Call for Proposals

Artificial Intelligence

Fondazione Compagnia di San Paolo

cdp fondazione

Call for Proposals

Artificial Intelligence

- Publication date: 16 December 2021
- Closing date: 31 May 2022

Background

Artificial Intelligence (AI) is one of the tools at our disposal to facilitate digital transformation and national development.
This technology can help tackle some of the most pressing challenges of our time, such as combating climate change and environmental degradation, treating chronic diseases, and managing demographic change. It offers a route to better healthcare, easier access to information, education and training, and enhanced security.
Like – and perhaps more than – any other technology, artificial intelligence can yield major benefits for individuals, businesses and society as a whole, provided it is applied ethically and according to a human-centred approach.

The pervasive spread of digital technologies in recent years is exponentially increasing the volume of data that is generated by various devices and can be accessed through various channels, often in real time. Against this backdrop, sustainable economic growth – both now and in the future – and the welfare of European society are increasingly based on the value generated by Big Data, and AI is one of the most important applications of the data economy.

Fondazione Compagnia di San Paolo

cdp fondazione

Over the three-year period 2018-2020, EU funding for research and innovation in artificial intelligence increased by 70% compared with the previous period, and now stands at €1.5 billion[1]. Over the same period, existing forms of public-private partnership have added a further 2.5 billion euros.
These figures are still significantly lower than public and private investment at a global level, however, pointing to the fact that Europe is still lagging behind.
The latest estimates from Stanford University[2] confirm that, despite the European Commission's commitment to significantly increasing EU resources, there is so far little sign of the impact of this on the private sector: in 2020, the latter invested over 23,6 billion dollars in the United States, compared to 9.9 billion in China and barely 2 million in the European Union, closely followed by the United Kingdom with 1.9 billion.
It is therefore crucial for the EU to pursue its efforts to create a more dynamic, hi-tech environment that is more attractive to private investors.

The Strategic AI Plan proposed by the European Commission last April[3] is the culmination of the work done over the past five years to help turn Europe into a global leader.
Its primary aims are to boost Europe's technological and industrial capacity and prepare citizens for the socio-economic impact of this transformation. As well as aiming to accelerate investment in this field, this strategy is closely aligned with the Commission's digital and green priorities and with Europe's response to the Covid-19 pandemic.

Last but not least, Europe intends to establish an adequate ethical and legal framework, in which trust is a prerequisite for ensuring a human-centred approach to AI.
In parallel with the strategic plan, the European Parliament has therefore announced the draft legislative framework intended to govern[4] the ethical aspects of artificial intelligence, robotics and related technologies. The aim of the measure is to establish an initial legal framework that is consistent with the fundamental rights, principles and values embraced by the EU, that facilitates

[1] *White Paper on Artificial Intelligence. A European approach to excellence and trust*, European Commission, 2020
[2] *Artificial Intelligence Index Report 2021,* Stanford University Human-Centered Artificial Intelligence, 2021
[3] https://eur-lex.europa.eu/resource.html?uri=cellar:e0649735-a372-11eb-9585-01aa75ed71a1.0006.02/DOC_1&format=PDF
[4] https://eur-lex.europa.eu/legal-content/IT/TXT/?uri=CELEX:52021PC0206

the development of a single ecosystem for legitimate, secure and reliable AI applications and prevents market fragmentation.
Taking an approach based on risk assessment, the draft establishes a sound methodology for the development, market release and use of AI systems, which includes transparency rules, specific requirements and proportionate obligations, designed to ensure secure access to the EU market and boost investment and innovation in the technological arena.
The aim of this approach is therefore to maintain the European Union's technological leadership, while at the same time giving EU citizens secure access to the benefits of newly developed technologies.

In 2020, FCSP launched the first edition of a call for proposals on artificial intelligence and its ethical applications at the service of society, involving universities and research centres.
This latest call for proposals follows on from the positive results of the previous call, by promoting the development of new trials applied to AI in fields that cut across the missions of FCSP's Planet Goal, while maintaining an ethical, human-centred approach, in line with the aforementioned European regulation and with the principles set down in Italy's strategy for a "*Trustworthy AI*" system cited in the 2022-2024 Strategic Plan for Artificial Intelligence[5].

The second edition of the call for proposals has been extended to the nationwide level thanks to the participation of Fondazione CDP.

Fondazione CDP is a non-profit organisation committed to the pursuit of socially useful purposes in the social and cultural arena, and to promoting development in all fields. The range of sectors in which Fondazione CDP operates includes "Assistance and Scientific Research" in fields of nationally strategic significance.

The Foundations work together to promote and strengthen their efforts in scientific research in fields of nationally strategic significance.

[5] Strategic Plan for AI (innovazione.gov.it)

General aims and specific objectives of the call for proposals

FCSP and Fondazione CDP are launching the second edition of the Artificial Intelligence call for proposals with a view to supporting innovative research projects aimed at advancing scientific knowledge in the field of AI and generating economic and social benefits for the coverage area.

The commitment to such an important area as Artificial Intelligence is reflected in the European agenda, in programmes such as the Digital Europe Programme, Horizon Europe and Next Generation EU.

The aim of the call for proposals is to investigate the opportunities that AI opens up in four areas:

1. Health and wellbeing;
2. Environment and the green transition;
3. Protection and insurance against risks;
4. Education and training;

The aim is to provoke thought and encourage the development of pilot projects that use AI in the four fields identified.

The general aim of the projects is to meet local needs and bring significant economic and, more especially, social benefits to the community. The proposed projects must therefore involve collecting data and carrying out analyses in the local area, road-testing innovative solutions and encouraging collaboration between universities, research bodies, businesses and the third sector.

AI - Health and wellbeing

According to a Stanford University study entitled *"Artificial Intelligence and Life in 2030*[6]*",* healthcare is one of the sectors on which AI will have the greatest impact.

[6] *The One Hundred Year Study on Artificial Intelligence (AI100) 2021 Study Panel Report,* Stanford University, 2021

Technology and innovation offer an important opportunity to make welfare systems sustainable and to develop solutions to growing challenges, such as ageing populations, increasing demand for medical services, rising treatment costs and a shortage of healthcare workers.

A thriving ecosystem of start-ups and major players in medical technology is implementing AI solutions, harnessing the power of machine learning to accelerate the discovery of new therapies, developing algorithms to monitor patients remotely, and using artificial vision to enhance the potential of diagnostic imaging. Italy is among the countries that are making major investments in this field – especially in precision medicine and new drug research – and where there is growing interest in surgical applications of robotics.

AI applications in this industry are growing all the time, as is the amount of data generated by hospital records, personal health records, reports, lab tests and other processes.
The creation of the "European Health Data Space" is one of the European Commission's priorities for the period 2019-2025. Its aim is to improve access to various types of health information (electronic health records, genomic data, personal health records) and facilitate its exchange. By implementing a *Data Space*, the European Union intends to tackle the challenges posed by the collection, re-use, interoperability and cross-border circulation of high-quality health data in a secure environment.

In line with European strategy, one of Italy's goals is to build a connected, digitised health ecosystem capable of generating, collecting and analysing large volumes of data. One of the main challenges facing healthcare organisations is how to equip themselves with tools capable of exploiting the information generated by the various technological solutions, in such a way as to ensure secure access and data storage, so as to enhance the quality and efficiency of patient care and the health service in general.

The aim is to provoke thought on the effective use and management of data in the health sector, and encourage pilot projects that make innovative use of AI to boost the sector's sustainability.

AI - Environment and the green transition

As shown by *"The role of Artificial Intelligence in the European Green Deal"*, a study commissioned by the Special Committee on Artificial Intelligence in a Digital Age (AIDA)[7] set up by the European Parliament, AI has a strategic role to play in achieving the ambitious goals of the European Green Deal, by helping accelerate the process of environmental transition and making a major contribution to achieving carbon-neutrality and sustainable environmental development.
This is another area in which the potential of technology and the ability to collect and analyse large quantities of data make it possible to tackle today's environmental challenges more effectively, monitor impacts more quickly and efficiently and boost predictive capabilities. Satellites, drones and robots, used in conjunction with sensors and IoT solutions, exponentially increase our capacity to collect data, thus helping to develop a wide range of applications.

In Italy's farming sector, which is ranked top in Europe in terms of value-added, the use of AI is mainly concentrated in intensive and industrialised farming systems: Agriculture 4.0 (defined as an evolution of precision agriculture) generated revenues of 540 million euros in Italy in 2020, representing an increase of 20% on 2019[8].
The information generated with the aid of AI yields major benefits for environmental planning, decision-making and policy management, and helps nudge consumers and businesses towards more sustainable behaviour.

In terms of environmental transition, a wide range of sectors, such as renewable energy, sustainable transport, construction and the circular economy, represent fertile ground for the application of AI.

The aim of the call for proposals is to provoke thought on the challenges posed by the use of AI, and encourage pilot projects that steer AI towards positive and sustainable environmental impacts.

[7] *The role of Artificial Intelligence in the European Green Deal,* Policy Department for Economic, Scientific and Quality of Life Policies Directorate-General for Internal Policies, 2021
[8] *I trend del mercato dell'agricoltura 4.0 in Italia,* Department of Management Engineering, Polytechnic University of Milan, 2021

AI – Protection and insurance against risks

Artificial Intelligence and data processing, both of which are vital for enhancing organisation and engaging customers, are playing a leading role in the current transformation of the global insurance market.

Technological innovation has driven the transformation of the entire value chain, from insurance policy development to signature, back-office operations and online distribution. The use of technologies such as AI and machine learning can make onboarding, customer service, claim estimation and settlement, and fraud prevention much simpler.
Digital platforms, chatbots and virtual assistants make the interaction between customers and insurers quicker, leaner and more effective, from the pre-contractual stage, to customer service and the communication of information in the event of a claim.

AI's ability to analyse and synthesise, combined with its ability to simulate possible scenarios more easily than traditional tools, has the potential to improve the operational efficiency of risk review processes and document management and validation.

The aim of the call for proposals is to provoke thought about the opportunities that AI opens up for the insurance industry, and encourage projects geared towards innovative applications.

AI - Education and training

As revealed in the report entitled *"Pushing the frontiers with AI, blockchain, and robots"* published by the Organization for Economic Co-operation and Development (OECD) in 2021[9], pervasive digitisation and the development of advanced learning analytics solutions are spawning new scenarios and correspondingly revolutionary strategies in education and training, on the back of advances in connectivity, increasing use of smart devices and applications, a growing need for individual flexibility and rising demand for digital skills.

[9] *Pushing the frontiers with AI, blockchain, and robots,* Organization for Economic Co-operation and Development (OECD), 2021

The term *educational technology* (abbreviated EdTech or Edutech) covers the combination of hardware, software and innovative theories and methodologies for training and learning, designed to improve outcomes and spread the concept of personalised education.
The integration of enabling technologies, such as artificial intelligence, learning analytics and robotics in recent years has led to the development of a wide range of innovative platforms and services that offer educational content using unconventional, interactive and gaming techniques to increase student engagement and the effectiveness of study. Artificial intelligence algorithms and predictive analytics systems have also helped leverage the increasing volume of information at out disposal to better understand educational behaviours and dynamics.

While digital and virtual learning was already on the rise before Covid-19, the pandemic has really pressed the fast-forward button. With remote learning systems now in use by most of the global school population, and the adaptation of corporate training programmes, the EdTech sector has attracted a lot of attention from investors and users.

The aim of the call for proposals is to encourage pilot projects that use AI for education and training purposes.

Eligible entities

1. Lead organisation: departments of the five universities with which agreements with FCSP are in place (University of Turin, Polytechnic University of Turin, University of Eastern Piedmont, University of Genoa and Federico II University of Naples);
2. Research and development partners: Universities and national and international public and private non-profit research bodies;
3. Local partner: bodies and businesses based in Italy;
4. Evaluation body: bodies with proven expertise and experience in project impact evaluation.

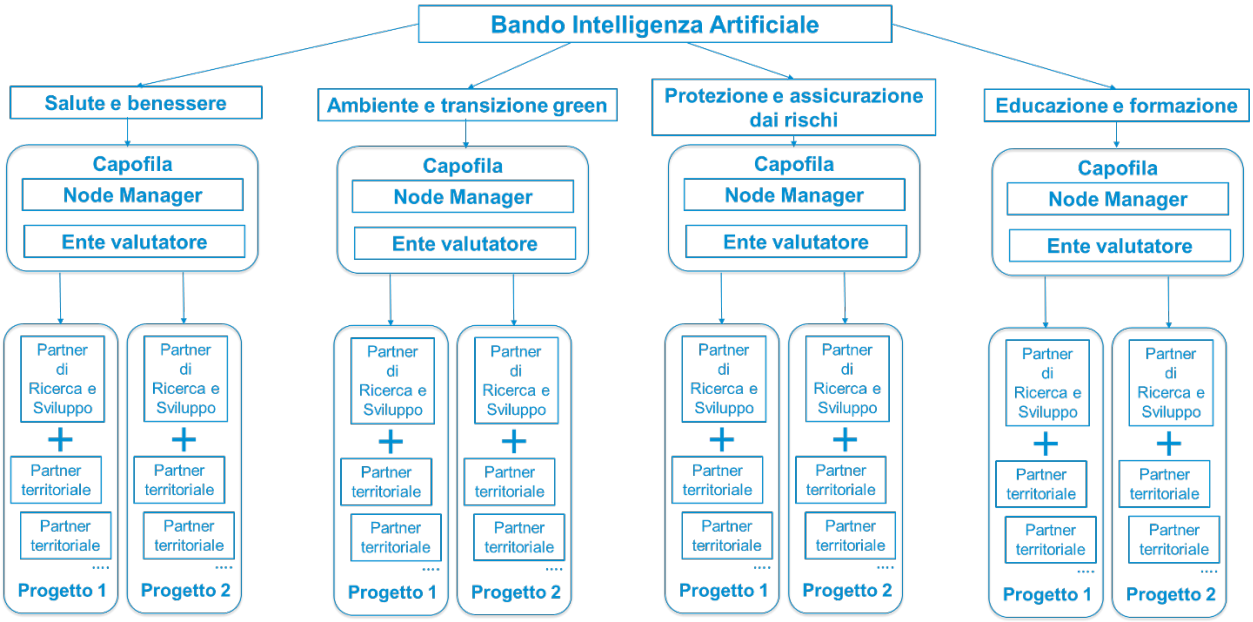
The lead organisations and research and development partners must fulfil the subjective eligibility requirements established in FCSP's governing document, internal regulations governing institutional activities and guidelines for application of the internal regulations governing institutional activities.
FCSP auxiliary bodies may only take part in the call for proposals as local partners or evaluation bodies.

FCSP, in agreement with Fondazione CDP, will assign a Node Manager (see following paragraph) to each partnership, using the skills available at the incubators and technology transfer offices in universities in Piedmont, Liguria and Campania.

Ownership of initiatives and partnerships

We invite the submission of projects by partnerships comprising at least 7 entities: one lead organisation, one evaluation body, two research and development partners and at least two local partners, as per the scheme set out below.

FCSP, in agreement with Fondazione CDP, will also identify and assign a Node Manager to each partnership, whose role will be to facilitate the management of the research programme (node) and serve as an interface with all the actors in each partnership.



1. As well as undertaking theoretical research, the lead organisation, within the selected field (Health and Wellbeing, Environment and Green Transition, Protection and Insurance Against Risks, Education and Training), will specify 2 research and development partners to be included in the partnership.

2. Research and development partner 1 will carry out application research on project 1. Research and development partner 2 will carry out application research on project 2.

3. Local partner 1 will apply the results of the research conducted by research and development partner 1. Local partner 2 will apply the results of the research conducted by research and development partner 2. A single research and development partner may be linked with multiple local partners.

4. The evaluation body will monitor the partnership's activity and design a rigorous evaluation protocol to assess the impacts of all the projects linked with the partnership.

The partnership must draw up a project document, signed by all the partners, which will govern relations between the lead organisation and the project partners in terms of roles, economic share and use of resources during the project design phase.

The evaluation body will be involved from the start of the partnership to monitor the activities and establish the evaluation design.

The partnership's activities must have a maximum duration of 24 months and must be started within 60 days of the decision to award the grant. The evaluation body's work may continue until month 36 for the purpose of measuring and analysing project impact.

Eligible initiatives

Proposals will be considered eligible for funding only if at least two of them (for each of the four fields) are approved or exceed the funding threshold (60/100).

Universities can participate in a partnership with a maximum of two departments.
For example, a university belonging to a given partnership may apply for the role of lead organisation with one department and for just one role of research and development partner with another department (e.g department of the lead organisation university + a maximum of 1 other department from the same lead organisation university in the role of research body). The second research partner must be a department of a different university or a public/private non-profit research body).

Within the same partnership, the evaluation body may not be controlled by or dependent on any entity with which a research and development partner is also linked.

Financial provisions

The total funds available for this call for proposals are €4,000,000.

Four partnerships will be selected, one for each thematic strand (Health and Wellbeing, Environment and Green Transition, Protection and Insurance Against Risks, Education and Training). Each partnership will be assigned an amount of up to €1,000,000.

From this sum, up to €260,000 can be used by the lead organisation for the purposes of conducting its own research, no less than €50,000 must be allocated to the evaluation body, and up to €640,000 will be allocated by the lead organisation to the research and development partners on the basis of the activities planned as part of the specific research projects. The lead organisation will also be entitled to award a sum of up to €50,000 to each of the local partners, to cover any costs arising from the application of the research.
The funds allocated to the Node Manager, amounting to €50,000, will be managed by FCSP.

Eligible expenses

The following categories of expenditure are eligible:

1. costs for personnel not employed under formal employment contracts (external contractors, research contracts, scholarships, consulting, research grants);
2. up to a maximum of one year for university doctoral scholarships. For doctoral scholarships payable from funds made available under Italian Ministerial Decree No. 1061 of 10 August 2021, which has given rise to the allocation of new ESF REACT-EU resources for active doctoral courses accredited under the 37th cycle and for national doctoral programmes on innovation and green issues, expenditure for the period after 31 December 2023 is eligible;
3. purchase of consumables, equipment, software products, databases;
4. services and consulting, including from start-ups with proven subject expertise. At the evaluation stage, credit will be given to applications that list the parties that will be involved;
5. missions, communication and dissemination of results;
6. for evaluation bodies and local partners only, costs for personnel employed under formal employment contracts are eligible.

No more than 15% of the grant applied for may be allocated to overheads.

How to submit applications

Applications must be submitted by the lead organisation using the online application system. You can access this from the homepage of the FCSP website, and then select the specific form for the call for proposals from the “List of calls and requests”.

As a first step, the lead organisation must submit an **Expression of Interest**, in English, in the format attached to this Call for Proposals, containing:

1. general information on the subject of the research to be carried out by the partnership (a project summary, setting out the aims of the project and the methodology to be used),
2. the names and brief descriptions of the 2 projects to be conducted by the research and development partners,
3. possible composition and architecture of the partnership,
4. CV of the proposer’s Principal Investigator, showing their previous experience in the subject identified.

Once the research subject and lead organisation have been specified, they cannot be changed at any subsequent stage.
The lead organisation must submit this information by 1.00pm on 15 March 2022 at the latest, by telematic means only. Failure to do so shall invalidate the application.

Documents required

When responding to the call for proposals, in addition to the documentation required by the online application procedure, the following documents must also be submitted, in English, in the format attached hereto:

Strategy

1. a description of the challenges that will be tackled at subject level;
2. a full description of the research projects to be carried out by the lead organisation and the research and development partners;
3. an executive summary;
4. an abstract of the partnership's activities, in Italian;
5. a description of the expected impact and effects on the coverage area;
6. a description of the implementation phase at coverage-area level;
7. the monitoring and evaluation plan.

Operations

1. a project document setting out details of the relationships, roles, use of resources and economic share of the partners involved in the partnership, signed by all the partners;
2. the project budget;
3. the CVs of the contact persons of all partners, including the evaluation body's personnel (setting out details of previous experience in impact assessment).

Eligibility shall be subject to submission of all the aforementioned documents by the closing date of the call for proposals, at the latest.
By submitting their online application, the proposers acknowledge their acceptance of all the conditions set down in this call for proposals and its annexes.
They also acknowledge that certain information concerning the results of the projects funded may be published in the press, on the website or in the institutional documents of Fondazione Compagnia di San Paolo and Fondazione CDP.

Closing date for the submission of applications

Expressions of Interest must be sent to ricerca@pec.compagnia.torino.it by 1.00pm on 15 March 2022 at the latest.

Applications must be submitted via the online application system by 1.00pm on 31 May 2022 at the latest.

Evaluation of the initiatives

Once the fulfilment of the eligibility requirements has been verified, the evaluation will be carried out by a Technical Evaluation Committee set up for the purpose by FCSP and Fondazione CDP. Participation in the call for proposals implies acceptance of the final decision on the selection of projects and the allocation of grants.

During the evaluation, FCSP and Fondazione CDP reserve the right to request any additional documentation to the information provided and to carry out checks and in-depth meetings with the proposer to obtain any clarifications that may be necessary.

The chosen evaluation process is based on the H2020 evaluation system, whose evaluation criteria are shown in the table below:

Criterion	Description	Weighting (max 100 - threshold 60/100)
Excellence	The project's adherence to the general aims of the call for proposals and the chosen field Completeness of the information provided and clarity of the proposed methodologies Degree of innovation of the proposed solutions	30

Impact	Definition of the expected impacts on the coverage area and of the evaluation methodology The projects' consistency with the requirements of local partners The long-term sustainability of the actions implemented at coverage-area level	40
Implementation	Clarity, completeness and quality of the project's work programme Feasibility of the project proposal and quality of the skills involved Effectiveness of the project in terms of allocation of resources	30

Results

A list of the four partnerships awarded the grant will be published on the FCSP and Fondazione CDP websites by the end of November 2022. The selected lead organisations will be formally notified of the decisions in writing. If a project is not listed on the website, this represents tacit notification from FCSP and Fondazione CDP that it has not been selected.

Following approval of the grant, FCSP, in agreement with Fondazione CDP, may revise the project costs and activities plan and ask to discuss the plan and the indicators used in its preparation, with the project leader (and/or the parties involved in the partnership).

Research projects must start within 60 days of the date of the decision to award the grant.

Reporting methods

The necessary reporting relating to the grant must be undertaken by the lead organisation using the FCSP online platform, as specified in the grant award letter and its annexes.

Contact details

For information and technical help on how to fill in the forms, please contact: assistenzarol@compagniadisanpaolo.it .
For further information about the call for proposals, please write to FCSP at missionericerca@compagniadisanpaolo.it, specifying “Artificial Intelligence call for proposals” in the subject line.
Any further communications relating to the procedures for submitting projects or clarifications regarding issues of general interest may be added to the “Frequently Asked Questions” section of the call for proposals on the FCSP website, and shall supplement the existing text of this call for proposals.

This call for proposals contributes to achieving the following SDGs:

4. Quality education
9. Industry, innovation and infrastructure

Closing date: 31 May 2022

Artificial Intelligence

Corso Vittorio Emanuele II, 75 - 10128 Torino (Italia) / T: +39 011 5596911 / Tax ID code 00772450011

Fondazione
Compagnia
di San Paolo

cdp
fondazione