Application review form: The FIRI 2021 call for research infrastructures on the 2021–2024 roadmap and Finland's memberships in international research infrastructures (FIRI2021 Roadmap and international memberships)

The objective the call is to promote the quality, renewal and competitiveness of research, to strengthen the versatile impact of research environments and to increase national and international cooperation. The Academy of Finland provides funding for the acquisition, establishment, strengthening and upgrading of nationally significant research infrastructures that promote scientific research. By funding research infrastructures, the Academy and other relevant actors also support researcher training and help generate and utilise scientific knowledge and know-how.

The present call is aimed at advancing the strategic objectives outlined in the Strategy for National Research Infrastructures in Finland 2020–2030.

The terms 'research infrastructure' and 'national research infrastructure' are defined in the call text.

Please provide both written feedback and numerical ratings to each of the following items.

The numerical evaluation of the sub-items and the final rating is made with a rating scale ranging from 6 (outstanding) to 1 (insufficient). We encourage using the entire scale.

- Blue text with bulleting refers to technical instructions in the online services (SARA).

Rating	Definition
6 (outstanding)	Demonstrates extremely high novelty and/or innovation; has potential to substantially advance science at global level; presents high-gain plan that may include risks
5 (excellent)	Is very good in international comparison – contains no significant elements to be improved
4 (good)	Is in general sound but contains some elements that should be improved
3 (fair)	Is in general sound but contains important elements that should be improved
2 (poor)	Contains flaws; is in need of substantial modification or improvement
1 (insufficient)	Contains severe flaws that are intrinsic to the proposed project or the application

In addition to a numerical rating, please give a written review under each of the questions below.

1 Description of project

1.1 Is the description of the implementation of the project concrete and clear? Please explain. Is the description of the project and its aims clear? Is the project relevant for building or updating the RI? Please explain.

- See item **1 Description of project** in the action plan

1.2 Is the description of the membership and its added value concrete and clear (only if relevant)? Please explain.

- See item **1 Description of project** in the action plan

2 Scientific and educational significance

2.1 Does the project promote the scientific and educational significance of the research infrastructure? Please explain.

- See item **2 Scientific and educational significance** in the action plan

2.2 If relevant; Does membership promote the scientific and educational significance of the research infrastructure?

- See item **2 Scientific and educational significance** in the action plan

The proposed project must contribute to the scientific and educational significance of the research infrastructure.

3 Wide and versatile impact

3.1 Does the project generate added value for society at large (e.g added value for public sector, innovation activities, business and the economy).

- See item **3 Wide and versatile impact** in the action plan

3.2 Will membership contribute to the wide and versatile impact of the research infrastructure? Describe how.

- See item **3 Wide and versatile impact** in the action plan

The proposed project must give added value to the wide and versatile impact of the research infrastructure for the research community and society at large.

4 Ownership, know-how and organisational structure

4.1 Do the merits and competence of the director and other key persons suffice for managing the proposed project? Does the research infrastructure take into account how the project might require changes in staff competence and the division of work?

- See item **4 Ownership, know-how and organisational structure** in the action plan

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4.2 Have the potential effects of the membership on the division of work and skills needs been clearly described and can they be implemented (only if relevant)?

- See item **4 Ownership, know-how and organisational structure** in the action plan

The research infrastructure staff must have sufficient expertise for the successful execution of the proposed project.

5 Services and users

5.1 Are the potential effects of the project on the research infrastructure's access policy, service models or user base clearly described and in line with the characteristics of a project of a national research infrastructure (see call text for full list of characteristics)?

- See item **5 Services and users** in the action plan

5.2 Will membership affect the research infrastructure's access policy, service models or user base*?*

- See item **5 Services and users** in the action plan

The proposed project must support and be in line with the service portfolio of the research infrastructure.

6 Digital platforms and data

6.1 Does the research infrastructure offer feasible guidelines, practices or incentives/demands for researchers in order to support open research data? Are the management, storage, use and rights of ownership of the research data planned and described well enough? (For this information, see the 'Data management policy' appendix of the application.)

- See item **6 Digital platforms and data** in the action plan

6.2 Does the research infrastructure and its project take into account the measures that are necessary to take due to the increase in digitalisation and data intensity (digital shift)? Are the described measures realistic and clearly described?

- See item **6 Digital platforms and data** in the action plan

The research infrastructure must offer feasible guidelines, practices or incentives/demands for researchers in order to support open research data. The research infrastructure must also take the necessary changes brought about by the growth in digitalisation and data intensity into account.

7 Responsible science

Has the applicant considered the following aspects of responsible science properly in the application? Please provide further comments if responsible science aspects have not been properly considered.

7.1 Good scientific practise and governance

☐ Yes

☐ No, please comment

- See item **7 Responsible science** in the action plan

7.2 Promotion of equality and non-discrimination within the project or in society at large

☐ Yes

☐ No, please comment

- See item **7 Responsible science** in the action plan

7.3 Sustainable development

Have the relevant sustainable development goals been addressed sufficiently?

- See item **7 Responsible science** in the action plan

7.4 Green transition

7.4.1 How well does the research infrastructure and project contribute to the production of data supporting the green transition?

- See item **7 Responsible science** in the action plan

7.4.2 How well does the research infrastructure and project take into account the necessary steps for the transition towards carbon neutrality in the construction and/or operation of the research infrastructure?

- See item **7 Responsible science** in the action plan

In its activities, the research infrastructure must take into account research ethics, equality and non-discrimination, the principles of open science and the sustainable development goals. The project must follow these same principles.

The Academy of Finland is committed to promoting research integrity, responsible conduct of research and the principles and practices of equality and nondiscrimination, and open science. See 'Instructions for reviewing' for further information.

8 Budget and funding

8.1 Do you think that plans for the research infrastructure's funding base are sustainable and realistic in general? Is the project funding plan realistic and clear?

- See item **8 Budget and funding** in the action plan

8.2 Is the membership fee component of the budget justified and clearly presented?

- See item **8 Budget and funding** in the action plan

The research infrastructure must have a long-term funding plan for maintenance and development of services. The funding base of the research infrastructure must be stable. The applied project funding must be justified.

9 Risk management

Are the potential risks and problem areas in the project identified and considered? Please explain

- See item **9 Risk management** in the action plan

The proposed project must have indentified potential risks and have a feasible risk management plan.

10 Overall assessment

Main strengths and weaknesses of the project, additional comments and suggestions (no numerical rating)

Strengths:

Weaknesses:

Comments:

Please give an overall assessment for the application, including lists of strengths and weaknesses as well as any additional comments. It is important to comment on both the strengths and the weaknesses of the application.

11 Overall rating	**(1–6)**

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Please note that the final rating should not be a mathematical average of the sub-ratings. For example, the application should not be penalised if it has a slight weakness in one evaluation item that is later strengthened in another item (e.g. lack of some expertise in a local team but compensated through national collaboration)

Ranking based on discussion in the panel meeting

Your application was ranked [ordinal number] of all [number] [Funding instrument name] applications reviewed in this panel.