

Guidelines for evaluating institutional research funding applications

I Introduction

Awarding of institutional research funding is based on the provisions of the Organisation of Research and Development Act which entered into force in 2012, and the regulation number 73 „Conditions and procedure for applying for, awarding and amending the amount of institutional research funding” adopted on 27 December 2011 (hereinafter regulation) of the Ministry of Education and Research established on the basis of Subsection 15² (4) of the Organization of Research and Development Act.

II Relevant terms

- 1) **institutional research funding**– support allocated for financing high level research and development and related activities (research themes) of a research and development institution, for ensuring the consistency of research and development of a research and development institution, and for upgrading, supplementing and maintaining the infrastructure necessary for this purpose;
- 2) **research theme** – a research and development institution’s basic and applied research conducted in the framework of the clearly defined and scientifically justified research and development activity plan;
- 3) **research funding applicant** – research and development institution operating as a legal person or state institution whose research and development has received a regular positive evaluation in at least one research field as of the application date.

III Evaluation criteria and rating scales

The following legal framework underlies the elaboration of the **evaluation criteria and rating scales** for the evaluation committee of the Estonian Research Council.

The formal criteria for applying for institutional research funding are specified in § 4 subsection 3 of the regulation:

(3) The application for the research funding for a research theme (hereinafter *research funding application*) shall specify the following:

- 1) the number and structure of workplaces necessary for fulfilling the research theme, and if the research theme has been funded previously, data on the number and structure of workplaces in the previously funded research theme;
- 2) if the research funding is applied for ensuring core infrastructure activity, the conditions and procedure for its use, compliance with which allows other persons to use the core infrastructure specified in the application for research funding;
- 3) the period to be financed with the research funding (up to 6 years);
- 4) the justified monetary amount of research funding (hereinafter research funding amount);
- 5) monetary resources to become available due to the merger, expiry or termination of other projects financed on the basis of the Organization of Research and Development Act, which the research and development institution shall direct into the research theme specified in the application;
- 6) information on other research themes carried out by the research and development institution in the

same sub-fields of research and development as the research theme, or on other projects to be funded during the period of the application on the basis of the Organization of Research and Development Act (title, amount, number and structure of workplaces, expenses planned for implementing the project based on Section 7 of this regulation).

The **scientific contents** of the institutional research funding application are governed by the following provisions of the regulation (§ 4 subsections 4, 5, § 5 subsection 1 and § 6 subsection 1):

(4) The following data shall be appended to the research funding application:

- 1) the justification for and relevance of the research theme;
- 2) the expected results of the research theme;
- 3) the research team leader and senior research staff of the research theme and their qualification;
- 4) the existence and condition of the infrastructure necessary for carrying out the research theme.

(5) The applicant shall submit the following data regarding the justification for and relevance of the research theme:

- 1) general theoretical background of the planned research theme and its place in science;
- 2) main objectives, hypotheses and methods, and an explanation of how ethics requirements will be adhered to and fulfilled in the case of any and all animal and human experiments;
- 3) assumed importance to science and to the economy and culture of Estonia and the EU;
- 4) overview of the research and development subfields covered by the research funding, their development prospects and the objectives related to research and development and their association to strategic development plans and the research and development institution's development plan.

The institutional research funding applications shall be evaluated on the basis of the criteria provided in § 8 subsection 5 of the regulation:

(5) The evaluation committee of the Estonian Research Council shall evaluate applications for research funding based on the opinions of the expert panels and considering:

- 1) the justification for the research theme;
- 2) the importance of the research theme to science and to the economy and culture of Estonia and the EU, including its conformity with national strategic development plans;
- 3) expected results, including results that, considering the research field's particularities, shall ensure international acceptability, competitiveness and quality;
- 4) the qualification of the research team leader of the research theme and the senior research staff specified in subsection 6 (2) of this regulation;
- 5) condition of the infrastructure and research environment necessary for carrying out the research theme;
- 6) the justification for the amount of the research theme, and in the case specified in clause 4 (3) 5), the justification for directing into the research theme monetary resources becoming available due to the merger, expiry or termination of other research themes or projects financed on the basis of the Organization of Research and Development Act.

According to § 8 subsection 6, Estonian Research Council's evaluation committee may in the evaluation report describe the requirements that the research and development institution is obliged to meet upon receiving the research funding.

The amount of research funding for a research theme shall be specified in conformity with § 7 of the regulation.

In conformity with the implementing provisions of the regulation, no funding for maintaining the infrastructure necessary for implementing a research theme will be provided until 1 January 2013.

IV Evaluation criteria and rating scales

The purpose of institutional research funding is to ensure the stability of financing of research and development in an R&D institution by funding high level research. The funded research themes should guarantee the consistency and sustainability of a research field in Estonia. The criteria for evaluating institutional research funding applications are set to meet these objectives.

The review of an institutional research funding application means assessing 6 criteria and the sub criteria therein:

1. Scientific justification of the project.
2. The competence and expertise of the research team leader and senior research staff.
3. The importance of the research for Estonian and EU society, economy and culture.
4. State-of-art of research environment.
5. Correspondence to national strategic development plans and the institution's development plans and strategies.
6. Justification for accommodating other available R&D resources into the budget.

The criteria 1-4 shall be evaluated by all reviewers (the corresponding parts of the application are in English), criteria 5-6 shall be evaluated by the Estonian reviewers (the corresponding parts of the application may therefore be in Estonian)

The values for criteria in the drop-down menu are as follows:

- Outstanding;
- Very good – Outstanding;
- Very good;
- Good – Very good;
- Good;
- Satisfactory – Good;
- Satisfactory;
- Unsatisfactory – Satisfactory;
- Unsatisfactory.

The values for sub criteria in the drop-down menu are as follows:

- Yes;
- No;
- Partially;
- Not applicable.

In evaluating the applications, the reviewers should be guided by the following guidelines.

V Evaluation criteria to be used in reviewing the institutional research funding applications

1. Scientific justification of the project

1.1. Is the proposal scientifically well justified and clearly outlined/defined? Is the proposal characterized by a conceptually and/or methodologically innovative approach?

1.2. Is the research plan clear and fits for purpose?

1.3. Is the elaboration of subtasks intoscientifically justified and reasonable/appropriate? Do subtasks/subtopics support the achievement of the overall goals? Evaluate the balance between subtasks: which subtopics are stronger or weaker?

- 1.4. Are the proposed methods adequate, up-to-date and corresponding to international standards? Have the ethical requirements for human and animal studies been met?
- 1.5. Does the research proposal contain well-defined hypotheses and research questions?
- 1.6. What is the scientific level of the research topic and its subtopics compared to international standards? Compare the scientific level with international level of the research field? Has the proposed research topic a high potential for the achievement of breakthrough at international level?
- 1.7. Is the conceptual framework of the research linked with the previous studies of the research team leader and the senior research staff?

Other comments to Section 1.

Overall quality of scientific justification of the proposal.

2. The competence and expertise of the research team leader and senior research staff

- 2.1. Is the research team leader an internationally recognised researcher whose previous research results have been widely acknowledged over the last 10 years (incl quality and number of publications, number of citations, h-index, as the top-cited researcher in the corresponding research field, etc)? Will the research team leader be able to secure the sustainable and international level of research during the implementation period of planned project?
- 2.2. Has the research team leader been successful in formation of his/her own research team and in obtaining additional funding (grants, sponsored research, etc.)? How many PhD dissertations the research team leader has supervised over the last 10 years? Does the research team include any post-doctoral fellows? Has the team leader efficiently participated in activity of doctoral schools?
- 2.3. What is the team leader's experience in management of (international) research projects and grants? Is (or has been) the research team part of any Centre of Excellence or Competence Centre? What is the research team leader's wider experience in participation of international collaboration?
- 2.4. What is the level of the senior research staff in comparison with international level over the last 10 years (incl. quality and number of publications, number of citations, h-index, as top-cited researchers in the corresponding research field, etc.)? Does the level of all senior staff members correspond to the international level of independent researcher?
- 2.5. Does the senior research staff have experience in management of both international and national research projects?
- 2.6. How many PhD dissertations have the senior research staff successfully supervised over the last 10 years? How many young researchers and post-doctoral fellows have been employed by the research team?
- 2.7. Is the age composition/balance of the research team (incl research team leader, senior and junior research staff) optimal in order to secure the achievement of all research objectives, including the sustainability of the research topic and its subtopics, and for education of a new generation of researchers?
- 2.8. Does the overall size of the research team meet the international standards and needs set by the proposal?

Other comments to Section 2.

Overall competence and expertise of the research team leader and senior research staff.

3. The importance of the research for Estonian and EU society, economy and culture

3.1. Does the research correspond to the prioritised areas of Estonian and EU society, economy and culture? Do the overall goals of the research topic correspond to the goals of international scientific development, incl the strategic development plans of Estonia and EU? Will the funding applied for promote the participation of the research staff in international R&D networks and activities?

3.2 What is the importance of the research for the development of Estonian science and higher education? What is the position of the submitting R&D institution in this research field/area compared to the other R&D institutions of Estonia active in the same research field/area (volume of financing, number of international cooperation projects, number of successfully supervised PhD dissertations, number of post-docs (incl from abroad), existence of centres of excellence and/or competence centres in the research area?

Does the development plan of the R&D institution foresee the strategic development of this research field?

3.3 Evaluate the interdisciplinarity of the proposed research: does it combine synergistically together different research fields or different areas of research and/or development activities?

Does the funding of the research topic guarantee the development of this research field and its sustainability in Estonia? Are all research subtopics equally sustainable and will guarantee the development of this research field and education of a new generation of researchers in Estonia?

Other comments to Section 3.

Overall importance of the research for Estonian and EU society, economy and culture.

4. State-of-art of research environment

4.1. The research team has additional sources of funding corresponding to at least ...% of the sum applied for.

What is the number of grants obtained by the senior research staff?

4.2. In which international or Estonian cooperation projects do the members of the research team participate? Does this include exchange of the international research exchange take staff?

4.3. Does the research environment appropriate for the proposed research? Does the research team participate in planning and development of the national research environment of this research field? Is the research topic connected with the research infrastructure listed in the Estonian research infrastructure roadmap? Is the research topic involved in pan-European or international research infrastructures and/or research networks?

Evaluation.

Comments

Other comments to Section 4.

Overall assessment of the state-of-art of research environment.

5. Correspondence to national strategic development plans and the institution's development plans and strategies.

This section will be evaluated by the local experts and the expert panel. The external reviewers shall not fill it in.

5.1. Is the application consistent with national strategic plans?

Are the goals of developing the research theme and subtopics in conformity with the international goals, including the strategic development plans of Estonia and EU? Will the research theme have a potential of international breakthrough?

Kas uurimisteema ja selle alamteemade arendamise eesmärgid vastavad teaduse rahvusvahelistele eesmärkidele, sealhulgas Eesti ja EL-i strateegilistele arengukavadele? Kas uurimisteema näol on tegemist rahvusvahelises mõttes läbimurde valdkonnaga?

5.2. Is the application consistent with the development plans of an R&D institution?

Evaluation.

Comments.

Other comments to Section 5.

Overall assessment of the correspondence to plans and strategies

6. Justification for accommodating other available R&D resources into the budget

This section will be evaluated by the local experts and the expert panel. The foreign reviewers shall not fill it in.

6.1. Justification for accommodating into the research theme other monetary resources which will become available due to the merger, expiry or termination of other projects.

6.2. Justification for accommodating into the research theme other monetary resources which will become available due to the merger, expiry or termination of other projects financed on the basis of the Organization of Research and Development Act by the applicant.

Evaluation.

Comments.

Other comments to Section 6.

Overall assessment of the justification for accommodating other R&D resources into the budget

Overall assessment of the application

Overall comments to the application.

Overall assessment of the application.

VI Rating scales to be used in the review

The evaluation committee makes use of a 9-step rating scale in evaluating the applications (outstanding, very good, good, satisfactory or unsatisfactory, or their intermediaries very good - outstanding, good - very good, satisfactory - good, and unsatisfactory - satisfactory). Their numerical correspondences are 5, 4.5, 4, 3.5, 3, 2.5, 2, 1.5, and 1.

The rating scales correspond to the following substantial assessments.

Outstanding. Top international research project or of exceptional national strategic importance.

1. Scientific Quality and Impact

Crucial /cutting-edge scientific question or knowledge gap or area of strategic importance to Estonia.

Highly original and innovative at international level; includes novel methodology and design.

The division of subtasks/subtopics is clear and justified and definitely supports the achievement of the overall goal.

Potential for high socio-economic impact.

2. Scientific Leadership

Excellent leadership (track record, team, environment and collaborators).

The research team has excellent track record and optimal balance between senior and junior research staff. There is no doubt about the sustainability of research team. The overall size of the research team corresponds fully to the objectives of research plan.

3. Physical infrastructure fully supports the research needs of proposal.

4. Justification of Resources

Potential for high return on investment (resources requested, likelihood of project delivery, anticipated knowledge generation).

Appropriate staff time and other resources allocated to deliver project goals (team leader and research staff).

5. Other: Ethical and/or governance issues are fully considered.

Very good. Internationally competitive and leading edge nationally, or of national strategic importance.

1. Scientific Quality and Impact

Important scientific question or knowledge gap or area of strategic importance to Estonia.

Original and innovative at international level; includes novel methodology and design The division of subtasks/subtopics is clear and justified and supports the achievement of the overall goal.

Potential for high socio-economic impact.

2. Scientific Leadership

Very good leadership (track record, team, environment, and collaborators).

The research team has an very good track record and optimal balance between senior and junior research staff. There is no doubt about the sustainability of research team. The overall size of the research team corresponds to the objectives of research plan.

3. Physical infrastructure supports the research needs of proposal.

4. Justification of Resources

Potential for significant return on investment.

Appropriate staff time and other resources allocated to deliver project goals (team leader and research staff).

5. Other: Ethical and/ or governance issues are fully considered.

Good. Partially internationally competitive or of national strategic importance.

1. Scientific Quality and Impact

Worthwhile scientific question or knowledge gap or a valuable scientific resource.

Original and innovative at national level, methodologically sound study.

The division of subtasks/subtopics is presented well. The overall goals can be achieved. For achievement of goals certain improvements and adjustments are still necessary.

Potential for significant socio-economic impact.

2. Scientific Leadership

Strong leadership (track record, team, environment, and collaborators).

There is a good balance between the senior and junior research staff, helping in the majority cases to achieve the established objectives. However, there is still need for increase of Ph.D. studies to meet the challenges of proposal. The overall size of the research team corresponds to the objectives of research plan.

3. Physical infrastructure meets the research needs of proposal. The majority of goals can be achieved by means of existing infrastructure.

4. Justification of Resources

Potential for significant return on investment (resources requested, likelihood of projected delivery, anticipated knowledge generation).

Appropriate staff time and other resources allocated to deliver project goals (may be scope strengthen management of the project).

5. Other: Ethical and/ or governance issues are well considered.

Satisfactory.

1. Scientific Quality and Impact

Worthwhile scientific question with potentially useful outcomes.

Somewhat original and innovative at national level. Methodologically sound study but some areas require revision.

Likelihood of successful delivery.

The division of subtasks/subtopics is satisfactory, the additional clarifications and adjustments are inevitable. This is not clear whether the proposed approach supports the achievement of the overall goal.

2. Scientific Leadership

Appropriate leadership (scope to strengthen team; environment; collaborators).

The research team has a satisfactory balance between the senior and junior research staff. The certain, but not all, tasks can be achieved by this research team. However, there are some doubts about the sustainability of proposal, because the number of junior research staff is not enough to achieve the established objectives. The overall size of the research team only to certain extent corresponds to the objectives of research plan.

3. Physical infrastructure only partly meets the research needs of proposal. There is need for substantial improvement.

4. Justification of Resources

Potentially more limited return on investment (resources requested, likelihood of project delivery, and anticipated knowledge generation).

Resources broadly appropriate to deliver the proposal.

5. Other: Ethical and/or governance issues are adequately considered.

Unsatisfactory.

1. Scientific Quality and Impact

Poorly defined research topic and/or lack of research questions.

Methodologically weak.

Limited likelihood of new knowledge generation.

The division of subtasks/subtopics is poor and hardly supports the achievement of the overall goal.

2. Scientific Potential

Poor leadership.

The proposal lacks the balance between the senior and junior research staff. There is insufficient senior research staff for successful running of established research plan. The number of junior research staff is limited to guarantee the sustainability of proposal. The overall size as well as competence of the research do not support the achievement of established objectives.

3. Physical infrastructure is poor and does not support the achievement of established objectives.

4. Justification of Resources

Potentially poor return on investment; inadequate staff time and other resource allocation.

5. Other: Ethical and/or governance issues are not adequately considered.

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