



Executive summary of the public audit report

ASSESSMENT OF THE STUDIES AND SCIENCE DEVELOPMENT PROGRAMME CARRIED OUT BY THE RESEARCH COUNCIL OF LITHUANIA

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DEFINITIONS AND ABBREVIATIONS

Council: Research Council of Lithuania

Programme: the Country's Studies and Science Development Programme

RED: Research and Experimental Development

ASIT (MITA): Agency for Science, Innovation and Technology

H2020: Horizontas 2020

OECD (EBPO): Organisation for Economic Co-operation and Development

SIS (STT): Special Investigation Service

Research Council of Lithuania: a counsellor to the Seimas and the Government on the research and researcher training related issues. The Research Council of Lithuania participates in the implementation of research, experimental (social and cultural) development and other programmes, programme tender funding of researches and experimental (social and cultural) development, and organizes the review of research activities conducted in Lithuania¹.

Agency for Science, Innovation and Technology: an institution under the Lithuanian Ministry of Education and Science and the Lithuanian Ministry of Economy. The purpose of the Agency is implementing innovation development and the research and experimental development policies required for the emergence of new technologies².

Research and experimental (social, cultural) development: systematic creative cognitive activities in such areas as nature, humanity, culture and society, and use of their results³.

Fundamental research: experimental and/or theoretical knowledge work undertaken primarily to acquire new knowledge about the essence of phenomena and/or observed reality, but without any particular application or use of the results acquired⁴.

Experimental development: systemic activities based on scientific research and knowledge accumulated via practical experience, the purpose of which is development of new materials, products and equipment, introduction of new processes, systems and services, or substantial improvement of already created or installed ones, as well as development, introduction or substantial improvement of solutions to the human, cultural and societal challenges based on scientific research and knowledge accumulated via practical experience⁵.

National Research Programme: tendering research programme providing the opportunity to address the issues important to the State and the public as well as increase the international competitiveness of Lithuanian science⁶.

¹ Law on Science and Studies No. XI-242 of the Republic of Lithuania, 30/04/2009, Art. 13, p. 2.

² Order No. 4-1158/V-1645 of the Lithuanian Minister of Economy and the Lithuanian Minister of Education and Science of 30/11/2012 regarding approval of the Articles of Association the Agency for Science, Innovation and Technology.

³ Law on Science and Studies of the Republic of Lithuania No. XI-242, 30/04/2009, Art. 4, p. 11.

⁴ Ibid, Art. 4 p. 9.

⁵ Ibid, Art. 4 p. 8.

⁶ Resolution No. 731 of the Government of the Republic of Lithuania of 16/07/2008 on approving the provisions of the National Research Programme, p. 2.

Need research projects: researches dealing with issues under the research and experimental (social, cultural) development programmes, which are highly relevant to the State and were suggested by the Lithuanian President, the Lithuanian Seimas, the Lithuanian Government, and the Lithuanian ministries⁷.

Technological development projects: researches oriented towards productive innovations required to solve technological problems of both public and private sectors, at the same time strengthening the belief that high-level researches can and should be applied to solve such problems⁸.

Project by group of researchers: a research carried out by a group of executive bodies (or one researcher) on a topic suggested by researchers of executive bodies⁹.

Smart specialization: the State strategy to support research and innovation. By developing such strategy, Lithuania, like other countries of the European Union, established its own research, experimental development (RED) and innovation priorities, taking into account the existing or potential competitive advantages¹⁰.

Horizontas 2020¹¹: a continuous EU research and innovation program with 2014-2020 budget of approximately 80 billion. euros through the exercise of the right of recourse over the period. The program focuses not so much on research and technological development, but rather on scientific advances, which could become new products and services that generate business opportunities and improve people's lives. The applicants of this program may include academic institutions and business enterprises as well as other institutions.

⁷ Description of the Procedure for Initiation and Implementation of the Need Research Projects approved by the Order No. V-150 of the Head of the Research Council of Lithuania of 01/06/2016, p. 2.1.

⁸ Accessed via: <http://www.lmt.lt/lt/mkf/tpp.html> [accessed on 06/06/2016].

⁹ Description of the Procedure for Funding of Projects by Groups of Researchers approved by the Order No. VII-50 of the Research Council of Lithuania of 25/10/2010 (amended version No. VII-114 of 01/10/2012), p. 3.1.

¹⁰ Available online at: <http://sumani2020.lt/apie-sumania-speciaizacija/apie> [accessed on 22/08/2016].

¹¹ Accessed via: www.h2020.lt [Accessed on 16/06/2016].

SUMMARY

One of the most significant preconditions for progress and prosperity of modern society is a competitive and cohesive system of education, science and innovation, connected to the needs of the country, society and economy, and promoting the State's social progress and effectiveness in the international environment¹².

The State's progress strategy Lietuva 2030¹³ includes creation of a favourable science and research environment, ensuring the country's attractiveness to the top-level scientists and researchers.

The Research Council of Lithuania plays an important role in developing the research system. This Council, together with the Ministry of Education and Science and other ministries, helps the Seimas and the Government to shape the research and experimental development (RED) policy and contributes to its implementation. The programme tender funding of researches carried out by the Council is an integral part of funding of the whole research system. Most of the funds are allocated to researches in accordance with the base model of funding of research and education institutions, and implementing the EU structural fund projects. Other organizations also participate in the RED activities: higher education institutions, research institutes, public establishments, companies, associations, etc.

Foreign experts¹⁴ repeatedly drew attention to the fact that science internationality of the country is low; highest quality researches make only a small part of all researches; no favourable science and research environment was created to ensure attractiveness for the top-level scientists; the current funding system fails to ensure the research stability and continuity; and a small number of doctoral students does not provide a sustainable development of the research system.

Shortcomings of the research system led us to assess the continuous Country's Studies and Science Development Programme carried out by the Council. During this audit, we sought to find out whether the goals and objectives of the programme of 2015 are consistent with the country's strategic priorities, whether the program's assessment criteria allow to measure changes in the research and education system. We also assessed whether the funds allocated to the programme (23.5 million euros) were planned and used efficiently, i.e. whether the Council was appropriately involved in the shaping of the science and studies policy, or whether the allocated tender funding of the RED programme ensured that investments in researches would produce the greatest benefit.

We formulated the audit conclusions after examining the country's strategic documents, evaluation reports from foreign experts, 2015–2017 Strategic Action Plan of the Council, the 2015 performance report, Articles of Association, resolutions, orders, orders of the Minister of Education and Science, and documents of the Council, related to the tender funding of the RED programme, etc.

In our opinion, in 2015, while implementing the programme, the Council focused on allocation of funds for implementation and administration of the RED projects. However, the Council did not provide any measures to improve the research system, and the assessment criteria do not reflect

¹² Guidelines for the Science and Innovation Policy initiated by the President and submitted to the Seimas. Available online at: https://www.lrp.lt/lt?_event_transid=2475974455 [accessed on 30/06/2016].

¹³ Approved by Resolution No. XI-2015 of the Seimas of the Republic of Lithuania of 15/05/2012.

¹⁴ RHEMAC: Overview of the state of Lithuanian science, 2015.

the indicators to be improved using the allocated funds. The Council lacked a more active participation in submitting offers to the Seimas and the Government, in order to purposefully shape the country's research policy and strategic development. When planning and funding the RED activities, 45 percent (7.2 million euros) of funds are allocated to projects initiated by researchers without establishing the funding priority orientations. Moreover, assessments of the impact (benefit) of investment in research are not conducted.

We issued recommendations on the development of the appropriate programme, active participation in the shaping of research policy, establishing priority orientations when carrying out the RED funding, and assessment of the impact of results of projects. In our opinion, after proper implementation of these recommendations, the Council's activities will be focused on achieving positive changes in the field of science, and results of researches will contribute to the improvement of scientific competitiveness and social progress.

Part of problems discovered and recommendations presented to solve them are related to the activities carried out by the Ministry of Education and Science and its subordinate institution ASIT (see the public audit report 'Assessment of the Studies and Science Development Programme Carried Out by the Ministry of Education and Science')¹⁵.

A more detailed analysis of the RED system was performed while conducting the public 'Public Investment in Research and Experimental Development to Increase Innovation and State Competitiveness' audit, which will include activities of the Ministry of Economy, the Ministry of Education and Science, and science and education institutions in the RED field.

CONCLUSIONS

1. The continuous Country's Studies and Science Development Programme carried out by the Council contains no motivation of contributing to the implementation of the country's priorities and solving problems in the field of research and education. It is difficult to assess the program's impact upon the research system, because the established assessment criteria do not show, which positive changes in this system could be achieved with the help of the allocated funding (Subsection 1).
2. The Council lacked more active participation in the shaping of the science and studies policy as it did not submit proposals and recommendations to public authorities of the State on its own initiative, on the basis of which the country's strategic documents could be prepared (Subsection 2).
3. Opportunities to pursue the research focus on addressing the issues important to the State and the public specified in the strategic documents, remained unused, because:
 - 3.1. no active actions were taken to encourage the policy makers, the public, interested institutions, non-governmental organizations, and business representatives to initiate topics of national research programmes and be involved in deliberation upon them (Conclusion 3.1). 84 percent of proposals on topics related to programmes were submitted by the research and education institutions and their researchers, and the topics were reviewed by experts from the Lithuanian research and education institutions (Subsection 3.1);

¹⁵ See www.vkontole.lt.

- 3.2. when funding projects initiated by scientists (7.2 million euros), the Council failed to establish the funding priority orientations (Subsection 3.1);
- 3.3. the Council did not always seek to fund larger research projects, no requirements were raised for researchers regarding implementation of their projects together with other local and foreign scientists to obtain higher level scientific results. In addition, administrative expenses have increased while funding small projects over the past three years, although tender funding of the RED programme decreased (Subsection 3.1);
- 3.4. the system required for the implementation of technological development projects was not created. Such system would ensure continuity of intermediate results of the Council-funded innovative products, because projects, during which final products are obtained, are funded by ASIT (Subsection 3.1).
4. The financial support of the Council (0.42 million euros) encourages the research and educational institutions to participate in the international program H2020. This support does not contribute to preparation of quality applications, so that projects could win and attract investments into the country (Subsection 4).
5. The system developed failed to ensure transparency and impartiality of selection of projects and peer review of their results, because:
 - 5.1. members of the Council, who planned and approved the RED funding system, participated in its implementation, i.e. carried out peer review of projects and participated in their implementation (Subsection 3.2);
 - 5.2. the Council failed to take effective measures to ensure that as many foreign experts as possible could carry out peer review of the research project applications; in 2015, the number of foreign experts, who reviewed the State budget-funded project applications, not significant (Subsection 3.2);
6. the Council did not finish developing the system of assessment of the effect of results of the RED activities upon the country's economic and science development (Subsection 3.3).

RECOMMENDATIONS

Proper implementation of the presented recommendations will help to actively contribute to the shaping of the research policy, conduct more significant researches focused on the State priorities, improve inter-institutional and cross-border cooperation between researchers in creating competitive academic results, and assess the benefits of investments in researches and programs, thus allowing for more efficient planning of the RED programme tender funding activities. In consideration of the audit findings, we recommend:

1. Preparing a new programme that will be focused on solving the research and education system-related problems and progress; the established assessment criteria of such programme should specify the indicators to be improved using the State budget funds.
On 14 April 2016, we notified the Council in writing of shortcomings discovered in the programme development and presented the Council with the recommendation to rectify them (Conclusion 1).
2. Establishing measures to ensure active involvement in the shaping of the research and researcher training policy.

The functions relating to the submission of offers on the research policy-related issues to the Seimas and the Government should be actively carried out (Conclusion 2).

3. Taking measures for the national research programme topic initiation and selection system to ensure the approval of research topics strategically most important to the State.

It is advisable to take the following initiative: the policy makers, the public, interested institutions, non-governmental organizations, and business representatives should initiate topics of national research programmes and be involved in deliberation upon them (Conclusion 3.1).

4. Establishing funding priorities for projects initiated by scientists, so that that country's problems could be solved by concentrating scientific potential.

Larger projects with higher financial value should be funded, their priority orientations should be established, inter-institutional and international cooperation should be promoted (Conclusions 3.2 and 3.3).

5. Initiating development of the system that will ensure continuity of the technological development projects implemented.

In cooperation with the Ministry of Education and Science, the Council should draw up a scheme of continuity of technological development projects, or funding and administration of this RED activity should be transferred to the Agency for Science, Innovation and Technology (3.4 conclusion).

6. Ensuring impartial and transparent peer review of research projects.

According to the Articles of Association of the Council, its members cannot participate in peer reviews of projects or in their implementation. Also, it should be specified that the majority of research projects should be reviewed by international experts (Conclusion 5).

7. Planning and carrying out measures of assessment of the impact of research results by RED activities.

An action plan (measures, their implementation deadlines and responsible persons) should be drawn to develop and implement the system of assessment of the impact of research results (Conclusion 6).

Measures and time frames for the implementation of the recommendations are presented in Annex 1.