COMPLETED SEE RESULT

Collaborative Project on Digital Security and Artificial Intelligence, Robotics and Autonomous Systems

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Application type:
Collaborative and Knowledge-building Project

Application deadline: Open-ended

Relevant thematic areas for this call:
Enabling technologies

Target groups:
Public sector, Industry, Research organisations

Funding scale: NOK 4 000 000-12 000 000

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This call closes at midnight on 3 August 2022. With some variations, the call for proposals has been open for grant applications since 2019. A new ongoing call for proposals is planned from 2023, after a new portfolio plan for Enabling Technologies has been published.

The remaining budget is unlikely to cover all applications that achieve a grade of 6 or 7. Randomised selection will be carried out among applications of otherwise equal quality.

We process all applications that arrive within the deadline of 3 August. You can expect an answer to your application in November 2022.

Purpose

The objective of this call is to develop new knowledge within one or both topics for the call: **Digital security** and/or **AI, Robotics and Autonomous Systems.** This means that in the grant application you must show good knowledge of the research front within the topic of your choice, and you must also show how the project will help move the research front on this topic. It will often not be sufficient to apply existing knowledge to new areas of application.

Good contact with the research front is best maintained through cooperation with good research environments within the relevant topics.

SHORTCUTS

About the call for proposals

This is a joint call for proposals for priority topics in the Research Council's thematic area ICT, the purpose of which is to generate new knowledge and research expertise that society or the business sector needs to find solutions to important societal challenges. The projects are to promote and support collaboration between research groups and **stakeholders** from outside the research sector that represent societal, public sector and/or industry needs for knowledge and research competence.

The topics are described individually under the section Relevant thematic areas for this call. You must select the topic you believe is best suited to your project in the application form. We will also assess whether the application may be relevant to other topics under the call.

Applicants are advised to consult our Guide for Applicants for answers to various questions related to this application type.

The Norwegian-language call for proposals is the legally binding version.

State aid

This call for proposals constitutes a funding scheme that is notified to the EFTA Surveillance Authority (ESA). Funding awarded under this scheme is granted in accordance with Article 25 of the General Block Exemption Regulation for state aid (Commission Regulation (EU) No 651/2014 of 17 June 2014). This funding scheme must be practised in compliance with the EEA state aid rules. This means that conditions and concepts are to be interpreted in keeping with corresponding conditions and concepts in the state aid rules. In the event of conflict between the text of the call and the state aid rules, the latter will have precedence. The text of the call may be adjusted for this same reason. The call

for proposals has been approved as an aid scheme by the EFTA Surveillance Authority (ESA) with the reference: GBER xx/2019/R&D&I (coming soon).

Who is eligible to apply?

The call is open to approved Norwegian research organisations in binding cooperation with relevant actors from public sector entities, trade and other industry, other public organisations and/or private organisations.

The projects must involve collaboration between the research group and public and/or private sector actors.

Who can participate in the project?

Requirements relating to the Project Owner and partners

The project must involve two or more Norwegian partners that are not research organisations. Partners that are not research organisations must together participate with a minimum of 10 per cent of the total project costs. This may be in the form of work hours or equipment, but not cash contributions.

The Project Owner and project partners are to implement the project through effective collaboration. This means among other things that the results from the project must be shared. The definition of effective collaboration is as follows:

Collaboration between at least two independent parties to exchange knowledge or technology, or to achieve a common objective based on the division of labour where the parties jointly define the scope of the collaborative project, contribute to its implementation and share its risks, as well as its results. One or several parties may bear the full costs of the project and thus relieve other parties of its financial risks. Contract research and provision of research services are not considered forms of collaboration.

Actors may not be assigned more than one role in the project. This means that the Project Owner or partner in the project may not at the same time be providers of R&D services (sub-contractors) in the same project.

The research organisation listed as the Project Owner in the grant application must have approved the submission of the grant application to the Research Council. The grant application must describe how the project incorporates the strategic objectives of the Project Owner and all partners.

What can you seek funding for?

You can apply for funding to cover the actual costs necessary to carry out the project. You will find detailed and important information about what to enter in the project budget on the Research Council's website.

Rules apply to what percentage of the contribution partner businesses can receive in funding through the project. The Research Council can cover around 50 per cent of contributions from businesses and 100 per cent of contributions from public sector entities. Read more about the conditions for awarding state aid.

Foreign businesses may participate as partners, but will not receive Research

Council funding. You will find more information about international partners in our Guide for Applicants for Collaborative and Knowledge-building Projects.

The project may buy services from Norwegian and foreign businesses on normal terms. Such businesses will constitute subcontractors to the project rather than partners.

If the project includes doctoral and post-doctoral research fellowships and there are concrete plans in place for research stays abroad for the fellowship-holders, funding for these stays may be included in the grant application. The Research Council has also issued a separate call for funding for Research Stays Abroad for Doctoral and Post-doctoral Fellows. The project manager may seek funding under that call if plans for research stays abroad for research fellows affiliated with the project emerge later in the project period.

Conditions for funding

Project start-up must take place within six months of the approved funding allocation.

The Research Council funding is only to go to the non-economic activity of the research organisations in the form of independent research. The Research Council requires a clear separation of accounts for the organisation's economic and non-economic activities.

Any funding awarded to enterprises constitutes state aid. Enterprises in this context means all actors that engage in economic activities by providing goods and/or services in a market. Enterprises serving as partners may have parts of their project costs covered in accordance with the General Block Exemption Regulation Article 25 (Commission Regulation (EU) No. 651/2014).

The state aid rules set clear limits for the percentage of funding that these enterprises are allowed to receive, depending on the enterprise's size and the type of activities it undertakes. Project applications that are granted funding must submit further information about the project and partners to ensure that the project is undertaken in accordance with the rules.

If the project is awarded funding, the Project Owner is to draw up collaboration agreements with all of the Norwegian and international partners in the project. The collaboration agreements are to regulate the reciprocal rights and obligations of the Project Owner and partners in the project and ensure the integrity and independence of the research. It is to ensure that no participating undertaking receives indirect state aid from a research organisation serving as Project Owner or partner. The agreement must therefore include conditions for the collaboration which ensure compliance with paragraph 28 of the EFTA Surveillance Authority's guidelines for state aid for research and development and innovation.

The Research Council's requirements relating to allocation and disbursement of support for the first year and any pledges and payments for subsequent years are set out in the General Terms and Conditions for R&D Projects.

Projects awarded funding under this call are required to submit an annual project account report documenting incurred project costs and their financing.

From 1 January 2022, all grant recipients that are research organisations or

public sector bodies (Project Owners and partners) must have a Gender Equality Plan (GEP) available on their website. This must be in place when they sign the grant agreement for projects awarded funding from the Research Council. The requirement does not apply to the business sector, special interest organisations or the non-profit sector.

Scientific articles and research data

The Research Council requires full and immediate open access to scientific articles; see Plan S – open access to publications.

Research data must be made available in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable). The Project Owner organisation of projects that process data must prepare a data management plan in connection with the revised application.

The Project Owner organisation is responsible for selecting which archiving solution(s) to use for storing research data generated during the project.

Relevant thematic areas for this call

The thematic areas are not necessarily mutually exclusive. On agreement with the applicant, applications can be moved between the thematic areas.

Enabling technologies

`DIGITAL SECURITY`

`ARTIFICIAL INTELLIGENCE, ROBOTICS AND AUTONOMOUS SYSTEMS`

Please select which of the topics above are most relevant to your application in the application form.

Artificial intelligence, robotics and autonomous systems

Collaboration between research groups and the business and public sectors is essential to unleash the innovation potential of the application of artificial intelligence. Research, data sharing and user involvement are to lead to projects that generate value creation.

The thematic framework for this call encompasses artificial intelligence, robotics and autonomous systems. Other technology areas, such as communications technology, will only be of relevance if they support, or play a role in, projects with a focus on artificial intelligence, robotics and autonomous systems.

It is crucial to promote greater understanding of the cross-cutting, transformational effects of artificial intelligence and to give adequate consideration to societal needs, sustainability perspectives and accountability. Interdisciplinary approaches

and activity from multiple subject areas and actors are encouraged.

The constellation of partners taking part in the project will depend on the challenge the project seeks to resolve. Applicants are encouraged to include new, closer forms of collaboration between actors (trade and industry, public entities, users) and across subject areas and disciplines in their projects, when this is relevant for achieving the objectives. This includes collaboration with dynamic international research and innovation environments.

Contacts

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Relevant links

The National Strategy for Artificial Intelligence (in Norwegian) ↗

Digital security

The Research Council wishes to support research projects in the field of digital security in which businesses or public sector entities take part in defining competence and solution needs and developing solutions.

The projects must involve collaboration with an enterprise or public sector entity, and the project partners must actively participate in the project. Mechanisms that ensure knowledge transfer between the parties must also be in place, e.g. between the research group and staff in the enterprise or public entity.

Digital security can include concepts such as IT security,

information security, cybersecurity, software security and resilience, and can encompass social, economic and organisational challenges. Interdisciplinary projects involving digital security and other technologies and disciplines (including social sciences and humanities) are eligible to apply under this call.

Funding must also contribute to recruitment
Recruitment to and training in this field are essential, and the Research Council therefore seeks projects that include students at different levels who can help to ensure relevant and applicable knowledge for future industry and society. Where possible, the Research Council seeks candidates who can be given security clearance.

Contacts

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Relevant links

- The Government's description of cyber security (in Norwegian) ↗
- National Cyber Security Strategy for Norway ↗

Practical information

Requirements for this application type

The application and all attachments must be submitted in English and all

attachments must be uploaded in PDF format.

Mandatory attachments

- A project description of maximum 11 pages using the designated template found at the end of this call.
- CVs (maximum four pages each) for the project manager and key project participants/work package leaders using the designated templates found at the end of this call.
- Letters of Intent (LOI) from all registered partners. The letters must explain why the research project is important for them, and describe the planned contributions to the project.

Applications that do not satisfy the above requirements will be rejected.

We will not assess documents and websites linked to in the application, or other attachments than those specified above.

Assessment criteria

Grant applications will be assessed on the basis of the following criteria:

Excellence

The extent to which the proposed work is ambitious, novel, and goes beyond the state-of-the-art
▪ Scientific creativity and originality.
▪ Novelty and boldness of hypotheses or research questions.
▪ Potential for development of new knowledge beyond the current state of the art, including significant theoretical, methodological, experimental or empirical advancement.

The quality of the proposed R&D activities
▪ Quality of the research questions, hypotheses and project objectives, and the extent to which they are clearly and adequately specified.
▪ Credibility and appropriateness of the theoretical approach, research design and use of scientific methods. Appropriate consideration of interdisciplinary approaches.
▪ The extent to which appropriate consideration has been given to societal responsibility, ethical issues and gender dimensions in research content.
▪ The extent to which appropriate consideration has been given to the use of stakeholder/user knowledge.

Impact

Potential impact of the proposed research
▪ The extent to which the planned outputs of the project address important present and/or future scientific challenges.
▪ The extent to which the planned outputs of the project address important present and/or future challenges for the sector(s).
▪ The extent to which the competence developed and planned outputs of the project will provide the basis for value creation in Norwegian business and/or development of the public sector.
▪ The extent to which the planned outputs of the project address UN Sustainable

Development Goals or other important present and/or future societal challenges.
▪ The extent to which the potential impacts are clearly formulated and plausible.

Communication and exploitation
▪ Quality and scope of communication and engagement activities targeted towards relevant stakeholders/users.
▪ The extent to which the partners are involved in dissemination and utilisation of the project results.

Implementation

The quality of the project manager and project group
▪ The extent to which the project manager has relevant expertise and experience and demonstrated ability to perform high-quality research (as appropriate to the career stage).
▪ The degree of complementarity of the participants and the extent to which the project group has the necessary expertise needed to undertake the research effectively.

The quality of the project organisation and management
▪ Effectiveness of the project organisation, including the extent to which resources assigned to work packages are aligned with project objectives and deliverables.
▪ Appropriateness of the allocation of tasks, ensuring that all participants have a valid role and adequate resources in the project to fulfil that role.
▪ Appropriateness of the proposed management structures and governance.
▪ Appropriateness of the partners' contribution to the governance and execution of the project.

Overall assessment of the referee/panel

Overall assessment of the referee/panel based, on the criteria Excellence, Impact and Implementation.

If a project contributes to increasing the proportion of women in the subject areas natural science and technology, this will count as positive in the assessment of the Impact criterion.

Administrative procedures

All grant applications that fall within the thematic framework of the call will be assessed by external specialists. Applications that do not fall within the thematic framework of the call will not be assessed.

Applications that receive an overall mark of 6 or 7 will be included in the randomised selection, see more information at the top of the call for proposals.

Applications with a lower overall mark will not be eligible for funding.

Applicants whose project proposals are not awarded funding will not be permitted to reapply for funding for a period of six months from the date the proposal was submitted, but may reapply after that. During this period, no applicants may submit a grant application with the same project proposal to this

call.

Grant application processing will start immediately after the proposal is received. Notification of the funding decision may be expected 8–12 weeks after the date of submission. Please note that this may take longer during holiday periods.

Download templates

Template for Project Description - Collaborative and Knowledge-building Project 2021.docx

* MANDATORY ATTACHMENT

About the results of the application assessment process

Total amount sought	870 000 000
Amount awarded	249 000 000
Total number of applications	77
Number of approved applications	21

Approved applications

Project no.	Organization	Project title	Subject	Sought	Published
333917	NTNU Fakultet for informasjonsteknologi og elektroteknikk, Institutt for teknisk kybernetikk	Autonomy through stereo vision near the seashore	N/A	11 984 000	16.03.2022
333875	SINTEF AS	Machine Sensible Infrastructure under Nordic Conditions	N/A	12 000 000	16.03.2022
333872	STIFTELSEN NORGES GEOTEKNISKE INSTITUTT	Smart AUVs for detection and quantification of greenhouse	N/A	12 000 000	16.03.2022

Approved applications

Project no.	Organization	Project title	Subject	Sought	Published
		gas seepage in the oceans			
333871	Universitetet i Agder Fakultet for teknologi og realfag, Institutt for ingeniørvitenskap	Performance and Health Monitoring for Hydroelectric Powerplants (PHMHydro)	N/A	12 000 000	16.03.2022
333229	NTNU Fakultet for informasjonsteknologi og elektroteknikk, Institutt for elektroniske systemer	Real-Time Remote Hyperspectral Imaging on Aerial Vehicles and Small Satellites	N/A	11 132 000	16.03.2022
332901	UiT Norges arktiske universitet Fakultet for naturvitenskap og teknologi, Institutt for matematikk og statistikk	Transforming ocean surveying by the power of DL and statistical methods	N/A	11 989 000	16.03.2022
332848	SINTEF DIGITAL	MAXSENSE - Maximizing the value of sensors data using human avatars	N/A	12 000 000	16.03.2022
332528	SINTEF DIGITAL	Cyber-physical Threat Monitoring, Localization and Enforcement in Support of Safety Critical Infrastructure and System Operation	N/A	11 742 000	16.03.2022
332473	NORCE NORWEGIAN	Next Minutes prediction	N/A	12 000 000	16.03.2022

Approved applications

Project no.	Organization	Project title	Subject	Sought	Published
	RESEARCH CENTRE AS	system for ocean waves and vessel motions based on physics-informed neural networks			
332237	TRANSPORTØKONOMISK INSTITUTT Stiftelsen Norsk senter for samferdselsforskning	Methods for the Analysis of Public Transport Data: Building an Open-Source Library in R	N/A	12 000 000	16.03.2022
329745	UiB Det matematisk-naturvitenskapelige fakultet, Institutt for informatikk	Machine Teaching for Explainable AI	N/A	10 012 000	16.03.2022
329730	NTNU Fakultet for informasjonsteknologi og elektroteknikk, Institutt for datateknologi og informatikk	Robust Intelligent Control	N/A	12 000 000	16.03.2022
329062	NORSK REGNESENTRAL	AI-Based Scenario Management for Cyber Range Training	N/A	12 000 000	16.03.2022
329034	NTNU Fakultet for informasjonsteknologi og elektroteknikk, Institutt for datateknologi og informatikk	VQ4MedicS: Video Quality Assessment and Enhancement for Pre-Hospital Medical Services	N/A	11 933 000	16.03.2022
328598	HØGSKOLEN I	Enhanced	N/A	11 995 000	16.03.2022

Approved applications

Project no.	Organization	Project title	Subject	Sought	Published
	ØSTFOLD	Access to Norwegian Cultural Heritage using AI-driven Handwriting Recognition			
328193	SINTEF NORD AS	Robotics underneath sub-zero waters and outer space	N/A	12 000 000	16.03.2022
327670	NTNU Fakultet for informasjonsteknologi og elektroteknikk, Institutt for teknisk kybernetikk	Autonomous water sampling with real-time in situ data analysis for ocean environmental monitoring	N/A	12 000 000	16.03.2022
327538	NTNU Fakultet for informasjonsteknologi og elektroteknikk, Institutt for teknisk kybernetikk	Multi-Sensor Data Timing, Synchronization and Fusion for Intelligent Robots	N/A	12 000 000	16.03.2022
327292	SINTEF OCEAN AS	Resilient Robotic Autonomy for Underwater Operations in Fish Farms	N/A	12 000 000	16.03.2022
327146	NTNU Fakultet for medisin og helsevitenskap, Institutt for nevromedisin og bevegelsesvitenskap	DeepInMotion: Explainable artificial intelligent system to discover new infant movement biomarkers for early detection of disease	N/A	12 000 000	16.03.2022

Approved applications

Project no.	Organization	Project title	Subject	Sought	Published
322964	NTNU Fakultet for informasjonsteknologi og elektroteknikk, Institutt for elektroniske systemer	SCRIBE: Machine transcription of Norwegian conversational speech	N/A	12 000 000	16.03.2022

Messages at time of print 5 December 2023, 00:51 CET

No global messages displayed at time of print.