BUSINESS FINLAND

Innovation Funding Agency Business Finland

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Euroopan unionin rahoittama – NextGenerationEU

6G, AI, AND QUANTUM COMPUTING DEVELOPMENT ENVIRONMENTS FUNDING CALL – IDEA PHASE

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1. Background

The Sustainable Growth Program for Finland related to the EU Recovery and Resilience Facility (RRF) aims to accelerate the development of competitiveness, investments, increased competence levels, and research, development, and innovation. It specifically focuses on promoting the green transition and the digital change.

The goal of measures related to the program is to support the economy to change towards a carbon neutral society. The digital change is the program's horizontal goal, which is supported in several sections of the program, with one of the program's four areas being wholly directed at accelerating digitalization and the data economy.

Test environments of a high service level are key elements in the program in accelerating technological development and productization cycles. One of the goals set is protecting Finnish and European competitiveness by improving existing testing, experimentation and innovation environments, and by building new environments to open up opportunities for companies and researchers to test advanced applied solutions in real and controlled operating environments.

6G, AI, and quantum computing are the most important factors in the technological competitiveness of the future. At present, Finland has a strong position in these technologies and their application. Protecting competitiveness requires significant national inputs, the use of European investments, and strategic cooperation globally. To be an attractive environment for companies' RDI investments and a partner in EU and other international cooperation, Finland must offer competitive conditions and infrastructures for the cooperation required in the development of leading technologies.

2. Funding call for building or developing testing, experimentation, research and innovation environments that promote the development of 6G, AI, and quantum computing

Business Finland will launch a funding call for projects aimed at building or developing testing, experimentation, research and innovation environments that promote the development of 6G, AI, and quantum computing.

The funding call's idea phase will start on October 14, 2021, and the idea phase's applications must be submitted by December 15, 2021. The actual funding call will open in early 2022. The schedule of the funding call will be specified by the end of the idea phase.

Decisions on the projects to be funded will be made by the end of 2022. Projects funded through RRF must be completed no later than in December 2025.

A total of EUR 10 million has been allocated to the funding call, and the goal is to engage a few testing, experimentation, research or innovation environment projects that significantly support SMEs operating in the field, Finland's export sector, and related research.

The EU RRF requires that no funded measures do any significant harm to the environment. Every project provided with RRF funding must fulfill the "Do No Significant Harm" (DNSH) requirements. Applicants must be prepared to respond to DNSH questions as a mandatory part of the final funding application. During the idea phase, applicants are requested to prepare preliminary responses to DNSH questions. More information about DNSH requirements is attached (APPENDIX 2).

Additional criteria for projects funded through RRF are attached (APPENDIX 1).

Funding provided through RRF does not supersede Business Finland's regular funding opportunities. Business Finland may, within the scope of its normal funding authorization, consider to also provide funding for testing, experimentation, research and innovation environments that differ from the criteria set in the Sustainable Growth Program for Finland and RRF if they are considered to have a significant impact on the development of Finland's export sector.

2.1. Funding goals

The following general goals have been set for testing, experimentation, research and innovation environment projects for 6G, AI, and quantum computing carried out within the scope of the Sustainable Growth Program for Finland and RRF:

- Creating competitive development environments in Finland for Edge AI, future telecommunications technologies, and the application of quantum computing
- Improving the opportunities of Finnish organizations to participate in building European AI testing and experimentation facilities (AI TEF)
- Modernizing the Finnish 5G test network infrastructure and operating models, taking into account new advanced network architectures and technologies (e.g., 6G), as well as the needs of sector-specific applications
- Creating a development environment for the software required for quantum computing
- Lowering the threshold for companies to apply leading technologies, and increasing companies' RDI investments in these areas
- Increasing cooperation between companies and research institutions
- Increasing the engagement of Finnish companies and research institutions in EU programs that develop leading technologies, and in resulting European and global innovation and value networks

2.2. Focus areas in the selection of projects

Business Finland will focus on the following in the selection of projects to be funded:

- focus on the 5G/6G evolution, AI or quantum computing
- significantly promoting the development of digitalization
- fulfilling the DNSH requirements
- promoting the achievement of the goals listed in the previous section
- promoting the creation of domestic and European synergies
- impact on SMEs' opportunities to participate in the development of these technologies and related business
- impact on companies engaged in Finnish exports or seeking the export markets
- companies' participation and investments in the development of infrastructures
- Business Finland's valid general terms and conditions of funding

Business Finland may further specify the focus areas defined for the selection of projects based on the information and feedback obtained during the funding call's idea phase.

2.3. Forms of funding

The funding call offers three separate forms of funding.

Funding for research infrastructures

Business Finland may grant research infrastructure funding for building or developing research environments that are engaged in financial activities and are intended for basic or industrial research. Business Finland may provide funding for costs related to investments made in the aforementioned environments.

Funding for infrastructures of innovation clusters and for supporting the activities of innovation clusters

Business Finland may grant innovation cluster funding for building or developing testing, experimentation, research and innovation environments that are maintained by innovation clusters formed and organized by innovation organizations in cooperation, and for supporting the activities of innovation clusters. Business Finland may grant support for costs related to investments made in the aforementioned environments and for the operating costs of innovation clusters.

Funding for co-innovation projects that promote the development of 6G, AI, and quantum computing infrastructures

Business Finland may grant research and RD&I funding for joint projects formed by several organizations in accordance with the principles of Business Finland's co-innovation funding service. The co-innovation projects to be funded must have a concrete and clear link to the development of broadly available infrastructures that promote leading technologies.

2.4. Funding for research infrastructures

Business Finland may grant funding for building or developing research environments.

2.4.1. Requirements for funding

- The funded research environment or part of it is intended for the research community for conducting basic or industrial research. Funding cannot be allocated to that part of the research environment's investments that is used for product development (experimental development), or for pre-production or production purposes.
- The opportunity to use the research environment is open based on transparent and non-discriminating terms and conditions.
- A market price is charged for the use of the research environment.
- If an organization engaged in public research is responsible for the implementation and maintenance of the research environment, and the environment is used for both public research (non-financial activities) and basic, industrial or experimental research conducted by companies and other non-public organizations (financial activities), financial activities must account for more than 20% of the use of the environment. According to section 6 of the RDI decree (1444/2014), public funding cannot be used for self-financing directed at financial activities.

- The applicant must have a mechanism to monitor the distribution of the use of the environment:
  - for public research (non-financial activities)
  - for industrial research conducted by companies and other organizations engaged in financial activities
  - for any other financial use of the environment (product development (experimental development), quality assurance, pre-production or production use)
- The funded environment must remain in the use presented in the funding decision at least until the funded investment has been fully depreciated in accounting or for at most 10 years.

2.4.2. Costs eligible for support and the amount of funding

Business Finland may provide funding for building or developing a research environment. Costs eligible for support include costs associated with tangible and intangible investments made for the aforementioned purposes.

If the environment is, in addition to research (basic or industrial research), used partly for product development (experimental development), product testing, piloting, quality assurance, or pre-production or production activities, the proportion of these activities from investments is not eligible for support.

Business Finland's support accounts for at most 50% of costs eligible for support.

2.4.3. Who can apply for and receive funding?

Business Finland may provide funding for organizations responsible for building, maintaining and operating a research environment. The funded organization may be a limited liability company, cooperative, association, an enterprise of municipalities and towns, a research institution, university or higher education institute.

A group of several organizations may submit parallel applications to apply for research infrastructure funding for a joint infrastructure consisting of several partial infrastructures, provided that the partial infrastructures form a coherent operational entity. The term "coherent operational entity" refers to an implementation, in which partial infrastructures are necessary for producing a service provided through the infrastructure, with no partial infrastructure being able to provide the service on their own without the other partial infrastructures.

In an entity in which partial infrastructures can also independently produce the research service provided, research infrastructure funding must also be applied for separately, and the applications will be assessed as separate infrastructures. Business Finland will address cooperation with other infrastructures as a broader networking of the infrastructure.

2.5. Funding for building and improving the testing, experimentation and innovation environments of innovation clusters, and for supporting the activities of innovation clusters

Business Finland may grant innovation cluster funding for building or developing testing, experimentation, research and innovation environments that are maintained by innovation clusters formed and organized by innovation organizations in cooperation, and for supporting the activities of innovation clusters.

2.5.1. Requirements for funding

- The testing, experimentation or innovation environment is run by an organized community of innovation organizations (innovation cluster), with the innovation organizations using the environments being members of the community.
- The innovation cluster has open rules of procedure defined by the cluster.
- Membership with the cluster and the right to use the environment are provided for the innovation organizations openly based on transparent and non-discriminating terms and conditions.
- The innovation organization has named an organization (cluster organization), which applies for funding and is responsible for the operation of the testing, experimentation or innovation environment, including the building, further development and maintenance of the environment, and the planning and implementation of the innovation cluster's other activities.
- The innovation cluster's testing, experimentation and innovation environments, and other services are provided for the organizations involved in the cluster based on commercial terms and conditions, and a market price is charged for their use.
- Investments in the funded environment must remain in the use presented in the funding decision at least until the funded investment has been fully depreciated in accounting or for at most 10 years.

2.5.2. Costs eligible for support and the amount of funding

Business Finland may provide funding for building or developing a testing, experimentation, research or innovation environment that is part of an innovation cluster's activities. Costs eligible for support include costs associated with tangible and intangible investments made for the aforementioned purposes.

Support may also be granted for the activities of an innovation cluster:

- for promoting the activities of the innovation cluster to improve the cluster's cooperation and information exchange
- for providing and channeling services for the cluster's innovation organizations
- for marketing the innovation cluster to increase the cluster and improve the visibility of its activities
- for the management of the cluster's infrastructure
- for holding training programs, workshops and conferences that support knowledge sharing, networking and multinational cooperation

Business Finland's support accounts for at most 50% of costs eligible for support.

Any other public funding allocated to an innovation cluster's activities will reduce Business Finland's funding share as laid down in section 6 of the RDI decree (1444/2014).

2.5.3. Who can apply for and receive funding?

Business Finland may provide funding for a cluster organization that is responsible for the operation of a testing, experimentation or innovation environment (see Section 2.5.1). The cluster organization may be formed in various ways. It may be a part of an existing organization separated by means of accounting or an organization established specifically for this purpose. The funded organization may be a limited liability company, cooperative, association, an enterprise of municipalities and towns, a research institution, university or higher education institute.

2.6. Funding for co-innovation projects that promote the development of 6G, AI, and quantum computing infrastructures

Business Finland may grant funding for co-innovation projects. RRF infrastructure funding is granted for co-innovation projects that mainly consist of basic and/or industrial research. Funding may be granted for an infrastructure plan that is firmly set for the future and requires significant research inputs before the infrastructure can be implemented in practice. Funding may also be granted for an existing infrastructure that requires significant research inputs to raise it to a whole new level.

2.6.1. Requirements for funding

- Co-innovation projects have a concrete and clear link to the development of broadly available infrastructures that promote leading technologies.
- Research conducted in a co-innovation project and the consortium engaged in the project have a well-defined common goal that serves the establishment of infrastructures.
- The project mainly consists of basic and/or industrial research.
- The applicants have a plan on how to use the research results in the implementation of a broadly available infrastructure.
- Business Finland's general terms and conditions set for co-innovation projects are fulfilled.

2.6.2. Costs eligible for support and the amount of funding

Funding granted within the scope of this funding call follows Business Finland's general support levels set for co-innovation projects. Eligible costs are in accordance with Business Finland's terms and conditions for research funding and companies' RD&I funding. Tangible investments in infrastructures cannot be funded. The depreciation of the equipment required for research activities can be funded at discretion.

More information about Business Finland's co-innovation funding:
https://www.businessfinland.fi/en/for-finnish-customers/services/funding/cooperation-between-companies-and-research-organizations/co-innovation

Business Finland's terms and conditions for companies' RDI funding:
https://www.businessfinland.fi/4b1263/globalassets/finnish-customers/01-funding/08-guidelines--terms/funding-terms/yritysten_tutkimus-_ja_kehitystoiminnan_rahoituksen_ehdot.pdf

Business Finland's terms and conditions of funding for public research:
https://www.businessfinland.fi/4b136e/globalassets/finnish-customers/01-funding/08-guidelines--terms/funding-terms/en__julkisen_tutkimuksen_rahoitusehdot.pdf

2.6.3. Who can apply for and receive funding?

Business Finland may provide funding for organizations that are involved in a co-innovation consortium through their own sub-project. The funded organization may be a limited liability company, cooperative, association, an enterprise of municipalities and towns, a research institution, university or higher education institute.

More information about Business Finland's co-innovation funding:
https://www.businessfinland.fi/en/for-finnish-customers/services/funding/cooperation-between-companies-and-research-organizations/co-innovation

3. How to apply during the idea phase of the infrastructure funding call?

During the idea phase, potential applicants are requested to describe a preliminary plan on the funded testing, experimentation, research or innovation environment. The preliminary plan should indicate the following:

- An indication that the idea application concerns the building or development of a 5G/6G, AI or quantum technology infrastructure that promotes leading technologies
- The form of funding being applied for: research infrastructure, innovation cluster, or co-innovation funding
- The applicant
    - In the case of innovation clusters, the establishment and organization of the innovation cluster should also be described.
    - For co-innovation projects, the currently known probable participants in the consortium and their roles should be described.
- The key content of the planned testing, experimentation, research or innovation environment, and its roadmap and the services it provides
- Is the environment part of a larger plan and/or system?
- What personnel and financial resources have been planned to be allocated to the environment?
- What group of organizations does the environment primarily serve, and how extensively has the group already been engaged in the design of the environment?
- What impact does the planned infrastructure have on the achievement of the goals described in Section 2.1?
- What impact does the testing, experimentation, research or innovation environment have on the activities of SMEs and Finnish export companies?
- A preliminary budget and funding plan for the funded project
- How will the environment's continuity be ensured after the project ends in 2025?
- Preliminary responses to the DNSH questions (APPENDIX 2)

Applications in the idea phase should be submitted in PDF format. Applications must be sent to Business Finland's registry office by December 15th, 2021 via secure email.

The name of the applicant and the identifier "RRF infrastructure funding call, idea phase, BFRK/7/35/2021" must be entered in the email subject.

Secure email is available at https://secure.businessfinland.fi/suojaposti.

4. Schedule and briefing

The idea phase's funding call will open on: **October 14, 2021**

The idea phase's proposals must be submitted by: **December 15, 2021**

The actual funding call will be carried out in **early 2022** (the schedule will be specified by the end of the idea phase).

Decisions on the projects to be funded will be made by **December 31, 2022**.

Infrastructure projects to be funded through the Recovery and Resilience Facility (RRF) must be completed by **December 31, 2025**.

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Go to the funding call page (Funding call for building and developing infrastructures that support sustainable growth and digitalization – idea phase):
https://www.businessfinland.fi/en/whats-new/calls/2021/funding-call-for-building-and-developing-infrastructures-that-support-sustainable-growth-and-digitalization--idea-phase

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APPENDIX 1: Criteria for projects funded through RRF

In funding decisions, Finland complies with all valid state subsidy regulations and guidelines, and addresses DNSH technical guidance C(2021) 1054 final. With regard to projects within the scope of the EU Emissions Trading System (ETS), estimated greenhouse gas emissions must be below the reference value[1][2][3][4] funded.

The projects must fulfill relevant and binding environmental regulations valid in the EU and at a national level. The projects to be funded must fulfill the selection and eligibility criteria set out in DNSH technical guidance 2021/C58/01 and the criteria set for the promotion of the digital change presented in intervention field 019 in Annex VII to Regulation (EU) 2021/241 on establishing the Recovery and Resilience Facility.

[1] If the greenhouse gas emissions achieved in supported activities are not clearly below the applied benchmark values, the reasons why this is not possible must be described. The benchmark values for greenhouse gas emissions applied to activities within the scope of ETS are set out in Commission Implementing Regulation (EU) 2021/447.

[2] Exceptions include such projects for electricity and/or heat generation using natural gas and for the related transfer and distribution infrastructure that correspond to the DNSH principle set out in Annex III of technical guidance 2021/C58/01.

[3] The restriction does not apply to measures carried out at plants that are exclusively specialized in the processing of non-recyclable hazardous waste, and at existing plants in which the goal of the measures is to increase energy efficiency, the recovery, storage or use of flue gases, or the recovery of material from waste incineration plants' ashes, provided that the measures do not increase the plant's waste processing capacity or extend the plant's service life; with proof demonstrated at a plant level.

[4] The restriction does not apply to measures directed at mechanical–biological processing plants if the goal of the measures is to increase energy efficiency or retrofit recycling solutions intended for the composting or anaerobic digestion of biowaste separated at the plant, provided that the measures do not increase the plant's waste processing capacity or extend the plant's service life; with proof demonstrated at a plant level.

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APPENDIX 2: More information about the Do No Significant Harm (DNSH) requirement

Each project funded through the Sustainable Growth Program for Finland must meet the DNSH requirements. The EU Recovery and Resilience Facility (RRF) requires that no measures do any significant harm to the environment. Economic activities are considered to cause significant harm to the following:

a) climate change mitigation,
- *where that activity leads to significant greenhouse gas emissions;*

b) climate change adaptation,
- *where that activity leads to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature or assets;*

c) the sustainable use and protection of water and marine resources, where that activity is detrimental
- *to the good status or the good ecological potential of bodies of water, including surface water and groundwater; or*
- *to the good environmental status of marine waters;*

d) the circular economy, including waste prevention and recycling, where
- *that activity leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources such as non-renewable energy sources, raw materials, water and land at one or more stages of the life cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products;*
- *that activity leads to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste; or*
- *the long-term disposal of waste may cause significant and long-term harm to the environment;*

e) pollution prevention and control,
- *where that activity leads to a significant increase in the emissions of pollutants into the air, water or land, as compared with the situation before the activity started; or*

f) the protection and restoration of biodiversity and ecosystems, where that activity is
- *significantly detrimental to the good condition and resilience of ecosystems; or*
- *detrimental to the conservation status of habitats and species, including those of Union interest.*

Example responses to DNSH forms are available at

- https://data.consilium.europa.eu/doc/document/ST-6179-2021-ADD-1/en/pdf, pages 10–
- Sustainable Growth Programme for Finland: https://julkaisut.valtioneuvosto.fi/handle/10024/163176, Appendix 3, pages 470–471 and pages 493–494