

03/02/2021

**JOINT CALL FOR PROPOSALS FOR FRANCO-GERMAN
INNOVATION PROJECTS ON ARTIFICIAL INTELLIGENCE
TECHNOLOGIES FOR RISK PREVENTION, CRISIS MANAGEMENT
AND RESILIENCE**



Coordinated jointly by
Bpifrance, Banque Publique d'Investissement
and
DLR Project Management Agency

Opening Date:
03/02/2021

Closing Date:
29/04/2021 at 12pm (noon)

Link to the call on the websites:

[Appels à projets en cours | entreprises.gouv.fr](https://entreprises.gouv.fr)

and

https://www.digitale-technologien.de/DT/Navigation/DE/Foerderaufrufe/InternationaleKooperationen/intern_kooperationen.html

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CONTEXT AND AIM

As laid down in the Treaty of Aachen and in the Roadmap for a Research and Innovation Network on Artificial Intelligence, France and Germany will strengthen their collaboration in the field of Artificial Intelligence (AI). This Franco-German applied research collaboration will make an impact on the objective of this roadmap to foster the creation of a common AI ecosystem. Both countries agree that they offer leading research in the field of AI and that they will deepen ties in existing structures deployed on the basis of their national AI strategies.

New challenges and opportunities for AI solutions are arising from the health and economic crisis the world is currently facing due to Covid-19. AI solutions can foster the development of new products and services which can be used for example to modernise healthcare, to secure logistics chains or to reinvent production systems in order to reinforce our economic sovereignty. The objective is to bring about new AI solutions to make our world more resilient to crises of all kinds (health, climate, etc.), which are likely to happen more frequently. The Paris Agreement sets out a global framework to avoid harmful climate change. Germany and France share these values. Germany and France also share common values regarding a responsible use of AI, aiming to build AI which respects human rights, and to build an economy that respects the environment. Data sovereignty is a very important issue. A well-balanced policy on the protection of personal data (GDPR) is needed to create an innovation-friendly economy. The GDPR is the regulatory basis for the sharing of data between France and Germany.

This joint call is directed towards applied Franco-German research and innovation projects on artificial intelligence technologies for risk prevention, crisis management and resilience. The call aims to explore how AI could help to create solutions that would detect and anticipate crises in the near future and minimise their impact by providing support with decision-making and automation. A new initiative for modelling and prediction tools and for automation in order to create a more resilient society is needed to help us tackle the challenges of crisis management. The main focus will be on economically and politically important areas of application such as health, commerce and sustainability. The knowledge gained from this collaboration and the resulting solutions should be transferable to different types of crisis. The call focuses on accelerating the transfer of technology from research to SMEs and into business models and products.

The objective is to bring about new cooperation projects, especially new projects involving cooperation between research and industry. The joint projects will aim at developing precompetitive products and services and will select subjects which entail technological barriers but offer great economic potential in both countries. Scientific findings should be transferable into the development of marketable high-tech technologies with a high degree of potential for practical applications.

RESEARCH SCOPE

A Fields of application

The selected fields of application, such as health, commerce and sustainability, are some of the areas most affected by the crisis. However, the results of the projects could also be relevant for other types of crisis, and further synergies with fields of application which have already been able to make successful use of AI could be of interest. Use cases for AI have to be developed.

1. Health issues

Major health issues include early detection of epidemics, care of the population and crisis management.

Some questions are:

- How can AI methods be used for the early detection of epidemics?
- What possibilities does AI offer to effectively support health organisations like clinics, doctors' practices or health authorities during an epidemic?
- How can AI help, for example, with the swifter evaluation of scientific findings regarding medical procedures, or with the swifter development of necessary products like rapid tests, drugs or vaccines?
- What might be the impact of using AI in diagnostics and in the monitoring of patients at risk?

The following innovation topics in health applications are given as examples:

- Interoperability of different medical domains within a digital data production network, e.g. on the basis of biological data because they are well structured and intellectual property rights are clarified
- Supporting health organisations (management of services to organise healthcare in a hospital)
- Tracking the virus (following the epidemic within a structure)
- Virtual trials
- Simulating lockdown and unlocking strategies (transversal subject to socio-economics)
- Designing the best physical distancing
- Digital models of patients
- Operating clinical trials using real-life data more speedily
- Building relevant and real-time indicators on health, commerce or social life, and organising the data
- Using standardised data, e.g. SNOMED CT, EHR or biological data as an opening strategy for connectivity to the European Union and the international level

2. Economic issues

AI applied to the economy should enable economic sovereignty, improve economic impact assessment and help to secure value chains and logistics.

Some questions are:

- How can we assess crisis events threatening the existence of economic actors more effectively using AI methods?
- To what extent can AI solutions help to forecast favourable entry and exit time-windows for restrictive measures such as curfews and shutdowns, and to efficiently monitor their effectiveness?
- How can the economy ensure services, production and deliveries and maintain contact with customers even under crisis-related restrictions?
- Which AI-based applications can support companies in overcoming crisis-related restrictions?
- How can AI help to maintain value chains for as long and as flexibly as possible, or to accelerate the recovery time of operationally vital and production-critical resources or logistics chains when epidemics have ended?

The following innovation topics in economic applications are given as examples:

- Measuring and understanding the impact of lockdown on the economy
- Linking social behavior to virus transmission
- Anticipatory resilience: identify disruptions before they become active in a production system / economy / society
- Reactive resilience: countermeasures to return to a preferred production state / economic state / societal state
- Defining and deploying a data and AI strategy in order to cover part of the value chain
- High level of production automation
- Flexibility with respect to switching to other kinds of productions
- Keeping distance by using robots in areas like health, production, logistics or mobility
- Maintaining contact with customers

3. Sustainability issues

Fighting against climate change, protecting biodiversity, using fewer resources and producing less waste are measures that contribute to crisis prevention, but also to a society more resilient to future crises and to a more competitive economy.

Some questions are:

- How can AI technologies help industries to integrate a circular economy? To what extent can AI solutions contribute to a deeper knowledge of soils and a more rational use of resources and chemical inputs? How can AI be used to analyse satellite images in terms of forms of land use? How can data be collected along agriculture supply chains as input for AI?
- How can AI solutions facilitate the development of renewable energy through a better integration in the grid? How can AI and DLT be useful for integrating decentralised systems into the grid?
- What AI solutions can be used to make buildings more energy efficient? What is the impact of CO2 reduction potential in the residential building sector through building automation?
- How can AI help increase the life expectancy of products and reduce waste?

The following innovation topics in sustainability applications are given as examples:

- Energy prediction
- Energy-efficient retrofitting of buildings
- Land use and soil artificialisation
- Monitoring of anthropogenic CO2 emissions
- Improving the biodiversity footprint of sustainable energy
- Making it easier for active energy consumers to participate
- Contribution of building automation, energy management and AI systems to CO2 reduction goals
- AI based solutions for energy efficiency, mobility, sector coupling and integrated energy, operation and service

B Transversal issues

The projects can integrate or have a major focus on transversal issues related to the development of AI solutions such as data or infrastructures. Specific transversal AI research is also possible. Nevertheless, an AI use case in the field of risk prevention, crisis management and resilience should be developed.

- Data

Sharing data is a major challenge. Investment in acute pandemic response must not lead to new data silos. The incentive to share data should be driven by the usefulness and the services produced with the data. Technical conditions for data sharing like certification, cybersecurity or location are of general interest. General digital technologies for AI are detection, decision, and automation. There could be synergies in data sharing, e.g. between clinics in France and Germany, and mutualisation of data.

AI does not replace the improvement of structured documentation, data quality, and semantic standardisation via international standards, e.g. for digital twins or on the basis of SNOMED CT, the Electronic Health Record (EHR), biological data or smart meters. There is a common interest in building European and international standards for data and metadata.

- Infrastructure:

Another transversal issue is the development of sovereign infrastructures for AI and for data. Existing platforms form the basis and then they have to be scaled up, e.g. GAIA-X (German-initiated multi-cloud) and Aleia (French-initiated platform for AI as a service). A concrete initiative could be the next step towards achieving some synergies in this regard.

- AI research:

Transversal AI research needs in particular:

- Easy to use, web-based, scalable AI platforms
- Explainable AI, trustworthy AI, interpretability
- Secure model execution on data
- Open-source repositories for ML models
- Early signals detection
- Collaborative decision making with real-time diagnosis
- Very agile mobilisation of existing data/modelling/identification, production of data/analysis to address problems, understanding and monitoring what is happening
- Elaboration of models for prediction, especially for establishing a resilient system

SUBMISSION

The French and German partners will prepare a joint innovation project proposal written in English following the template provided on the Bpifrance and DLR call sites. The project must be submitted by a consortium composed of at least one eligible partner from each of the two countries, France and Germany. One partner of each country has to be defined as Leading Principal Investigator (LPI), who will be the contact point for the respective national funding agency. The project description should be no longer than 20 pages, plus an annex presenting the partners. The project description must be submitted identically to both national funding agencies. This description is the first stage of a two-stage competition.

The project description must include:

- Budget overview

- Brief summary of the whole project and in particular of the binational cooperation (overall goal of the binational cooperation, summary of the project proposal, description of the application(s) achieved, desired innovations)
- Presentation of the added value of Franco-German cooperation in the project and the sustainable strengthening of Franco-German cooperation
- Description of project consortium listing all French and German partners and describing the distribution of roles
- Work plan with descriptions of the work of the partners, including subcontractors; and outlines of all project-related scientific and technical problems as well as the envisaged solutions
- Planned R&D work of all French and German partners, including handover points between the individual partners and in particular between the French and German national project parts
- Utilization and rights of use within the entire consortium, presentation of the design of the exploitation and usage rights within the consortium and how they are to be contractually arranged. Each partner is to be responsible for complying with its funding agency's intellectual property rights requirements. The Collaboration Agreement between the partners will need to be in place within six months after the grant notification has been made and before the first payment.
- Economic impact of the project per each partner
- Environmental impact of the project

The project description must be submitted by each Leading Principal Investigator (LPI) to the following extranet websites:

France: <https://extranet.bpifrance.fr/projets-innovants-collaboratifs/>

Germany: <https://ptoutline.eu/app/aires>

ELIGIBILITY

The project proposal must fulfil the eligibility criteria common to the two funding agencies, as well as the criteria specific to each agency. Project proposals that do not meet the eligibility criteria, whether common to the two agencies or unique to each, cannot be funded.

1. Common eligibility criteria:
 - a. The project proposal must be in conformity with the designated innovation areas.
 - b. The project proposal must be submitted by a binational consortium including at least one eligible partner for each of the two participating agencies (Bpifrance for France, DLR for Germany). The consortium must be composed of at least one company and one research actor carrying out an activity in the general interest and without a project partner representing more than 70% of the project expenditure.
 - c. Each of the two agencies must receive a complete application: the joint scientific document and the annex submitted respectively on the submission platforms; the joint scientific document could consist of technical and financial records.
 - d. The project must be scheduled to run for up to 3 years.
 - e. No company of the consortium may be in difficulty within the meaning of the European Regulation (AGVO (EC) no. 651/2014, article 2 paragraph 18, 17 June 2014).
 - g. The project proposal must aim at developing one or several products, processes or services which are not available on the market and which offer a high level of innovation.

- h. The project proposal must present a work budget that has not already benefited from funding from the State, the territorial authorities, the European Union or their agencies, outside this call.
 - i. The project proposal must list all the R&D projects led by each partner and supported by a public authority (national, local or European), specifying the budgets of the R&D programmes and the amount received in grants so that the financial capacity of the partners to conduct the project can be evaluated.
 - j. The consortium must show the relevance of the Collaboration Agreement.
 - k. Funding recipients cannot be partners outside of Germany and France, but partners from other EU Member States can also contribute as associated partners (non-funded partners).
2. Specific national eligibility criteria of FRANCE
- The full catalogue can be accessed at <https://www.bpifrance.fr/Qui-sommes-nous/Nos-partenaires/Poles-de-competitivite/Poles-de-competitivite/Presentation-AAP-PSPC>
3. Specific national eligibility criteria of GERMANY
- The full catalogue can be accessed at <https://www.digitale-technologien.de/DT/Navigation/DE/Foerderauftrufe/Foerderrahmen/foerderrahmen.html>:

EVALUATION

A Panel of Experts (PoE) will evaluate each eligible proposal. They will then make recommendations to the funding agencies.

Members of the Panel of Experts (PoE) cannot be involved in any way in the project proposals submitted in response to the call.

Common evaluation criteria are:

- **Idea, level of innovation and added value of the project** (Innovative content and originality of the approach, scientific and technical quality, identification of specific process and value chains, compatibility and interoperability (consideration of open platforms; use or creation of standards and open interfaces), progress on or breakthroughs in the state of the art
- **Compliance with the programme scope and designated innovation fields**
- **Strategic nature for France and Germany, diffusing effect within a sector:** level of impact on a sector, strategic nature of the project for the leading partner, ability for SMEs to integrate new technologies
- **Feasibility** (technical feasibility, management of technical and economic risks, clarity and holism of the approach of R&D services / quality of the work plan, appropriate ratio of effort, risks and benefits, profitability of the work plan, proof of data security; consideration of (international) safety standards, presentation of the legal framework for the desired solution and a possible need for further development of the legal framework, presentation of the compliance of the desired solution with ethical requirements and acceptance by the user)

- **Quality of the consortium** (completeness, complementarity and suitability of the consortium, coverage of the value chain or network (especially: user involvement), potential, competence and innovative strength of research, implementation and application partner (technology or market leader or position in relation to this), existing preparatory work and reference to relevant national and international activities, consideration of medium-sized players and start-ups, proof of the reliability and financial feasibility of the co-payment of each partner (creditworthiness)); ability of the consortium to conduct the project (ability, especially financial capacity, of the partners to carry out the project): the partners must present a financial situation coherent with the level of work they intend to lead in the project, and with the aid requested;
 - relevance of the envisaged arrangements for the project management (personal qualities of the project manager, resources allocated to the coordination between partners and to the follow-up of deliverables, project management skills, etc.);
 - relevant number of appropriate partners (SMEs, industrial groups, research establishments sharing the project objectives and ambitions);
- **Market and application potential** (quality of the utilization concept, including presentation of the economic potential, market positioning and feasibility on the market, contribution to enhancing the innovative strength of companies, broad impact of the pilot application in terms of the overall programme objectives (flagship character), improvement of the competitiveness of German and French industries, transferability and sustainability of the solution, economic significance, in particular market and job potential, creation of activities and investments especially in France and Germany; openness, willingness to cooperate and broad impact (best practice or multiplier effects, results should be precompetitive products or solutions); quality of provisional fallouts in terms of short-term creation of activity and jobs for each of the partners; credibility of the industrialization phase and of the commercial objectives for each partner (envisaged markets or segments, envisaged market shares...), strengths and weakness with respect to competitiveness; quality of the economic model, business and financing plan showing a return on investment; level of inventiveness of the aid in terms of work acceleration which could not have been achieved without the public intervention.
- **Environmental conditions** (mandatory for projects from the sustainability field and optional for other fields): projects should demonstrate that the energy transition and sustainable development are taken into account through direct or indirect quantified contributions to: sustainable energy production, energy efficiency, GHG reduction, air pollution reduction, resource consumption reduction, waste reduction, impacts on biodiversity, life cycle analysis, societal responsibility. This criterion is mandatory for projects in the sustainability field and optional for projects in the economic and health fields.

Additional criteria are:

- **added value of Franco-German cooperation** within the project and impact for sustainable strengthening of Franco-German cooperation and integration
- technological and economic **benefits of European sovereign infrastructures** such as GAIA-X or Aleia
- **transversal subject as the main focus** (like data sharing, for example) with an AI use case in the research and innovation scope of crisis management in sustainability, commerce or health areas

SELECTION AND FUNDING

Project proposals will be selected on the basis of a two-stage competition. Full project proposals are only necessary at national level and in the official language of the country to which they are being submitted. Projects can only be funded if both funding authorities agree on funding. Depending on the quality of the proposals received, the intention is to select a set of projects for funding and is to cover all intended application areas. Possible kinds of projects according to the national funding framework are binational projects with a total of up to five partners.

REPORTING AND MONITORING

Each LPI reports to his/her respective funding agency in accordance with specific national rules. A final report is requested in order to collect the results and impacts of funded projects. This report is to be written in English. Kick-off and final review meetings of all funded projects will be organised by the project management agencies. The participation of each consortium is mandatory and funds should be budgeted for this.

FINANCIAL CONTRIBUTIONS

The intended overall funding budget is €10 million in Germany and €10 million in France.

SCHEDULE

- **Publication of call for proposals: 03 February 2021**
- **Deadline for submission of project proposals: 29 April 2021 at 12pm**
- Hearing of projects: 14 – 18 June 2021
- **Notifications to applicants: from 23 July 2021**
- Full project proposal application received: by 22 October 2021
- Approval: November 2021 – February 2022
- **Project commencement: from March 2022**
- Project end: by February 2025

Depending on the number of projects submitted, a second round of the call for projects will be organized, subject to the availability of budget funds.