guide).

***Note:** The 2027 AAPG process includes a “memory effect” between two successive editions of the AAPG call. Thus, if the coordinator makes an explicit request to this effect when submitting the project to the 2027 AAPG, and if it is indeed a resubmission of a pre-proposal that was assessed in step 1 of the 2026 AAPG, the pre-proposal and the final step 1 report from the previous edition will be forwarded to the panel members. This transmission to the panel members is made after the individual evaluations have been carried out by the panel members, for assessment of the evolution of the project between the two editions of the call. An additional field (3,000 characters) is also available to the coordinator to explain to panel members the changes made between the pre-proposal submitted to the 2027 AAPG and the pre-proposal previously submitted to the 2026 AAPG.*

The ANR checks the eligibility for “memory-effect” before making the documents available to panel members: the project must have been assessed by an AAPG Scientific Evaluation panel during step 1 of the 2026 AAPG, with the same coordinator, the same funding instrument and similar scientific objectives.

All coordinators of an eligible pre-proposal are notified by email whether or not their proposal has been selected to proceed to Step 2. An evaluation report from the panel, reflecting the consensus reached by the Scientific Evaluation panel in plenary session, is made available to the coordinators regardless of the result of the evaluation of their project in step 1.

In Step 2 of the call

In step 2, the evaluation process (including PRCE and PRCI projects in « ANR Lead Agency » modality or « Non-Lead Agency » modality) aims to select the best full proposals by evaluating the scientific excellence and ambition of the project, how it is organized and how it will be implemented, and what impacts the project may have - in accordance with international competitive project selection principles - (see [§B.6](#) and the 2027 AAPG Guide). This second step draws on external expert assessments, in addition to the evaluation carried out by the members of the panels. The second phase also includes a rebuttal stage to external expert reports, aimed at correcting any possible inaccuracy contained in an external review.

Note: The 2027 AAPG process includes a “memory effect” between two successive editions of the AAPG call. Thus, if the coordinator makes an explicit request to this effect, and if the submission is indeed a resubmission of a full proposal that was assessed during step 2 of the 2026 AAPG, the full proposal and the final report from step 2 of the previous edition are forwarded to the panel members. This transmission to the panel members is made after receiving the external peer reviews and after the individual evaluations written by the panel members, for assessment of the evolution of the project between the two editions of the call. An additional field (3,000 characters) is also available to the coordinator to explain to panel members the changes made between the full proposal submitted to the 2027 AAPG and the full proposal previously submitted to the 2026 AAPG.

The ANR checks the eligibility for “memory-effect” before making the documents available to panel members: project evaluated by a panel of the 2026 AAPG in step 2, same scientific coordinator, same funding instrument and similar scientific objectives.

The ranking proposed by the the scientific evaluation panel is fully responsible for ranking the full proposals. The ranking will be reached by consensus of the panel after a debate on each project reviewed. ANR does not modify the ranked lists provided by the panels and funds the projects by scientific theme according to the budget allocated to each theme.

Once the evaluation and selection process has been completed, the list of projects selected for funding and the composition of the scientific evaluation panels are published on the webpage dedicated to the 2027 AAPG. An individual notification is sent to each coordinator of an eligible project, whether or not it has been selected for funding. An evaluation report from the panel is sent to the project coordinator, reflecting the consensus reached by the scientific evaluation panel during its plenary meeting.

As part of the ISO 9001 certification of the AAPG selection and contractualisation process and according to a principle of continuous improvement of this process, ANR has implemented a principle of observation of the scientific evaluation panels by internal ANR observers. This observation of several evaluation panels of the call according to the same observation grid makes it possible to ensure compliance with the selection process as written in the reference documents of the call, and allows, if necessary, to identify points for improvement and generalize the good practices observed across all of the scientific evaluation panels.

These observers do not take part in the scientific debates of the projects and do not comment on the rankings made in plenary meetings by the panels.

B.6. Evaluation criteria

The evaluation of pre-proposals and full proposals is carried out on the basis of criteria common to panel members and external experts.

The criteria are differentiated between the two selection steps, and between funding instruments, using the reading grid of the sub-criteria given below.

The sub-criteria relating to the main criteria are set out in a level of detail appropriate to the content and length of the scientific document.

The sub-criteria serve as a guide, on the one hand, for applicants in preparing their applications and, on the other hand, for committee members and external experts in carrying out their evaluations.

Details of the requirements for each criterion or sub-criterion are set out in the 2027 AAPG Guide and the drafting templates made available on the web page dedicated to 2027 AAPG prior to each stage of the call.

As projects are assessed on the basis of the information completed and submitted online by the closing date and time of each step, coordinators must therefore ensure that the information provided in their application correctly meets the assessment criteria and sub-criteria applicable to the relevant step and the chosen funding instrument.

Step 1: evaluation of pre-proposals³⁵

During the Step 1, criterion 1 is decisive (an 'A' rating is required to be invited to Step 2).

PRC	JCJC	PRME
Criterion 1: Quality and scientific aim Decisive criterion: an 'A' rating is mandatory		
▪ Clarity of research objectives and hypotheses ▪ Scientific ambition of the project and position with respect to the state of the art ▪ Adequacy and relevance of the methods implemented ▪ Adequacy of the project with the scientific theme selected		
Criterion 2: Organisation and implementation of the project³⁶		
▪ Competence, expertise and involvement of the project coordinator		
▪ Quality of the consortium and complementarity of contributions³⁷	▪ Project contribution to the empowerment and team development of the coordinator	▪ Quality and expertise of the team

³⁵ PRCI and PRCE applications are not evaluated in step 1.

³⁶ This criterion takes into account all the outcomes of research work: scientific publications, datasets, software, etc. Furthermore, the use of bibliometric indicators such as the impact factor and the h-index is discouraged in favour of qualitative indicators of the impact of the research, such as its influence on policies and practices.

³⁷ When an international partner or a partner from the socio-economic sector is involved but is not actively collaborating, the partner's contribution will be assessed, in particular, in terms of the expertise, knowledge, data, human and/or material resources they provide, in light of the project's scientific objectives.

Step 2: evaluation of full proposals

During the Step 2 evaluation, criterion 1 is decisive (an 'A' rating from the evaluation panel is required to be proposed for funding).

PRCI	PRCE	PRC	JCJC	PRME
Criterion 1: Quality and scientific aim Decisive criterion: an 'A' grade is mandatory				
▪ Clarity of research objectives and hypotheses ▪ Scientific ambition of the project and position with respect to the state-of-the-art ▪ Adequacy and relevance of the methods implemented				
▪ Adequacy of the project with the scientific theme selected				
Criterion 2: Organisation and implementation of the project³⁸				
▪ Competence, expertise and involvement of the project coordinator				
▪ Quality of the consortium and complementarity of the scientific contributions from each country	▪ Quality of the consortium and complementarity of the contributions³⁹	▪ Project contribution to the empowerment and team development of the coordinator	▪ Quality and expertise of the team	
▪ Adequacy of the resources implemented and requested with the objectives of the project				
Criterion 3: Impact and benefits of the project				
▪ Scientific impact and potential impact in the economic, social or cultural fields				
▪ Strategy for the dissemination and exploitation of the results; promotion of scientific, technical and industrial culture; added value of a European or international cooperation, contribution to the French scientific community	▪ Action to transfer technology and innovation to the socio-economic world; promotion of scientific, technical and industrial culture	▪ Strategy for the dissemination and exploitation of the results; promotion of scientific, technical and industrial culture	▪ Strategy for the dissemination and exploitation of the results; promotion of scientific, technical and industrial culture; contribution of the project to the coordinator's strategy for targeted European calls	

B.7. Project funding

ANR decides on whether or not to select a project based on rankings established by the panels and the budgetary guidelines and priorities approved by MESR. In July 2027, ANR publishes the

³⁸ This criterion takes into account all research outputs: scientific publications, datasets, software, etc. Furthermore, the use of bibliometric indicators such as the impact factor and the h-index is prohibited in favour of qualitative indicators of the research's impact, such as its influence on policies and practices.

³⁹ In the case of an international partner or a partner from the socio-economic sector who is not actively collaborating: the partner's contribution will be assessed, in particular, in terms of the skills, knowledge, data, human and/or material resources they provide, in light of the project's scientific objectives.

list of selected projects for funding for a potential start in October, the 1st 2027. (the same eligibility start date applies to the PRC, PRCE, PRME and JCJC funding instruments).

The procedures for the allocation of ANR funding are set out in the regulations governing the allocation of funding (<http://www.anr.fr/RF>):

- [applicable to public-law beneficiaries under the JCJC and PRME instruments;](#)
- [applicable to private-law beneficiaries under the JCJC and PRME instruments, and to all beneficiaries of all other instruments under the call.](#)

*When registering or submitting a project under the 2027 AAPG, scientific **coordinators must contact their future managing authorities in advance to ensure they receive the best possible support with the administrative and financial arrangements for their projects.***

Depending on the nature of the consortium, selected proposals are funded by ANR either following a unilateral funding decision or after that each partner receiving funding signs a funding agreement. This may sometimes require the provision and analysis of additional information (particularly for companies: company accounts, Kbis extract, information on shareholding structures). If required, ANR will contact the relevant partners to check their respective beneficiary categories via the form drafted for this purpose.

It should be noted that companies in financial difficulty are excluded from ANR funding.

Simplification of consortium agreements

As part of its simplification policy, ANR does not require a consortium agreement where all the enterprises (as defined under EU meaning) participating in a project fall into one of the following categories:

- they do not hold any intellectual property rights, privileged access rights or specific exploitation rights over the results of the project;
- they do not carry out any research tasks and are involved solely in support, liaison, representation or dissemination activities;
- the project results are intended for wide dissemination and do not offer any immediate prospect of economic exploitation for the benefit of a participating organisation (this may be the case for projects where the expected TRL/SRL levels do not exceed 3).

This measure aims to ease the obligations applicable to consortia whose structure does not raise significant issues regarding the sharing or exploitation of research results.

Rules relating to double funding or funding from other agencies, organisations, local authorities or foundations

A coordinator cannot simultaneously receive funding under the JCJC funding instrument and/or funding under a call with similar objectives: these include, amongst others, ATIP-Avenir Inserm, Emergence CNRS, the European Research Council's (ERC) Starting Grant or Consolidator Grant⁴⁰, funding from local authorities (e.g. *Etoile montante*) or ANR's ERC Tremplin call (see the

⁴⁰ In the context of ERC projects, this applies prior to the signing of the JCJC project contract with ANR.

instrument description

'Young Researcher' (JCJC)).

Apart from ANR, other organisations, agencies, associations or foundations provide project-based funding and organise their own calls for proposals, such as the National Cancer Institute ([INCa](#)), the ANRS – Emerging Infectious Diseases ([ANRS I MIE](#)) or the Foundation for Medical Research ([FRM](#)). To ensure efficiency, projects falling under these calls for proposals are not intended to be funded by ANR⁴¹. Thus, the eligibility of the projects submitted to ANR under the 2027 AAPG and falling under themes likely to be supported by these funding agencies, will be jointly verified by ANR and these organisations, agencies, associations or foundations.

Generally speaking, projects funded by other organisations, agencies, local authorities, foundations or associations under similar funding instruments with comparable objectives are not eligible for double funding. ANR may check for double funding (during the evaluation process, at the time of selection or at a later stage) and either conclude that the submitted project is ineligible or proceed to cancel (in full or in part) the funding.

C. Specific measures

C.1. Research infrastructure and very large research infrastructures

Projects relying on resources from research infrastructures (IR) or very large research infrastructures (OSI and IR*, previously TGIR) are invited to declare this information when they submit their pre-proposal or registration in step 1. A procedure independent from ANR project submission must be carried out to ensure that such resources are available if they are key to the success of the project. This can be justified as part of the submission of a full proposal (in particular under the priority *'Scientific exploitation of data generated by IRs, IR* and OSIs'*; see the template for drafting the full proposal, which will be available on the webpage dedicated to the 2027 Generic Call for Proposals when Step 2 opens).

Requests for resources may, for example, be made to GENCI (*Grand équipement national de calcul intensif*) for access to computing and storage facilities for the purposes of numerical simulation, big data processing or artificial intelligence.⁴²

C.2. Competitiveness Clusters

Coordinators wishing to benefit from the designation of one or more competitiveness clusters must declare it from Step 1, when submitting a PRC, PRME or JCJC project or registering a PRCE project⁴³.

⁴¹ This rule applies only to the PRC and PRME funding instruments.

⁴² GENCI provides computing and storage resources free of charge for high-performance computing (HPC) simulation codes at its three national centres (CINES, IDRIS and TGCC) for academic and industrial researchers participating in open research. Two calls for proposals (in January and July) allow applicants to apply for resources allocated over a one-year period. Applications are then assessed on the basis of their scientific and technical excellence by Thematic Committees. Further information on the national computing centres, access procedures and the user information booklet can be found at: <http://www.edari.fr> and <http://www.genci.fr>.

⁴³ It is not mandatory to apply for accreditation in order to register or submit a project to the AAPG 2027. If applying for accreditation, this must be done online in step 1 and cannot be done in step 2. PRCI projects are excluded from this procedure.

When applying for a label, the scientific coordinator must first have the approval of the other partners (including, if required, foreign partners) involved in the project. The scientific coordinator is invited to contact the competitiveness clusters concerned before submitting the project and to find out about the commitments in the event of support from these clusters (in particular possible membership of the cluster, transmission of intermediate and final project reports). If a proposal labelled by a competitiveness cluster is successful, the information on the monitoring of the project will be provided to the competitiveness cluster.

C.3. French co-funding

ANR establishes partnerships with other funding agencies. Generally, this does not involve additional funding, but a contribution to the ANR funding requested for the project, except when a specific request can be made to the co-funding partner. Co-financing means that the fund allocated to a project combines a financial contribution from tANR and from the co-financing partner, which thus demonstrates its interest in the research work. A project coordinator selected may decline the co-funding of her/his project.

The scientific coordinators must express their interest online to benefit from co-funding from step 1, when submitting their pre-proposals or registering their PRCE projects.

C.4. PRIMA labelling

France is a member of the international [PRIMA](#) partnership (*Partnership for Research and Innovation in the Mediterranean Area*). As part of the activities developed with the 19 countries involved in this programme, projects funded under the 2027 AAPG that relate to the themes outlined in PRIMA's [Strategic Research and Innovation Agenda](#) may be included in France's contributions to PRIMA Section 3 (*Participating States Initiated Activities, PSIAs*). As such, the coordinators of the projects concerned must state, in any communication made as part of the dissemination of their results, that they are part of the PRIMA programme.

D. Regulatory requirements for applicants

Scientific coordinators, partner's scientific managers and participants in projects submitted under the 2027 AAPG undertake to comply with the ANR's values and commitments, as listed in this section and set out on the 2027 AAPG project registration and submission website.

Added to this list is the formal undertaking by each coordinator and each partner's scientific manager **to have obtained prior approval from their hierarchy** (in particular the head of unit, the relevant administrative and financial departments, and the persons authorised to legally represent the institution managing the funding, or their representatives) **regarding their current application process** and to have provided the information relating to the application.

D.1. Ethics, scientific integrity and deontology

Contributing to the development of a culture of ethics, scientific integrity, deontology and social responsibility in science is central to the ANR's mission and must be a priority for its funding recipients. Maintaining trust of the society in research stakeholders is contingent upon observance of the rules and values, which should govern research to ensure its honest and scientifically rigorous nature.

As a signatory to the *French National Charter for Research Integrity*, the ANR also has its own code

of ethics, which was revised in 2018 to include scientific integrity. To ensure greater clarity regarding the consistency of its principles, the agency has formalised its [policy on ethics, scientific integrity and deontology](#) in a single document setting out the principles and operational mechanisms designed to guide their implementation. This policy is underpinned by the appointment of a scientific integrity officer (RIS), who ensures compliance with fundamental principles, the prevention and proper management of conflicts of interest, and the training of collaborators internal and external to the agency.

In this context, the coordinator of a project registered or submitted to the AAPG call undertakes to ensure that all project participants (whether or not requesting funding) comply with the principles set out in the [National Code of Ethics for Research Professions](#)⁴⁴ and the [ANR's Code of Ethics and Scientific Integrity](#)⁴⁵.

ANR encourages research teams involved in a project to incorporate, into their research approach, consideration of the ethical issues that may be raised by the objectives, methodology or expected results of their research project and its applications.

ANR reiterates that it is the responsibility of every researcher, in the course of their research activities, to be familiar with the recognised best practices in their scientific field and to apply them rigorously when carrying out their work and publishing their results, so that these may be subject to scrutiny by the scientific community and made available for everyone to use. This is why it is essential to submit any publication of results to peer review and, consequently, to publish only in journals that employ such a process. Given the rapid changes in the world of scientific publishing, ANR also calls for increased vigilance: certain editorial practices can raise major issues regarding ethics and scientific integrity, as illustrated by the debate surrounding predatory journals.

New 2027

*In accordance with [the French National Charter of Ethics for Research Professions](#), to which the ANR is a signatory, scientists must be aware of the legislative and regulatory frameworks governing their professional activities and ensure compliance with the relevant legislation, particularly with regard to research involving animals. As such, **the ANR requires scientists planning to use animal models for scientific purposes to justify why they cannot be replaced by alternative models at the time of submitting their project proposal.** For projects funded by the agency, details of the relevant regulatory authorisations must be submitted to ANR before the start of the experiments in question.*

D.2. Gender equality

ANR is committed to address gender inequalities in higher education and research, and therefore added the principle of equality into its charter on ethics and scientific integrity and implemented a [first 'Equality' action plan](#), which led to the award of the equality label in 2023⁴⁶, and published a [second action plan for the period 2024–2027](#). Among the objectives pursued is ensuring equal treatment of projects, whether led by women or men. To this end, the agency is committed to training evaluators on the issue of potential gender bias in the selection process

⁴⁴ <https://comite-ethique.cnrs.fr/wp-content/uploads/2024/03/Charte-francaise-de-deontologie-des-metiers-de-la-recherche-2015.pdf>

⁴⁵ <https://anr.fr/fr/lanr-et-la-recherche/engagements-et-valeurs/lintegrite-scientifique/>

⁴⁶ For further information, please visit the web page dedicated to our 'Gender' commitment on our website: <https://anr.fr/fr/lanr/engagements/le-genre/>

and to regularly producing analyses of application and selection data.

ANR is also committed to promoting women in science who have received ANR funding or who have served on scientific evaluation panels as chair or panel member, in order to give them greater visibility and thereby address an overly masculine representation of science, and to encourage young women to enter fields in which they are under-represented or in the minority.

In this context, the coordinator of an ANR-funded project undertakes to ensure equal visibility for the research output produced, regardless of whether it is carried out by women or men.

Furthermore, the project coordinator undertakes, where relevant, to take the sex and/or gender dimension into account in their research, regardless of the field, in order to eliminate gender bias in the production of knowledge and to anticipate the potential consequences of its applications.

D.3. Commitment to the responsible use of AIs

Generative artificial intelligence platforms and tools, known as "GenAI", are developing rapidly and are now widely accessible. Their dissemination is gradually transforming professional practices, including for complex tasks such as the synthesis of documents, the extraction of information, the development of state-of-the-art or the production of content.

These tools therefore profoundly change working methods and research practices. Their use opens up new perspectives, but not without raising ethical, legal and scientific questions. In particular, it carries risks related to the production of inaccurate or fabricated content, the reproduction or amplification of biases, plagiarism, as well as the unintentional disclosure of sensitive or confidential data.

New 2027

In this context, ANR has drafted a charter "For a responsible use of GenAI" for people submitting a project, or people participating in the evaluation process of a call managed by the ANR, as a panel member or external reviewer. This charter aims to:

- provide a clear and shared framework to support everyone in their potential use of AI;
- promote responsible and transparent use, ensuring respect for data, the quality of outputs, an understanding of the actual contributions of AI, and the relevance of its use in light of its environmental impact.

Specific commitments of project applicants:

Anyone submitting a project is responsible for the content of their scientific proposal and must be aware of the limitations of AI-generated content, such as the risks of bias in the models used, plagiarism or erroneous content. The GenAI does not have the status of author or co-author. Anyone submitting a project must therefore verify the accuracy and integrity of the content of their proposal, regardless of how it was produced.

- As part of the submission of their application, applicants must be transparent and state whether generative AI (GenAI) was used, distinguishing between the following cases⁴⁷ :
 - Assistance with drafting (including translation, rewording, etc.);

⁴⁷ This information will not be used for the evaluation of projects, but may be used by ANR for the purposes of analysing and monitoring practices.

- Constitution or analysis of the state of the art;
- Ideation.

D.4. Scientific publications and research data

As part of the ANR's contribution to the promotion and implementation of open science, and in line with the National Plan for Open Science (PNZO) at the French level and Plan S at the international level, ANR funding recipients undertake to⁴⁸ :

Ensure immediate open access to peer-reviewed scientific publications

Consequently, all scientific publications resulting from ANR projects funded under the 2027 generic call for proposals will be made available as open access under the *Creative Commons CC-BY* licence or an equivalent licence, using one of the following approaches:

- publication in a natively open access journal;
- publication in a subscription-based journal that is part of a so-called 'transformative' agreement or 'transformative journal'⁴⁹ ;
- publication in a subscription-based journal. The publisher's version or the manuscript accepted for publication shall be deposited in the HAL open archive under a CC-BY licence, in accordance with the Non-Assignment of Rights Strategy⁵⁰ , as set out in the specific terms and conditions.

At the time of deposit, the author shall use the following wording in the article and/or in the letter addressed to the editor:

"This research was funded, in whole or in part, by the French National Research Agency (ANR) under project ANR-nn-XXXX-nnnn. With a view to its publication as open access, the author has applied a CC-BY open access licence to any manuscript accepted for publication (AAM) resulting from this submission."

To check whether the journal of their choice complies with Plan S and to find out what options are available to them, authors can use the Journal Checker Tool.⁵¹

Furthermore, the project coordinator undertakes to ensure that the **full text** of these scientific publications (version accepted for publication or publisher's version) is **deposited in the national open access repository HAL**, under a CC-BY licence or equivalent, no later than the time of publication, and to cite the ANR reference of the research project (e.g. ANR-26-CE64-0001) from which they originate, by associating a persistent identifier (Crossref DOI).

Furthermore, ANR recommends that book chapters and peer-reviewed research monographs resulting from ANR projects should also be made available as open access under a Creative Commons licence or equivalent (the CC-BY licence is recommended). ANR encourages the deposit of the full text of the chapter or research monograph in the national open archive HAL (version accepted for publication or publisher's version) and the inclusion of the ANR reference

⁴⁸ For further information, please see the ANR's commitments to 'Open Science' on the webpage <https://anr.fr/fr/lanr/engagements/la-science-ouverte/>

⁴⁹ Definition of a 'transformative' agreement or 'transformative journal': <https://www.coalition-s.org/transformative-journals-faq/>

⁵⁰ <https://www.ouvrirelascience.fr/mettre-en-oeuvre-la-strategie-de-non-cession-des-droits-sur-les-publications-scientifiques/>

⁵¹ <https://journalcheckertool.org/>

number for the research project (e.g. ANR-26-CE64-0001) alongside a persistent identifier (Crossref DOI).

The ANR also encourages the deposit of preprints in open platforms or archives.

Facilitate the sharing and re-use of research data

In particular for data linked to publications, **by adopting a so-called FAIR approach** (*Findable, Accessible, Interoperable, Reusable*), in line with the principle ‘as open as possible, as closed as necessary’, and by providing, within six months of the project’s start date, an initial version of the Data Management Plan (DMP) in accordance with the procedures set out in the specific terms and conditions⁵². To simplify the process, ANR requests that the standard structured DMP template available on DMP OPIDoR⁵³ be used. Furthermore, beneficiaries undertake to deposit the datasets they wish to publish in a thematic reference repository, or on [recherche.data.gouv](https://recherche.data.gouv.fr/), specifying the reference of the ANR project from which they originate (e.g. ANR-26-CE64-0001).⁵⁴

Finally, in accordance with the 2nd National Plan for Open Science, the ANR recommends that software developed during the project be made available under an open licence and that the source codes be archived in Software Heritage and described in HAL, stating the ANR project reference (e.g. ANR-26-CE64-0001).

A Data Management Plan (DMP) describes how data are produced, documented, (re)used, managed and shared during and after the research project. It thus promotes the documentation of data in accordance with the FAIR principles and facilitates the reuse of data. The DMP is a valuable document, particularly when shared on HAL; it can also serve as a basis for writing a data paper. Drafting and updating a DMP are practices recommended by numerous stakeholders, including, at national level, the Open Science Network between funding agencies⁵⁵, and at international level, the European Commission and the majority of funding agencies in Europe.

To support researchers in this process, data workshops are local initiatives designed to provide research teams that request them with expertise in data management and dissemination⁵⁶.

D.5. Promotion of scientific, technical and industrial culture

ANR encourages recipients of ANR funding to carry out and/or participate in activities aimed at transferring knowledge to the public and decision-makers: publishing articles in the press,

⁵² With a view to simplification, and to promote the FAIR principles, ANR recommends adopting the [structured data management plan](#), available on DMP OPIDoR, which will, in particular, enable the automatic completion of administrative data for ANR projects.

<https://opidor.fr/lanr-publie-un-modele-de-pgd-structure-dans-dmp-opidor/>

⁵³ The structured template enables the automatic completion of administrative data (title, abstract, acronym, etc.) based on the project identifier (decision code). It also allows for a more automated analysis of the content.

⁵⁴ To help you choose a repository, consult the resources on [recherche.data.gouv](https://recherche.data.gouv.fr/fr/logigram/ou-publier-vos-donnees) <https://recherche.data.gouv.fr/fr/logigram/ou-publier-vos-donnees>

The Open Science Committee has also drawn up a list of selection criteria for a trustworthy repository: <https://www.ouvrirlascience.fr/wp-content/uploads/2023/11/Donnees-EntrepotConfiance-NoteMethodologique.pdf>

⁵⁵ The Open Science Network brings together the French Agency for Ecological Transition (ADEME), the French National Research Agency (ANR), the ANRS Emerging Infectious Diseases Unit (ANRS MIE), the French Agency for Food, Environmental and Occupational Health & Safety (ANSES), the Foundation for Medical Research (FRM) and the National Cancer Institute (INCa): <https://anr.fr/fr/actualites-de-lanr/details/news/le-reseau-science-ouverte-entre-les-agences-de-financement-francaises-poursuit-ses-engagements-et-ac/>

⁵⁶ <https://recherche.data.gouv.fr/fr/ateliers-de-la-donnee>

appearing in the media, assisting with public decision-making, taking part in science festivals, organising public debates, conducting outreach activities, writing articles for a free online encyclopaedia, etc.

Since 2021, the Research Programming Act (LPR) has paved the way for a renewed approach to the relationship between science, research and society. As part of this initiative, several calls for proposals under the national 'Science with and for Society' Plan have been launched to:

- support research into scientific outreach and communication;
- promote the development of scientific, technical and industrial culture within research and knowledge dissemination institutions and organisations;
- develop and structure participatory research;
- increase the capacity for expertise in support of public policy to address major societal challenges.

Accordingly, the generic call for proposals incorporates this commitment into its evaluation criteria, by including in step 2 a sub-criterion relating to the '*promotion of scientific, technical and industrial culture*'.

D.6. Access to genetic resources and associated traditional knowledge

The Nagoya Protocol on Access to Genetic Resources and Associated Traditional Knowledge and the Fair and Equitable Sharing of Benefits Arising from their Utilisation, under 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 Convention's third objective by ensuring greater legal certainty and increased transparency for providers and users of genetic resources. European Regulation 511/2014 and French Law 2016-1087 set out the procedures for implementing this Protocol⁵⁷. Two control points are thus defined:

- at the stage of funding research, under the supervision of the MESRE;
- at the stage of final product development, under the supervision of the MTE.

Applicants to 2027 AAPG call undertake to declare any potential use of genetic resources during their projects. 'Due Diligence' (DDD) declarations in the context of research work are submitted directly online via the dedicated application on the MESRE website. Access can be requested from the head of the host institution⁵⁸.

D.7. Scheme to protect the scientific and technical potential of the nation (PPST)

The competitiveness, reputation and excellence of an establishment are based primarily on its capacity for innovation, as well as on the development and maintenance of its knowledge and

⁵⁷ The Act on the Restoration of Biodiversity, Nature and Landscapes (Act No. 2016-1087 of 8 August 2016) and its implementing decree on access to genetic resources and the sharing of benefits arising from their use (Implementing Decree No. 2017-848 of 9 May 2017).

⁵⁸ <http://www.enseignementsup-recherche.gouv.fr/pid37627/utilisation-ressources-genetiques-associees.html>

expertise. Every year, a growing number of companies and research laboratories fall victim to the theft of strategic or sensitive information that could be misused for malicious purposes.

The scheme for the protection of the scientific and technical potential of the nation (PPST) aims to protect, within public and private institutions located on national territory, the strategic knowledge and know-how, as well as sensitive technologies which contribute to the sovereign interests of the nation whose misappropriation or capture could:

- undermine the economic interests of the nation;
- strengthen foreign military arsenals or weaken the defence capabilities of the nation;
- contribute to the proliferation of weapons of mass destruction and their delivery systems;
- be used for terrorist purposes within the country or abroad.

Led by the Secretariat for Defence and National Security (SGDSN), this inter-ministerial framework, which contributes to the economic security of all public and private entities, has been in force since 2012. It involves numerous ministries, including the MESRE. It enables :

- legal protection against malicious acts that affect the competitiveness of the entity (fraudulent use of information, theft or interception of sensitive data, anti-competitive practices, intrusion into information systems, etc.);
- the formation of a trusted working group;
- to benefit from government support in efforts to raise the security standards of the entity;
- to be part of a trusted community that fosters industrial partnerships.

On the recommendations of the Department of Defense and Security High Official (SHFDS) at the MESRE, the ANR is implementing the PPST during this 2027 Generic Call for Proposals for projects invited in Step 2 of the call and whose consortium includes at least one commercial company and/or at least one partner from outside the European Union. These projects are subject to the opinion of the SHFDS / MESRE, taking into account the national guidelines established by the SGDSN.

A negative opinion from the SHFDS / MESRE will prevent the project from receiving funding at the conclusion of the AAPG evaluation process. The SHFDS / MESRE does not provide the project coordinator with reasons for this opinion.

*Before submitting any proposal to the AAPG (or any other funding body), and in order to address this issue from the very outset of their project planning, **project coordinators must liaise with the departments responsible for implementing the PPST within their institutions to verify the eligibility of their project.***

E. Provisions relating to “RGPD” and the communication of results

E.1. Personal data

ANR carries out data processing relating to the selection and monitoring of projects and impact assessments in the course of its duties⁵⁹. Personal data⁶⁰ is collected and processed in this context

⁵⁹ As defined in Decree No. 2006-963 of 1 August 2006 on the organisation and operation of ANR, the provisions of which are now codified in Articles L.329-1 et seq. and R.329-1 et seq. of the Research Code

⁶⁰ In particular, the surname and first name of researchers, date of birth, professional contact details, title(s), position (current and previous), fields of activity, place of work, affiliated organisation, address(es), curriculum vitae, ORCID number, name and reference of projects, pre-proposals and project proposals (scientific document, administrative and financial annex).

in accordance with Article 6(1)(e) and (c) of the GDPR⁶¹. This data is subject to computerised processing necessary for the performance of a task carried out in the public interest and/or for compliance with a legal obligation.

ANR retains personal data relating to submitted projects that have not been selected for the period necessary to assess the projects, followed by the expiry of any appeal periods. With regard to data relating to selected and funded projects, the retention period lasts for the time necessary to monitor the project and to allow for any audits by the various authorised bodies⁶².

Data recorded for this purpose may be disclosed to the relevant departments of ANR, to external experts and members of the evaluation panels – for the projects to which they relate – and, where applicable, to supervisory bodies, ANR departments and public authorities.

In accordance with current regulations, applicants – including coordinators, scientific managers of partners and participants – have the right to access, rectify, transfer and erase their data, as well as the right to object to and restrict the processing of their data, in accordance with the chosen legal basis. They may exercise their rights by contacting ANR's Data Protection Officer at: dpd@anr.fr

For further information, please consult your rights on the CNIL website at the following address: <https://www.cnil.fr/>.

Details of the measures taken by ANR to protect the personal data it collects and processes are provided to data subjects when such data is entered into the relevant computerised processing systems:⁶³.

E.2. Disclosure of documents

ANR may be required to disclose certain data and documents to constituents, to other French or foreign funding agencies, to other public authorities (including its supervisory bodies), and to supervisory bodies, within the framework of collaboration agreements, open government data initiatives, access to administrative documents⁶⁴, data sharing between public authorities, and the re-use of public information⁶⁵. This disclosure may relate, in particular, to project description data, expert reports, the evaluation panel's summary report, project proposals, contractual documents, scientific documents, and administrative and financial annexes.

The dissemination and communication of these data and administrative documents are carried out in accordance with the applicable regulations and subject to the protection of personal data, intellectual property and industrial and commercial confidentiality. Indeed, a number of documents or data collected must not be disclosed or may only be disclosed on a restricted basis. In the case of collaborations with other funding agencies or co-funding arrangements in

⁶¹ General Data Protection Regulation (EU) No 2016/679

⁶² 10 years from the date the funding was awarded for the purposes of European Commission audits.

⁶³ IRIS and SIM websites, project submission and evaluation platforms, data processing for project monitoring, project portfolios and analyses.

⁶⁴ The provisions relating to access to administrative documents and the re-use of public information are governed by Book III of the Code of Relations between the Public and the Administration, in particular Articles L.311-1 et seq. and L.321-1 et seq.

⁶⁵ Order No. 2016-307 of 17 March 2016 codifying the provisions relating to the re-use of public information in the Code of Relations between the Public and the Administration, and its implementing decree No. 2016-308 of 17 March 2016.

particular, contracts govern the disclosure of documents and confidentiality. The disclosure of documents is limited to the scope of the collaboration between ANR and the institutions leading the projects.

F. Scientific themes of the 2027 Generic Call for Proposals

Each research theme corresponds to a Scientific Evaluation Panel (CES) of the same name. Choosing the research theme that best aligns with the scientific objectives of your project therefore amounts to choosing the scientific evaluation panel in charge of evaluating your project.

As the scope of the scientific themes may have changed since the text of the 2026 AAPG, coordinators must carefully read the description of the scientific themes of the 2027 AAPG call below before making their selection on the submission and registration site for Step 1.

As a reminder from the section ‘Submission, evaluation and funding of projects under the 2027 AAPG’ (see [SB](#)), the research theme chosen when submitting or registering a project in Step 1 of the 2027 AAPG cannot be changed during the evaluation and selection process of the call.

Mobilising science to implement the 2030 Agenda ⁶⁶ of the United Nations Sustainable Development Goals presents a major challenge for research and innovation for the next decade, particularly in terms of driving coherent digital, energy, social, ecological and inclusive transitions. In this context, the main “Sustainable Development Goals (SDGs)” concerned will be listed for each scientific theme.

‘Environmental Sciences’ field

Theme A.01: Solid Earth and Fluid Envelopes

Contact: daniela.linares-ortegon@anr

This research theme focuses on projects that seek acquiring fundamental knowledge of the functioning of all the Earth's abiotic and biotic compartments (geosphere, hydrosphere including oceans, cryosphere, atmosphere, critical zone and associated biosphere, etc.) and of the major cycles. The processes involved are the couplings, interactions, interfaces and continuums between these compartments and their impact on the major cycles. Its scientific scope includes the following topics in particular:

- atmospheric chemistry (transformation, outcome and dissemination of chemical species, micro-contaminants, aerosols and bioaerosols);
- atmospheric dynamics from the boundary layer to the upper atmosphere, and interactions with the continental and oceanic surface;
- the land-coast-open ocean continuum, including continental and marine processes in interface areas (coastline, estuaries/deltas);
- the functioning and evolution of the climate and major cycles (water, carbon, nitrogen and other substances, nutrients) in relation to energy (possible links with [theme H.09: Sustainable, clean, safe and efficient energy](#));
- cryosphere-climate interactions;

⁶⁶ <https://www.agenda-2030.fr/>

- couplings, interfaces and feedback between major compartments, at different spatial and temporal scales;
- the use of "Earth Archives" to understand the crises and changes in a continuum in the long/short term;
- knowledge of hazards and extreme hydrometeorological phenomena (floods, landslides, debris flows, etc.) and telluric phenomena (earthquakes, volcanic eruptions, tsunamis, etc.) regardless of the territorial area considered (mountains, plains, coastline, etc.), particularly in the context of climate change;
- knowledge of geological media interacting directly or indirectly with the atmosphere and hydrosphere, including ecosystems and environmental impacts associated with deposits of mineral resources.

Related keywords:

Research objects: aerosols; natural hazards and risks; atmosphere; visible and invisible biosphere for its impacts on major cycles; continuum (land-sea, soil-atmosphere, etc.); couplings and coupled approaches (multi-sensor/multi-scale spatial and temporal approaches including remote sensing); cryosphere; biogeochemical cycles (nitrogen, carbon, iron, phosphorus, rare earths, silicon, etc.); glacial cycles; experimentation; greenhouse gases; environmental impacts of mineral resources; fluid-rock interaction; water mass interactions (surface, underground, sea, etc.); interfaces; lithosphere; snowpacks; erosion mechanisms and processes; climate models; modeling; observation; oceans; optimization of ore deposit exploitation, subsoil, mining environment; paleoenvironments and paleoclimates analogous to those of the Anthropocene era; cloud physics; erosion processes and balance; critical zone responses to global change; carbon sequestration; time series (incl. proxies) and retro-analysis. proxies) and retro-analyses; soils; continental surfaces; Earth system and scale interactions; wetlands.

Research approaches: environmental chemistry; isotopic chemistry; climatology; geochemistry; geodesy; geology; geomorphology; geophysics; glaciology; hydrogeology; hydrology; meteorology; microbiology; mineralogy; oceanography; pedogenesis; petrology; sedimentology; stratigraphy; remote sensing.

Related ERC codes : PE04, PE10, LS08

Related SDGs: 6, 13, 14, 15

Theme A.02: Living Earth

Contact: dimitri.neaux@anr.fr

This research theme concerns projects that seek to gain fundamental knowledge on biodiversity and the (spatial and temporal) dynamics of continental, marine, atmospheric and mixed ecosystems (coast, lagoons, etc.) with little if any anthropised systems, past or present. Its scientific scope covers:

- global description of biodiversity;
- knowledge of functional and population ecology, conservation or restoration ecology;
- the dynamic functioning and resilience of ecosystems, identification of tipping points;

- the origin, characterisation, evolution and dynamics of species, populations and communities and their interactions;
- the responses (morphological, physiological, behavioural and evolutionary) of organisms; populations, communities (for all species), ecosystems (terrestrial, aquatic, marine, atmospheric, mixed) to variations in biotic and abiotic environments;
- all clades in these ecosystems;
- the different levels of organisation, from molecules to ecosystems;
- models and scenarios for the future of biodiversity.

Related keywords:

Research objects: acclimatisation; adaptation; protected areas; biodiversity; connectivity; conservation; freshwater and marine environments (including coastal and lagoon); invasive species; rare species; experiments and system modelling; forest; systems integration; migration; terrestrial environments; modelling; observation; trophic networks; resilience; restoration; rhizosphere; soils.

Research approaches: biogeochemistry; evolutionary biology; functional ecology; ecology; ecophysiology; ethology; population genetics; genomics; living labs; metagenomics; metatranscriptomics; microbiology; phylogeny; phylo-geography; systematics; essential biodiversity variables (EBV).

Related ERC codes : PE10, LS02, LS08

Related SDGs: 13, 14, 15

Theme A.03: Biology of animals, photosynthetic organisms and microorganisms

Contact: jannatul.mia@anr.fr

This research theme concerns fundamental plant and animal biology with a cognitive approach towards long or very long-term practical applications on living species and applied plant and animal biology projects for livestock, food-producing animals, all photosynthetic organisms of interest, their dedicated models and associated organisms (micro-organisms, microbiota, pests, beneficial insects, etc.) and the interactions between these organisms.

All levels of regulation (genomic, transcriptomic, epigenetic, translational, metabolic, physiological, developmental, etc.) are concerned. Proposals are part of a continuum of scale from the gene and/or the molecule, to the cell, the individual and the population.

Related keywords:

Studied organisms: weeds; algae; animal; pests; model species; crop; fungi; holobiont; microorganism; photosynthetic organism; plant; pollinators.

Research objects: adaptation; allelopathy; aquaculture; biocontrol; animal behavior; determinism of animal welfare; development; farming; embryogenesis; insects; animal nutrition; plant nutrition; organogenesis; parasitism; pathogenicity; regulation; reproduction; biological networks; animal health; plant health; stress; symbiosis.

Disciplines: predictive approaches; biochemistry; bioinformatics; biostatistics; ecophysiology; entomology; epigenetics; genetics; genetic engineering; weed science; metabolomics;

metagenomics; microbiology; modelling; physiology; phytopathology; proteomics; transcriptomics; signal transduction; virology.

Related ERC codes : LS01, LS02, LS03, LS04, LS06, LS08, LS09

Related SDGs: 2, 3, 12, 14, 15

Theme A.04: Food and food systems

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This research theme concerns fundamental or applied research projects on food, food systems and food supply chains, to ensure food safety, improve nutrition and promote healthy, safe, tasty, sustainable food that is accessible to all. These projects can focus in particular on the following topics:

- the biology of human nutrition, particularly for vulnerable populations (infants, children, pregnant women, senior citizens), including projects involving the microbiota but do not addressing pathologies;
- the development of technologies for processing agricultural production and associated technologies (key mechanisms, process simulation, digital approaches for on-line decision support, packaging...) and food traceability (authenticity, labelling, etc.), the development of low environmental impact processing (low-energy, low-water consumption, eco-designed, reusable and recyclable packaging, eco-responsible materials...), robust, high-performance processes, ensuring optimal use of resources and reducing food loss and waste;
- food safety (benefit-risk analysis in food systems in transition, dynamics of pathogenic micro-organisms and chemical contaminant flows in food, including those from packaging...);
- the determinants and impacts of food transitions, including shifts towards sustainable agro-ecological and livestock practices, and changes in consumer behaviour;
- the social and economic organization of all food system actors, from agricultural production to consumption;
- systemic approaches to elaborate food quality and diets (from farm to fork), including microbial flows along the food chains;
- innovations: food product innovations, technological innovations, analytical innovations, digital innovations and organizational innovations to foster the transition to healthy, safe, tasty, sustainable food that is accessible and affordable to all.
- understanding how food systems function, and identifying socio-technical bottlenecks and solutions to improve food security and nutrition for populations at different scales (from local to global) in a "One Health" approach.

The overall aim is to provide a food supply that meets sustainable development objectives (<https://www.un.org/sustainabledevelopment/>). It must meet the needs of consumers, their health and well-being, be accessible and affordable to all, and be environmentally friendly. It integrates the various actors of food systems and also promotes the economic and social development of territories.

Related keywords: food accessibility, food affordability; food product; food, diet; cultural and biological anthropologies; multi-stakeholder approaches; biochemistry; food biotechnology; food

chemistry; clean label; competitiveness; conservation; food contaminants; decontamination; distribution; packaging; economy; epidemiology; food environment; fermentation; supply chains; formulation; taste and sensoriality; governance; ingredient; interaction microbiote-host-food; living labs; markets; contact materials; food microbiology; predictive microbiology; nutrition; pathogen; physico-chemistry; physiology; health and nutrition prevention; specific population; consumption practices; processes; participatory research; regulation; food security and nutrition, food safety ; sociology; food toxin.

Related ERC codes : LS09, LS01, LS02, LS04, LS08, PE04, PE08, SH01, SH02, SH03

Related SDGs: 1, 2, 3, 9, 12

‘Materials science and Engineering’ field

Composed of seven complementary scientific themes, this field aims to support basic research in disciplines corresponding to materials science and engineering: two themes are dedicated to materials science, one theme to engineering and process sciences, two themes to chemistry, and two themes to physics. As a reminder, the themes devoted to physics were redefined for the previous Work Programme, with the creation of two themes in this field (B.06 and B.07) instead of a single one previously. The theoretical physics part that was previously in theme G.02 has been integrated into the new [Theme B.06: Physics of fundamental concepts and physics of dilute matter](#).

These disciplines are also engaged in other scientific themes presented in other areas of the Work Programme, notably in themes that aim to support research focused on a particular application (energy, micro and nanotechnologies for electronics, photonics, and digital technology, technologies for health, biomedical innovation, ecotechnologies, etc.) or themes dedicated to a sub-domain that is transversal to several applications (sensors, imagers, and instrumentation or nanomaterials, for example).

Theme B.01: Polymers, composites, chemical physics of soft matter

Contact: nela.roy@anr.fr

The scope of this research area covers:

- the design and use of new monomers, non-toxic oligomers and polymers, the functionalisation of polymers (natural or synthetic) and macromolecular chemistry, as well as the development of synthetic routes for polymeric materials resistant to extreme conditions, resins for composite The scope of this research theme covers:
- the design and use of new, non-toxic monomers, oligomers and polymers, the functionalisation of natural and synthetic polymers and precision macromolecular chemistry as well as the development of synthesis pathways of polymer materials resistant to extreme conditions, resins for composite materials with polymerisations controllable at moderate temperatures, or systems for additive manufacturing. Proposals for material synthesis chemistries allowing for effective recycling of polymers will also be appreciated,
- the physical chemistry and engineering of soft matter. In particular, proposals are expected on the production of synthons whose self-assembling or self-organization properties enable the construction of supramolecular organisations with potential applications in the field of polymers and materials,

- the study and understanding of structure-property relations and multi-scale modelling of soft matter, polymer and composite materials with the goal of predicting their properties, including ageing,
- the development of polymer-based materials with special properties (thermomechanical, self-healing, etc.) for specific applications (sensors, membranes, smart textiles, etc.),
- organic matrix composite materials concerning various industrial sectors (aviation, automotive, construction, energy, health, etc.) and work aimed at improving their thermal and mechanical properties, improving their recyclability or introducing functional properties.

The community involved will include chemists, physical chemists and physicists. The projects will fall under the four themes

- chemistry and synthesis of polymers,
- supramolecular chemistry and physical chemistry and molecular assembly,
- functional polymeric and composite materials,
- polymer surfaces and interfaces,
- processes and development of new technologies for synthesis and shaping.

The projects will aim to take into account the challenges of sustainable development.

Projects using or shaping bio-sourced materials must be covered in [theme H.07 Bioeconomy: societal transition and associated technologies](#).

Supramolecular chemistry projects that are not aimed at applications in the field of polymers and materials must be submitted under the [theme B.04 Molecular Chemistry](#).

This theme also complements the [theme B.03 Engineering and process sciences](#): if the project is aimed primarily at the study of the mechanical behaviour of composite structures (behaviour, damage, etc.), it must be submitted under [theme B.03](#).

Related keywords: supramolecular chemistry and physics; synthesis of supramolecular and macromolecular objects; self-assembly; properties of supramolecular and macromolecular objects; durability and life cycle of supra- and macromolecular systems; confinement; encapsulation; polymer chemistry; polymerization processes; photochemistry; additive manufacturing; polymer shaping processes; properties of functional polymer materials (composites, hybrids, biomaterials, membranes, etc.); functionalization; organic matrix composite materials; structural and mechanical properties of organic biomaterials; structural characterization; impregnation resins; molecular and hybrid materials; thin films; bio-inspired systems; soft matter; complex fluids; oligomers; liquid polymers; surfactants; liquid crystals; micelles; vesicles; colloids; gels and hydrogels; molecular machines; stimuable systems; molecular recognition; surfaces and interfaces; microreactors; miniaturization; reduction of waste.

Related ERC codes: PE03_13 (Structure and dynamics of disordered systems, e.g. soft matter, granular matter, liquids, glasses, defects), PE04, PE05, PE11

Related ODDs: 9, 12

Theme B.02: Metallic and inorganic materials

Contact: remi.bizot@anr.fr

This research area aims to support research in the field of metallic and inorganic materials science, drawing on the This theme aims to support research projects in the field of metallic and inorganic material science, relying on the disciplines of solid chemistry and condensed matter, solid state physics, metallurgy and the mechanics of solids.

The scope of this research theme covers:

- metal or ionocovalent type materials (metals and alloys, ceramics and glasses, inorganic compounds, hybrids, natural materials, etc.) and surfaces and interfaces that are associated with them:
- the development of new materials and innovative approaches both in terms of the implementation processes and the desired properties,
- surface treatments or thin film coatings conferring new characteristics or functionalities to the solid material,
- the substitution of elements (for reasons of scarcity, chemical risk, cost, etc.), the design of more easily recyclable materials, the reuse of recycled raw materials to develop new materials,
- new materials for use under severe energy, mechanical or chemical stresses.

Proposals will therefore come under the following five topics:

- inorganic functional materials,
- metallurgical science and engineering,
- surface and interface: functionalisation, surface treatment,
- assemblies,
- fabrication of materials.

This theme also complements the [theme B.03 Engineering and process sciences](#) with regard to the development, production or recycling of materials: projects aimed primarily at studying and understanding the (mechanical) properties of a material obtained by using a specific development process (not necessarily innovative) must be submitted under this theme. However if the main innovation proposed concerns the development, production or recycling process, it must be submitted under [theme B.03](#).

The projects will aim to take into account the challenges of sustainable development.

Related keywords: functional properties; multi-scale approaches for characterization and simulation; multi-physics couplings; metallurgical thermodynamics; production and shaping processes (by machining and treatment, additive manufacturing, synthesis, etc.); microstructures; solid-state chemistry; tribology; surfaces; interfaces; damage; fatigue; corrosion; coatings; thin layers; recyclability; structural materials; structural and mechanical properties of inorganic biomaterials.

Related ERC codes: PE03, PE04, PE05, PE07, PE08, PE11

Related SDGs: 9, 12

Theme B.03: Engineering and Process Sciences

Contact: aymen.benamor@anr.fr

This research theme aims to support basic research in the following fields covering engineering sciences and process sciences, to improve the state of the art and knowledge, and to develop innovative methods, tools and technologies in these fields:

- processes and technologies for the development and manufacturing of materials, components, microsystems and structures (plasma processes, deposition, additive manufacturing, extrusion, laminating, assembly, etc.),
- chemical process engineering, bioprocesses, intensified and multifunctional processes, mechanical or thermal processes, eco-efficient methods,
- control and optimisation of processes, flows and transfers, mixtures,
- fluid mechanics (dynamic, fluid/structure interactions, fluid/material reactive interface, etc.), aerodynamics,
- acoustics, aero-acoustics,
- electrical engineering, provided that the project does not have an energy purpose (for example in microelectronics or in the field of health or sensors). On the other hand, if the project aims to contribute to the transformation, distribution or use of electricity (electrical machines, electrical transformers, power electronics, electrical networks, etc.), it must be submitted in the most relevant themes of the energy domain (i.e. [H.08 Basic energy sciences](#) or [H.09 Sustainable, clean, safe and efficient energy](#)),
- mechanics, structural engineering, geotechnical engineering,
- biomechanics and bio-engineering mechanics,
- bio-inspiration for engineering, biomimetic engineering,
- systems engineering.

This theme is open to a broad spectrum of scientific approaches: modelling and simulation, experiments, etc. and coupled approaches in particular.

This scientific theme does not target specific applications. It is complementary to themes dedicated to a specific application, which may also include projects mobilising engineering sciences from this perspective (for example, energy for themes [H.08 Basic energy sciences](#) and [H.09 Sustainable, clean, safe and efficient energy](#) or the medical field for theme [H.13 Healthcare technologies](#)).

It is also complementary to the themes focused on materials science and which mainly mobilise physics and chemistry but which also target questions of mechanics and behaviour/resistance at the materials level ([B.01 Polymers, composites, chemical physics of soft matter](#) and [B.02 Metallic and inorganic materials](#)).

It is complementary to the [B.04 Molecular Chemistry theme](#): projects whose innovative part is in synthetic chemistry, even if they are also interested in process engineering aspects (such as flow synthesis), should be submitted in the [B.04 theme](#).

Lastly, it is complementary to [theme H.19 Transformation of production systems for goods and services](#), which covers manufacturing issues on a more integrative scale (organisation based on process, automation, production chain, product industrialisation, etc.) than here.

Related keywords: development and manufacturing processes and technologies; additive manufacturing; process engineering; chemical engineering; bioprocesses; eco-efficient processes;

thermodynamics; fluid mechanics; acoustics; electrical engineering; structural mechanics; structural engineering; geotechnical engineering; biomechanics; mechanics for bioengineering; bio-inspired engineering; systems engineering.

Related ERC codes: PE07_03, PE07_04, PE08 (except PE08_06 Energy processes engineering), PE11

Related SDGs: 9

Theme B.04: Molecular chemistry

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This scientific theme is dedicated to supporting research in molecular, organic or inorganic, chemistry. Any fundamental advance or ground-breaking concept in chemical synthesis, the choice of raw materials used, molecules and compounds obtained, processes implemented, etc., for which innovations can subsequently be developed, has a significant potential application for the chemical industry and, more broadly, numerous industrial sectors that use chemical products.

The projects will aim to take into account the challenges of sustainable development.

This theme covers three additional subjects:

- the development of new reaction schemes or new molecules. Proposals on more environmentally friendly synthesis pathways as well as the synthesis of molecules of interest are expected,
- catalysis in general (enzymatic, heterogeneous, homogeneous or multiple, assisted). The stability and recycling of catalysts and the use of non-toxic metals or ligands will be targeted. Combination with activation processes may also be dealt with,
- eco-efficient processes and new reaction media.

The projects submitted under this theme can be experimental, theoretical technological or industrial. They may cover all manufacturing phases, from the selection of raw materials to the development of the reaction pathway.

Projects whose main problem or scientific or technological hurdle concerns chemical process engineering must be submitted under [theme B.03 Engineering and process sciences](#).

Projects at the chemistry-biology interface whose object and/or scientific challenge essentially concern synthetic chemistry must be submitted in this present axis. On the other hand, interface projects oriented towards an application, an object or a scientific challenge mainly related to biology must be submitted under [theme C.01 Biochemistry and chemistry of living organisms](#).

Projects addressing bio-sourced chemistry must be submitted under [theme H.07 Bioeconomy: societal transition and associated technologies](#).

Projects aimed at the construction of supramolecular or macromolecular objects with a view to their use in the field of polymers and/or materials must be submitted under the [theme B.01 Polymers, composites, chemical physics of soft matter](#). However, supramolecular chemistry projects not aimed at this type of application must be submitted under this theme.

Related keywords: new families of molecules; synthesis methodology; design of new ligands; structure-property relationships; chirality and asymmetric synthesis; bond activation and reaction processes; heterocyclics; heteroelement chemistry; organometallic catalysis;

electrocatalysis; photocatalysis; mult catalysis (dual, hybrid, tandem); supported catalysts; redox catalysis; biomimetic catalysis; enzymatic catalysis; artificial enzymes; total synthesis; mechanistic studies; physical activation methods (ultrasound, microwave, high pressure, mechanochemistry, etc.); cascade reactions; tandem; one-pot reaction; flow synthesis; extraction and separation; innovative reaction media; eco-compatible and sustainable synthesis (solvent-free, reduction of waste, catalyst recycling, alternatives to rare and/or toxic metals, etc.).

Related ERC codes: PE04, PE05

Related SDGs: 9, 12

Theme B.05: Analytical chemistry, theoretical chemistry and modelling

Contact: thibaut.masson@anr.fr

This theme welcomes proposals where the core research mainly targeted fundamental science and techniques in the following chemistry disciplines:

- theoretical chemistry/modelling,
- analytical chemistry,
- spectroscopy and spectrometric techniques,
- innovative instrumentation for chemistry.

It also covers methodological and instrumental developments for spectroscopies and theory.

Related keywords: theoretical chemistry; modeling/simulation (molecular dynamics, ab initio methods, Monte Carlo, etc.); physical chemistry (photochemistry, electrochemistry, thermodynamics, etc.); chromatography; NMR; EPR; spectroscopies (UV-visible, IR, Raman, X-rays, etc.); electron spectroscopy; mass spectrometry; miniaturization; imaging; trace detection; structural properties.

Related ERC codes: PE04

Related ODDs: 9

Theme B.06: Physics of fundamental concepts and physics of dilute matter

Contact: aymeric.bourlet@anr.fr

The scope of this research area mainly covers fundamental physics themes, corresponding essentially to the ERC PE02 disciplines (except for sub-disciplines PE02_02, 03, 04, 06 et 07) “Fundamental Constituents of Matter: particle, nuclear, atomic, molecular, gas, plasma, and optical physics”.

This theme concerns all innovative developments in theory and models, instrumentation, measurements, data processing and exploitation in atomic, molecular, gas, plasma, or optical physics.

This theme also supports theories and models that contribute to the understanding of the foundation of physics, including mathematical physics and algorithmic studies. Exceptions are made for those in connection with phenomenology in subatomic physics, nuclear physics, astrophysics, and cosmology which must be submitted under the [G.02 theme](#), and those relating to condensed matter physics, soft matter, or biophysics which fall under the [B.07 theme](#).

However, theoretical questions related to condensed matter physics and applied to experiments with quantum gases, as well as fundamental models associated with physics beyond the standard model in the context of optical, atomic, or molecular physics, fall within the scope of the [B.06 theme](#).

Finally, projects that fall under the generic topic "Quantum Technologies" are to be addressed in [theme E.06 Quantum sciences and technologies](#).

Experimental, numerical, or theoretical projects are equally eligible.

Related keywords: theoretical physics; fundamental models of classical and quantum gravity; mathematical physics (including integrable systems); field theory; string theory; tests of fundamental laws by low-energy experiments; fundamental aspects of equilibrium and non-equilibrium statistical mechanics; classical and quantum dynamical systems; physics of fundamental quantum processes; quantum fluids and gases; quantum information; atomic and molecular physics; atomic and molecular ions; ultracold atoms and molecules; trapped ions; atomic and molecular collisions; optics (nano-optics, nonlinear optics, quantum optics, ultrafast optics, etc.); optomechanics; laser physics; radiation-matter interaction; electromagnetism; control and characterization of waves in complex media; gas and plasma physics; laser-plasma interaction; confinement fusion; aggregates; nonlinear physics; atomic and molecular spectroscopy; instrumental developments; metrology.

Related ERC codes: PE02_01, PE02_05, PE02_08 to PE02_18

Related ODDs: 9

Theme B.07: Condensed Matter Physics

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The scope of this theme covers a broad field of physics, mainly fundamental, corresponding essentially to the ERC PE03 disciplines "Physics of condensed matter: structure, electronic properties, fluids, nanosciences, biophysics".

Soft matter physics, traditionally part of the physics of condensed matter, is covered by this theme. However, proposals concerned with the physical chemistry of soft matter must be submitted under the [theme B.01 Polymers, composites, chemical physics of soft matter](#).

Projects concerning the physics of biological systems, from the sub-cellular scale to that of tissues and/or organs are also considered in the case of innovative physics projects backed by a sufficiently detailed biological question. Similarly, the projects in this field focused on innovations in biology with implications for both cell biology and embryonic development as well as underlying molecular and genetic mechanisms, are to be addressed in [theme C.04 Cellular biology, developmental biology and evolution](#).

This theme also includes the interaction between radiation and condensed matter, as well as all the theory of condensed matter except for research related to quantum gases (which are in the [B.06 theme](#)). It also includes theoretical statistical physics in its aspects relating to soft matter, or to fluid mechanics or biophysical systems, the more fundamental or mathematical part being in [theme B.06](#).

As for the B.06 theme, projects that fall under the generic topic "Quantum Technologies" are to be addressed in [theme E.06 Quantum sciences and technologies](#).

Experimental, numerical, or theoretical projects are equally eligible.

Related keywords: quantum materials; topological materials; materials for optics (laser materials, nonlinear materials, etc.); macroscopic quantum phenomena; strongly correlated fermions; superfluidity; superconductivity; magnetism and spin electronics; heterostructures and nano-objects; growth; molecular electronics; mesoscopic physics; plasmonics; photonic and electronic interactions; solid-state spectroscopy; nanophotonics; frequency conversion; condensed matter theory; structure of solids and liquids; physics of mechanical behaviour; surfaces; structure and dynamics of disordered systems; transport phenomena in condensed matter; ultrafast dynamics in materials and nanostructures; self-organization; fluid physics; physical hydrodynamics; turbulence; instabilities; non-equilibrium phenomena; physics of biological systems; complex and active systems; granular materials; morphogenesis; instrumental developments; metrology.

Related ERC codes: PE03

Related ODDs: 9

‘Life Sciences’ field

The 11 themes of the "Life Sciences" domain and the cross-cutting themes H.03 and H.13 aim to cover the entire "Biology and Health" field. Translational research projects submitted to all of these themes as well as the cross-cutting themes H.02, H.03, H.04, H.13, and H.14 can apply for co-funding from the DGOS (General Directorate for Healthcare Provision) if a health care facility is a partner (Translational Research Program in Health, PRT-S)⁶⁷.

For projects involving clinical research, submitted under the research theme of the ‘Life Sciences’ domain and the cross-cutting research theme comprising a ‘Life Sciences’ component (research themes H.03, H.04 and H.13), please note that the AAPG only supports projects that precede the DGOS’s Hospital Clinical Research Programme (PHRC).

If the project involves the reuse of health data, it is proposed to use the Health Data Hub. It provides research teams with a state-of-the-art secure technological platform offering scalable computing capabilities, including in particular CPU and GPU resources suited to the needs of artificial intelligence projects and large-scale analysis of multimodal data (structured data, imaging, free text, etc.). Support for regulatory procedures and access to relevant databases are also offered. For more information, you can contact contact@health-data-hub.fr and consult the service offerings here <https://www.health-data-hub.fr/offre-technologique>. This applies to all research theme within the ‘Life Sciences’ domain and the cross-cutting themes H.03 and H.04.

Theme C.01: Biochemistry and chemistry of living organisms

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This research theme seeks to characterise, modulate and model the chemical and biochemical transformations made by the cell. Its scope, at the interface between biology and chemistry, covers the following topics:

- enzymology, pharmacology, toxicology, medicinal chemistry, chemobiology, bioorganic chemistry, bioinorganic chemistry

⁶⁷ An annexe dedicated to DGOS co-funding will be available on the webpage dedicated to the AAPG 2027 from September 2026.

- studies on metabolism and bioenergetics,
- signalling pathways and post-translational changes,
- chemical changes to biomolecules, natural or not (nucleic acids, proteins, glycans, etc.) and their potential applications,
- analytical approaches for studying biological systems, including quantitative proteomic, lipidomic, glycomic, metabolomic and multi-omic quantitative analyses, including in single cells
- Approaches to understand and act on living organisms and their applications to the detailed analysis of mechanisms in functional biology and in health and environment (synthesis, screening and molecular engineering, probes, modulators, chemical proximity inducers, ligands, molecules for diagnostic or therapeutic purposes),
- the design of new biological systems (synthetic biology, bio-engineering) and the controlled alteration of metabolic and biological macromolecular production pathways, in an attempt to understand the fundamental mechanisms of living organisms or to develop their biotechnological applications.

Projects at the chemistry-biology interface may either address a specific biological question or focus on developing original concepts or tools designed to explore, modulate, or mimic living systems.

Projects at the interface between chemistry and biology dealing with an application, an object or a scientific challenge mainly related to biology should be deposited in the present theme. Those whose main scientific challenge is mostly linked to synthetic chemistry should be deposited in the [theme B.04 Molecular chemistry](#).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: biochemistry; chemobiology; bio-organic chemistry; bio-inorganic chemistry; metals and living organisms; enzymology; pharmacology; toxicology; medicinal chemistry; bio-energetics; glycobiology; proteomics; lipidomics; glycomics; metabolomics; synthetic biology; molecular engineering; screening; biotechnologies.

Related ERC codes: LS01, LS02, LS07_8 to 13 and 16, LS09 (excluding LS09_2, 8 to 10, 12), molecular aspects of other LS panels

PE04_11 (Physical chemistry of biological systems), PE05_11 (Biological chemistry and chemical biology), PE05_18 (Medicinal chemistry)

Related SDGs: 3, 9, 14, 15

Theme C.02: Characterization of structures and structure-function relationships of biological macromolecules

Contact: sara.djouadou@anr.fr

This research theme aims at studying the molecular mechanisms of living functions through structural biology, advanced imaging, physico-chemistry and biophysics approaches. It covers the following topics:

- the study of biological mechanisms both in vitro (isolated, reconstituted or native multimolecular architectures) and in their natural environment, at the sub-cellular and cellular scales (isolated cells, multicellular systems up to the organ);
- structural biology approaches aimed at predicting and solving the structures of biological macromolecules (proteins, nucleic acids, lipids, oligo- or polysaccharides, ...) and their complexes (including endogenous native complexes) and deciphering their structure-function relationships;
- biophysical approaches for the study of macromolecules, their functions, interactions and dynamics, in isolation and in the cellular context;
- the association of the most efficient multi-scaled imaging techniques with data acquired through omics techniques (spatial genomic or proteomic);
- the characterization, modelling and reconstruction of networks of interactions involving supramolecular complexes and their disruption, for example during a pathological process;
- technological or methodological developments: in structural biology (NMR, crystallography, cryo-electron microscopy, cryo-electron tomography, etc.); in structural spectroscopy (IR, EPR, etc.); in imaging (super-resolution microscopy, correlative microscopies, ...); in signal processing, including multi-modal data integration; in artificial intelligence, mathematical modelisation, numerical simulation or molecular dynamics.

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: structural biology; cell structural biology; integrative structural biology; correlative approaches; structure-function relationships of biological macromolecules and their complexes; membrane structures; compartments without membranes; biophysics; single molecules; methodological developments; systems biology; modelling; interaction networks; artificial intelligence.

Related ERC codes: LS01, LS02, aspects relating to structure-function relationships in other LS panels. PE03_16

Related SDGs: 3, 9, 14, 15

Theme C.03: Genetics, Genomics and RNA

Contact: charlotte.lehericy@anr.fr

This research theme covers the following topics:

Genome organization and dynamics

- Deciphering the mechanisms involved in establishing and maintaining genome integrity, 3D genome organization, chromatin and its epigenetic modifications (role of gene entities, non-coding DNA, transposable elements, non-coding RNAs and RNA-protein interactions), including in response to environmental conditions (exposome).
- Multi-scale modeling and simulation of DNA-protein interactions and 3D genome structure.

Genomic processes and regulations

- Detailed studies of replication, repair, recombination, transcription, RNA maturation, translation and transport processes.
- Transcriptional, post-transcriptional and translational regulation and deregulation.
- RNA biology and epitranscriptomics: impact of RNA modifications and their 3D structure on genome integrity and gene expression.

Computational approaches to genomics and modeling

- Application of artificial intelligence and machine learning to the analysis of “omics” data (genomics, transcriptomics, etc.).
- Prediction and modeling of gene and RNA-protein interactions.
- Prediction of variant effects.
- Systems biology approaches to modeling gene expression regulation.

Epigenetics and phenotypic plasticity

- Transgenerational inheritance of epigenetic modifications.
- Influence of epigenetic modifications on phenotypic plasticity and adaptation to changing environments.
- Impact of the environment and the microbiome on the epigenome.

Comparative genomics and genome evolution

- Comparative studies of eukaryotic and prokaryotic genomes to understand the evolution of regulatory networks.
- Development of new approaches for the analysis and functional characterization of non-coding regions.

Genetics and epigenetics of complex diseases, multi-omics approaches and prevention

- Integration of multi-omics approaches (genomics, transcriptomics, proteomics, metabolomics) to understand complex and rare diseases.
- Development of prevention strategies based on genetics and epigenetics, including early risk identification and targeted interventions.

Approaches and study models: Research will be carried out at the molecular and cellular levels, on bacterial, archaeal, unicellular and multicellular animal or plant eukaryotic models, or on patient cohorts and control populations. The approaches used will include molecular, cellular, genetic, transcriptomic and proteomic methods, as well as multidisciplinary approaches that may involve the use of structural biology, biophysics, computer science and/or mathematics. However, interdisciplinary approaches must remain at the service of the study of genomes.

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: replication; repair; recombination; structure and dynamics of chromatin and bacterial nucleoid; epigenetics; gene expression; transcriptomics; non-coding RNAs; RNA maturation; ribosomes; translation; genome evolution; genetic diversity; genetic diseases;

genotype-phenotype relationships; exposome; genetic tool developments; epitranscriptome; AI in genomics; multi-omics data integration; RNA structure and function; preventive genomics.

Related ERC codes: LS02, LS01, LS08, LS09

Related ODDs: 3, 9, 14, 15

Theme C.04: Cell biology, developmental biology and evolution

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This research theme covers the following topics:

- an understanding of the basic biochemical and biophysical mechanisms associated with living cells: cell cycle, biogenesis and dynamics of intracellular organelles and the plasma membrane, molecular mechanisms of senescence, ageing and cell death, signal reception and transduction, homeostasis and differentiation of different cell types, maintenance and differentiation of stem cells, cell adhesion, cell movement and migration,
- an understanding of these mechanisms at the tissue level in the organism or in multicellular systems reconstituted in vitro (organoids, tissue engineering) to decipher the basic principles of cell homeostasis, morphogenesis, the embryonic and post-embryonic development of animal and plant tissues, the ageing of eukaryotic tissues and multi-cellular organisms as well as the organisation of prokaryotic cell colonies,
- an understanding of these mechanisms in the context of the evolution of species and the adaptation to environmental conditions.

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: intracellular trafficking; cell cycle; senescence; apoptosis; cellular homeostasis; cell differentiation; adherence-cell movement and migration; tissue homeostasis; morphogenesis; stem cell biology; developmental biology; signalling; evolutionary biology; cell physics; gametogenesis.

Related ERC codes: LS03, LS08

Related ODDs: 3, 9, 14, 15

Theme C.05: Physiology and pathophysiology

Contact: vincent.rouet@anr.fr

This research theme covers the following topics:

- an understanding of the hierarchical assembly of molecular and cellular components of tissues and organs as well as of the underlying signaling pathways, their interactions and the physiological properties generated by these interactions,
- an understanding of these interactions and properties within organisms as a whole and within the framework of inter-organ dialogue, including microbiota,

- an understanding of these mechanisms and of their alteration in pathological processes, including environmental factors.

Multidisciplinary proposals dealing with all biological, nutritional, behavioural, psychological and social determinants underlying physiological and/or pathological functioning may be evaluated in this theme.

Projects that mainly address a neurobiological aspect of these determinants should be submitted in the [Theme C.07 Molecular and cellular neuroscience - Developmental neurobiology](#) or in the [Theme C.08 Integrative and cognitive neuroscience](#).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: physiology; pathophysiology; multifactorial chronic diseases; ageing; metabolism; nutrition; reproductive biology; immuno-inflammation, endocrinology.

Related ERC codes: LS04, LS07

Related ODDs: 3, 9, 14, 15

Theme C.06: Immunology, infectiology and inflammation

Contact: ana.navarrete@anr.fr

This theme covers the following topics:

- the characterization of molecular and cellular actors involved in the defenses of organisms and inflammatory processes during innate and adaptive immune responses, in order to establish an integrated analysis of the immune system under physiological and pathological conditions. This includes inflammatory responses to infections, immune deficiencies, chronic inflammatory diseases, autoimmune and autoinflammatory diseases, hypersensitivity, and organ and cell transplantation, as well as the mechanistic study of the effect of hyperactivation of the immune and inflammatory system at the systemic level at all ages of life;
- the mechanisms used by human and animal pathogens to exploit host cellular factors for their survival, dissemination, and transmission at the host level;
- the identification of infection restriction factors in humans and animals;
- the study of molecular and cellular mechanisms that allow the development and homeostasis of the various components of the immune system, under physiological or pathological conditions. This includes inflammation, allergy, autoimmunity, and host-microbe interactions at all scales (omics (including metabolomics, proteomics, transcriptomics), cell, organ, organism, microbiome) and at all ages of life, including fetomaternal. These approaches may rely on the development of new models and mathematical and bioinformatic approaches to better understand these processes;
- the study of the interactions of the immune system with other major systems (digestive, nervous, cardio-respiratory) under homeostatic, pathological conditions, as well as following inflammation of infectious or non-infectious origin;
- the long-term evolution of infectious diseases and the impact of infectious diseases on chronic diseases;

- studies on the fundamental biology of microorganisms that could pave the way for the development of new anti-infective approaches. A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: immune defenses; infectiology; host-pathogen interactions; host-graft interactions; pathogenicity of bacteria, viruses, parasites and fungi; inflammation; homeostasis and deregulation of the immune system; microbiology; microbiota; symbiosis/dysbiosis; immune deficiencies; allergies; autoimmunity; inflammatory process; modelling; graft response; approaches in immunotherapy; biomarkers; regulation; mother-foetus interface.

Related ERC codes: LS06

Related ODDs: 3, 9, 14, 15

Theme C.07: Molecular and Cellular Neurosciences – Developmental Neurobiology

Contact: marco.debattista@anr.fr

This research theme covers the following topics:

- All studies at the molecular and cellular scale aimed at understanding the mechanisms governing the establishment, functioning, dynamics, and plasticity of the nervous system, brain-body interactions, and sensory organs, under normal or pathological conditions (including neurovascular, neuroendocrine, neuroimmune, and neuroinflammatory components).
- The hierarchical organisation of the molecular, cellular, and tissue components of the nervous system, the brain-organ axes, the sensory organs; and the relationships between their dynamics, their plasticity, and the functional properties of the nervous system.
- Understanding the mechanisms and identifying the environmental, molecular, and cellular determinants involved in common or rare pathologies of the nervous system (including those affecting the sensory organs), such as psychiatric, neurodevelopmental, and neurodegenerative disorders. The neurovascular, neuroendocrine, neuroimmunological (including neuroinflammatory and autoimmune) and neurosensory components of these pathologies are also included, except for non-neuronal aspects, which are covered by [Theme C.05: Physiology and Pathophysiology](#).

All invertebrate and vertebrate animal models are considered under this theme, along with the experimental and technological approaches and their development (imaging, computation and models, artificial intelligence, behaviour, electrophysiology, pharmacology, optogenetics, etc.).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: neurogenetics; cellular neurobiology; biophysics; brain-body interactions; neuropharmacology and neurophysiology; neurodevelopment; neuroendocrinology; sensory organs; neurodegenerative diseases; pain; addictions; psychiatry; mental health; ageing.

Related ERC codes: LS05, LS03, LS07

Related ODDs: 3, 9, 14, 15

Theme C.08: Integrative and Cognitive Neuroscience

Contact: lorelina.robbe@anr.fr

This research theme covers the following topics:

- all integrative studies intended to understand high-level brain properties and functions,
- the different levels of organisation, hierarchy and interactions specific to the functioning of the brain, e.g. those involved in multi-sensory integration, motor planning and execution, decision-making, memory, behaviour, emotions, cognition and states of consciousness, brain-organ interactions, the specific aspects of the human brain including its social - e.g. self-awareness, language, relationships with others - and pathological dimensions,
- the mechanisms and biological, cognitive, environmental and social determinants of behaviour and learning, of normal and pathological brain and cognitive aging, of mental health disorders, neurodevelopmental diseases and autism spectrum disorders, neurodegenerative diseases, pain, addictions and rare diseases affecting the nervous system to prevent and treat them with the objective of promoting complementary aspects and synergies between basic research and preclinical and clinical research in the field of mental health, psychiatry and addictions,
- nervous system pathologies including cerebrovascular diseases and pathologies of the sensory organs except for non-neural aspects that are covered by the [theme C.05 Physiology and Physiopathology](#).

All study models are considered under this theme, including in-vivo, in-vitro, and computational models.

Experimental approaches include in-vivo functional and multi-modal imaging (MRI, fMRI, PET, photonics, ultrasound NIRS, MEG, EEG, surface/intracranial/mobile EEG and neurostimulation (tACS, tDCS, (r)TMS)), electrophysiology, computational analysis, brain-machine interface, artificial intelligence, behaviour, optogenetics, psychophysics, pharmacogenetics, data science, statistical physics etc...

An epidemiological approach to health inequalities in the mental health area is covered by the [Theme H.04 : Public health, health and societies](#). Technological developments without an integrative or cognitive dimension, including connected devices fall under the [Theme H.13 : Healthcare technologies](#).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: cognition; behavior; computational neuroscience; psychiatry; mental health; neurodegenerative diseases; pain; addictions; physiopathology and clinical approaches; cross-sectional studies; diseases affecting sensory organs; sensory-motor system; neurodevelopment; social and affective neuroscience; brain-organ interactions; evolution.

Related ERC codes: LS05, LS07, SH04

Related ODDs: 3, 9

Theme C.09: Translational health research

Contact: salome.legoff@anr.fr

The goal of this research theme is aimed at funding studies positioned downstream from exploratory research projects carried out in research laboratories and upstream of clinical projects supported by the Hospital Clinical Research Programme (PHRC), managed by the General Directorate for Healthcare Provision (DGOS).

Proposals, which aim at the formulation of new hypotheses, that can subsequently be tested in a clinical research framework and are therefore located at the interface between basic and clinical research, are reviewed in this research theme.

Tissue engineering and regenerative medicine projects are supported under the [Theme C.11 : Biology and regenerative medicine](#).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: new therapeutic approaches; new diagnostic approaches; physiology; pathophysiology; personalized medicine; biomarkers; epidemiology; cohorts.

Related ERC codes: LS07, LS04

Related SDGs: 3

Theme C.10: Biomedical Innovation

Contact: nadia.senni@anr.fr

This research theme covers the following topics:

- the study and validation of new therapeutic targets,
- the design and development of chemical or biological therapeutic products (including vaccines and nanomedicine),
- the new biomedicine formats optimised for production processes not related to regenerative medicine,
- relevant animal models for the biological and/or pre-clinical assessment of products of therapeutic interest,
- vaccine prevention methods;
- diagnostic and prevention tools and products,
- biomarkers.

PRCE projects are especially well suited for this theme to take into account the applications of the proposed research and their possible development (cf. description of the PRCE instrument).

Projects concerning medical devices, imaging and health technologies in general, fall under the specific [Theme H.13 : Healthcare technologies](#).

Tissue engineering and regenerative medicine projects fall under the specific [Theme C.11 : Biology and regenerative medicine](#).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: new therapeutic targets; drug-design; vaccines; biotechnologies; nanobiotechnology; biomarkers; pharmacology; medicinal chemistry; adjuvants; vectors; antibodies; biodrugs; bioproduction.

Related ERC codes: LS07

Related SDGs: 3, 9

Theme C.11: Biology and regenerative medicine

Contact: noella.grossi@anr.fr

Regenerative medicine covers all therapeutic strategies aimed at replacing, repairing or regenerating damaged tissues or organs in situ. This multi-disciplinary and translational research theme covers the following topics:

- innovative biomaterials: their characteristics and interactions with the living world and their use in tissue engineering therapeutic approaches; pure materials engineering projects are thus excluded;
- medical devices interacting with the biological environment (active devices) to offset or replace dysfunctional tissues or organs
- research in cell and cell-free therapy for application in regenerative medicine. Immunotherapy and onco-haematology projects are excluded;
- stem cells (embryonic or induced): the study of the mechanisms of transdifferentiation/differentiation and proliferation of stem cells for their use in regenerative medicine. Basic research projects (cell biology, developmental physiology or biology) are excluded;
- in vitro physiological and/or pathological cell models (organoids, organ-on-a-chip, spheroids, etc.), including for therapeutic target identification and screening;
- research on molecular components contributing to the mechanisms of cell and/or tissue regeneration. Basic research projects (cell biology, developmental physiology or biology) are excluded;
- artificial, xenogenic or chimeric tissues or organs: all projects aimed at developing artificial organs for therapeutic purposes and their integration into the organ. Research on the preservation and/or reconditioning of explanted human organs, transplantation of new organs or tissues, tools to help monitor tissue regeneration. Projects aimed at creating purely technological artificial organs without any biological component are excluded;
- gene therapy research to regenerate tissue or organ functionality;
- research on new tools for the clinical grade production of advanced therapy products and demonstration of proof of concept.

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: biomaterials; medical devices; cell therapy; gene therapy; stem cells; tissue ingeniering; Extracellular vesicule; trophic factors for tissue regeneration; organoids; organ-on-chip; pharmacological approaches; innovations in organ and tissue transplantation; transplantation; personalised medicine; biomanufacturing processes; proof of concept; monitoring of tissue regeneration; preclinical models; in vivo feasibility and tolerability.

Related ERC codes: LS07, LS09, LS3, PE05_7 Biomaterials, biomaterials synthesis, PE8_8 Materials engineering (biomaterials, metals, ceramics, polymers, composites, etc.)

Related SDGs: 3, 9

‘Humanities and Social Sciences’ field

The seven priority areas of the Humanities and Social Sciences programme aim to cover the entire field; this objective of comprehensiveness has led to the adoption of either thematic or disciplinary headings, as appropriate. The topics selected within each priority area outline general directions, without excluding other subjects or issues.

Monodisciplinary or multidisciplinary projects within the Humanities and Social Sciences are welcome, regardless of their approach (comparative, multi-scalar, systemic, etc.) and their purpose (basic or applied research, academic, economic or societal impact).

Collaborations with researchers or teams outside the Social Sciences and Humanities fall under the cross-cutting research theme, except where otherwise stated below in the description of the research themes.

Theme D.01: Individuals, companies, markets, finance, management

Contact: mariaalessandra.bianchi@anr.fr

This theme, which covers markets, finance, management, individuals and households, is intended to welcome projects dealing with the transformation of the economic and financial sphere and of productive systems.

The projects will come under the following topics (non-exhaustive list):

- individual and collective preferences and behaviour (households, consumers),
- company behaviour and strategies, HR management, marketing,
- industrial organisation, sector dynamics, networks,
- strategic interactions, networks, innovations and new technological trajectories, R&D,
- competition, regulation, financial institutions, financial markets,
- investment decisions, market fluctuations,
- historical and diachronic approaches to the economy, companies and markets,
- RSE, taxation, measurement indicators: performance, productivity, well-being, inequalities,
- international economics, development economics, international trade and commerce, trade policies, international distribution of value chains,

- transitions, indicators, impact measurement and sustainable growth.

Related keywords: banks; well-being; social choice; trade; behaviours; accounting; competition; growth; econometrics; decarbonised economies and finance; sustainability; employment; companies; equilibrium(s); finance; taxation; fluctuations; individuals; inflation; innovation; interactions; investment; macroeconomics; management; markets; households; microeconomics; organisations; preferences; regulations; networks; human resources; pensions; risks; RSE; strategy; digital transformation; History of economic thought.

Related ERC codes: SH1

Related SDGs: 1, 2, 3, 7, 8, 9, 10, 13

Theme D.02: Institutions and organisations, legal frameworks and standards, governance, international relations

Contact: marie.fleck@anr.fr

This theme welcomes projects relating to the joint transformation of societies and institutions, organisations, legal, normative and political systems, at all scales. It covers the field of public policies, government, infra- and supranational stakeholders and public-private interactions. It encompasses an understanding of political organisations, modes of government and governance, contemporary regulatory and administrative systems and international relations.

The projects will come under the following topics (non-exhaustive list):

- changes in law, legal and normative systems; repertoires of action; applications and socio-political impacts of these transformations; standards; economic approaches to law, law and ethics,
- social and legal regulations pertaining to violence, judicial rules and organisations, public freedoms and security, challenges to the legal order,
- political theory, transformation of political systems (changes in democracies, new forms of collective mobilisation and protest), transformation of modes of government and governance at all levels,
- analysis of public action and policies at international, European, national and territorial levels,
- analysis of national and international state policies,
- globalisation, international relations, global governance, non-government stakeholders, geopolitics and geostrategy, contemporary war and peace processes;
- knowledge, expertise, data (including digital); political, social and legal data issues and protection thereof (e-health, big data, etc.).

Related keywords: non-state stakeholders; public action; economic approach to law; big data; constitution; decentralisation, democracy; diplomacy; data; law; comparative law; human rights; states; ethics; expertise; federalism; governance; national defense; government; wars and peace; legal history; institutions; justice; legislation; freedoms and security; transnational logics; humanitarian assistance and development; administrative change; norms; philosophy of law; local authorities; control; practices; regulations; international relations; conflict resolution; knowledge; political science; judicial system; legal theory.

Related ERC codes: SH2

Related ODDs: 5, 10, 13, 16

Theme D.03: Contemporary societies: state of, dynamics and transformations

Contact: sylvie.contrepolis@anr.fr

This theme welcomes projects relating to social transformations and dynamics, populations and settlements, integration and differentiation processes, education and training, health, work, sport, information and communication.

The projects will come under the following topics (non-exhaustive list):

- demography, families, life pathway, ageing, social trajectories, transformations of social groups,
- human and social health, public health and health care systems, disability, quality of life, health and human sciences,
- social approaches to work, public employment policies, working conditions,
- education, training, educational policies, school organisation, educational innovations and experiments, lifelong learning,
- inequalities, social, economic and environmental, discrimination, inclusion and exclusion logics, access to rights,
- contemporary developments in religion, secularisation and secularism, beliefs and practices, radicalisation,
- citizenship, mobilisation, participation, individual and collective action, social cohesion, conflict, delinquency,
- organisational communication, documentation, communication techniques, information management,
- media and social networks, infodemic, information and big data,
- food: food supply, food practices, food safety,
- sport(s), sport practices, sporting events, sport and health,
- tourism(s), tourist mobility, leisure.

Related keywords: age; food; learning; social approaches to work; citizenship; communication; conflict; consumption; delinquency; demography; discrimination; education; employment; exclusion; religion; family; training; gender; disability; inclusion; inequalities; infodemic; information; secularism; media; life pathway; participation; poverty; pedagogy; social protection; health; solidarity; sport; care systems; tourism.

Related ERC codes: SH3

Related SDGs: 2, 3, 4, 5, 10, 11, 12, 16

Theme D.04: Cognition, behaviour, language

Contact: solene.gallerne@anr.fr

This theme welcomes projects allowing a better understanding of human cognition and thought (brain aptitudes and capacities; psychology) and their relationship with social, individual or collective behaviour. It encompasses studies on language, considered in its relations with other cognitive functions and through various approaches, if possible crossed (pragmatics, sociolinguistics, linguistic anthropology, etc.).

The projects will come under the following topics (non-exhaustive list):

- social cognition and social interactions, theory of mind, comparative cognition,
- individual behaviours, practices and decision-making; interactions between individual behaviours and collective entities or phenomena (institutions, social influences, public and private policies, etc.) ,
- social perception, social categorisation, non-verbal behaviour,
- cognitive and emotional development throughout life; influence of the environment (emotional, family, social, etc.) ,
- developmental, cognitive, sensory-motor disorders, disabilities,
- decision making, memory, cognition and consciousness, specific aspects of the human brain including its social dimensions,
- the interactions between language (creativity, use, behaviour), other cognitive functions (perception, attention, awareness, emotion, reasoning, memory, motor skills...) and the brain, acquisition and learning processes,
- and socio-linguistics, linguistic anthropology; theoretical linguistics, computational linguistics,
- human-machine interaction, artificial intelligence, verbal and non-verbal communication.

Related keywords: discourse analysis; linguistic anthropology; cognition; verbal and non-verbal communication; behaviours; decisions; experiments; uncertainties; information; artificial intelligence; language; linguistics; human thought; social perception; pragmatics; psychology; human-computer relations; risks; cognitive sciences; socio-linguistics; theory of mind; developmental and cognitive disorders.

Related ERC codes: SH4

Related ODDs: 2, 3, 4

Theme D.05: Arts, languages, literatures, philosophies

Contact: catherine.pellini@anr.fr

This theme welcomes projects relating to texts and writing, literatures, languages, representations and artistic expression, the production, dissemination and reception of works, whatever their nature and medium; it also encompasses everything relating to theoretical and critical thought.

The projects will come under the following topics (non-exhaustive list):

- literature(s): history, theory, criticism; comparative approaches, poetics, genetics of texts; literature and humanities,
- creative processes and theories; economics, law, politics of creation,
- arts, live performances, images, music,
- architecture, design, fashion, contemporary decorative arts,
- aesthetics, metaphysics, logic, ethics,
- religious texts and traditions, new corpora, exegesis, receptions,

- diachronic and synchronic, descriptive and analytical approaches to languages; language(s), script(s), writing(s); rare languages, new languages; historical and cultural contexts of languages; multilingualism and interculturality,
- constitution and analysis of digital corpora (texts, images, sounds, etc.), digital philology, digital creations.

Related keywords: architecture; arts; decorative arts; performing arts; visual arts; digital corpora; material and immaterial creations; literary criticism; epistemology; aesthetics; ethics; design; law and economics of creation; exegesis; textual genetics; history of the arts; literary history; humanities; creative and cultural industries; languages; languages and cultures; rare languages; historical linguistics; literature; comparative literature; literatures and languages; musicology; music; philology; philosophy; poetics; linguistic systems; book studies.

Related ERC codes: SH5 and SH8_5, SH8_6, SH8_7, SH8_8, SH8_9

Related ODDs: 4, 8

Theme D.06: Studies of the Past, Heritage, Cultures

Contact: mecthilde.airiau@anr.fr

This theme welcomes projects relating to past societies, their history and archaeology. The challenge is to understand the diachronic structuring and organisation of societies, their relationship with their environment and their cultures. This theme also encompasses heritage in all its forms, and heritage issues.

The projects will come under the following topics (non-exhaustive list):

- forms of organisation and structuring of societies; comparative, cross-cutting, connected and global history; anthropology of social and cultural practices (body, food, sexuality, education, medicine, etc.) ,
- political and institutional history (powers, dominations, imperialisms and imperialities); history of conflicts and international relations, colonial and post-colonial history; laws, justice and penal practices,
- environments of the past, environments and landscapes, interactions between human societies and their environment, especially in the face of global change, history of environmental awareness. This topic could be the subject of interdisciplinary projects including disciplines outside the Social Sciences and Humanities field;
- cultural, economic, political, legal and technological contexts of material production; history and archaeology of gestures and techniques, skills and trades, exchanges and networks, objects and texts;
- expressions of symbolic thought: arts, value systems, ideas and representations, dynamics of religions, cults, rites, myths and beliefs; creation of identities;
- intellectual history, history of science, technology and literary knowledge;
- databases, documentary corpus, convergence of sources and cross-approach of the sciences of erudition;
- heritage (natural, cultural, tangible, intangible): study, restoration, conservation, legal protection, enhancement, process of patrimonialisation, at the national and international levels.

Related keywords: archaeology; archaeomaterials; codicology; documentary corpus; beliefs and religions; territorial dynamics; exchanges; epigraphy; creation of identities; geo-archaeology; ancient history; contemporary history; history of conflicts and international relations; history of sciences; environmental history; intellectual history; medieval history; modern history; political and institutional history; social history and anthropology; museography; numismatics; paleoenvironments; palaeography; papyrology; symbolic thought; philology; memory practices and policies; prehistory; material production; protohistory; safeguarding, protection and conservation of cultural goods; sciences of scholarship; heritage sciences; techniques and technologies; heritage enhancement.

Related ERC codes: SH5, SH6, SH8_1, SH8_2, SH8_3, SH8_4, PE10_6

Related SDGs: 4, 8, 15

Theme D.07: Societies and territories in transition

Contact: clara.nogueira@anr.fr

This theme welcomes all projects with a geographical or spatial dimension and likely to enrich the understanding of territories (urbanised, urban, peri-urban, rural, productive, etc.) in all their dimensions, dynamics and interactions. A link is expected between spatial and temporal scales as well as levels of socio-political organisation.

The projects will come under the following topics (non-exhaustive list):

- socio-spatial systems, territorial transitions;
- places and non-places, spatial and territorial identities, relationship between societies and territories (including seas and oceans, air and outer space);
- mobilities and migrations, identities, belonging, models and forms of integration;
- rebuilding relations between centres and peripheries; borders, margins, integration, segregation, fragmentation, crime; city policies; housing markets, social, spatial and environmental justice;
- development and urban planning, land use, land, housing market, local taxation, property prices, regulation of real estate platforms;
- territorialisation of public policies, territorialisation of rights, extraterritoriality, law and territory, sovereignty;
- adaptation of socio-ecological systems to global environmental change; development and protection of resources and landscapes; social and territorial vulnerability and resilience; ecological, climate and energy transitions of territories; environmental empowerment, capabilities and agency; environmental conflicts and mobilisations;
- digital revolution and its consequences, smart cities, cyberspace;
- geomatics, geo-referenced data and corpora, databases and interoperability, cartography and critical approaches to maps.

Related keywords: spatial analysis; databases; cartography; centre/periphery; city living; cyberspace; territorial dynamics and trajectories; spatial economy; low-density spaces; maritime and air spaces; extraterritorialities; land; geomatics; geo-referencing; globalisation; housing; metropolisation; modelling; globalization; multiculturalism; nuisances; landscapes; peri-urban;

pollution; region; regionalisation; resilience; resources; digital revolution; risks; rurality; segregation; smart cities; societies and territories; territories and productive systems; territorialities; ecological, climatic and environmental transition; urbanity; vulnerability.

Related ERC codes: SH7

Related SDGs: 7, 8, 9, 11, 13

'Digital Sciences' field

Theme E.01: Foundations of digital sciences: computer science, automatic control, signal and image processing

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This theme concerns fundamental research striving for excellence and breakthroughs in the fields of computer science, automatic control, and signal and image processing.

Multidisciplinary projects oriented towards specific application domains and aiming for mutual scientific benefits between disciplines can also be submitted in the following themes:

- [H.14 Interfaces: mathematics, digital sciences – biology, health](#) ;
- [H.15 Interfaces: mathematics, digital sciences – Humanities and social sciences](#) ;
- [H.16 Interfaces: mathematics, digital sciences – Earth system sciences including climate, environment and biodiversity](#).

These axes are more suitable to interdisciplinary projects whose consortium includes researchers from the different concerned disciplines.

Related keywords: algorithmics; signal analysis and representation; computer arithmetic; symbolic computation; calculability and decidability; correction codes; combinatorics; automation and control; control and observation; complexity; compression; cryptography; cybersecurity; detection-estimation; estimation and identification; fundamentals of databases; algorithmic geometry; theoretical computer science; languages and semantics; logic; formal methods; computational models; competition models; optimisation; operational research; software science; dynamic systems; graph theory; information theory; game theory; proof theory; systems theory and modelling; geometrical data processing; signal processing; image processing.

Related ERC codes: PE01, PE06, PE07

Related ODDs: 9

Theme E.02: Artificial Intelligence and Data Science

Contact: mira.bousaleh@anr.fr

This research theme expects research in artificial intelligence covering, in a broad sense, machine learning and its mathematical foundations, as well as symbolic approaches, massive data processing and data science, and knowledge management.

The following themes are given as a guide:

- methods and models to manage and exploit large volumes of data, whatever are their variety, mode of production and quality;

- machine learning: learning theory, optimisation, new paradigms, constitution, annotation and corpus evaluation;
- methods and models for knowledge extraction and management: representation and reasoning about knowledge, data and knowledge mining, ontology engineering and its use in data enrichment and information retrieval, knowledge graphs, decision theory, multi-agent systems and the semantic web;
- research activities based on data and AI methods aiming at advancing the state of the art in order to complete complex tasks (computer vision, automatic language and speech processing, automatic translation, etc.), autonomous decision-making systems or systems enabling high-level interactions with human users;
- methods and models integrating, in a transverse way on its various themes, the scientific stakes linked to the deployment of artificial intelligence in particular in terms of trust and frugality, making it possible to ensure transparency, safety, trust, explanation of learning, decision and reasoning models, preservation of private life, equity.

Work contributing to research in Human-Machine Interaction and Robotics should be addressed in the [Theme E.04 Interaction, robotics, immersive worlds](#). Work combining digital sciences with other disciplines falls under this theme as multidisciplinary proposals, with the exception of work pertaining to the fields of health, transport and safety, or at the interface between AI and Social Sciences and Humanities and AI and environmental sciences. These should be addressed, respectively, in the transversal themes [Theme H.14 Interfaces: mathematics, digital sciences – biology, health](#), [Theme H.18 Cities, buildings and construction, transport and mobility: transition to sustainability](#) and [Theme H.17 Global security, resilience and crisis management, cybersecurity](#), [Theme H.15 Interfaces: mathematics, digital sciences – Humanities and social sciences](#) or [Theme H.16 Interfaces: mathematics, digital sciences – Earth system sciences including climate, environment and biodiversity](#).

Related keywords: agentification; decision support; scene analysis and interpretation; machine learning (supervised, self-supervised, unsupervised, reinforcement, federative, distributed, decentralized, continuous, real-time ...); representation learning and domain transfer; learning from unstructured data; neuro-symbolic approaches; causality; certification; computational social choice; confidentiality; consensus and synchronisation; massive data; rare data; ethics; explicability; text and data mining (TDM); knowledge mining; data mining; data frugality; fusion; uncertainty management; imprecision; content indexing; distributed artificial intelligence; embedded artificial intelligence; hybrid artificial intelligence; responsible artificial intelligence; computational models; large-scale distributed computational models on data; foundation models; dynamic models; statistical models; generative models; hybrid models; ontologies; optimization; planning; privacy; experimental protocol; validation protocol; data quality; reasoning; heuristic search; information retrieval; operational research; pattern recognition; knowledge representation; reproducibility; robustness; constraint satisfaction; stability; trust systems; consensus systems; multi-agent systems; hybrid systems; model compression techniques; game theory; automatic language and speech processing; multimodal data processing; transparency; validation; computer vision; data visualization; semantic web; scientific workflows.

Related ERC codes: PE01, PE06, PE07

Related SDGs: 9, 14

Theme E.03: Software sciences and technologies- future networks, cloud and edge computing

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This research theme deals with proposals aimed at overcoming fundamental or applied research challenges in three main fields, sometimes combined or not:

- Software development, as an object of study on the entire software life-cycle, covering new programming languages, requirements engineering, design and production software engineering, including model-driven engineering, variability and adaptability management across all layers, program analysis, testing, validation, verification and software certification, etc. This area also aims at taking into account resources, safety, security and trust in software: eco-responsible software, compilation and optimization of, for example, AI-Embedded models, identification and correction of vulnerabilities in cybersecurity, dynamic adaptation and self-adaptive systems, ... This area also concerns the study of software production processes: infrastructure and integration into cyber-physical systems. Finally, the set up approaches are formal and/or empirical approaches, they support analysis of software and production practices. It also targets the design of software technologies for embedded systems integrating their various aspects and constraints (real-time, mixed criticalities, predominant software, cyber-physics, non-functional constraints, etc.);
- Communication networks as an object of study covering all its components and facets, taking into account their multiple topologies (ad hoc, peer-to-peer, mesh, edge, core networks, wireless and cellular networks, etc.), speeds (high-speed communications versus networks of objects) and usages. All the links go from the physical layer, including antennas and their interactions with the network, to the exploration of differentiated and mobile usage conditions, justifying analyses in terms of security, availability and reliability, and authorising context-sensitive services. This field of research also relies on progress in terms of standardisation (5G, 5G+, 6G), virtualisation and networks of the future (air-ground, satellite, etc.);
- High performance computing and communication infrastructures allowing the development of computing models, algorithms and the exploitation of massive parallelism, optimisation and dynamic management of resources based on quantitative properties and measurements (performance, robustness, memory, energy efficiency), programming environments and algorithms for the exascale. This field also targets the study of the distribution of computation on various topologies and network architectures ("edge cloud", fog, cloud, cache, etc.) connecting computation resources as well as the various aspects of virtualisation of applications, servers, networks (SDN), etc. without omitting the security aspects.

Related keywords: hardware accelerators; programme and production practice analysis; active antenna; model-driven approaches; software architectures; heterogeneous hardware architectures; architecture and programmability of communication systems; cloud computing; optical communications; radio communication; optimised compilation to centralised or parallel (multi-core) architectures; service composition; design and development of languages and models; formal development of software and systems; energy efficiency: from measures to solutions; elasticity; reliability and availability; digital frugality; management of shared infrastructures; interference management; vulnerability identification and remediation; service-infrastructure interface; middleware; internet of things; programming languages; anti-malware; testing and debugging methods; metrology; mobility; computational models for parallelism;

distributed computing models; channel model; modulation; connected objects; network optimisation; orchestration of protocols and services; orchestration and optimisation of communication/execution/storage resources; real-time OS; massive parallelism; scaling; software stack; control, management and information plans; service platforms; proof of safety and security properties; software development process; cryptographic protocols; programming and web security; data privacy; virtual prototyping; QoS; security; end-to-end security; security of hardware systems; sciences and software engineering; context-sensitive services; trust solutions; self-adaptive systems; distributed systems and algorithms; embedded systems; Operating systems; supervision; access techniques; blockchain technology; traceability; verification and validation; virtualisation.

Related ERC codes: PE06, PE07

Related SDGs: 8, 9

Theme E.04: Interaction, robotics, immersive worlds

Contact: romain.breitwieser@anr.fr

The projects expected in this research theme concern, on the one hand, Human-Machine interaction in all its dimensions, including natural dialogue, the creation of multimedia content, interfaces and the various cognitive processes from perception to cognition and, on the other hand, autonomous and interactive robotics in all its components (service robotics, medical robotics, industrial robotics, robotics for the environment, agricultural robotics, construction robotics, exploration robotics, multi-robot cooperative systems).

This research area also supports interdisciplinary research actions in particular at the interface with artificial intelligence.

If projects raise ethical issues, these should be addressed in the proposal.

Manufacturing robotics projects aiming at industrial performance rather than the development of robotics per se, are to be submitted in the [Theme H.19 Transformation of production systems for goods and services: human, organisational and technological challenges](#). Projects on Robotics for health that do not include robotics development should be submitted under the [Theme H.13 Healthcare technologies](#). Projects with applications in Interaction or Robotics but whose field of study is artificial intelligence should be submitted under the [Theme E.02 Artificial intelligence and data science](#).

Related keywords: conversational agents; 3D animation; cognitive architectures; decision-making autonomy; sensors; physiological sensors; robotic mapping; cobots; human-robot collaboration; non-verbal communication; practice-centered design; user-centered design; participatory design; co-design; multimedia content creation; immersive environments; dialogue; multi-source data; interface ergonomics; exoskeletons; field robotics; computer-assisted medical-surgical gestures; humanoids; affective computing; collaborative interaction; device-technique interaction; human-system interaction; human-data interaction; instrument-organ interaction; multimodal interaction; adaptable interfaces; multi-sensory interfaces (gesture, touch, face, sound, speech, ...); brain-machine interface; mobility; planning; audio perception; cognitive psychology; augmented reality; mixed reality; virtual reality; rendering; haptic feedback; affective robotics; collaborative robotics and multimodal rendering; surgical robotics; handling robotics; manufacturing robotics; social robotics; agricultural robots; aerial robots; companion robots; soft robotics; underwater robots; terrestrial robots; simulation; adaptable systems; multi-

robot systems; ultrasound; touch-pressure; processing of particular image modalities (infrared); autonomous vehicles; interactive data visualisation; computer vision; wearable computing.

Related ERC codes: PE06, PE07, SH04

Related SDGs: 2, 3, 4, 5, 8, 9, 10, 11, 12

Theme E.05: Modelling, simulation and optimization, High-performance computing, digital sobriety, applications

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Modelling, simulation and optimization are major scientific challenges for understanding and analyzing phenomena and their interactions, predicting and anticipating changes, improving processes.

To achieve significant scientific advances and breakthroughs, including:

- The development of new explanatory, predictive or inductive models, their parametrization, their control and model coupling;
- The resolution of these models (precision, stability, reduced cost/computational burden);

Proposals addressing

- Significant scientific breakthroughs on cutting-edge topics that are still open;
- Emerging topics, recently identified, particularly in connection with the development of data science;
- Multidisciplinary topics bringing together experts from various communities, including probabilists, analysts, statisticians, digital scientists, modelers, data science experts, modelers and experts in the targeted application areas;

are highly encouraged.

Among the challenges that can be addressed, we can cite:

- the development of models for complex problems that integrate physical and/or symbolic knowledge, optimization methods (robust, stochastic, etc.), the development of artificial intelligence techniques, notably learning techniques;
- the hybridization of physics-based modelling and data science, the development of quantum technologies and their coupling with other approaches;
- the development of explainable models for domain experts or post-hoc analysis methods fostering applicability is also expected;
- the spatio-temporal representation of results and data, augmented and virtual realities, immersive worlds, as well as high-performance data analysis and the deployment of data processing chains;
- programming tools and techniques on heterogeneous and parallel architectures, as well as the development of digital libraries and new numerical methods adapted to the new architectures, in particular exascale architectures;
- the development of approaches integrating hardware and software;

- algorithmic, numerical methods, the potential of high-performance computing, the construction and exploitation of reduced and surrogate models, temporal and spatial parallelism, variable-precision algorithms, and adaptive discretizations;
- specific challenges related to stochastic models, to quantization and to uncertainty propagation;
- digital sobriety, energy consumption, frugality.

Particular attention will be paid to the development of ambitious and structuring projects by communities combining expertise in extreme computing and mastery of a field of application (energy, climate, environment, cosmology, smart cities, industry 4.0, etc.) to bring their scientific models to a new scale or dimension that may require an exaflop supercomputer. The team will have to highlight the implementation needs of its scientific project in terms of adaptation, or even evolution, of all or part of the existing algorithms, as well as the implementation of complex workflows. The estimation of the impacts (financial, societal, environmental) of the work carried out must be taken into account.

Frugal technologies having low environmental footprint will also receive special attention.

The above text seeks to describe the themes included in this research area. The themes mentioned refer to the challenges and scientific work identified during the writing of this text. Research avenues that have emerged very recently and which are naturally related to this research area are included within the scope of this call.

Related keywords: linear algebra; heterogeneous architectures, hybrid, CPU, GPU, FPGA, multi-core; data assimilation and inversion; scientific computation library; supercomputing; Computer cluster; co-design (software, hardware, application); control and observation; coupling of hardware and computer systems; domain decomposition; energy efficiency; exascale; computational frugality; management of large amounts of scientific data; HPC; digital twins; modelling languages; meshing; data-driven models; modelling and simulation; optimisation; electricity consumption measurement tools; massive, hierarchical and heterogeneous parallelism; scalability; performance; quantification of multi-scale, multi-physics uncertainties; model reduction; spatial and temporal data representations and structures; resilience/fault tolerance; scalability; heterogeneous and/or hybrid dynamic systems; operating systems; hardware abstraction techniques; validation and verification; scientific visualisation; workflows.

Related ERC codes: PE01, PE06, PE07, PE08

Related SDGs: 9

Theme E.06: Quantum Sciences and Technologies

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In accordance with the national quantum strategy and its programs, this research theme supports research activities related to the fields of "Materials Science and Engineering" and "Digital Sciences".

It covers technological and scientific projects demonstrating and/or exploiting the quantum advantage, from disrupting concepts to innovation. Thus, this research theme includes basic, applied, and technological research, as well as their possible combinations in the following areas:

- Quantum communications targeting, e.g. the development of secure quantum networks via quantum cryptography. This includes their sub-systems (sources, quantum memories/repeaters,

detectors, etc.), their architectures (topology, protocols, etc.), the resulting applications (networking of users, of processors, of sensors, etc.), as well as all usages of entanglement and quantum information distribution;

- Quantum computing, targeting the development of computing devices (such as quantum processors, quantum memories, quantum architectures, etc.), regardless of the supporting hardware platform and information coding, quantum algorithms, computing models, programming languages and environments, applications and use cases of quantum computing and simulation, certification and verification tools, quantum error correction tools, as well as noisy intermediate-scale quantum (NISQ) integration;
- Quantum simulation, targeting quantum devices made specifically for simulating materials, chemical compounds, or other physical phenomena, and for solving problems in other fields (high energy physics, chemistry, biology, pharmaceutical field, etc.);
- Quantum sensors and metrology, targeting the development of quantum system allowing for increased precision and repeatability. This includes all physical platforms serving the field, such as innovative and non-invasive imagery systems (especially for biology and the medical field), inertial sensors for geolocalisation and geosciences, systems for the metrology of materials, atomic clocks, magnetometers, electrometers, optomechanical systems, etc.

Projects with a multidisciplinary dimension and bringing together complementary skills are encouraged.

Related keywords: accelerometers; quantum algorithms; amplifiers at the quantum limit; Rydberg atoms; quantum dots; hybrid quantum-classical computing; quantum calculus; quantum sensors and metrology; quantum circuits and processors; multipartite communication; quantum communication; optimal quantum control; quantum error correction; quantum cryptography; decoherence; defects in solids; e-FTQC; estimation; quantum feedback; FTQC; quantum gas; graphene; gravimeters; gyrometers; atomic and nuclear clocks; quantum imaging; integration; entanglement; rare earth ions; standard quantum limit; magnetometers; 2D materials; quantum memories; non-destructive quantum measures; control and verification methods; error mitigation; models, software and programming environment for quantum computation; NISQ; non-locality; optimisation; quantum computer; quantum photonics and optics; hardware platforms; quantum logic gates; communication protocols; hardware independent protocols; qubits; qudits; reconstruction of quantum states; repeaters; quantum networks; opto-mechanical resonators; quantum information science; quantum simulation; sources of quantum light; electron and nuclear spins; squeezing; superposition; superconductors; quantum systems: trapped atoms and ions; hybrid quantum systems; topological systems; quantum tomography.

Related ERC codes: PE02, PE03, PE06

Related ODDs: 9, 16

‘Mathematics and its interactions’ field

Theme F.01: Mathematics

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This theme concerns fundamental research striving for excellence and breakthroughs in the fields of computer science, automatic control, and signal and image processing.

Multidisciplinary projects oriented towards specific application domains and aiming for mutual scientific benefits between disciplines can also be submitted in the following axes:

- [H.14 Interfaces: mathematics, digital sciences – biology, health](#) ;
- [H.15 Interfaces: mathematics, digital sciences – Humanities and social sciences](#) ;
- [H.16 Interfaces: mathematics, digital sciences – Earth system sciences including climate, environment and biodiversity](#).

These axes are more suitable to interdisciplinary projects whose consortium includes researchers from the different concerned disciplines.

Related keywords: commutative and non-commutative algebra; analysis; functional analysis; harmonic analysis; numerical analysis; real and complex analysis; statistical learning; scientific computing; control theory; cryptography; partial differential equations (deterministic and stochastic); ordinary differential equations (deterministic or stochastic); algebraic geometry; arithmetic geometry; differential geometry; history of mathematics; homogenisation; logic; discrete mathematics and combinatorial; mathematics for astrophysics; mathematics for biology and health; mathematics for economy and society; mathematics for the environment, earth-sciences and earth-system; mathematics for fluid and solid mechanics; mathematics for quantum phenomena; mathematics for signal and image processing; statistical mechanics; modelling; optimisation; mathematical physics; IA-based mathematical proof; probability; inverse problems; stochastic processes; simulation; statistics; classical and quantum dynamic systems; category theory; ergodic theory; game theory; number theory; operator theory; representations theory; topology; data processing; mathematics for artificial intelligence; artificial intelligence for mathematics.

Related ERC codes: PE01, PE06

Related ODDs: 9

‘Subatomic physics; sciences of the Universe and Earth sciences’ field

This field comprises two scientific areas, one dedicated to Earth and planetary sciences, the other to subatomic physics and astrophysics. It should be noted that the theoretical physics component, which was previously linked to research area G.02 in earlier Action Plans, has been incorporated into the new physics research area [B.06: Physics of Fundamental Concepts and Physics of Dilute Matter](#).

Theme G.01: Planetary science, structure and history of the Earth

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This theme corresponds to research work aimed at acquiring fundamental knowledge and highly innovative developments in instrumentation, networking, data processing and exploitation, to study and resolve cutting-edge scientific problems in the field of planetology, planets of the solar system and exoplanets, exobiology, the structure and history and dynamics (geological, paleontological, climatic) of the Earth and its distant paleoenvironments (since the primitive Earth).

Related keywords: hazards (telluric hazards, space meteorology and near-Earth objects); chemistry and physics of planetary atmospheres; cosmochemistry; instrumental development; exobiology; exoplanets; planetary formation; small celestial bodies; planetology; Sun-Earth

relations; natural mineral resource formation; geochemistry; geochronology; geodesy; geodynamics; geology; geomagnetism; geomorphology; geophysics; mineralogy; paleoclimatology; pre-anthropocene palaeoenvironments; palaeomagnetism; palaeontology; petrology; petrophysics; sedimentology; seismology; tectonics; early Earth; deep Earth; volcanology.

Related ERC codes: PE10, PE09_2, PE09_3, PE09_4, PE09_13

Related SDGs: 9, 11

Theme G.02: Subatomic physics and astrophysics

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This theme aims to support research work to develop fundamental knowledge, models and their phenomenological aspects, and to contribute to innovative developments in instrumentation, measurement, data processing and valorization in the fields of subatomic physics, nuclear physics, astrophysics and cosmology.

Whilst not exclusive, proposals relating to the research infrastructures outlined in the national roadmap are encouraged (CERN, ESO (including ALMA), SKAO, CFHT, CTA, DUNE, EGO-Virgo, FAIR, GANIL, IRAM, LHC, AGATA, HESS, JUNO, KM3NeT, LOFAR/NenuFAR, LSM, PAO, VRO-LSST). Projects focusing on the exploitation phase of the data produced by these infrastructures, which could contribute to the dedicated priority of the generic call for proposals, are particularly welcome.

It should be noted that theories and models contributing to the understanding of fundamental physics, including mathematical physics, field theory and string theory, fall within the scope of the [theme B.06 Physics of fundamental concepts and physics of dilute matter](#). Are also related to the theme B.06 the works aimed at testing the fundamental models associated with physics beyond the Standard Model in the context of low-energy experiments in optics, atomic or molecular physics.

Related keywords: physics of fundamental interactions; particle physics; subatomic physics; accelerator physics; nuclear physics; space-time reference systems; astrophysics; astrochemistry; astronomy; high-energy astronomy; astroparticles; multi-messenger astrophysics; galaxy formation and evolution; interstellar medium; star formation and planetary systems; stellar physics; solar physics; cosmology, dark matter and dark energy; gravitational waves; classical and quantum gravity; physics beyond the Standard Model; simulation, computation and data exploitation; instrumental developments.

Related ERC codes: PE02_02 to PE02_07, PE09_05 to PE09_13

Related SDGs: 9

Cross-cutting themes

Theme H.01: Sustainability Science

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This theme is expecting projects studying the complex interactions between natural, socio-economic, and political systems, and how these interactions impact, over time and space, the planet's life support system (biodiversity as a whole), socio-economic development, the

management of socio-economic inequalities, and the well-being of living beings. Its ambition is to provide science-based solutions to the major global environmental and societal challenges, and to support major societal transitions while considering the associated risks. In an integrated and interdisciplinary approach, sustainability science promotes the study of the functioning and dynamics of eco- and anthropo-systems, including all underlying interactions and feedbacks in all their dimensions. These are multiple and involve interactions between environmental, ecological, climatic, and physico-chemical processes, as well as cultural, historical, legal, political, and socio-economic factors.

This theme also addresses how societies are, or are not, becoming active (or passive) participants in their own sustainability, the mechanisms and transformations they implement for this purpose. It breaks down the boundaries of research around a common objective and particularly promotes the consideration of interactions between the 17 Sustainable Development Goals (SDG).

This theme also aims to enhance the appropriation of sustainability science challenges by the scientific communities of physic, chemistry, and biological engineering or the humanities sciences. For example, it may involve energy issues or interventions in local or global climate systems. The proposed projects should analyse major topics of interest such as biodiversity, climate, energy, and the key nexus areas (e.g., biodiversity, climate, water, resources, energy, food, ocean, health, technology, digital, society). They must take into account the complexity of socio-ecosystems in their local contexts and interactions with other scales (national, regional, international). These projects may explore sustainability as a research object (concepts, practices, methods, etc.), or analyse different trajectories or cases of transformation.

They should produce new knowledge, and may lead to the development of decision-making tools for private or public sectors and/or the deployment of sustainable solutions that contribute to achieving the SDG.

The theme will support projects addressing at least two of the following three components:

- Characterisation of socio-ecosystems, including issues such as conflicts of use and management, resource tensions, actors' behaviors and strategies, inequalities, public policies, risks (including those linked to hazards and extreme events), ecosystem vulnerabilities, targets to achieve, barriers to overcome, etc.;
- Research into means and solutions such as restoration, remediation, adaptation, mitigation, designing pathways toward targets, organisational solutions, early warning systems, ecological and climatic engineering, nature-based solutions, etc.;
- Research into the necessary conditions for transitions and transformations based on governance, new socio-economic models, new relationships with life and the environment, technological and social innovations, justice, public policies, etc.;
- Identification of barriers and blockages preventing transitions and transformations.

Projects under this theme H.01 must:

- Be focused on transformation and transition dynamics towards greater sustainability in the context of environmental, climatic, and societal changes (testing, among other things, the "theory of change");
- Systematically present inter- or transdisciplinarity by involving researchers from at least two different disciplinary fields in collaborative projects.

When appropriate, the research issue and its implementation can be co-constructed with stakeholders and contribute to forms of participatory research.

Related keywords:

Sustainability: sustainable development; risks; uncertainties; food/water/energy nexus, health/biodiversity/agroecology, etc.; resilience.

Environmental and Ecological Aspects: ecological vulnerability and biodiversity; finiteness of natural resources; loss of ecosystem services; sobriety; frugality.

Socio-economic and political dimensions: conflicts of use; behavior; social justice; mobilisation; vulnerabilities; economic and social inequalities; corporate social responsibility (CSR); public policies.

Transitions: adaptive management of transitions; transition pathways in territories; methods for studying transitions; role of technological or social innovations in transitions.

Responses and management: multi-stakeholder approaches and actor networks; dynamic scenarios coupling socio-economics - resources and ecosystem services; nature-based solutions (NBS); adaptation and mitigation in the face of climate change; public regulations (standards, regulations, incentives, education).

Research approaches: social sciences; life cycle analysis (LCA); co-construction; participatory research; knowledge exploitation; living labs; integrated modeling and scenario building; interdisciplinarity; transdisciplinarity.

Related ERC codes: SH07, LS08, PE08, PE10, SH01, SH02, SH03

Related SDGs: all 17 SDGs

One Health

This cross-cutting field, which focuses on the interdependence between human health, animal health, and ecosystem health, is at the interface of environmental sciences, human and social sciences, and biomedical sciences, and includes three research themes. These three research themes also accommodate projects with only one dimension of the one health approach, and the one health approach can also be present in other areas, particularly for sustainable food in [theme A.04](#).

Theme H.02: Contaminants, Ecosystems and Health

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The scientific scope of this research theme covers in particular pluri-, inter- and transdisciplinary approaches, which contribute to expand knowledge on the characterisation, fate and dynamic of physical, chemical or biological contaminants contributing to the exposome, as well as their effects on human (including physiopathological aspects), animal and plant health, as well as on ecosystems, in line with the "One Health" and "Eco Health" concepts. Projects are expected to particularly include the following:

- characterisation of the exposome (including cocktail of contaminants, individual and collective behaviours and interactions between different kinds of stresses in humans, animals and plants) ;
- contaminants, their fate and dynamic, environmental metrology and biological samples, including bioindicators and biomarkers;

- the effects and activation mechanisms of contaminants on living organisms, ecosystems and human health;
- the eco-dynamics of contaminants, their interactions and their trans- and multi-generational impacts;
- biological determinants of the effects of contaminants and exposures;
- adaptive and evolutionary mechanisms in exposed organisms;
- development of methodological approaches for the identification of emerging hazards and risks;
- combined risks and their impacts, particularly complex pollution, to investigate their reduction and remediation including social, economic and political dynamics;
- the evaluation of new tools for the governance of risks linked to contamination, in taking the populations' perceptions into account.

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: 'One Health'; 'Eco Health'; adaptability; allergen; biocides; biodiversity; bioindicators; biomarkers; legal and regulatory frameworks; contaminants of emerging interest; mixture of contaminants; chemical contaminants; physical contaminants (ex: noise, radiations); biological contaminants (pathogens); controversies; eco-dynamics; health ecology; ecosystems; ecotoxicology; environment; epidemiology; epigenetics; exposome; drugs; veterinary medicine; metals; metrology; microbiome; micro- and nanoplastics; modelling; nanomaterials; Per- and polyfluoroalkyl substances (PFAS) ; organometallics; rare earth elements; perception by society; endocrine disruptors; pathophysiology linked to contaminants ; pesticides; mineral pollutants; persistent organic pollutants; persistent and mobile pollutants ; animal health (including pollinators); human health; plant health; strategies of economic actors; environmental toxicology; toxins; metabolites.

Related ERC codes: LS02 – LS09, PE04, PE10, SH07

Related SDGs: 3, 6, 9, 11, 12, 14, 15

Theme H.03: Infectious Diseases and Environment

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This axis concerns pathogens, emerging and re-emerging infectious diseases, and/or adaptations and antimicrobial resistances in relation to the environment. Submitted projects will follow integrated approaches, combining disciplines from ecology and environmental sciences, health biology, and human and social sciences. Specifically, this research axis covers the following areas:

- all pathogens of humans, animals, and plants, regardless of their nature (bacteria, viruses, parasites, fungi, algae, and unconventional agents), particularly considering their biology and ecology;
- the modes of spread and transmission of pathogens (including in water, air, soil, by vectors...); the processes of evolution and adaptation to environmental changes of pathogens and their hosts

and vectors; the dynamics of epidemics in relation to changes in connection with changes in environmental niches; the genetic and non-genetic determinants of transmission; the mechanisms involved in crossing the species barrier;

- the study of the long-term consequences of pathogen transmission on human and animal health;
- the mechanisms of emergence of infectious diseases (human, plant, or animal, including zoonoses) in connection with environmental and anthropic factors (behaviors, education, social status...);
- methods of control, surveillance, diagnosis and prevention, identification of populations and areas at risk, limitation of spread, preparation for epidemic or even pandemic risk (including standardized procedures for sampling and collection as well as the development of tools for prevention, diagnosis, surveillance, and management of drug resources, etc.);
- modelling of pathogen emergence, diffusion, exposure, transmission or elimination parameters; the carrying out of retrospective analyses and the creation of databases that can contribute to the definition of indicators for a predictive approach to the evolution of epidemics in the context of health surveillance;
- the development and application of big data analysis methods, including using artificial intelligence, in the context of emerging or re-emerging infectious diseases;
- resistance to antimicrobial, parasitic, antifungal, insecticide and biocidal treatments and their dynamics of appearance, diffusion and transmission;
- the exploration of new diagnostic, preventive and therapeutic strategies (new targets, new molecules, etc.);
- the analysis of the social and economic characteristics of epidemic management systems; • the impact of individual and collective behaviors and practices on the transmission of pathogens and antimicrobial resistance;
- the integration of the healthcare system and national surveillance and prediction tools with international tools and devices;
- the organization and resilience of human and animal health care systems in the face of emerging and re-emerging infectious disease risks;
- the role of civil society and community organizations, both in case monitoring/detection and in referrals to health systems. Fundamental research on animal pathogens (zoonotic or not) is supported in this area.

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: One Health or "Eco-Health" approaches; database; prevention; determinants of infectious diseases (genetic, biological, medical, environmental, social, etc.); pathophysiology of infections; epidemics; exposome/infections; wildlife; modelling; artificial intelligence; niches; pandemics; emerging and re-emerging pathogens; prions; persistence; prediction; management;

reservoirs; antimicrobial resistance; infectious risks; global health; transfer and species barrier; vectors; virulence; zoonoses; climate; diagnosis and management of emerging diseases.

Related ERC codes: LS01, LS02, LS06, LS07, LS08, PE06, PE10, SH02, SH03

Related SDGs: 1, 3, 4, 9, 10, 13, 14, 15, 16, 17

Theme H.04: Public Health, Health and Societies

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This theme relates to research in public health. The aim is to:

- describe, analyse and understand the various factors and determinants affecting the health of populations and health inequalities, whether socio-economic, behavioural, environmental, demographic, geographical, organisational, linked to life trajectories or to public policies;
- contribute to the understanding of disease mechanisms through approaches integrating population data and biomarkers;
- propose work relating to the watchfulness, anticipation, prevention and preparation, in ordinary or crisis contexts (epidemic, conflict, etc.),
- encourage cross-disciplinary analysis and approaches with veterinary public health stakeholders regarding prevention (biosecurity, vaccination) and crisis management, particularly in population-based approaches (modelling, surveillance, etc.),
- carry out, propose or validate intervention studies, as well as preventive actions and health promotion, from the neighbourhood level (community health) to the global level;
- enable the emergence of new approaches in health epidemiology;
- carry out health, economic and societal impact studies of preventive measures aimed at improving health or at adapting to, or preventing, societal or environmental threats, such as epidemics or climate change, and in general to evaluate public policies;
- propose work on the organisation of the health system (effectiveness, efficiency, access, equity, balance between prevention and therapy, etc.) and analyses of the consequences of technological and medical innovations on the health system (digital health, genomic, predictive, personalised medicine, etc.),
- analyse the interactions between the various actors, institutions or groups which contribute to the management of public health issues at different levels of the territory;
- analyse the way in which health systems and society integrate the knowledge acquired on the exposome, the issues linked to the idea of global health, climate change and biodiversity loss;
- support innovative research projects using existing cohorts.

The consideration of multiple health-related determinants and factors, their interactions and their combined effects is encouraged. All dimensions and fields of health, as well as questions regarding quality of life, autonomy and disability, will be considered, throughout life and in the different areas of life (residential, school, professional, leisure activities, etc.). Particular attention will be paid to conceptual and methodological research aiming to analyse the effects of health determinants and factors. The research may also take into account the understanding of health determinants, needs and health inequalities, according to vulnerabilities (gender, belonging to one or more minorities, dependents, etc.).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: access to care and operation of the health system; big data in health; cohorts; individual and collective behaviour; knowledge of populations at risk; screening, early diagnosis; determinants of social inequalities in health and vulnerability; case-control studies; evaluation of public policies; experiences of users of the health system; exploitation of existing health data; risk management, surveillance, prevention and protection; chronic diseases; epidemiological and biostatistical methodology; health norms; performance and financing of health care provision; policies, organisations, regulations and actors; populations; health practices; health promotion; relationship to risk and perception of risk; relations between professionals and users; health; veterinary public health; one health.

Related ERC codes: LS02, LS07, SH01, SH02, SH03, SH04, SH06

Related SDGs: 1, 3, 4, 5, 10, 12, 16, 17

Ecological and environmental transition

This cross-cutting field lies at the interface between environmental sciences, humanities and social sciences, and material sciences, and comprises three research themes that contribute to the ecological and environmental transition with the stated aim of sustainability. Projects of an inter- and trans-disciplinary nature are primarily sought.

Theme H.05: Methodologies, instrumentations, sensors and solutions for the ecological transition

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This research area covers research projects on innovative technologies and methodologies for supporting ecological transitions. The following points will for instance be considered:

- Methods, tools and sensors for 1) environmental observation and monitoring (smart monitoring, forcing monitoring, participatory science and crowd sourcing), and for 2) operational services for diagnosis, warning and environmental crisis management (including natural hazards). The nature of expected sensors, tools and methods is wide and varied (sentinels, biosensors, biosourcing, etc.);
- High-tech/high precision instruments for documenting the status and dynamics of various environmental compartments;
- Advanced data acquisition and analysis techniques, including sensor metrology for characterizing the ecological footprint and the development of one or more integrative footprint indicators;
- Sustainable environmental remediation processes (water, air, soil, subsoil) using innovative approaches (ecological engineering, hybrid approaches, nature-based solutions, etc.);
- Methods or methodologies enabling rational quantification or reduction of the environmental impact of production processes (energy sobriety, wastewater reuse, etc.). This includes methods such as coupling economic and environmental models, and automating phenology methods or phenotyping;

- Measurement methods associated with the “day-to-day” evolution of the environment, in order to detect change at a short time-scale (studies on ordinary risks);
- Methods for characterizing natural, cultivated or bred biodiversity, and in particular for automating the description of the functional traits of living organisms, for example through phenotyping approaches.

The aim may also be to improve instrument sensitivity (e.g. for early detection).

Submitted proposals must demonstrate the environmental impact of the proposed processes or sensors.

Other sensor-related projects have to be submitted under [theme H.11 Sensors, imagers and instrumentation](#). Projects involving the development of autonomous sample-collecting vehicles should also be submitted under [theme E.04 Interaction, robotics, immersive worlds](#).

Related keywords:

Research objects: natural hazards and cascade effects; measurement of GHGs and air pollutants; phenotyping; atmosphere, water, soil and subsoil pollution; air quality; behavior of socio-economic agents; reduction in consumption of inputs (water, solvents, etc.); pollutant source reduction; wastewater reuse; GHG sequestration; energy-saving processes; Per- and polyfluoroalkyl substances; pollutant, effluent and waste treatment.

Research approaches: environmental biotechnology; sensors/biosensors for the environment; environmental chemistry; coupling of economic and environmental models; development of in situ measurements; civil engineering; process engineering; ecological engineering (incl. phytoremediation and bio-remediation); ecological engineering; living labs; metrology; microfluidics; long-term and/or high-frequency environmental monitoring; innovative modeling and optimization tools; sensor networks; nature-based solutions; sustainable remediation technologies; remote sensing.

Related ERC codes: PE04, PE05, PE06, PE07, PE08, PE10, PE11, LS08, LS09, SH07

Related SDGs: 3, 6, 7, 9, 11, 12, 13, 14, 15

Theme H.06: Dynamics of natural and productive socio-ecosystems

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This theme concerns fundamental or applied research projects aimed at understanding the dynamics of socio-ecosystems, proposing innovations to improve their contribution to sustainable development (from a social, economic and environmental point of view), and in so doing, contributing to the development of trajectories and scenarios to support ecological, climatic, energy, food and digital transitions. The proposed approaches will take advantage of an interdisciplinary approach to studying these systems, focusing on both their natural and social components. Projects will address the following themes in particular:

- Characterization of socio-ecosystems and their dynamics;
- Ecosystem services or contributions from nature to humans (NCP) associated with ecosystems (cultural, economic, social, environmental services);
- Characterization of natural and anthropogenic pressures on socio-ecosystems;
- Understanding how socio-ecosystems function, why some of their objectives are not being met, and identifying solutions to define adaptive management strategies for these socio-ecosystems,

whether or not they are productive (e.g. restoration, conservation) or anthropised, marine or continental (or mixed), at different spatial, temporal and organisational scales (from the individual to populations and territories);

- Redesign (using experimentation, modelling, surveys, etc.) of productive socio-ecosystems (agricultural, aquaculture, fisheries or forest ecosystems in particular) on the scientific basis of agroecology, at relevant spatial, temporal and/or organizational scales;
- All the human mechanisms, both individual and collective, involved in the functioning of socio-ecosystems, studied by economics, legal science, sociology, political science, anthropology, history, geography, psychology, philosophy, etc.;
- The notion of positive “feedbacks” (amplification of a change) or negative (attenuation of a trajectory, e.g. forest regeneration to absorb CO₂);
- Issues of governance and environmental justice aimed at more sustainable management of anthropized ecosystems;
- Interfaces and interactions between productive or exploited ecosystems and their environment;
- Experimentation with transitions, coupled with analysis of the economic, social and environmental dynamics of socio-ecosystems.

Related keywords: agriculture; agroecology; agronomy; aquaculture; animal welfare; biocontrol; biodiversity; biomonitoring; agricultural policies and/or agricultural systems design; nature's contributions to people (NCP) ; biogeochemical cycles; environmental law; functional ecology; ecophysiology; forestry; genetics; geodiversity; geography; animal and plant health management; soil management; integrated management; halieutic; microbiology; modelling; landscape; fisheries; public policy; pollination; resistance, resilience and adaptation to global environmental changes; conflicts; animal science; economics and management science; political science; plant science; ecosystem service; sociology; crop systems; livestock systems; territory; zootechnics.

Related ERC codes: LS02, LS08, LS09, PE06, PE10, SH01, SH02, SH03, SH07

Related SDGs: 1, 2, 8, 11, 12, 13, 14, 15

Theme H.07: Bioeconomy: societal transition and associated technologies

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The bioeconomy refers to the economy of biological resources coming from biomass and its derivatives, with the aim of supplying materials and molecules, and mitigating the effects of climate change while ensuring food and energy security and the well-being of populations. This includes exploited biological resources (crops, livestock, forests), as well as co-products from continental and marine systems.

This research theme supports fundamental and applied research projects concerning the bioeconomy, in particular the cascading uses of biomass, the transformation, fractionation and purification processes for biomass components, the closing of cycles and/or their impacts, as well as the interplay of players, regulatory mechanisms and innovation processes in value chains.

It calls for research into technologies and innovations in the bioeconomy from disciplines such as chemistry, biochemistry and materials and process sciences. It will also support research in the humanities and social sciences that analyses the anthropological, sociological, economic, political, legal and territorial (e.g. in the South or overseas) dimensions of the transition to a bio-based

economy. Interdisciplinary, cross-disciplinary and systemic approaches to the challenges of the bioeconomy, as well as to the methods and technologies involved in transforming biomass for different uses, are expected.

The scope of this theme covers topics such as:

- biomass production and the sustainable management of bioresources, whatever their origin;
- land-use conflicts, cooperation and competition between players in the sectors and regions involved in mobilisation, market equilibrium models relating to uses, taking account of the effects of regulations, economies of scale, impacts on the labour market, etc;
- the pre-treatment and transformation of bioresources by various processes and their coupling (biotechnology, chemistry, catalysis, biocatalysis, associated processes), particularly in an integrated and systemic approach enabling optimisation of the various flows involved (biorefinery concept);
- eco-design and shaping of non-energy bio-based materials and molecules;
- flow modelling and scenarios (looping of material, water, energy and monetary cycles), at different scales, particularly at local level;
- supporting and deploying industries in the light of environmental, economic, legal and social issues, as well as technological innovation processes, the perceptions and controversies they generate, and the ethical questions raised;
- the design and assessment of public policies relating to the bioeconomy, and in particular how these policies relate to different levels.

Projects dealing exclusively with food issues should be submitted under priority [A.04 Food and food systems](#), and projects dealing specifically with ways of converting biomass into energy carriers and fuels (biofuels, biogas, etc.) should be submitted under theme [H.09 Sustainable, clean, safe and efficient energy](#).

Related keywords:

Resources and territories: land use and conflicts of use; terrestrial and marine biomass (production, quality, availability, management, sustainability of the sector); waste, co-products – by-products, etc. from biomass or its processing; governance; identification of new bioresources.

Processing technologies: biorefineries; biotechnologies; sustainable chemistry; co-products; metabolic engineering; microorganisms; modelling and associated processes; molecules; platforms; new technologies; bio-based polymers; biological, thermochemical, and/or catalytic biomass conversion processes; synthetic biology; bio-based industrial products (including those related to paper).

Conceptual approaches: life cycle analysis; multi-criteria analysis; behavioural analysis; systems approaches; risk-benefit approaches; value chain; life cycle; environmental law; environmental social sciences; modelling of impacts (economic, environmental, including societal GHGs) and feedback loops; metabolic approaches such as MFA (material flow analysis), IAM (integrated modelling and assessment), modelling of complex systems, indicators; logistics modelling and optimization; public policies; companies; analysis of actor networks; social representations and realities; scenario planning and foresight; ecosystem services.

Related ERC codes: LS02, LS08, LS09, PE04, PE05, PE08, SH01, SH02, SH03, SH07

Energy transition

The ANR's 2027 Work Programme and its generic call for proposals include two scientific themes designed to support research in the field of energy. Complementary in terms of their positioning regarding expected levels of technological maturity, these two priorities aim to contribute to the energy transition challenges set by the law of August 18, 2015.

Theme H.08: Basic energy science

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The "basic energy science" theme seeks to support upstream research, to explore new ideas and methods and to study breakthrough concepts. With long-term application perspectives, in particular beyond a 15-year horizon, the aim of this theme is to mobilise and transpose fundamental knowledge, methods and tools from the disciplines of matter, engineering and digital sciences to the field of energy, and to encourage research projects bringing together skills from a wide range of scientific communities, some of which do not necessarily focus on energy at present.

The following subjects can be addressed. The list is not exhaustive.

Innovative materials & environments: understanding, development and advanced characterisation:

- innovative materials and processes for energy: understanding of phenomena and behaviours related to microscopic or macroscopic physical, chemical or physico-chemical microscopic or macroscopic properties of functional materials or surfaces (transport/transfer/storage of heat and/or matter, optics, etc.), substitution of critical materials, activation of chemical reactions, interfacial phenomena, nano-structuring (surface, interface, volume), bio-inspired or geo-inspired processes, complex and reactive assemblies, etc. ,
- advanced characterizations for energy processes: innovative experimental methods and instrumentation (spatial and temporal multi-scales) for complex systems, multi-physical couplings, multi-scale in-operando characterisations, methods for extrapolation of data or measurements over prolonged periods, etc.

Multi-scale and multi-physical modelling and simulations of energy systems:

- modelling/simulation-assisted design: modelling and simulation (including predictive) from the atomic scale to molecules, materials, media, interfaces and processes and devices (quantum, thermodynamic or kinetic methods, up-scaling, machine-learning, data@mining, artificial intelligence, etc.) aimed at discovering new materials, components or devices for energy, multi-scale simulation of functional properties, ageing mechanisms, corrosion, etc.,
- multi-scale simulations of mechanisms, reactions, processes, devices or systems: multiphase and/or turbulent and/or reactive flows, fluid (reactive) - material interactions, ageing, self-healing systems, modelling of agile or versatile systems and processes, methodological approaches for modelling complex systems, including the assembly of several systems.

Given the upstream and exploratory nature of the expected research, the projects must clearly specify which problems they propose to solve, in relation to an application in the energy field, without it being necessary to provide a quantitative analysis of the impact on the energy field.

Finally, even if the work expected in this theme is still at a very early stage in the technology development chain, it will still have to consider factors that could limit or even prevent these developments in the future (such as, for example, avoiding the use of materials that are too rare or production processes that cannot be industrialised).

Related keywords: sustainable materials; nanostructuring; bio-inspiration; geo-inspiration; interfacial processes; self-healing systems; chemical reactivity; catalysts (electrocatalysts, photocatalysts); energy conversion and transfers; thermal; multi-scale approaches (spatial, temporal); in-operando; upscaling; aging; mathematics and digital sciences for energy; system models; metrology and instrumentation.

Related ERC codes: LS09, PE01, PE02, PE03, PE04, PE05, PE06, PE07, PE08, PE11

Related SDGs: 7, 9, 12, 13

Theme H.09: Sustainable, clean, safe and efficient energy

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The objective of this scientific theme is to accelerate research aimed at improving energy technologies (in a medium-term perspective) on the one hand, and, on the other hand, to support research projects involving social sciences and humanities, in the diversity of their disciplines, either in cooperation with other disciplines or in projects specific to social sciences and humanities. The submission of projects with highly interdisciplinary approaches is also encouraged.

Projects on this theme will have to present the extent to which the expected results would increase knowledge, in the perspective of improving performance or of competing with or of complementing existing or developing technologies or processes, while taking into account life cycle issues. They will also have to comply to the SDG goals (resource saving, eco-design, responsible consumption and production, reduction of inequalities, etc.). The presence of these elements will be considered when assessing the projects.

The targeted fields are:

- capture of renewable energies (solar, geothermal, wind, marine, etc.),
- energy harvesting, waste energy,
- circular energy, energy recycling: use of biomass (including waste), recycled products as a resource, recycling of heat in processes, recycling of materials that can be used as a base for energy carriers (including CO₂),
- nuclear power generation: closing the fuel cycle, recovering and recycling critical materials, substituting materials, reducing inventories used and waste produced;
- energy storage (mechanical, chemical, electrochemical, thermal, etc.),
- hydrogen energy: production without carbon emissions, storage, transport and distribution in gas or dedicated networks, fuel cells,
- energy grids, including multi-sources, multi-vectors: power electronics, dynamic, smart energy management, grid-storage interactions,
- electrical engineering, power electronics, power transmission, actuators, converters and electrical machines,

- sustainable uses of the underground from an energy perspective, including massive temporary energy storage with low environmental impact, natural hydrogen,
- energy-efficient industrial equipment and processes (including intensified processes, etc.);
- CO₂ capture and storage,
- production of synthetic hydrocarbons (possibly coupled with platform molecules) from CO₂, N₂ (e.g. ammonia production) or recycled products,
- bioenergy (biofuels, biogas, etc.) obtained by biological, enzymatic and/or chemical, thermochemical means from biomass, with the development of (bio)catalysts and related processes,
- energy efficiency and the reduction of emissions from transport vehicles (combustion, hybridisation, electrification, global optimization of energy on board, etc.),
- energy in digital technologies: components for energy efficiency, reduction/optimisation of system and network consumption,
- approaches to energy transition by social sciences and humanities, which may be interdisciplinary or intersectoral: social, economic, legal, technical, territorial and environmental justice issues,
- analysis of the behaviour of private players (consumers, companies...) and groups, including the challenges of energy sobriety and its dynamic of implementation,
- analysis of the socio-technical and economic conditions for the development of the various energy sectors and the strategic choices employed,
- energy policies and in particular their links with climate mitigation and adaptation objectives (international comparisons, processes for developing low-carbon and carbon-neutral scenarios, new energy representations and practices).

Interdisciplinary approaches to the systemic challenges of energy transition, in relation with other dimensions of global transitions (ecological, health, digital, societal), are strongly encouraged. If appropriate, the meaning of "interdisciplinary focus" should be defined with details of how this is to be implemented and its expected contributions in scientific terms (new approaches, methodologies, results) or impacts.

While the digital sciences, and in particular artificial intelligence, are very welcome in this area as tools for solving problems and proposing new solutions, projects will need to argue clearly how these tools will enable us to do better than what already exists, and set out the types of AI, algorithms and databases used.

PRCE projects are well suited for this theme, to take into account the applications for the research proposed and their possible translation into innovative solutions.

Related keywords: circular energy economy; renewable energies; wind; marine energies; geothermal energy; hydroelectricity; solar thermal energy; solar photovoltaic energy; solar fuels; energy harvesting; hydrogen energy; electrolysis; fuel cells; power-to-X; energy storage; electrochemical storage; batteries; supercapacitors; electrical engineering (power electronics, cables, etc.); smart energy networks; energy efficiency of digital technologies; thermal and thermodynamic systems; energy-efficient industrial processes; turbines; engines; climate equipment; heating; refrigeration; energy-efficient and greenhouse gas emission-efficient

transport vehicles; CO₂ capture/transport/storage; bio-energies; bio-fuels; bio-combustibles; synthetic fuels; nuclear energy production; energy uses of the subsoil; renewable or recovered heat; techno-economic approaches; life cycle analysis; multi-criteria analysis; energy dependence; cross-border operations; network infrastructures; energy markets and policy; energy forecasting; behaviours; demand management; energy insecurity, security and energy risk; sobriety.

Related ERC codes: LS09, PE01, PE02, PE03, PE04, PE05, PE06, PE07, PE08, PE11, SH01, SH02, SH03, SH04, SH06, SH07

Related SDGs: 7, 9, 10, 12, 13

Technological transition

This cross-cutting field is composed of four themes, whose main common point is to contribute to the development of innovative technologies for various applications, relying particularly on materials science and engineering, and developments in digital science (simulation/modeling, big data processing, artificial intelligence, etc.).

Two themes are dedicated to specific applications: for the medical sector, [theme H.13 Healthcare technologies](#), and for the digital society, [theme H.12 Micro and nanotechnologies for electronics, photonics, and digital technology](#).

It also includes a theme dedicated to innovative developments in the field of sensors, imaging, and instrumentation, regardless of the application (biology, physics, astrophysics, environmental sciences, etc.), as well as a theme aimed at supporting more generic research in nanosciences and nanomaterials, which focuses on the materials properties or objects induced by the nanometric dimension or on specific phenomena related to the nano-scale, for potential future technological developments.

Theme H.10: Nanostructures, nano-objects and nanomaterials with (multi)functional properties

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This theme welcomes proposals addressing the contributions of the nanometric dimension in the design, production and study of materials. The presence of specific nanometric scale objects or phenomena in the final outcome of the project should be the main criterion prompting submission of the proposal on this theme. The simple association of objects of nanometric dimensions with known properties, without contributing any major new elements of understanding or without bringing new properties to light, does not come under this heading.

Projects may address one or more of the following five issues:

- new properties, whether spatial or temporal, resulting from reduction to the nanometric scale;
- synthesis, fabrication, growth mechanisms and characterisation of nano-objects, functional nanomaterials, nanostructures and nano-object assemblies;
- management and texturing of interfaces and surfaces at the nanometric scale, functionalization and interactions;
- nanostructures, nano-object assemblies and interfacing, multi-scale coupling;
- use of numerical and artificial intelligence-assisted approaches to develop and study the properties of new nanomaterials or nanometric objects.

The presentation of the projects should highlight their implications in terms of major societal objectives, taking particular account of the issues of circularity, sustainability and end-of-cycle management.

In the field of sensors, only projects mainly dedicated to a nanofabrication or nanostructuring stage should be submitted in this H10 theme. Projects concerning the study of the contribution of a nanometric dimension to the field of sensors (to improve performance, for example), as well as instrumentation dedicated to nanomaterials, should be submitted under [theme H.11 Sensors, imagers and instrumentation](#).

Projects aimed at designing or integrating devices for nano- or micro-electronics or photonics technologies should be submitted under [H.12 Micro and nanotechnologies for electronics, photonics and digital technology](#).

When applied to the field of health or biology, projects dealing with synthesis submitted in this H.10 area should focus on the synthesis and physico-chemical study of families of innovative and preferably multifunctional nano-objects. Projects focusing on studies of therapeutic, pharmacological or biological properties, without demonstrating a high degree of originality in terms of nanostructuring and multifunctionality of the systems, should be submitted in the corresponding area of the 'Life Sciences' domain. In addition, in vivo studies and ex vivo tests carried out on samples taken from sacrificed animals (organs, cells or tissues) are excluded from this H.10 theme.

Related keywords: nano-objects (nanoparticles, nanowires, nanotubes, nanocrystals, etc.); 1D, 2D or 3D nanomaterials; nanoporous materials; (multi-)functional nanomaterials, hybrids, phase-change nanomaterials, nanomaterials for THz; synthesis processes and production methods (nanochemistry, assembly, bottom-up, top-down, self-assembly, growth mechanisms, additive methods, confined environments, shaping, green technologies, sustainability, etc.); formation mechanism and stability study; surface or core functionalization; reactivity control; property control (mechanical, electronic, optical, chiral, thermal, magnetic, catalytic, phononic, topological, etc.); synergy of properties (opto-electronic, photomagnetic, strong radiation-matter coupling, etc.); experimental studies, numerical and artificial intelligence-assisted approaches.

Related ERC codes: LS07, PE03, PE04, PE05

Related ODDs: 3, 9

Theme H.11: Sensors, imagers and instrumentation

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This theme is intended to welcome projects whose main objective is to develop new sensors or innovative characterisation or imaging instrumentation, whatever the spatial scale under consideration. They must demonstrate clear progress in relation to the state of the art.

Fields may include condensed matter physics and engineering sciences, chemistry and biophysics. However, the field of medical imaging is excluded, and projects in this area must be submitted under the theme [H.13 Health Technologies](#).

The theme comprises three main topics:

- the development of measurement and instrumentation methods for in situ characterisation and on-line operando monitoring, in order to characterise materials, devices or systems, including biological systems;

- characterisation at the nanometric scale and characterisation of nanomaterials: development of instrumentation, methodological approaches and protocols dedicated to characterisation at the nanometric scale, to meet the needs of observation and detection metrology, including in complex media, whether fluid or solid, diluted or not;
- innovation, particularly breakthrough innovation, in the field of sensors, imagers and detectors in order to improve their performance (sensitivity, resolution, data acquisition and management and optimisation of their processing, etc.). Proposals should extend beyond the simple manufacture of materials and the characterisation of their sensitivity to a parameter (physical, chemical, biological, etc.) and envisage integration for instrumentation purposes.

Projects aimed at applications in the fields of physics, biology, health, the sciences of the Universe and the Earth or the environment may be proposed in this theme, provided that they address as a priority the problems of the experimental and instrumental analysis chain. However, projects involving the adaptation and use of existing sensors rather than innovative developments involving the measuring instrument itself should be directed towards the corresponding thematic areas.

Projects that primarily fall under the generic topic “Quantum Technologies” are to be submitted under the corresponding [theme E.06](#).

Finally, projects involving AI-assisted approaches fall within this theme provided that the proposed developments are context-specific and integrated into the measurement chain. Projects strictly dedicated to the development of software and algorithmic methods do not come under this theme.

Related keywords: sensors (plasmonic, thermal, mechanical, magnetic, chemical, electrochemical, biochemical, biological, optical, piezoelectric, inertial, acoustic, terahertz, etc.); in situ/in operando characterization; monitoring of chemical and biological reactivity; online control; imagers (optical, X-ray, terahertz, spintronic, etc.); wave-matter interactions (nanophotonics, photodetection); microscopies (optical, electronic, acoustic, near field, terahertz, ionic, correlative, etc.); spectroscopies; measurements of physical properties (mechanical, optical, thermal, electrical, magnetic, etc.); metrology; micro- and nanofluidics; advanced data processing techniques; multimodal techniques; tomography; non-destructive testing; development of measurement and characterization methods.

Related ERC codes: major PE02, PE03, PE04, PE05, PE07, PE08, other LS01

Related ODDs: 9

Theme H.12: Micro- and nanotechnologies for electronics, photonics and digital technology

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This theme aims to support projects focusing on key technologies in electronics and photonics, the integration of devices into systems, or the exploration of new paradigms for next-generation components ("more Moore / more than Moore, beyond CMOS"), as well as system-architecture design. Depending on the proposed degree of disruption or the level of risk assumed, projects should seek to overcome clearly identified scientific and technological challenges and will seek to demonstrate quantifiable performance improvements or breakthroughs compared to existing knowledge.

Instrumental development and metrology projects of interest to electronics and photonics can be submitted to this theme. For example, projects targeting theoretical or numerical approaches (simulation and/or design of components, circuits, materials, processes, complex systems), as well as generic methodologies (design, testing, metrology), or the study of reliability, advanced characterization of materials, or the performance of nanodevices/elementary components, naturally fall within this spectrum. This also includes projects aimed at developing electronic or photonic devices and components based on nano-objects or functional nanomaterials.

At the relevant dimensional scales (micro and nano), from materials to systems-on-chip, the research focus covers the following three areas:

- Materials for components and devices: design, development, etc.;
- Elementary components and devices: characterization, integration, application, etc.;
- Circuits, architectures, and systems: design, simulation, testing, etc.

Project presentations may highlight their implications with regard to major societal objectives, particularly by taking sustainability issues into account. Projects will position themselves in terms of their impact on the technological transition, for example, by referring to ADEME scenarios (www.transitions2050.ademe.fr <https://www.ademe.fr/les-futurs-en-transition/les-scenarios/>), to the Agenda 2030 (<https://www.agenda-2030.fr/>) or on the question of technological sovereignty (France 2030, European Chips Act, etc.).

Projects involving quantum technologies whose objective is to develop technological building blocks and/or generic components that are also relevant to classical communication systems, and if these systems are clearly identified, may be submitted to this research area. Other projects should be submitted to research area [E.06 Quantum Sciences and Technologies](#).

Projects involving sensors, imaging, and instrumentation targeting clearly identified applications in information processing and communication that are prioritized over potential applications in other fields may be submitted to this research area. Other projects should be submitted to research area [H.11 Sensors, Imagers, and Instrumentation](#).

Projects that merely utilise micro- or nanotechnologies must be submitted under a different theme (including, but not limited to: themes [E.02](#), [E.04](#), [E.05](#)).

Related keywords: integrated circuits and systems (including for RF6G communication and beyond); components (alternative, vertical, neuromorphic, computing accelerators, etc.); millimeter components; passive components; components for Artificial Intelligence; design and development of sustainable materials (toxicity, abundance, life cycle, technology optimization); RF devices; electronics (organic, flexible); power electronics; (micro) screens; optical fibers and power sources; waveguides; imaging and THz technologies for ICT; imagers and sensors for ICT; 3D integration; heterogeneous integration; dense interconnections; interfacing and coupling (with optical, electronic, spintronic, phononic properties, etc.); instrumentation; memories; metamaterials; metasurfaces; micro and nano-electronics; micro and nano-photonics; integrated and (multi)functional photonics; micro-nano technologies for sensors; new architecture paradigms; packaging; photodetectors; active photonics; plasmonics; technological processes; neural networks; semiconductors; sources (UV, visible, telecom, infrared, THz); simulation (materials, components, circuits); spintronics; system in package; modular systems such as Chiplet; systems on chip; non-linear technology for photonic and electronic components; resilient/frugal technology.

Related ERC codes: PE02, PE03, PE05, PE07

Related SDGs: 9

Theme H.13: Healthcare Technologies

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This research theme supports interdisciplinary research in the fields of engineering and systems sciences applied to new concepts, tools and health technology methods in the following areas:

- instrumentation, detection systems and anatomical, functional, cellular and molecular imaging agents of medical interest and their integration in multiple systems;
- technologies associated with devices to improve the efficiency of screening, drug vectorisation, or bioproduction processes;
- the implementation of diagnostic and analytical systems (on-board sensors) and therapy in (or on) living organisms ;
- biomaterials not related to regenerative medicine ;
- surgical technologies including remote surgery, related materials and devices, implantable devices, functional replacement devices and prostheses: advances may target the reliability, biocompatibility and performance of these technologies, miniaturisation, remote operability and increased energy autonomy. The development of these technologies may include modelling, simulation or implementation ;
- technologies for digital health and in particular for measuring the exposome ;
- disability compensation and autonomy.

PRCE projects taking into account the applications of the proposed research and their possible development are suitable for this theme.

Tissue engineering and regenerative medicine projects fall under the specific [Theme C.11 : Biology and regenerative medicine](#).

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: medical devices; biosensors and monitoring instruments; medical imaging; stimulation and modeling tools; signal and image processing; biomaterials/biomechanics; home automation; home equipment; disability; digital health; medical IT; bioprinting; exposome; bioprocessing.

Related ERC codes: LS07, PE02, PE03, PE07

Related SDGs: 3, 9, 10, 12

Digital transformation

Theme H.14: Interfaces: mathematics, digital sciences – biology, health

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This theme supports interdisciplinary research projects between two major scientific fields, namely mathematics and digital sciences on the one hand, and biology and health on the other hand. The aim is to strengthen the cross-fertilisation of these two fields in order to foster the emergence of new concepts, models or methods in mathematics and digital sciences with a view to accelerating research in the fields of life sciences and health. The impact of the projects will be assessed in particular on the proposed methodological innovations and their validation through proof of concept.

The projects submitted may focus on the following:

- methods for the analysis, integration, modelling and visualisation of complex data (multimodal, multiscale, high-content) such as data from omics approaches (genomics, transcriptomics, proteomics, etc.), structural biology, cell and tissue microscopy, imaging or e-health;
- the modelling of biological and physiological processes at all scales from the molecule to the population, enabling the development of predictive approaches to the quantitative and qualitative behaviour of the systems studied, the numerical simulation of these models using scientific and high-performance computing and the related optimisation, as well as the methods for comparing them with experimental data, in particular data assimilation and automatic learning approaches;
- medical signal and image processing for the segmentation, extraction and characterization of the information they contain, as well as the fusion of multimodal, multiscale, morpho-functional information with the aim of deepening biological knowledge and/or developing new approaches of medical interest;
- immersive (virtual and augmented) visualisation and simulation of data and models;
- the development of methods for the collection, extraction, management, securing, matching and exploitation - aid in decision-making - of massive or heterogeneous data from a variety of sources ranging from omics biology to medico-administrative health data bases (National Health Data System) and health datawarehouses or any other source of personal health data for preclinical, clinical, population or epidemiological research, or as decision-making aid;

A co-funding request by DGOS (General Directorate for Healthcare Provision) may be made for translational research projects that include a partner health care facility (Translational Health Research Program, PRT-S).

Related keywords: large-scale machine learning and artificial intelligence for life sciences; assistance in decision-making; algorithmics; predictive analysis; signal and image analysis and processing; big data in biology; biomathematics; bioinformatics; computational biology; bioproduction; e-health; medical information technology; digital twins; modelling of biological processes; emerging properties of biological systems; simulation in biology.

Related ERC codes: LS01, LS02, LS03, LS05, LS07, PE01, PE06, PE07

Related SDGs: 3, 9

Theme H.15: Interfaces: mathematics, digital sciences – humanities and social sciences

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This theme supports interdisciplinary or transdisciplinary research actions related to the two main fields: "Mathematics and Digital Sciences" and "Humanities and Social Sciences".

This theme concerns both the application of concepts, methods from mathematics, computer sciences and digital technologies in fields relevant for Humanities and Social Sciences (linguistics, culture, education, economics, psychology, sociology, geography, anthropology, history, literature, art, etc.) and, conversely, the study by Humanities and Social Sciences of digital objects (infrastructures, social networks, algorithms, artificial intelligence, software, etc.) insofar as the cross-disciplinary study benefits both fields.

The projects may relate to digital humanities or computational humanities and social sciences as well as reflection on the challenges of digital objects, networks and devices as long as, by bringing disciplines into close and mutual interaction, they aim to achieve significant scientific spin-offs in both humanities and social sciences and digital sciences or mathematics. The targeted progress may be more significant in one of the two fields (humanities and social sciences or digital sciences or mathematics) provided that the projects mobilise concepts or tools from recent advances in the other field. Research proposals that simply mobilise digital engineering or are limited to impact studies are therefore excluded along with research involving two types of disjointed tasks. On the contrary, the selected projects will have to mobilise an upstream, interdisciplinary approach in terms of research questions asked and research methods employed. The projects will be supported by an interdisciplinary partnership, bringing together researchers in mathematics or digital science and technology, and in humanities and social sciences.

Related keywords: digital arts; democracy and digital; immersive devices; digital ecosystem; education and digital; digital ethics and regulation; data mining and AI; history of mathematics and of digital sciences; digital humanities; cultural and creative industries; information and information manipulation; digital twins; ontologies and the semantic web; quality, openness and structuring of research data; automatic processing of natural languages; social uses and practices of digital technology; use and governance of data.

Related ERC codes: PE01, PE06, PE07, SH01, SH02, SH03, SH04, SH05, SH06, SH07

Related SDGs: 1, 4, 5, 8, 9, 10, 11, 16, 17

Theme H.16: Interfaces: mathematics, digital sciences – Earth system sciences including climate, environment and biodiversity

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The theme aim of this area is to support research projects based on the development of new concepts and new mathematical, physical or numerical methods to improve understanding of the various components of the Earth system in the broadest sense, including Climate-Environment-Biodiversity. This encompasses all physical, chemical and biological processes, their interactions at different scales, and their main feedbacks, as well as their impacts.

The aim is to develop deterministic or stochastic modelling, theoretical analysis and numerical simulation of the evolution of these complex systems; to deepen the analysis and assimilation of multi-modal and multi-domain data from observation systems, experiments and numerical simulations; to design new models based on artificial intelligence (foundation models, etc.) as well as numerical twins associated with clearly identified scientific issues.

The expected project proposals should be innovative and interdisciplinary, addressing well-identified fundamental, applied or methodological issues, and incorporating theoretical analyses and methodologies to qualify and justify their results. The benefits and strategy for collaboration between the various disciplines must be clearly explained.

The submitted project proposals may, in particular, concern the following themes:

- Dynamics of coupled multi-scale systems (e.g. climate, solid earth-fluid envelope couplings, impacts of global change, anthropisation and urbanised environments, hazards and risks), which can exploit new artificial intelligence approaches and new high-performance computing and data analysis architectures;
- Monitoring and predictability of natural and/or man-made hazards considered in isolation or in interaction: telluric, climatic, environmental hazards, pollution, etc. ;
- Cross interactions between anthropogenic or environmental changes on the one hand, and populations, communities and ecosystems on the other hand, in order to identify and characterise resilience, adaptation or evolution phenomena;
- Characterisation, quantification and predictability of extreme events, including associated uncertainties, and their integration across the different sources and scales involved;
- Assimilation, robust probabilistic inference/inversion of multi-modal data associated with complex, high-dimensional model spaces, integrating artificial intelligence methods, for example.

Project proposals will be led by a partnership of researchers in mathematics, computer science, digital science and/or technology and researchers in Earth system and/or environmental sciences.

Related keywords: data adaptation, assimilation and inversion; biodiversity; natural and anthropogenic environmental change; model-data coupling; extreme events; species, community and ecosystem dynamics; artificial intelligence; digital twins; monitoring and forecasting methods; climate models and their simulation; foundation models; deterministic and stochastic models; predictive models; quantification of uncertainties; model-based reinforcement; numerical simulation and scientific computing; coupled, multi-physical and multi-scale systems; earth system; statistical data processing and analysis.

Related ERC codes: PE01, PE6, PE7, PE10, LS08, LS09, SH6, SH7

Related SDGs: 6, 7, 11, 13, 14, 15

Transformations of socio-technical systems

This cross-cutting field is composed of three themes that share several common points. First of all, each of these themes focuses on a major issue in the development of societies and living well together, whether in relation to the global challenge of security ([theme H.17](#)), the issues of sustainable development of cities, constructions, and transportation ([theme H.18](#)), or the evolution of productive systems for goods or services ([theme H.19](#)).

Another common feature is that these themes call on a very wide range of scientific disciplines to address these issues, ranging from materials science and engineering to humanities and social sciences, including mathematics, digital sciences, and, where appropriate, environmental or life sciences. Simultaneously, some of the identified issues in these themes call for multidisciplinary, interdisciplinary, and systemic approaches.

Finally, collaborative (or even participatory) research projects involving actors from the various fields addressed are welcome in these themes, particularly companies but also, depending on the subjects, civil society (NGOs...) and public actors (local authorities, law enforcement, public transport services, etc.).

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

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Research into the global security of societies requires the broadest possible collaboration between disciplines in order to gain a better understanding of the social and environmental phenomena - including the impacts of climate change - that are sources of threats and risks, to think ahead about how societies - faced with many uncertainties - will evolve and about the consequences of new practices, and to propose new technological (which may include digital technologies such as AI, blockchain, virtualisation, cloud computing, IoT, etc.) and/or organisational solutions in response.

In this perspective, this theme aims to host research projects responding to at least one of the following objectives:

- to characterise, prevent and respond to new forms of threats and risks, to assess vulnerabilities and their potential consequences on systems, and hence the risks to society and populations (protection of the nation's vital interests, resilience, logistics, treatment of consequences), and to contribute to their remediation;
- working on the prevention and protection of goods and people;
- developing the protection of infrastructures and networks as well as the protection of objects, data, content and software;
- combating hybrid threats, including disinformation (detection of content, methods and infrastructures used, response, etc.);
- managing crises and contributing to resilience;
- supporting decision-makers and analysing the instruments, including legal and economic instruments, involved in the exercise of people's rights and freedoms.

The theme is open to any fundamental or applied research, uni-disciplinary, multi-disciplinary or inter-disciplinary, leading to social, scientific or technological developments in terms of safety, security and cybersecurity.

Participatory research involving end-users (internal security forces, private security operators, municipal police, civil security, operators of vital importance or of establishments open to the public, local authorities, NGOs, etc.) is encouraged.

Proposals must be positioned with respect to six topics:

- the resilience of the nation and society, which includes risk identification, crisis management and remediation, regardless of origin: resilience of systems and networks, of territories and of the population. Securing supplies (through a stock policy, for example) is eligible in this context;
- combating terrorism and organised crime: analysis of the logic and mechanisms of action (violent radicalisation, for example) and research into new operational means of intervention;

- the security of society and its individuals, in the areas where they live or move, consider public action perspectives to deal with crime and trafficking, respond to the phenomena of urban violence, ensure events are held peacefully and monitor gatherings of a festive or democratic nature, etc.
- security and democracy, against a backdrop of ever-increasing demands for transparency, the reshaping of democratic balances, the need to respect individual and fundamental freedoms, greater protection for personal data, and the development of new uses brought about by the development of new technologies (social networks, artificial intelligence, digital identity, etc.).
- cybersecurity: coding and cryptography, formal methods for security, privacy protection, security of information systems, software and networks, security and multimedia data, security of hardware systems. All the components of cybersecurity need to be considered (prevention/anticipation/supervision/detection/reaction/remediation/governance);
- protection of critical infrastructure and societal resilience against physical and digital threats to sensitive sites, critical equipment and networks that guarantee the proper functioning of society; protection of public spaces and transports; surveillance of sovereign spaces.

Related key words : global security; national security; public and international policies; hybrid threats; disinformation; crisis management; personal assistance; security of public spaces; security of establishments and places open to the public, transport; surveillance of maritime, land and air spaces; protection of activities of vital importance; resilience of systems, organizations and institutions; business continuity (physical/digital, logistics flows and/or stocks, information flows, etc.); equipment of security forces; evidence management; fight against the Nuclear-Radiological-Biological-Chemical-Explosive (NRBC-E) threat; systems engineering for physical and digital protection; ethical and legal security by design; protection of freedoms; protection of personal data; sociology of organizations; social and cultural modeling; cybersecurity of networks, information systems, data, software, components, embedded systems and connected objects; post-quantum cryptography; cybersecurity of industrial systems and critical infrastructures; security of cloud computing and its uses; AI applications for cybersecurity, cybersecurity and auditability of AI models, understanding AI-enhanced cyberattacks; communications security; intrusion detection; vulnerability detection and mitigation; attack protection and combating cybercrime; human factors and cybersecurity; digital identity security.

Related ERC code.s : LS07, LS09, PE01, PE02, PE03, PE04, PE05, PE06, PE07, PE08, SH01, SH02, SH03, SH04, SH06, LS2

Related SDG: 9, 16 and 17

Theme H.18: Cities, buildings and construction, transport and mobility: transition to sustainability

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The research expected in this area should aim to explore the concepts and solutions through which urban territories—at all scales, from buildings to urban systems - transport, housing, and their users can address environmental challenges within a sustainable development perspective.

These research efforts should help to evaluate and improve the performance of buildings, transportation, and territories, and support the emergence of sustainable and resilient alternatives. This research must be conducted with a view to reducing pressures on the

environment and adapting to future disruptive or incremental changes, including climate change, but also demographic or territorial transitions, for instance.

Particular attention is given to advances in digital science and technology to support and promote this transition, relying on modelling, data utilization, and the development of solutions that integrate digital tools.

Questions of governance and the development of public policies, legislation and new economic models, which will be involved in the management and transformation of urban systems, can also be integrated into the projects, by mobilising the relevant expertise in social sciences and humanities. The importance of behavioural change—whether from policymakers, technical services, economic actors, or citizen-users—especially in the context of disruptive scenarios, will also be the subject of specific efforts.

This will involve participating, in particular through the implementation of multi-, inter- or transdisciplinary, integrated approaches, in the development of a conceptual, methodological or technological offer, by providing, more specifically, the elements of knowledge and understanding necessary to analyse, measure, make diagnoses, help to design, build, rehabilitate or renew urban systems, intra- and extra-urban transport systems and the built environment, but also to analyse social practices and support their transformations. International comparisons are welcome.

Particular attention may be paid to systemic approaches, which enable the integration of societal, environmental, and technical processes and their understanding of their interactions, complexity, and dynamics.

In addition to the participation of commercial companies, the participation of stakeholders such as local authorities in projects is encouraged.

The scope of this theme covers the following three areas:

Sustainable and resilient urban environment and systems:

- resilience to catastrophic events (heat waves, pollution waves, epidemics, floods, earthquakes, fires, etc.);
- quality of the urban environment: noise, visual, and air pollution;
- rational and integrated use of urban soil and subsoil, redevelopment of brownfield sites, combating land take;
- integrated approach to energy in cities;
- urban climate, urban heat island;
- nature in the city, urban agriculture and associated ecosystem services;
- urban metabolism and circular economy;
- access to resources (water, energy, food), pooling of energy and material flows.
- industrial ecology and synergies between urban and industrial territories;

Sustainable construction:

- Low-impact and healthy urban blocks or neighbourhoods;

- Sustainable design, construction, management, and maintenance of buildings (new and old) and infrastructures;
- Renovation, particularly with regard to energy issues, of buildings and urban blocks;
- Urban engineering, networks and services: water, sanitation, lighting, waste, energy, etc.;

Transport and mobility:

- Transport-urban planning: integrated approaches to passenger transport/goods transport/buildings/energy/health, spatial mobility/connectivity substitution effects;
- Demand analysis and inclusivity (children, vulnerable people, teleworking);
- Active modes of transport, micro-mobility (electric or not), mobility and transport services adapted to user needs (school, work, goods, etc.), public transport, intermodality and multimodality, modal shifts;
- Resilience and safety of transport system (pedestrians, cyclists, vehicles and associated facilities);
- driving assistance, autonomous vehicles, intelligent and interconnected transport systems, with a view to sustainability.

Related keywords: global security; national security; public and international policies; hybrid threats; disinformation; crisis management; rescue operations; security of public spaces; security of establishments and venues open to the public, and transport; surveillance of maritime, land and airspace; protection of vital activities; resilience of systems, organisations and institutions; business continuity (physical/digital, logistics flows and/or stocks, information flows, etc.); equipment for security forces; evidence management; countering Nuclear, Radiological, Biological, Chemical and Explosive (NRBC-E) threats; systems engineering for physical and digital protection; ethical and legal security *by design*; protection of civil liberties; personal data protection; organisational sociology; social and cultural modelling; cybersecurity of networks, information systems, data, software, components, embedded systems and connected devices; post-quantum cryptography; cybersecurity of industrial systems and critical infrastructure; cloud computing security and its applications; AI applications for cybersecurity, cybersecurity and auditability of AI models, understanding of AI-enhanced cyberattacks; communications security; intrusion detection; vulnerability detection and mitigation; protection against attacks and the fight against cybercrime; human factors and cybersecurity; digital identity security.

Related ERC codes: LS07, LS09, PE01, PE02, PE03, PE04, PE05, PE06, PE07, PE08, SH01, SH02, SH03, SH04, SH06, LS2

Related SDGs: 9, 16, 17

Theme H.18: Cities, buildings and construction, transport and mobility: transition to sustainability

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This research area aims to explore the concepts and solutions through which urban areas, at all scales – from individual buildings to urban systems – transport, housing, and their users and occupants, can address environmental challenges from a sustainable development perspective.

This research should enable the performance of buildings, transport and territories to be assessed and improved, and should help to identify sustainable and resilient alternatives. It must be conducted with a view to reducing pressure on the environment and adapting to future changes

– whether disruptive or incremental – such as climate change, demographic shifts and territorial transitions.

Particular attention is paid to advances in digital science and technology to support and promote this transition, drawing on modelling, data analysis and the development of digital solutions.

Issues relating to governance and the evolution of public policy, the law and new economic models, which play a role in the management and transformation of urban systems, may also be incorporated into the projects, by drawing on relevant expertise in the humanities and social sciences. The importance of changing behaviours – whether those of decision-makers, technical services, economic actors or citizens as users – particularly in the development of disruptive scenarios, will be the focus of a specific effort in this context.

The aim will be to contribute, in particular through the implementation of multi-, inter- or transdisciplinary, integrated approaches, to the development of conceptual, methodological or technological solutions, by providing, more specifically, the necessary knowledge and understanding to analyse, measure and diagnose, and to assist in the design, construction, rehabilitation or renewal of urban systems, intra- and extra-urban transport systems and the built environment, as well as to analyse social practices and support their transformation. International comparisons are encouraged. Particular attention may be given to systemic approaches, which enable the integration of societal, environmental and technical processes and allow these to be understood in terms of their interactions, complexity and dynamics.

In addition to commercial organisations, participation in projects by stakeholders such as local authorities is encouraged.

The scope of this research area covers the following three fields as well as cross-cutting themes:

- Sustainable and resilient urban systems and environments:
 - resilience to events (heatwaves, pollution spikes, epidemics, floods, earthquakes, fires, etc.);
 - quality of the urban environment: noise, visual and air pollution;
 - sensible and integrated use of urban land and subsoil, regeneration of brownfield sites, combating land sealing;
 - an integrated approach to energy in cities;
 - urban climate, urban heat island effect;
 - nature in the city, urban agriculture and associated ecosystem services;
 - urban metabolism and the circular economy;
 - access to resources (water, energy, food), pooling of energy and material flows;
 - industrial ecology and synergies between urban and industrial areas;
- Sustainable construction:
 - low-environmental-impact, healthy neighbourhoods or districts;
 - sustainable design, construction, management and maintenance of buildings (new and existing) and infrastructure;
 - renovation, particularly with regard to energy issues, construction, buildings and urban blocks;
 - urban engineering, networks and services: water, sanitation, lighting, waste, energy, etc.;
- Transport and mobility:

- the relationship between transport and urban planning (particularly land-use planning): integrated approaches to passenger transport, freight transport, the built environment, energy and health; the substitution effects of spatial mobility and connectivity;
- demand analysis and inclusivity (children, people with reduced mobility, vulnerable people, remote working);
- active modes of transport, micro-mobility (electric or otherwise), mobility and transport services tailored to users' needs (school, work, goods, etc.), public transport, intermodality and multimodality, modal shifts;
- resilience and safety of transport systems;
- transport safety (pedestrians, cyclists, vehicles and associated infrastructure);
- driver assistance systems, autonomous vehicles, intelligent and interconnected transport systems, with a focus on sustainability.

Related keywords: quality of the urban environment (air, water, soil, subsoil, landscapes, noise, pollution, etc.); rational and integrated use of the soil and urban subsoil; integrated approach to energy in the city; fight against artificialization; nature and ecosystem services in the city; urban metabolism; urban climate; vulnerabilities and resilience of socio-technical systems; buildings, blocks, neighborhoods, low-carbon and low environmental impact cities; energy and environmental renovation; civil engineering; construction; management and rehabilitation of existing heritage; infrastructure; urban engineering; port areas; sustainable mobility; soft mobility; inter- and multi-modality; resilience, safety and security of transport; driving aids; autonomous vehicle; connected vehicle; passenger transport networks and services; freight transport, urban logistics, IoT (Internet Of Things); urban services; e-services; urban data; smart cities; intelligent transport systems.

Related ERC codes: LS08, LS09, PE01, PE02, PE03, PE06, PE07, PE08, PE10, SH01, SH02, SH03, SH04, SH06, SH07

Related SDGs: 1, 3, 4, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16

Theme H.19: Transformation of production systems for goods and services: human, organisational and technological challenges

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This theme aims to support research focusing on production systems for goods and services, regardless of the scale considered, from the manufacturing unit or factory (and the processes, techniques and technologies it implements) to that of the large territories hosting these production systems. A production system refers to all the elements and processes involved in the production of goods and services. It encompasses the material, technological, organizational, human and natural resources needed to transform raw materials into finished products or to provide services. The research area should enable the creation, development and evaluation of innovative concepts, tools and methodologies to support the transition towards more resilient, robust and responsible production systems (in environmental and societal terms), serving Society, the economy and the environment.

It is open to a very wide range of disciplines, including engineering sciences, digital sciences, systems sciences, humanities, economics, and social sciences, and environmental sciences where applicable. Multidisciplinary, transdisciplinary, and systemic approaches involving stakeholders (businesses, of course, but also potentially other actors such as local authorities and associations)

are encouraged. The research area is open to both exploratory research projects, including those on disruptive concepts for industrial systems, and to finalized or industrial research projects.

Research funded under this theme may fall within one or more of the scientific topics listed below:

- Design and operation of responsible production systems at the value chain/ecosystem level: strengthening resilience throughout the value chain by leveraging short-term levers and long-term planning.
- Design and operation of production systems that are part of a regenerative, circular, and sustainable economy to live within planetary boundaries.
- Design and operation of autonomous, adaptive, and intelligent production systems.
- Design and operation of production systems that serve industrial and societal sovereignty.

Projects are expected to take into account the imperatives of resilience and adaptation in the face of global and local challenges (minimization of greenhouse gas emissions and other environmental impacts, preservation of biodiversity), future constraints and disruptions (geopolitical uncertainties, tensions on human, financial and natural resources, energy and mineral resources, risks of shortages, etc.), leading in particular to rethinking the economic and organizational models (functional economy, circular economy, systemic approach, etc.) of productive systems in line with the principles of sustainable development. At the same time, it will also be necessary to consider ongoing developments, such as the increased use by stakeholders in these productive systems of digital tools such as robotics, automation, artificial intelligence or changes in the needs, practices or behaviour of consumers of goods or services. This axis is complementary to other axes of the generic call for projects, in particular axes dedicated to disciplinary fields such as [theme B.03 Engineering and process sciences](#), which welcomes projects aiming to develop new techniques for the development or control of components, and [theme E.04 Interaction, robotics, immersive worlds](#), which aims to develop innovative building blocks and devices in robotics.

Related keywords: manufacturing production; service production; industrial ecosystems; networks and value chains; adaptation-resistance and change support; decision-making aids; assistance to the operator; integration of environmental aspects (eco-efficiency, eco-design, eco-production, industrial ecology, circular economy, functional economy, recycling, sustainable processes and services, energy-efficient and resource-efficient production, etc.); local ecosystem; ethics and well-being at work; cognitive ergonomics and engineering; fab-lab; management and life cycle assessment of product-service systems; systems engineering; frugal innovation; innovative measurement and control instrumentation, diagnostic methods and tools; integration of innovative manufacturing technologies (including additive manufacturing); human-machine interaction, cobotics; internet of things; logistics; maintenance (including predictive and anticipatory); management; economic models of production systems; optimization and operational research; work organization; personalization of products and services; augmented reality, virtual reality; manufacturing robotics; cyber-physical systems; control-command learning techniques; industrial innovation theory; human work.

Related ERC codes: LS05, LS06, LS07, PE01, PE02, PE06, PE07, PE08, SH01, SH02, SH03, SH04

Related SDGs: 8, 9, 10, 12

Strategic priorities

The strategic priorities defined by the French Government relate to the following research themes of the 2027 AAPG:

- Mathematics : theme F.01
- Quantum technologies : theme E.06

This priority aims to support projects focusing on software or architectural aspects for the implementation of quantum computers, as well as on aspects of post-quantum cryptography.

- Artificial intelligence: primarily theme E.02 and projects falling under other themes but incorporating a significant AI component

This priority aims to support projects with a primary AI component, offering added value in terms of scientific contribution to the field of AI (whether in terms of subject matter, research questions or methodological approach) and in terms of the intended knowledge output in AI.

- SHS at the Interfaces: priority themes D.01, D.02, D.03, D.04, D.05, D.06, D.07 and cross-cutting themes H.01, H.04, H.06, H.15, H.17, H.18 and H.19

The aim of this priority is to foster interdisciplinary innovation by supporting interdisciplinary projects with a strong humanities and social sciences component, thereby encouraging social SHS communities to invest in new research questions.

- Exploitation of data generated by IRs, IR*s and OSIs: all research themes

This priority concerns projects centred on the exploitation and analysis of data produced by an IR, IR* or OSI⁶⁸, thereby strengthening the scientific leadership of the French teams leading the projects through the generation of new knowledge. This priority aims to enable the exploitation of data that would not be utilised by French teams without this specific support.

- Neurodevelopmental disorders: research themes C.03, C.04, C.07, C.08, C.09, C.10, D.04, H.13 and H.14

This priority covers basic and translational research into all neurodevelopmental disorders, with the exception of funding for cohort studies.

- Therapeutic proof-of-concept studies in rare diseases: all research themes within the 'Life Sciences' field, from C.01 to C.11, and the cross-cutting theme H.13

This priority concerns translational and pre-clinical research, as well as proof-of-concept (POC) studies for therapeutic development using alternative rare disease models to existing ones.

- Mental health: research themes C.07 and C.08 in the 'Life sciences' field, theme D.04 in the 'Humanities and Social Sciences' field, and cross-cutting theme H.04

The aim of this priority is to support projects whose themes align with the priorities of the 2025 National Priority on Mental Health, i.e. the development of prevention and early detection, improved access to care and/or support for individuals across all aspects of their lives.

- PFAS: themes H.02, H.05 and themes A.02, A.04, B.01 to B.05, C.01, C.05, C.09, H.04, H.07 to H.11

New 2027

The aim of this priority is to support translational research projects aimed at preventing, characterising and reducing the risks posed by PFAS to human health, ecosystems and the environment; and to accelerate their replacement with safer alternatives.

⁶⁸ List of IRs, IR*s and OSIs eligible for priority funding in [Annex 5](#), compiled on the basis of the [national roadmap for research infrastructures](#)

Appendix 1: Summary of the main changes made to the 2027 General Call for Proposals (2027 AAPG)

In terms of characteristics of the call:

- Redefinition of the expectations for the [PRC](#) and [PRME instruments](#)
- Characterization of registered and submitted projects with respect to [the TRL scale](#) and [the SRL scale](#)
- Revision of [the national priorities open for the 2027 AAPG](#): new national priority 'PFAS' and redefinition of the national priority 'Quantum Technologies'

In terms of submission:

- Commitment upon first login to IRIS [to 'Use AI responsibly'](#) and a declaration by applicants regarding the potential use of AI in the preparation of their scientific project
- Commitment to the submission or registration of a project concerning [animal experimentation](#)
- [Simplified joint ANR-ANRT procedure](#) for applying for a CIFRE thesis under the PRCE instrument

In terms of eligibility:

- Revision of the '[Limit of Coordination](#)' criterion: in particular, applicants may not submit applications to the AAPG call and FRAL SHS call as coordinators for two years after being awarded a project in a coordinating role
- Revision of the '[Limit of involvement](#)' criterion: in particular, a limit of two applications in the same round of the AAPG and FRAL SHS calls, i.e. a maximum of 1 'scientific coordinator' role and 1 'partner's scientific manager' role, or 2 'partner's scientific manager' roles
- New eligibility criterion relating to [the suitability of the partnership for the PRC instrument](#)
- New criterion relating to [the submission of a European project during or following a PRME project](#)

In terms of evaluation:

- [Publication, prior to the evaluation procedure, of the list of panel chairs](#), once all chairs have been appointed
- [Clarification of the evaluation criteria](#) in light of changes to the PRC instrument; amendment of assessment criterion 3, '*Impact and benefits of the project*', applicable to the PRME instrument to take account of the redefinition of the instrument's objectives. Further details can be found in the 2027 AAPG Guide and the drafting templates made available prior to each step of the call, on the web page dedicated to the 2027 AAPG.

The following procedures specific to the AAPG are being continued for the 2027 edition of the call:

- Automatic invitation to Step 2 of the 2027 AAPG for ranked in the complementary list for the 2026 AAPG – provided the project has been registered to the call in Step 1 –
- Simple registration of PRCE projects in Step1 of the 2027 AAPG
- Memory-effect solicited in Step 1 and / or Step 2
- Rebuttal to expert reviews in Step 2 of the call

Appendix 2: List of the various partners in a ‘Collaborative Research Project’ - PRC

‘Public research institution’ partner for all funding instruments

- A public-law research and knowledge dissemination institution established in France;
- A private-law research and knowledge dissemination institution with a branch or subsidiary in France and which is not a commercial company
- Examples include: universities, institutes and schools, university teaching hospitals (CHU), French schools abroad, military academies, consular higher education institutions, EPSTs, research EPICs, etc.

‘Socio-economic’ partner in a PRC

- Partner not falling within the category of ‘institution participating in the public research service’: association, foundation, technical centre and industrial technical centre, private healthcare institution serving the public interest (ESPIC), hospitals other than university hospitals (CHU), civil society organisation, economic interest group (GIE), agricultural cooperative, joint association, regional nature park, etc.
- Commercial company (large, small and medium-sized company) – **funded from its own resources**

⚠ The following do not meet the eligibility criteria: institutions involved in public-service research, PUIs, technology transfer companies (SATTs), research and technology institutes (IRTs/ITEs), competitiveness clusters, commercialisation subsidiaries of institutions involved in public-service research, and institutions controlled by one or more institutions involved in public-service research

⚠ ‘Commercial company’ partner in a PRCE:

- The partner is expected to be a commercial company (SME, mid- or large company) carrying out R&D in France – whether or not it is applying for ANR funding – **in effective collaboration**

⚠ The following do not meet the criteria: consular higher education institutions (EESC), private higher education institutions of general interest (EESPIG), public industrial and commercial establishments (EPIC), commercialisation subsidiaries of ORDCs, SATTs, IRTs / ITEs, technical centres and industrial technical centres, private healthcare institutions serving the public interest (ESPICs), economic interest groups (GIE), associations or foundations, etc.

Appendix 3: Provisional schedule for the 2027 Generic Call for Proposals

STEP 1	Coordinators submit a pre-proposal (PRC/PRME/JCJC) or register their intention to submit a PRCI project (under the 'ANR Lead Agency' modality or the 'Non-Lead Agency' modality) or their intention to submit a PRCE project							
2026	July–August	September	October	November	December	January	February	2027
	Publication of the Work Programme and the AAPG call	Publication of the AAPG Guide		Eligibility check of pre-proposals and registrations			Notification of results	
Coordinator 		Submission of a PRC/PRME/JCJC pre-proposal Registration of a PRCI / PRCE project						
Panel 				Individual assessment by panel members	Plenary meeting			
STEP 2	Coordinators selected at the end of Step 1 and coordinators of a PRCI or PRCE project registered in step 1 submit a full proposal							
2027	March	April	May	June	July		December	
		Eligibility check			Publication Notification of results		Contracting for selected projects	
Coordinator 	Submission of a full proposal (PRC/PRCE/PRCI/PRME/JCJC)		Rebuttal to expert reviews					
Panel 		Individual assessment by panel members		Plenary meeting				
Reviewers 		Individual evaluation by at least two external reviewers						

Appendix 4: Provisional list of PRCI bilateral collaborations and associated research themes in 2027 AAPG call

Appendices detailing confirmed PRCI collaborations will be available on the webpage dedicated to the 2027 AAPG. These will describe the open research themes, specific submission procedures and eligibility criteria for each collaboration, and must be consulted before registering and submitting a PRCI project to the ANR and/or the foreign funding agency.

Modality of collaboration*	Countries (agencies)	Themes of collaboration	Associated scientific themes
ANR Lead Agency	Germany DFG	All disciplinary fields funded by ANR and DFG, except the humanities and social sciences**	All except D1 to D.7 and H.4
	Austria FWF	All disciplinary fields funded by ANR and FWF	All
	Brazil FAPESP Brazil FACEPE	• Mathematics and digital sciences • Humanities and social sciences • Materials • Engineering, Chemistry, Physics • Environment, ecosystems and biological resources • Biology and health	Themes A.1 to A.4; Themes B.1 to B.7; Themes C.6 to C.8; Themes D.1 to D.7; Themes E.1 to E.6; Theme F.1; Themes G.1 and G.2; Themes H.1 to H.7; H.11 and H.12, H.14 to H.16 and theme H.19
	Canada – Quebec FRQ <i>Subject to</i>	–	–
	Luxembourg FNR	All disciplinary fields funded by ANR and FNR	All
	Switzerland FNS	All disciplinary fields funded by ANR and FNS	All
	Singapore NRF	• Decarbonisation • Health and ageing	<i>Currently being defined</i>

Modality of collaboration*	Countries (agencies)	Themes of collaboration	Associated scientific themes
Non Lead Agency modality	Hong Kong RGC	All disciplinary fields funded by the ANR and the RGC	All except Theme H.17
	Taiwan NSTC	All disciplinary fields funded by the ANR and the NSTC	All except Theme H.17
Foreign Lead Agency	United States NSF*** <i>Subject to</i>	–	–
	Brazil CNPq*** <i>Subject to</i>	–	–

* The PRCI funding instrument comprises three collaboration modalities:

- (1) 'ANR *Lead Agency*': the ANR is responsible for the main submission and evaluation of projects; collaborations under this modality therefore require the project to be registered with ANR from step 1 of the AAPG;
- (2) 'Foreign *Lead Agency*' modality: the collaborating funding agency is responsible for the main submission and evaluation of projects: the collaborations concerned do not require the project to be registered at step 1 of the AAPG;
- (3) '*Non-Lead Agency*' modality: projects are submitted to both funding agencies, in accordance with each agency's specific timetable and procedures: the collaborations in question require the project to be registered with ANR from step 1 of the AAPG.

For further details: see the instrument description [Collaborative Research Project – International \(PRCI\)](#)

** The humanities and social sciences are covered by a specific ANR-DFG call for proposals outside the AAPG, FRAL SHS, to be published in December 2026 (provisional).

*** With regard to ANR-NSF and ANR-CNPq collaborations, the launch of these collaborations is to be confirmed in September 2026, following the publication of the dedicated annex on the 2027 AAPG webpage.

Appendix 5: List of International Scientific Organisations (OSI) and research infrastructures (IR and IR*) eligible to the priority ‘Scientific exploitation of data generated by IRs, IR*s and OSIs’⁶⁹

In Step 1, when submitting a pre-proposal (PRC/PRME/JCJC instruments) or registering a project (PRCI and PRCE instruments), coordinators must indicate on the submission portal that they are resorting to one or more IR, IR* or OSI from the list below.

Scientific field	Acronym	Name of the infrastructure	Type
Astronomy and astrophysics	ESO	European Southern Observatory	OSI
	SKAO	SKA Observatory	OSI
	CFHT	Canada-France-Hawaii Telescope	IR*
	CTA	Cherenkov Telescope Array	IR*
	IRAM	Institut de RadioAstronomie Millimétrique	IR*
	CDS	Centre de Données astronomiques de Strasbourg	IR
	HESS	High Energy Stereoscopic System	IR
	Instrum-ESO	Instrumentation pour les grands télescopes de l'ESO	IR
	LOFAR/NenuFar	International Low Frequency Radio Array Telescope – LOFAR FR	IR
	PARADISE	Plateforme pour les Activités de Recherche Appliquée et de Développement en Instrumentation au Sol et Embarquée	IR
Biology & Health	EMBL	Laboratoire Européen de Biologie Moléculaire/ European Molecular Biology Laboratory	OSI
	CALIS	Infrastructure Nationale de Recherche Consommateur-ALiment-Santé	IR
	Celphedia	Infrastructure Nationale pour la création, l'élevage, le phénotypage, la distribution et l'archivage d'organismes modèles	IR
	ChemBioFrance	Plateforme de découverte de molécules bioactives pour comprendre et soigner le vivant	IR
	CONSTANCES	Cohorte des consultants des Centres d'examens de santé	IR
	ECELLFrance	Plateforme nationale pour la médecine régénératrice basée sur les cellules souches mésenchymateuses adultes	IR
	EMBRC France	Centre National de Ressources Biologiques Marines	IR
	EMERG'IN	Infrastructure Nationale de Recherche pour la lutte contre les maladies infectieuses animales émergentes ou zoonotiques par l'exploration in vivo	IR
	FBI	France-BioImaging	IR

⁶⁹ List drawn up on the basis of the [national roadmap for research infrastructures](#)

Scientific field	Acronym	Name of the infrastructure	Type
	F-CRIN	Plateforme Nationale d'Infrastructures de recherche Clinique	IR
	FLI	France Life Imaging	IR
	France Cohortes	France Cohortes	IR
	France Génomique	Infrastructure nationale de génomique et bioinformatique associée	IR
	FRISBI	Infrastructure Française pour la Biologie Structurale Intégrée	IR
	IBISBA France	Industrial Biotechnology Innovation and Synthetic Biology Acceleration	IR
	IDMIT	Infrastructure nationale pour la modélisation des maladies infectieuses humaines et les thérapies innovantes	IR
	IFB	Institut Français de Bioinformatique	IR
	Ingestem	Infrastructure nationale des cellules souches pluripotentes et ingénierie tissulaire	IR
	Laboratoire P4 Jean Mérieux	Infrastructure de recherche dédiée aux maladies hautement infectieuses – Laboratoire P4 Jean Mérieux Inserm	IR
	LiPh@SAS	Livestock Phenotyping for Sustainable Agricultural Systems	IR
	MetaboHUB	Infrastructure française distribuée pour la métabolomique et la fluxomique dédiée à l'innovation, à la formation et au transfert de technologie	IR
	NeurATRIS	Infrastructure de Recherche Translationnelle pour les Biothérapies en Neurosciences	IR
	NEUROSPIN	Infrastructure de recherche sur le cerveau exploitant des grands instruments d'imagerie	IR
	PhenomeEmphasis France	Infrastructure Française de Phenomique Végétale	IR
	ProFI	Infrastructure Française de Protéomique	IR
Energy	ECCSEL-FR	Infrastructure de Recherche sur le Captage, Stockage et Valorisation du CO ₂ (CSCV) et le Stockage Souterrain d'Énergie	IR
	FR Solaris	Infrastructure de Recherche française sur le solaire thermique concentré	IR
	THEOREM	Réseau de Moyens d'Essais en Hydrodynamique pour les Énergies Marines Renouvelables	IR
	WEST	W(Tungsten) Environment for Steady-state Tokamaks	IR
High-energy nuclear physics	CERN	Organisation Européenne pour la Recherche Nucléaire	OSI
	CERN LHC	Large Hadron Collider	IR*

Scientific field	Acronym	Name of the infrastructure	Type
	DUNE / PIP-II	Deep Underground Neutrino Experiment / Proton Improvement Plan II	IR*
	EGO-Virgo	European Gravitational Observatory - Virgo	IR*
	FAIR	Facility for Antiproton and Ion Research	IR*
	GANIL-SPIRAL2	Grand Accélérateur National d'Ions Lourds – Système de Production d'Ions Radioactifs en Ligne de 2e génération	IR*
	AGATA	Advanced GAMMA Tracking Array	IR
	JUNO	Jiangmen Underground Neutrino Observatory	IR
	KM3NeT	Kilometre Cube Neutrino Telescope	IR
	LSM	Laboratoire Souterrain de Modane	IR
	LSST	Legacy Survey of Space and Time	IR
	PAO	Pierre Auger Observatory	IR
Humanities and Social Sciences	HUMA NUM	La Très Grande Infrastructure de Recherche des Humanités Numériques	IR*
	PROGEDO	PROduction et GESTION de DONnées	IR*
	RnMSH	Réseau national des Maisons des Sciences de l'Homme	IR
Materials and Engineering Sciences	Apollon	Laser Apollon	IR*
	ESRF	European Synchrotron Radiation Facility	IR*
	ESS	European Spallation Source	IR*
	European XFEL	European X-ray Free Electron Laser	IR*
	ILL	Institut Max von Laue – Paul Langevin	IR*
	SOLEIL	Synchrotron SOLEIL	IR*
	EMIR&A	Fédération des accélérateurs pour l'IRradiation et l'Analyse des molécules et Matériaux	IR
	Infranalytics	Fédération nationale des équipements analytiques à très haut champ magnétique	IR
	LMJ-PETAL	Laser Mégajoule – PETawatt Aquitaine Laser	IR
	LNCMI	Laboratoire National des Champs Magnétiques Intenses	IR
	METSA	Microscopie Électronique en Transmission et Sonde Atomique	IR
	REFIMEVE	REseau Fibré Métrologique à Vocation Européenne	IR
	RENATECH+	Réseau national des centrales de technologies de nanofabrication	IR
Digital sciences and mathematics	CONTINUUM	Continuité Collaborative du Numérique vers l'Humain	IR
	ROBOTEX 2.0	L'infrastructure coordonnée des plateformes de Robotique en France	IR
	SILECS	Infrastructure for Large-Scale Experimental Computer Science	IR

Scientific field	Acronym	Name of the infrastructure	Type
Earth System and Environmental Sciences	CEPMMT	Centre Européen pour les Prévisions Météorologiques à Moyen Terme	OSI
	CONCORDIA	CONCORDIA – station de recherche antarctique franco-italienne	IR*
	ECORD/IODP	Programme international de forage profond en mer/European Consortium for Ocean Drilling Research/International Ocean Discovery Program	IR*
	EURO-ARGOFrance	Réseau in-situ global d'observation des océans/ European contribution to Argo program	IR*
	FOF	Flotte Océanographique Française	IR*
	ICOS-France	Système Intégré d'Observation du Carbone/ Integrated Carbon Observation System	IR*
	ACTRIS-France	Aerosol, Cloud and Trace Gases Research Infrastructure – France	IR
	AnaEE-France	Analyse et Expérimentation sur les Écosystèmes – France	IR
	CLIMERI-France	Infrastructure de recherche nationale de modélisation du système climatique de la Terre	IR
	DATA TERRA	Pôles de données et services pour le système Terre	IR
	eLTER-France OZCAR	Observatoires de la Zone Critique, Applications et Recherche	IR
	eLTER-France RZA	Réseau des Zones Ateliers – Infrastructure des Socio-écosystèmes	IR
	EMSO-France	European Multidisciplinary Seafloor and water column Observatory – France	IR
	IAGOS-France	Instruments de mesure embarqués sur avions pour l'observation globale/ In-service Aircraft for Global Observing System	IR
	ILICO	Infrastructure de Recherche Littorale et Côtière	IR
	IN AIR	Infrastructure Nationale des Aéronefs Instrumentés pour la Recherche	IR
	In-Sylva-France	In-Sylva France Infrastructure Nationale de recherche pour la gestion adaptative des forêts	IR
	PNDB	Pôle National de Données de Biodiversité	IR
	RARe	Ressources Agronomiques pour la Recherche	IR
	RECOLNAT	Réseau national des collections naturalistes	IR
	RESIF/EPOS	Réseau sismologique et géodésique français/ European Plate Observing System	IR
Digital Services	GENCI	Grand Équipement National de Calcul Intensif	IR*
	RENATER	Groupement d'intérêt public pour le réseau national de communications électroniques pour la technologie, l'enseignement et la recherche	IR*
	CC-IN2P3	Centre de Calcul de l'IN2P3	IR

Scientific field	Acronym	Name of the infrastructure	Type
	CINES	Centre informatique national de l'enseignement supérieur	IR
	France Grilles		IR
Scientific information	CollEx-Persée	Collections d'excellence pour la Recherche – Persée	IR
	HAL+	Archive ouverte de prochaine génération	IR
	Métopes	Méthodes et outils pour l'édition structurée	IR
	OpenEdition	Communication scientifique ouverte en sciences humaines et sociales	IR

Appendix 6: TRL scale – *Technology Readiness Levels*

The Technology Readiness Level scale is used to classify the level of maturity of a technology. Used by the European Commission for Horizon Europe calls⁷⁰ to structure its research and innovation support programmes, it is adopted by ANR to characterise projects submitted under the 2027 Work Programme, including the 2027 AAPG call.

New 2027

When submitting or registering a project to the 2027 AAPG call, applicants must position their project on this scale by specifying a ‘starting TRL level for the project’ and a ‘expected TRL level at the end of the project’:

- It is understood that characterisation by a TRL level may not be applicable to the most fundamental projects, nor to certain projects falling within disciplines, fields of research or scientific approaches for which this scale is not relevant: applicants should therefore select the ‘not applicable’ option on the submission website and explain why the project cannot be characterized by a TRL level;
- It is understood that a project may not have an applicable TRL level at the start of the project but may have an expected TRL level at the end of the project: applicants should therefore select the option ‘TRL 0 at the start of the scale’ and an expected TRL level at the end of the project;
- It is understood that demonstrating an increase in TRL between the start and end of the project is not mandatory;
- It is understood that this information will be used solely for the purpose of characterising the projects submitted or registered under the call, and will not be taken into account in the evaluation.

TRL	Description
TRL 1	Basic principles observed
TRL 2	Technology concept formulated
TRL 3	Experimental proof of concept
TRL 4	Technology validated in the laboratory
TRL 5	Technology validated in a relevant environment
TRL 6	Technology demonstrated in a relevant environment
TRL 7	Demonstration of the system prototype in an operational environment
TRL 8	Complete and qualified system
TRL 9	Actual system proven in an operational environment

⁷⁰Available here: [The TRL scale | Horizon-europe.gouv.fr](https://the-trl-scale.horizon-europe.gouv.fr). [An explanatory guide to the TRL scale](#), including examples applied to specific sectors, has been produced by the Horizon Europe NCP network.

Appendix 7: SRL scale – *Societal Readiness Levels*

The Societal Readiness Level scale⁷¹ is used to characterise the degree to which an innovation in the broadest sense – be it a social project, a technology, a product or a process – can be integrated into society. Its use complements and/or replaces the TRL scale and its ‘technology-focused’ view of innovation.

New 2027

When submitting or registering a project to the 2027 AAPG call, applicants must position their project on this scale by specifying a ‘starting SRL level for the project’ and a ‘expected SRL level at the end of the project’:

- it being understood that characterisation by a SRL level may not be applicable to the most fundamental projects, nor to certain projects falling within disciplines, fields of research or scientific approaches for which this scale is not relevant: applicants should therefore select the ‘not applicable’ option on the submission website and explain why the project cannot be classified by a SRL level;
- It is understood that a project may not have an applicable SRL level at the start of the project but may have an expected SRL level at the end of the project: applicants should therefore select the option ‘SRL 0 at the start of the scale’ and an expected SRL level at the end of the project;
- It is understood that demonstrating an increase in SRL between the start and end of the project is not mandatory;
- It is understood that this information will be used solely for the purpose of characterising the projects submitted or registered under the call, and will not be taken into account in the evaluation.

SRL	Description
SRL 1	Identification of the problem and assessment of societal need
SRL 2	Formulation of the problem, proposed solution(s) and potential impact, assessment of the expected societal need; identification of relevant stakeholders for the project
SRL 3	Initial testing of the proposed solution(s) in collaboration with the relevant stakeholders
SRL 4	Validation of the problem through pilot tests in a relevant environment to substantiate the potential impact and societal need
SRL 5	Validation of the proposed solution(s) by relevant stakeholders in the field
SRL 6	Demonstration of the solution(s) in a relevant environment and in cooperation with relevant stakeholders to obtain initial feedback on the potential impact
SRL 7	Refinement of the project and/or solution, and, if needed, retesting in a relevant environment with the relevant stakeholders
SRL 8	Proposed solution(s) together with a comprehensive and well-defined societal adaptation plan
SRL 9	Actual project solution(s) proven in a relevant environment

⁷¹ Available here: [The TRL scale | Horizon-europe.gouv.fr](https://the-trl-scale.horizon-europe.gouv.fr/), ‘Social Innovation’ section