



Organisational Evaluation of the Research Council of Lithuania (RCL)

Evaluation Report

European Science Foundation (ESF)

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Foreword



It has been an honour for the European Science Foundation to have undertaken this organisational evaluation of the *Lietuvos mokslo taryba* (LMT), or Research Council of Lithuania (RCL)*

It seems unbelievable today, but barely 24 years ago, Lithuania was part of a centrally planned economy. Since that time, it has had to re-assemble all the structural and organisational elements of its economy, its education and research system. It should also be recalled that in 2004 Lithuania applied for and successfully fulfilled the accession criteria for EU membership. Indeed, I have happy memories of the first Lithuanian Presidency of the European Union during the second half of 2013 and two Presidency events held in Vilnius with which ESF was associated at that time. ESF was part of the organising committee of the very successful conference ‘Structural change promoting gender equality in research’ held on 21-22 November 2013, and presented the ESF Science Policy Briefing report *Science in Society: Caring for our Futures in Turbulent Times* at the conference ‘Horizons for Social Sciences and Humanities’ held on 23-24 September 2013. Lithuania’s contribution to the Presidency, as well as its wise investment of EU Structural Funds in life long education, research and development, equal opportunities and job creation, amongst other important priorities, represent a coming of age of Lithuania as a fully-fledged member of the European Community.

This report focuses on specific aspects of the national structures relating to research and research performance. However, it must be read in the context of a changing economic and social environment.

* In this document the English abbreviation RCL is used when referring to the Research Council of Lithuania although the formal abbreviation used by the council is LMT.

The Research Council of Lithuania was established in 1991 and underwent substantial re-design in 2007. To its enormous credit, the RCL has managed this complex change with a full awareness of international good practice and has done so whilst maintaining the confidence of all its stakeholders throughout that period. Lithuania, like many small countries in the EU, faces significant challenges. A lack of mobility and a somewhat inward looking perspective represent perhaps the greatest changes needed by the research system and the wider socio-economic system in which it is embedded.

The ESF Evaluation Committee observed the genuine and deep commitment of all the players in the RCL research system to developing the country’s research and scientific infrastructure. The Committee was very impressed by the high quality of its programmes and their leadership. They have identified exciting opportunities ahead for the RCL as well as the immediate but manageable challenge to reduce the complexity of administrative systems. The ESF is indebted to the Evaluation Committee for their wholehearted enthusiasm, wisdom and diligence in taking on this task. We are equally indebted to the evaluation participants at all levels of the system from Ministries through to researchers for their honest observations, insightful comments and willingness to engage in a constructive and transformative process.

The Research Council of Lithuania is active in many interactional activities and has been a respected member of the ESF for many years and of other international organisations. We trust that the recommendations in this report are seen in the spirit of a constructive, peer review process, and that they will, moreover, help the RCL to manage its resources purposively and effectively, noting the

opportunities for improvement in internal policy terms, but also in terms of the authority that the Council should command with regard to resources and influence. If, as we anticipate, it achieves these ambitions, the efforts of all those who have contributed to the evaluation internally and externally can be seen as supporting Lithuania to realise a greater share of the social and economic successes that it so richly deserves in the Europe of today.



Martin Hynes
ESF Chief Executive

1.

Executive Summary



The Research Council of Lithuania (RCL) was first established in 1991 as the Lithuanian Science Council, and underwent several reforms before being reorganised into the Research Council of Lithuania in 2007. Since then it has served as an advisory body on research policy for the Parliament and the Government and also as a research funding body, administering competitive merit-based research funding programmes and organising the assessment of research activities.

In 2012 an agreement was reached between the RCL and the European Science Foundation (ESF) for the latter to implement an independent evaluation study of the RCL. This was believed to be necessary in the light of the significant changes in the mission and funding portfolio of the RCL over recent years, and the lack of previous international evaluation of the RCL during that period.

The overall goal of the evaluation was to identify strengths and recommendations for further improvement related to the governance and management structures of the RCL, as well as the strategy, scientific quality and impact of its funding schemes. In particular, the scope of the evaluation focused on three main aspects:

- I The assessment of the organisation**
 - a) Governance and management
 - b) Analysis of the strategy for the funding schemes
- II The assessment of the scientific quality of the Research Council**
 - a) The scientific quality and impact of its programmes
 - b) Its internationalisation
- III Recommendations and strategic planning for funding schemes**

The methodology included a scoping visit and data gathering and analysis by the ESF, setting up an international Evaluation Committee of R&D executives and researchers, a site visit by the Evaluation Committee and interviews with RCL personnel and stakeholders, as well as a self-evaluation report by the RCL. The current report summarises the findings of the evaluations and the recommendations of the Evaluation Committee.

The Evaluation Committee was very impressed by the manner in which the RCL has managed the complex process of implementing significant change within a research funding system, introducing a myriad of funding schemes in the short span of five years, and retaining the confidence of stakeholders while doing so. It has implemented a system of merit-based competitive allocation of research funding, which serves the country well. In doing so, it has drawn on the professionalism and commitment of its leadership and staff, who have a strong appreciation of international standards in research and commitment to continuous improvement. The interviews with stakeholders from the political system, research performing organisations and other agencies suggested that the RCL is rightly held in high esteem by these stakeholders, and has developed a reputation for fairness and commitment to quality. The Evaluation Committee concurs with this view. The recommendations, summarised below, should be viewed against the backdrop of this favourable impression formed by the Evaluation Committee of the activities and personnel of the RCL.

1.1 RCL Governance and Management

The RCL has a dual role as a funding agency and as a provider of policy advice, but the former dominates heavily over the latter in the assignment of weight to these roles both within the Council and by external stakeholders. This results in the under-utilisation of a valuable voice within the national system at a time of key strategic change, and should be addressed.

The Evaluation Committee was struck by the complexity of the systems for organising, evaluating, funding and setting policy for higher education and research in Lithuania. We recommend a more formal structure for interaction between the RCL and other agencies, in particular the Agency for Science, Innovation and Technology (MITA), given the importance nationally and internationally of innovation outputs of research funding.

There is great attention paid to the direct management of expenditure on grants; the Evaluation Committee formed the opinion that a shift in priorities to other components of the service delivery would yield better returns. International good practice recognises the uncertain nature of research planning and allows a degree of flexibility in the conduct of research. Apart from damaging the relationship between the RCL and its funded researchers, this further diverts the resources of the RCL away from its strategic role, and is therefore not in the best interest of the national research system.

1.2 RCL Strategy for its Funding Schemes

The Evaluation Committee believes that the RCL and the research community would benefit from a systematic definition of national research objectives and the development of a balanced set of funding programmes, appropriate in number and in scale. The balance of funding should be monitored on a continuing basis, and assessed against the agreed objectives.

The RCL has a large portfolio of funding schemes, resulting in a large number of funding calls per year and grants of relatively small average size. Reducing the number of calls and increasing the size of grants for certain schemes would be more consistent with a more strategic approach to research funding and would also represent a less heavy administrative burden for the RCL.

For the development of the research system of Lithuania it is of the utmost importance that scientific research is well connected and integrated

into the broader knowledge and innovation system. The RCL should consider how its portfolio can be expanded in the direction of applied research, without losing the focus on excellence in fundamental research that has characterised its ambitions to date. This should be undertaken in collaboration with MITA, so as to enhance coherence and avoid unproductive proliferation of programmes. This type of approach has been referred to as 'smart specialisation' and should engage directly with market-facing stakeholders both within and outside Lithuania.

1.3 Scientific Quality and Impact of RCL Programmes

The leadership of the RCL has a strong awareness of international standards in research and research funding allocation, and has done a very good job of improving the national funding system in a short space of time. However, some improvements need to be made.

The Evaluation Committee recommends that the RCL should seek to improve the quality and impact of its programmes by reducing its reliance on a national pool of reviewers, introducing peer review by international external experts in addition to Review Panel evaluations, by harmonising and elaborating its Conflict of Interest guidelines for various programmes and by introducing a requirement that grant proposals are submitted in English (and Lithuanian if required by law). In addition, it would be beneficial to clarify to the awardees what the RCL's expectations are around international publication and by monitoring such publication in a systematic fashion.

To underpin its articulation and delivery of impact, the RCL should develop a strategic document defining its funding priorities and measurable objectives, as part of an overall evaluation framework for the regular evaluation of success or impact of the supported programmes and of individual projects.

1.4 RCL Internationalisation

While internationalisation is seen as a horizontal priority by the RCL, and is supported by a number of its funding schemes, the Evaluation Committee was of the view that these could be accelerated.

The Evaluation Committee recommends the development of an appropriate medium- to long-term strategy for the internationalisation of research in Lithuania. This should include mechanisms to

attract international research talent into the country, which will require a relaxation in existing bureaucratic obstacles.

In view of the opportunities represented by Horizon 2020, and the focused manner in which other countries are targeting that funding, the RCL should consider the introduction of special measures to propel Lithuanian researchers towards greater success in the drawdown of European funding.

A detailed treatment of all of these recommendations, and the evaluation that underpins them, is to be found in the following chapters.

2. Introduction and Context



2.1 Structure of the Report

Following the Executive Summary, the terms of reference and the methodology of the evaluation as well as a description of the national research and development context in Lithuania are outlined in Chapter 2. Chapter 3 provides the findings of the evaluation based on the deliberations and conclusions of the Evaluation Committee, while Chapters 4 and 5 summarise the conclusions of the evaluation and provide recommendations of the Evaluation Committee to the RCL.

2.2 Background to Evaluation

This evaluation by the European Science Foundation (ESF) was commissioned by the '*Lietuvos mokslų taryba*' (LMT), or Research Council of Lithuania (RCL).¹ The two organisations signed a Memorandum of Understanding (MoU) in late 2012 that set out the plans for an independent evaluation study of the RCL as a national research funding organisation and national policy adviser, within the general context of Lithuanian and European public research funding.

Being a relatively young organisation that has undergone significant changes over the past five years, drastically expanding its mission and funding portfolio, the RCL has not previously been evaluated by an international committee/organisation. The current evaluation is therefore timely and looks at the activities of the RCL for the past five years with

the overall goal of identifying strengths and recommendations for further improvement related to the governance and management structures of the RCL, as well as the strategy, scientific quality and impact of its funding schemes.

2.3 Terms of Reference

The terms of reference of the evaluation focus on the three main aspects outlined below:

I The assessment of the organisation

- a) Governance and management
- b) Analysis of the strategy for the funding schemes

II The assessment of the scientific quality of the Research Council

- a) The scientific quality and impact of its programmes
- b) Its internationalisation

III Recommendations and strategic planning for funding schemes

According to the MoU, ESF constituted an Evaluation Committee of six science executives and senior researchers, and prepared a work plan in order to lay out the details of the evaluation exercise.

2.4 Methodology

The methodological approach included a scoping visit, data gathering and analysis by the ESF office, stakeholder interviews during the site visit by the Evaluation Committee, expert reviews of the RCL organisational structure, portfolio and procedures, and a self-evaluation report by the RCL according

1. In this document the English abbreviation RCL is used when referring to the Research Council of Lithuania although the formal abbreviation used by the council is LMT

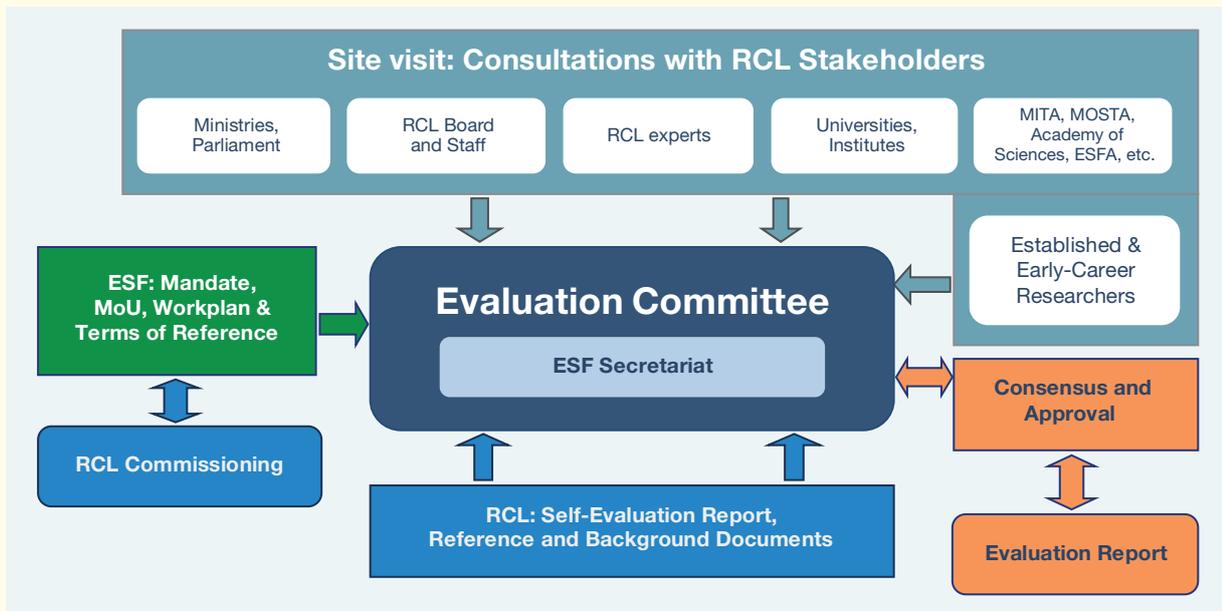


Figure 1. Conceptual framework for the RCL evaluation

to a specified template. A conceptual framework for the implementation of the evaluation exercise is illustrated in Figure 1, while the agreed timeline and main steps of the activities are shown in Figure 2 below.

The Evaluation Committee invited representatives of various relevant stakeholders to provide their views on different aspects of the strategy and operations of RCL. During the site visit to Vilnius (11-13 November 2013), the Committee met with representatives from seven groups, as the main stakeholders and RCL clients. Each group included five to eight representatives, and the interviews were conducted in the form of a guided discussion led by the assigned members of the Evaluation Committee. The full list of all stakeholders consulted is available in Appendix I. All proceedings were recorded by the ESF office to be consulted by the Evaluation Committee.

The groups consulted were (Figure 1):

1. The Board of the RCL and Scientific Committees
2. The relevant Ministries and the Parliament
3. RCL staff
4. Experts on the peer review process (for the RCL funding schemes)
5. Various stakeholders in the R&D landscape in Lithuania
6. Universities and research institutes
7. Research communities – both established and early-career

In addition, the RCL made available reference and background documents on the legal basis for the RCL and its procedures and activities (including

web links and PDF files). ESF identified additional background documents relevant to the R&D context in Lithuania. The list of the documents and links that were made available to the Evaluation Committee is provided in Appendix II.

Furthermore, the Committee requested the RCL to prepare a self-evaluation report according to a suggested template. The report included the description of the RCL strategic goals, portfolio of activities, as well as a SWOT analysis.

Based on the self-evaluation report, reference and background documents and information gathered through the consultations with the various groups, the Evaluation Committee started their discussions and deliberations immediately after the site visit when they agreed on the main areas of strengths and points for improvement. These were later elaborated and included in this report. Following the approval of the Committee, the final draft was sent to the RCL in order to ensure that the report was free of any factual error or major misunderstanding. This step was not to invite questioning of the judgments and conclusions made by the Committee but to allow an overall check of the integrity of the information included and used.

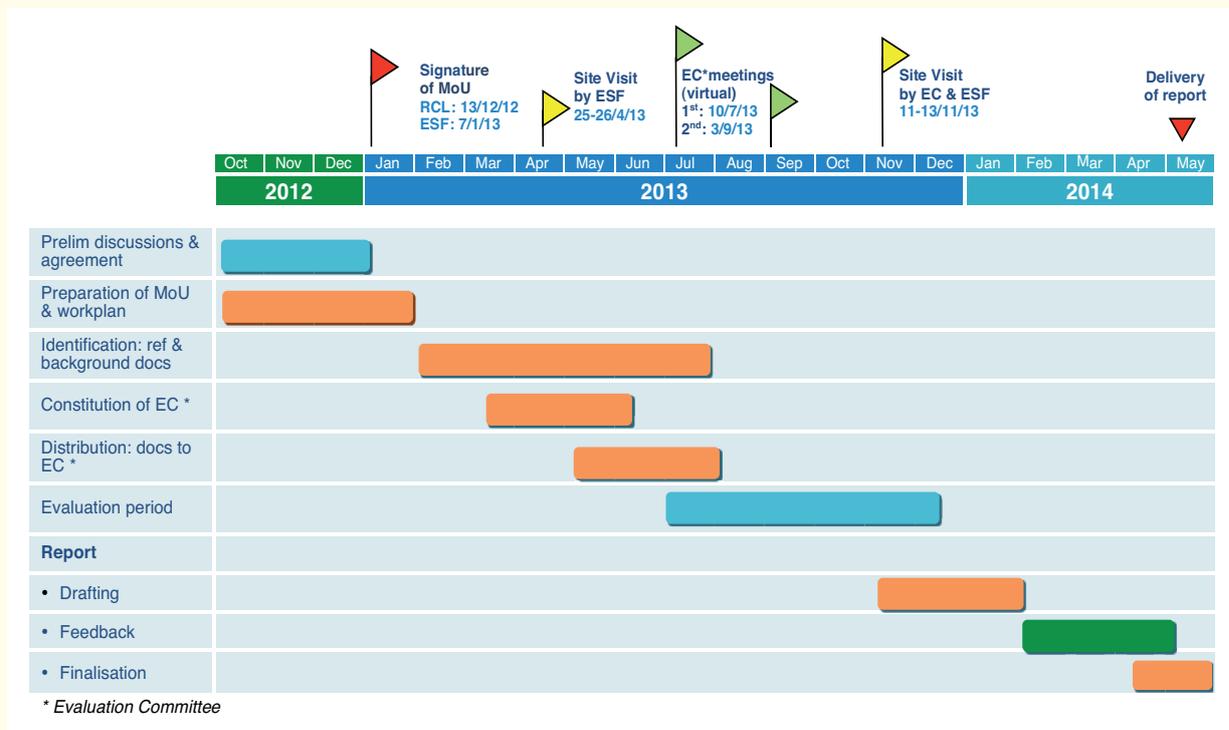


Figure 2. Timeline of the evaluation process

2.5 The Evaluation Committee

The Evaluation Committee was constituted by the ESF Chief Executive, Martin Hynes, as the responsible authority for the evaluation exercise. The Committee was chaired by Professor Orla Feely and was composed of the following members:

- **Professor Orla Feely, Chair**
 - Professor, School of Electrical, Electronic and Communications Engineering, University College Dublin²
 - Chair, Irish Research Council
- **Mr Hallgrímur Jónasson**
 - General Director, Rannís, the Icelandic Centre for Research
- **Professor Barbara M. Kehm**
 - Professor of Leadership and International Strategic Development in Higher Education, Robert Owen Centre for Educational Change, University of Glasgow, Scotland, UK
- **Professor Peter van den Besselaar**
 - Professor of Organisation Sciences, VU University Amsterdam
- **Dr Barend van der Meulen**
 - Head of Department of Science System Assessment, Rathenau Instituut, Netherlands

- **Professor Milena Žic Fuchs**

- Fellow, Croatian Academy of Sciences and Arts
- Professor, Faculty of Philosophy, University of Zagreb

ESF staff member Julia Boman, Science Officer, coordinated the evaluation exercise and Rhona Heywood-Roos provided administrative support. Angelique Giambelluca, on internship at ESF, provided support in the initial phase of gathering background information and statistics about R&D in Lithuania.

2.6 National Context

In order to put this evaluation exercise into context, some of the main facts and figures about the Lithuanian research and innovation system and the positioning of the RCL in particular are provided in this section. It provides an overview of the state of the Lithuanian research and innovation system, as well as an overview of the key players and main policy frameworks.

Lithuania has a population of 2,971,905, and is the seventh smallest country in the EU.³ It regained its independence in 1991, and entered the European

2. Since 1 March 2014 Professor Feely is in addition Vice-President for Research, Innovation and Impact of University College Dublin

3. Official site for Lithuanian Statistics, 2013: <http://osp.stat.gov.lt/en/web/guest/home>

Union in 2004. With the recent economic recession, real GDP per capita fell by 14% from 2008 to 2009, and the national R&D budget decreased by half between 2007 (95.7 M€) and 2010 (47 M€). Since then, the country has demonstrated signs of economic recovery, and the Lithuanian Innovation Strategy 2010-2020 aims to increase the Gross Domestic Expenditure (GDE) on R&D in Lithuania from 0.92% of GDP in 2011 to an ambitious goal of 1.9% of GDP by 2020. It is clear that reaching this goal would require substantial efforts on the part of all actors in the research and development system.

European Union Structural Funds have been an important source of funding, providing continuity at a time of cuts in the national research budget during the recession. Ten per cent of the total EU structural assistance for the period of 2007-2013, or 670 M€, has been earmarked for research, allowing a large number of new policy instruments and research programmes (on research careers, research infrastructures, science-industry clusters, etc.) to be launched. EU Framework Programmes offer another important source of funding (33.8 M€ for 280 Lithuanian participants from 2007 to early 2012), although more should be done to improve the drawdown of FP funding by Lithuanian researchers in the future.

According to the Innovation Union performance indicators for 2013, Lithuania's strengths are in the size of its public research sector and the high numbers of new graduates in science and engineering. However, the country also faces many issues, such as low business investment in R&D and low numbers of knowledge-intensive companies, low numbers of new doctoral graduates and unattractiveness of research careers, and weak links between education, research and the private sector. Lithuania also lags behind the EU average on various indicators related to scientific publishing and patenting activity. The lack of openness of the research system and low inward and outward mobility are major challenges.

Several important reforms have been carried out in recent years to improve the situation, e.g., reorganisation and reducing the number of research institutes, the introduction of competitive funding via the RCL, reforms in doctoral education and the creation of five clusters, 'valleys', to improve the links between science and industry. The establishment of the Agency for Science, Innovation and Technology (MITA) was an important measure to promote links between business and science.

The Research Council of Lithuania is an institution with a dual function, acting both as a policy advisory body for the Parliament and the Government and as a research funding and imple-

menting institution.⁴ First established by the Seimas (Parliament) in 1991 as the Lithuanian Science Council, it underwent several reforms before being reorganised into the Research Council of Lithuania in 2007, thus also becoming the main funder for research on a competitive basis in addition to its prior advisory role.⁵ Because of this reform and change in remit, the total RCL budget - including both state budget and EU Structural Funds funding - increased drastically from 600 k€ in 2008 to over 29 M€ in 2013. The RCL is now the main source for competitive funding for research in Lithuania, which accounted for 29.6% of the total research state budget in 2013.

Some facts and figures

- The Gross Domestic Expenditure (GDE) on R&D in Lithuania increased from 0.59% of GDP in 2000 to 0.92% in 2011. This is still significantly lower than the EU average of 2.03% of total GDP.
[<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsc00001&plugin=1>]
- According to the 2020 Strategy, the Lithuanian GDE on Research and Development is aimed to reach 1.9% of the GDP by 2020, with at least half contributed by business investments in R&D.
[<http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=ts000031&language=en>]
- The European Innovation Scoreboard 2013⁶ ranks Lithuania as a moderate innovator, out of four performance groups: innovation leaders, innovation followers, moderate innovators and modest innovators. However, Lithuania is the only country which managed to improve its position from a modest innovator (in the 2011 European Innovation Scoreboard) to a moderate innovator (in the 2013 European Innovation Scoreboard, which reflects performance in 2010/2011). While still lagging behind the EU average, especially on such indicators as non-EU doctoral students, R&D expenditure in the

4. The Law on Higher Education and Research of the Republic of Lithuania (Official Gazette, 2009, No. 54-2140)

5. Self-evaluation report submitted by RCL, October 2013

6. http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf

business sector, public-private co-publications, PCT patent applications, etc., Lithuania has demonstrated growth at the country level on most European Innovation Scoreboard indicators. The only indicator that demonstrates significant decline is sales of new-to-market and new-to-firm innovations.

- According to the ERAWATCH Scientific and Policy Annual Report on Lithuania for 2011, public higher education institutions (HEIs) and governmental research institutions carry out most of the R&D in the country (53.2% for HEIs and 17.6% for research institutes in 2010). Only 29% of R&D carried out in Lithuania was attributed to the private sector.
[http://erawatch.jrc.ec.europa.eu/erawatch/export/sites/default/galleries/generic_files/file_0310.pdf]
- In 2011 there were 8,390 FTE (Full-Time Equivalent) researchers in Lithuania, and this number has been growing since 1995. Researchers in the higher education sector accounted for 67.2% of the total FTE researchers, with researchers in the government sector accounting for 16.4%, and in the business & enterprise sector 16.3%.
[<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsc00004&plugin=1>]
- In 2012, Lithuania was ranked 41st among the 47 very high human development countries on the Human Development Index (HDI), slightly below Poland, Hungary and Slovakia and above Portugal, Latvia and Croatia.
[http://hdr.undp.org/en/media/HDR2013_EN_Statistics.pdf] [<http://hdrstats.undp.org/en/countries/profiles/LTU.html>]
- Lithuania has a higher number of new graduates in science and engineering per thousand population aged 25-34 than the EU average. However, the number of new doctoral graduates per thousand population aged 25-34, while having increased slightly from 0.87 in 2000 to 0.92 in 2011, remains below the EU-27 average of 1.69%. This suggests that doctoral studies and research careers are not sufficiently attractive for students.
[http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf]
- According to the ERAWATCH website, in the 2011/2012 academic year there were about 172,191 doctoral students (ISCED level 6) enrolled in Lithuanian universities and colleges.
[http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/lt/country?section=ResearchPerformers&subsection=HigherEducationInstitutions]
- The total number of scientific publications in Lithuania grew from 482 in 1996 to 2,708 in 2012* The percentage of publications within the 10% most cited scientific publications worldwide has grown only slightly between 2000 and 2008** (from 5.3% in 2000 to 6% in 2008). This ratio remains rather low compared to the EU average (10.9%).
[http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf]
- The number of international scientific co-publications per million population has increased from 77 in 2000 to 265 in 2011, somewhat below the EU average of 300.
[http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf]
- In 2009, Lithuania had 1,493 high technology patents per million inhabitants, significantly lower than the EU average of 19,319.
[<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsc00010&plugin=1>]
- Lithuania benefited by about 33.8 M€ from the EU FP7 for 280 Lithuanian participants from 2007 to early 2012, with a good success of rate of 19.4% vs 21.5% for the EU overall.
[http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf]
- However, Lithuanian researchers have not been successful in attracting European Research Council (ERC) funding: during 2007-2012, none of the 51 submitted eligible proposals were funded.
[E-CORDA data on 19-06-2012]

* <http://www.scimagojr.com/countrysearch.php?country=LT>

** No data is available for 2009-2012 in the Innovation Union Progress report

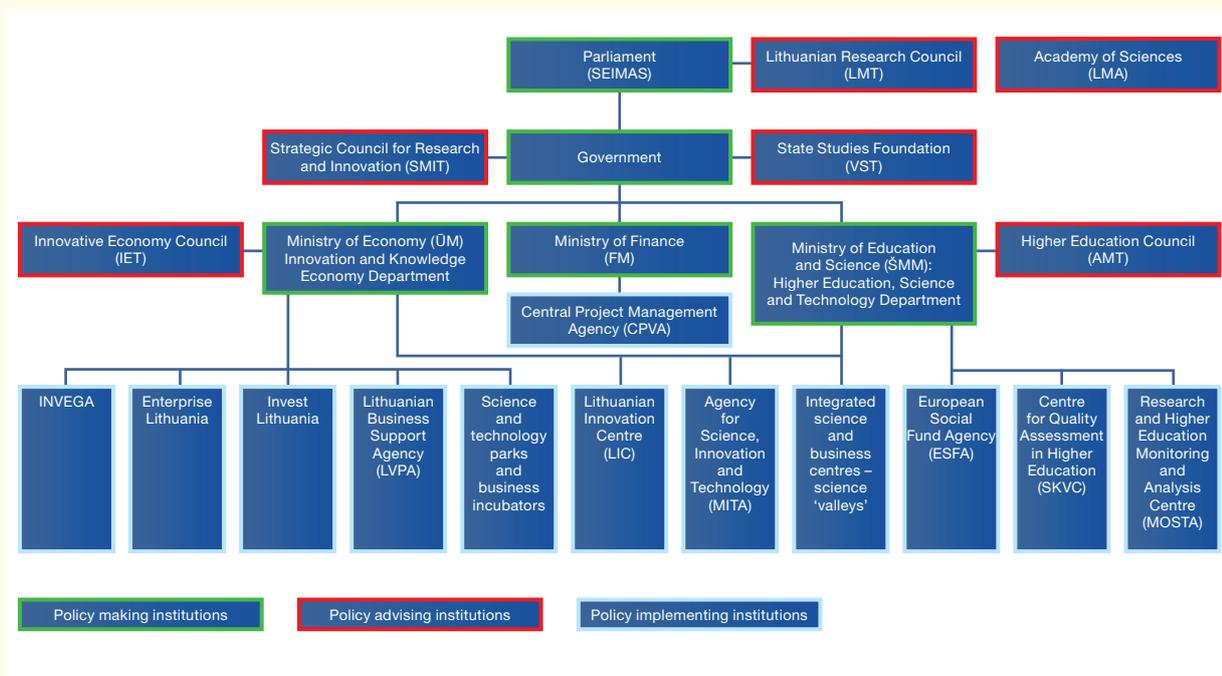


Figure 3. Structure of the Lithuanian R&D system (source: ERAWATCH: http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/lt/country?section=Overview&subsection=StrResearchSystem)

2.6.1 Key Players at the National Level

The structure of the Lithuanian R&D system is depicted in Figure 3, followed by brief introductions to the main institutions shaping and implementing R&D policy in Lithuania.

- **The Seimas (the Parliament) and the Government** are the key research policy development and implementation bodies in Lithuania.
- The ministries sharing the main responsibilities in the R&D and innovation system are the **Ministry of Education and Science** and the **Ministry of Economy**. The former is directly responsible for research policy and the development of highly-skilled human resources for R&D and innovation, and the latter for innovation policy and SME development.
- Several other ministries such as the Ministry of Agriculture, the Ministry of Justice, the Ministry of Culture, and Information Society Development Committee (IVPK) under the Ministry of Transport and Communication also contribute to setting the research agenda.
- The **Research Council of Lithuania (RCL)** is a public institution accountable to the Lithuanian Parliament with functions to advise on the formulation and implementation of science, education and R&D policy. Since 2008, the RCL is also the main funding agency for fundamental research and researcher mobility, complementing institutional funding for basic research with project-type funding.
- The **Agency for Science, Innovation and Technology (MITA)** is a governmental institution accountable to the Ministry of Education and Science and the Ministry of Economy, and is responsible for the implementation of innovation policy in Lithuania. It administers programmes aimed at innovation and R&D collaboration.
- The **Lithuanian Academy of Sciences**, accountable to the Parliament, serves as a forum for eminent scientists, and participates in research policy making and peer review evaluation.
- The **European Social Fund Agency, the Lithuanian Business Support Agency and the Central Project Management Agency** administer R&D funding for human resources and RIs from the EU Structural Funds.
- The **Centre for Quality Assessment in Higher Education (SKVC)** is accountable to the Ministry of Education and Science.
- The **Research and Higher Education Monitoring and Analysis Centre (MOSTA)** is an analytical and advisory body to the Ministry of Education and Science dealing with quality assurance and higher education standards.
- Universities and state research institutes are the main knowledge producers in the Lithuanian research and innovation system. There are in total 23 universities in Lithuania, of which 14 are public, and 13 public and 9 private research institutes.

2.6.2 Main Policy Frameworks

National policy for higher education and research in Lithuania is formed by the Seimas (the Parliament) and implemented by the Government, the Ministry of Education and Science, the Research Council of Lithuania, as well as other ministries and authorised institutions. Since regaining its independence in 1990 and following several years of discussions and debate, Lithuania has undergone a number of reforms reorganising and rationalising the network of universities and public research institutes, introducing a system of competitive funding for research by establishing a research council as well as introducing several measures to increase the linkages between higher education, science and business.

The reforms led to the adoption of the *Lithuanian Law on Higher Education and Research*⁷ adopted on 30 April 2009. The law establishes state regulation of higher education (HE) and research, including the principles of quality assurance, and provisions for restructuring, funding and management of higher education and research institutions. Following the reform, the number of research institutes was drastically reduced from 45 to 11, with some institutes regrouped while others were integrated into universities. The number of universities remained almost the same (23), and 24 colleges were given the status of higher school, thus bringing the number of higher education institutes (HEIs) in Lithuania to 47.

Another important step in the implementation of the R&D and HE reform was the creation of five integrated research, HE and Business Centres ('valleys') with EU structural support projected to reach 500 M€. The funding is aimed at developing physical research infrastructures, technology parks and knowledge transfer in such priority areas as biotechnology, materials science, physical and chemical technologies, natural resources and agriculture, and engineering and IT.

The main policy document outlining Lithuania's current situation and goals in R&I is the *Lithuanian Innovation Strategy for 2010-2020*, adopted on 17 February 2010.⁸ The document stresses the need to modernise the Lithuanian economy, which is largely based on traditional manufacturing and agriculture, and to introduce measures encouraging business investment in R&D and production of high value added products and services. In addition to the development of valleys and the introduction of financial incentives for business such as the tri-

ple tax deductions for R&D that were introduced in 2008, the strategy called for the establishment of the Agency for Science, Innovation and Technology (MITA) to coordinate innovation policy and administer joint funding programmes for research and businesses. Among other objectives, the strategy lists the development of research infrastructures, reforming the education system so that it better reflects the needs of society and the economy, and improving research career opportunities to reduce the brain drain. The strategy suggests that a few most promising sectors should be identified for future development, highlighting four areas: clean technologies, future energies, creative industry, and pharmacy, medical and wellness services.

In 2011, at the initiative of the Ministry of Education and Science, a working group of experts prepared Lithuania's *Roadmap for National Research Infrastructures*,⁹ which identifies infrastructures of national importance to be funded or updated in the upcoming 10-15 years, and to be included into relevant pan-European consortia. The document is expected to serve as an aid for future decision making with regard to the funding of infrastructures.

*Lithuania's Progress Strategy 'Lithuania 2030'*¹⁰ provides an overview of areas where progress should be made for Lithuania's development "to create a modern, dynamic, open, and patriotic state". The preparation of the strategy involved extensive public debates, making it a result of joint efforts between prominent figures in business, culture, art, science and public life, as well as government representatives, brought together in the three task forces of the State Progress Council. The strategy does not provide a list of specific actions but rather seeks "to promote fundamental changes in society and to facilitate the formation of a creative, responsible and open personality".

2.7 The Research Council of Lithuania

2.7.1 RCL Organisation and Governance

The RCL is composed of the Board, two expert committees – the Committee of the Humanities and Social Sciences and the Committee of Natural and Technical Sciences – and the Research Foundation, which carries out the administration (see Figure 4).

The Council is composed of 29 members. The majority of the Council members are not RCL

7. http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=438419

8. http://www.mita.lt/uploads/documents/innovation_innovation_strategy_20102020.pdf

9. <http://www.lmt.lt/en/about.html>

10. <http://www.lrv.lt/bylos/veikla/lithuania2030.pdf>

employees, the exceptions being the Chair, the Chairs of the two Committees, and the Scientific Secretary. The selection of the members of the Council is managed by the Ministry of Education and Science. RCL members are appointed by Parliament following proposal by the Government, with a five-year mandate and the possibility of extension for a second five-year term. The rotation of half of the members of each Committee is compulsory every two and a half years.

The Board has nine members, including the Chairperson of the Council and the chairs of the two expert Committees, an appointed representative of the Parliament Committee on Education, Science and Culture, a representative of the Government, of the Ministry of Education and Science, the Ministry of Finance and the Lithuanian Academy of Sciences. The Board coordinates the activities of the Committees and the Research Foundation, as well as the interaction between the Council and institutions formulating and implementing national research policy; proposes agendas for meetings of the Council; presents proposals to the Council concerning the allocation of funds for research programmes and other activities of the Council; approves the composition of panels of experts and conditions of their remuneration, following proposals by the Committees; considers issues and adopts resolutions which are submitted by members of the Board and the Director of the Research Foundation; appoints the Director of the Research Foundation; and approves the structure of the Research Foundation.

The Chairperson of the Council is in charge of the work of the Council and is responsible for the performance of the functions assigned to the Council as well as for the use of funds of the Council, on the basis of approved programmes and estimates; organises and chairs meetings and public discussions of the Council; represents the Council in the Republic of Lithuania and abroad and conducts other managerial duties. By 1 March each year, the Chairperson submits reports on the activities of the Council to the Parliament and the Government.

The Committees summarise and evaluate research results from their scientific domains and prepare proposals for development; prepare criteria and appoint commissions of experts for the evaluation of research activities in research and higher education institutions, after which the Committees also approve the evaluation results; prepare and submit proposals on topics and management of national research programmes; and approve the funding of projects for the RCL funding programmes. Resolutions of the Committees adopted within the scope of their competence are considered final.

The Research Foundation is responsible for implementing decisions of the Council concerning the funding of research programmes and projects and carries out administrative duties of the Council, e.g., drafting regulations and procedures for the RCL funding schemes and administering calls for proposals. The Director of the Research Foundation reports to the Chairperson of the Council.

From 2008 to 2012 the number of employees at the Research Foundation increased from 18 to 77.

The total RCL budget in 2013 was 29,326,055 M€ (including the state and Structural Funds budget), with 1,788,404 € (or 6.1%) spent on management costs. Management costs of research councils with a broad science mission in similar small countries tend to range from 3.0% for the Academy of Finland and 3.5% for the Austrian Science Fund (FWF) to 6.4% for the Netherlands Organisation for Scientific Research (NWO) and 7% for the Swedish Research Council (VR).¹¹ There can be different reasons for such differences, such as the range of different funding programmes run by the organisation, the complexity of the funding body and the diversity of tasks. Clearly the RCL is towards the upper end in the level of management costs, which might be due to the rather rapid increase in new funding programmes, the very high number of calls per year and average size of grants, as well as the level of management control over funded projects.

2.7.2 RCL Advisory Activities

As part of its advisory activities, the RCL is expected to provide recommendations to the Ministry of Education and Science and to the Parliament regarding various research and higher education policy issues and their implementation. Inputs to the RCL decisions are submitted by its Committees, *ad hoc* working groups, experts, research and studies and other public authorities. The RCL provides advice on the following matters:

- Evaluation of the research and art works of the Lithuanian higher education and research institutions which is a basis for funding allocations;
- Regulations for doctoral studies and assessment of applications by higher education and research institutions to conduct doctoral studies;
- Recognition of foreign doctoral degrees;
- Classification of research fields and branches;
- Minimum qualification requirements for research staff at public higher education and research institutions;
- Academic ethics, via the selection of the candi-

11. Erik Arnold *et al.*, 2013, Evaluation of the Academy of Finland, Technopolis: report to the Ministry of Education and Culture

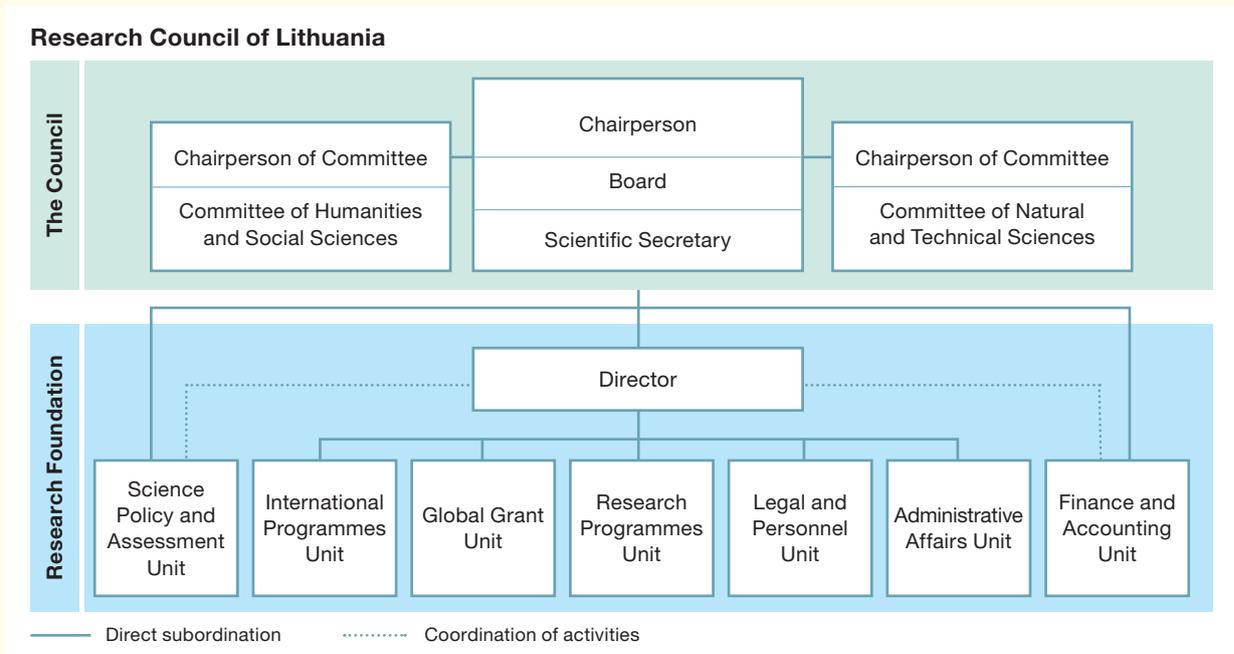


Figure 4. Organisational structure of RCL

dates for the position of Supervisor of Academic Ethics and Procedures;

- Evaluation of draft programmes in long-term research and development and drawing up conclusions about the research performance of existing or newly established universities and research institutions;
- Providing expert advice, for instance regarding EU R&D policy and funding opportunities [FP7 and Horizon 2020, ERA-NETs, European Research Infrastructure Consortia (ERIC)].

Overall, between 2009 and 2012, the RCL announced over 130 calls for proposals, received over 6,000 proposals and funded over 2,200 projects. Over 17,000 evaluations were performed, out of which 70% were evaluations of research projects funded on a competitive basis, 20% - evaluations of international projects and projects based on international agreements, 3% - evaluations of research and art performance, and 7% - other evaluations, e.g., institutions' applications for pursuing the authorisation for conducting doctoral studies, long-term institutional research programmes, etc.

2.7.3 RCL Funding Activities

The RCL relies on the state budget and the European Structural Funds (around 61.5% and 37% respectively in 2013), the latter being used for the Global Grant scheme supporting world class scientists, in Lithuania and abroad, postdoctoral fellowships and other schemes. The RCL started its funding activities in 2009, aiming to support excellent and cutting edge projects in all areas of science. Between

2009 and 2012 the RCL announced over 130 calls for proposals, and received over 6,000 proposals, out of which over 2,200 were funded (i.e., an overall acceptance rate of 36.7%). As a result of the work of the RCL, the competitive funding of science in the country, as compared to basic funding, has steadily increased, from a ratio of 30/70 in 2009 to 40/60 in 2010 and 50/50 in 2011.¹² During recent years the RCL has developed its management capacities: increased its staff numbers, set up an electronic proposal management system and drawn up a large number of guidelines and regulations for evaluation of proposals and the management of the various funding schemes. In 2010 the RCL took over research funding functions from the former Lithuanian State Science and Studies Foundation (currently The State Studies Foundation, VSF) along with part of the functions of the previous Agency for International Science and Technology Development Programmes (TPA), which was subsequently reorganised into MITA.

A table showing funding for each funding scheme 2009-2012 is provided in Appendix III.

The RCL funding portfolio includes two large top-down funding schemes with pre-defined topics – National Research Programmes and the national Lithuanian studies development programme:

- **National Research Programmes** are the funding schemes with the largest overall budget in the RCL portfolio (about 60 MLTL, or 17 M€, was allocated over 2010-2012), and aim to address societal

12. *Research Council of Lithuania: 2011-2012. Start of the new decade.* Vilnius.

problems of strategic importance. Six programmes were launched in 2010 and will come to an end in 2014-2015: *State and nation: heritage and identity*, *Societal challenges to national security*, *Chronic non-infectious diseases*, *Ecosystems in Lithuania: climate change and human impact*, *Future energy* and *Healthy and safe food*, with the first three programmes being the most popular among Lithuanian researchers. The average success rate in the calls for proposals for all six programmes is over 40%. Five new programmes are envisaged to start in 2014/2015: *Modernity in Lithuania*, *Welfare society*, *Towards the future technologies*, *Healthy ageing* and *The sustainability of agro, forest and aquatic ecosystems*. The selection of topics is done by the RCL with the help of expert groups and consultations with the research community.

- **The national Lithuanian studies development programme** (2009-2015) was the first programme administered by the RCL. It enables fundamental academic research in this field and promotes innovative interdisciplinary research and the dissemination of its findings. The average success rate for the programme over the years 2009-2012 was approximately 44% and the overall budget allocated to it was over 16.5 MLTL, or 4.6 M€.

The two major bottom-up funding schemes are the Researcher Teams' Projects and the Global Grant measure:

- **Researcher Teams' Projects** is the most popular scheme among Lithuanian researchers, with a large amount of funding (47.5 MLTL, or 13.8 M€ allocated over 2010-2012) and the lowest success rate compared to other RCL schemes (less than 25% of applications received funding in 2010-2012). These non-thematic calls are open to researchers or teams of researchers in any field: humanities, social sciences, physical sciences, biomedicine, technological and agricultural sciences.
- **The Global Grant scheme** is funded by the EU Structural Funds and is designed to support projects of world class scientists and researchers. Unlike the Researcher Teams' Projects scheme, under the Global Grant scheme proposals are submitted in English and are evaluated by international review panels and experts. Global Grant support is open to domestic and foreign researchers for implementation of their research projects in any field of science. The scheme represents a significant portion of the RCL funding portfolio, amounting to approximately 24 MLTL, or 7 M€, of grant payments over 2011-2012. The average success rate for the first three calls was 30%.

As one can see, the success rates for various RCL funding instruments range between 25% for Research Teams' Projects and over 40% for the National Research Programmes. In comparison, the average success rate for the Academy of Finland was 31% in 2011, 24% for NWO in 2012 and 30% for FWF in 2012.¹³

In addition to these large scale programmes, the RCL offers a variety of smaller scale support measures such as postdoctoral fellowships, promotional scholarships for doctoral candidates, support for research visits or scientific events, and support for academic publications or promoting students' research activities. Together these measures have been allocated only approximately 8 MLTL, or about 2.3 M€ over 2009-2012. This suggests that there are few funding schemes directed at supporting early-stage researchers compared to the number of schemes for established researchers.

International programmes form another part of the RCL activities, of which the **Lithuanian-Swiss cooperation programme 'Research and Development'** is the largest, with an overall budget of almost 8 M€ earmarked for 2013-2016. Other international partnerships include bilateral partnerships with Belarus, France and Ukraine as well as a tripartite partnership with Latvia and Taiwan. The overall budget allocated to these international programmes for 2009-2012 was about 2.5 MLTL, or 0.7 M€. The RCL also takes part in the Scientific Exchange Programme between the new EU member states and Switzerland (Sciex-NMS^{ch}).

Since the RCL focuses on supporting fundamental research, innovation and business-oriented research have been generally considered to be outside its scope. Yet, in 2012, RCL launched a pilot call which was aimed at technology development projects and encouraged collaborations between business and research. Another call launched in 2013 aims to attract projects on cultural development and encourages collaborations between artists and researchers. The impact of these pilot calls will be evaluated and RCL will then decide whether these activities will be continued.

2.7.4 RCL Clients

The funding allocated by the RCL goes to both universities and research institutes. In 2012, Vilnius University (VU) received by far the largest share of RCL funding for both programmes funded from the state budget (National Research Programmes,

13. Erik Arnold *et al.*, 2013, Evaluation of the Academy of Finland, Technopolis: report to the Ministry of Education and Culture. NWO, FWF: annual report 2012.

Researcher Teams' Projects, etc.) and the Global Grant scheme (see Figures 5, 6 and 7 below). Other top-funded institutions included Kaunas University of Technology (KTU), Nature Research Centre (GTC), Lithuanian University of Health Sciences (LSMU), Vytautas Magnus University (VDU), and Centre for Physical Sciences and Technology (FTMC). These get similarly high shares of funding from RCL from both programmes funded from the national budget and the Global Grant scheme funded from the EU Structural Funds. Mykolas Romeris University (MRU) is an interest-

ing exception: while it is among the five top-funded institutions for the Global Grant scheme, it is only in sixteenth place when it comes to the state budget programmes.

Most of the RCL top-funded universities are also placed within 800 best universities in the QS World University Rankings 2013 – e.g., Vilnius University (601-650), Vytautas Magnus University and Kaunas University of Technology (701+). One exception is Vilnius Gediminas Technical University (701+) which receives significantly less RCL funding than the other three best ranked Lithuanian

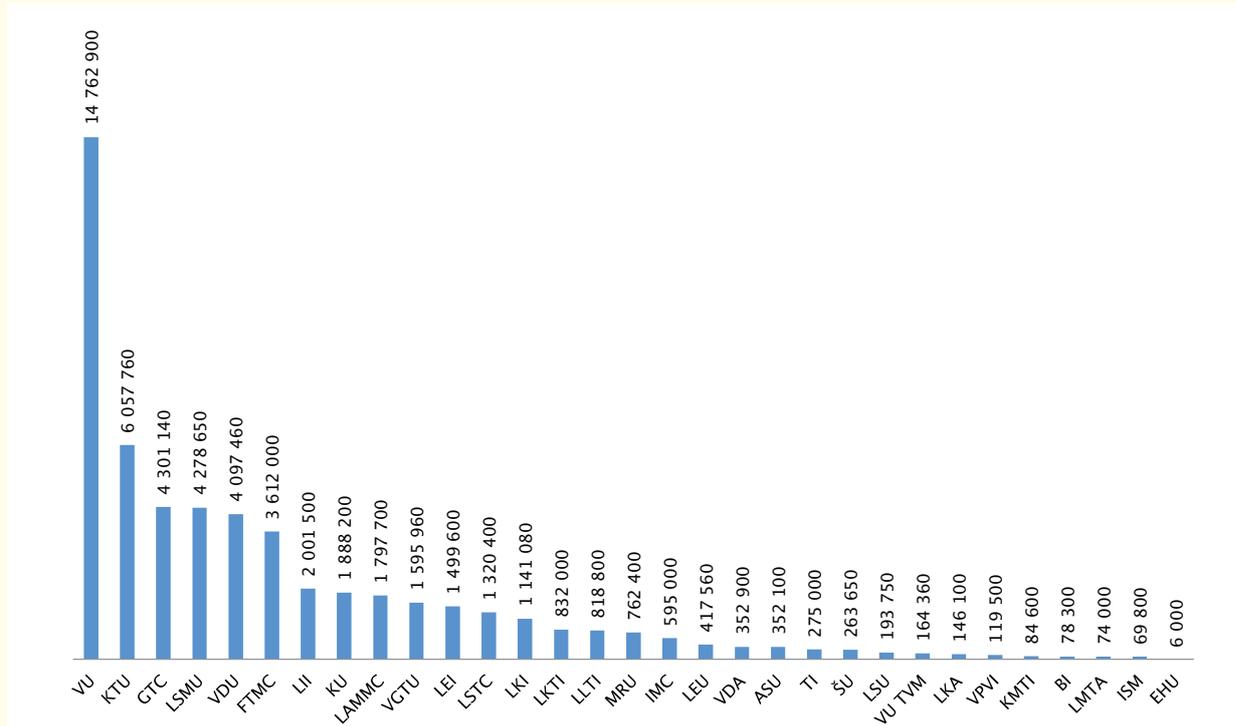


Figure 5. State funding allocated by RCL to Lithuanian higher education and research institutions in 2012 (LTL)

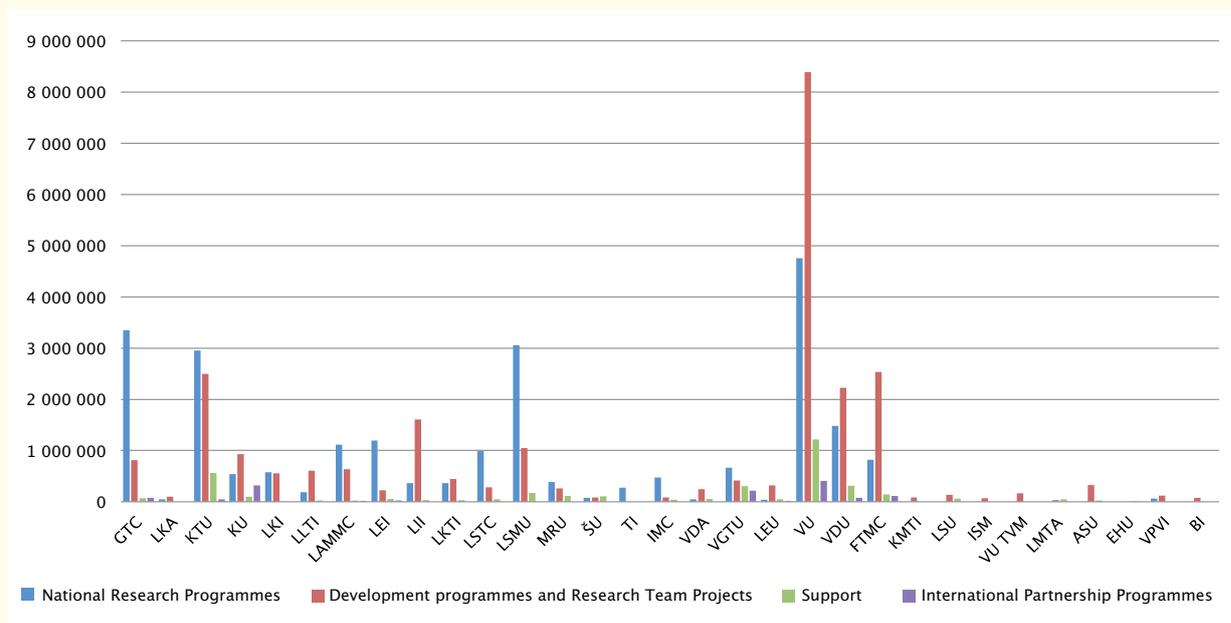


Figure 6. State funding allocated by RCL to Lithuanian higher education and research institutions in 2012, according to its funding programmes (LTL)

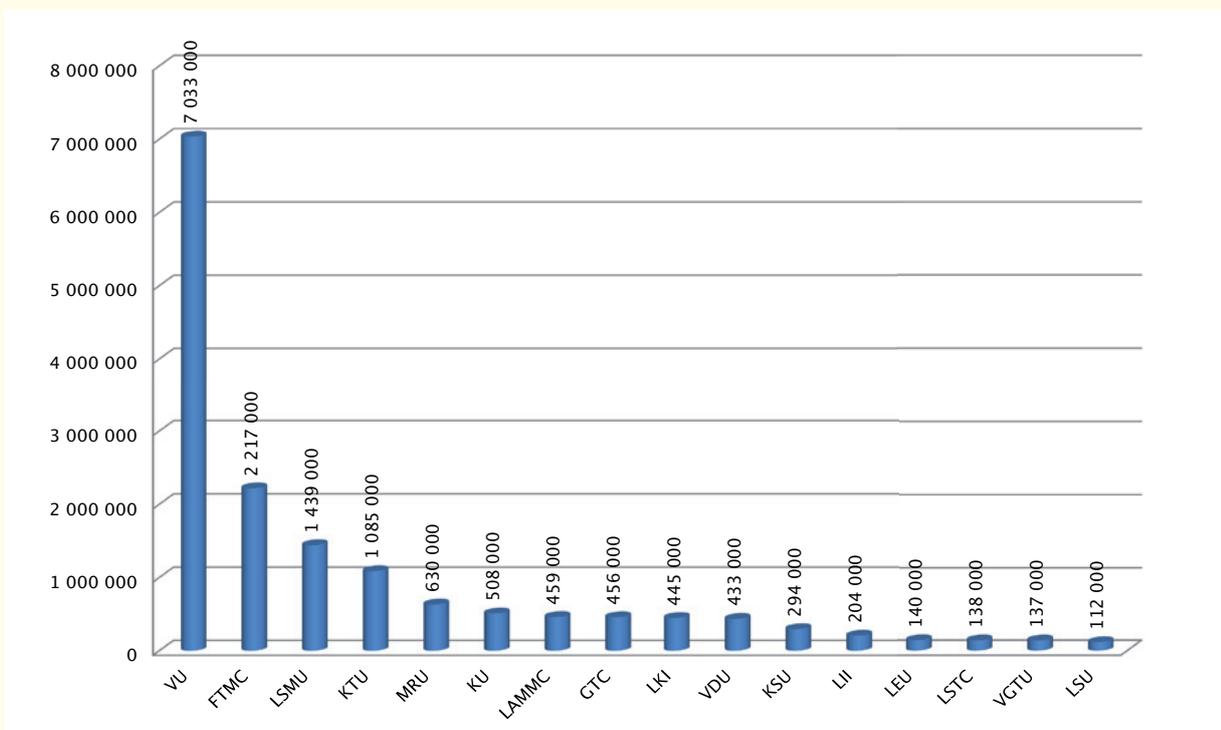


Figure 7. EU Structural Funds (Global Grant) allocated by RCL to Lithuanian higher education and research institutions in 2012 (LTL)

universities. Compared to previous years' rankings, Vilnius University has dropped since its 2008 position at 501+. Other above-mentioned Lithuanian universities started to figure in the ranking in 2012, but dropped in their position from 601+ to 701+ between 2012 and 2013. For comparison, two Estonian universities figure in the 2013 rankings, ranked between 441-470, and one Latvian university, ranked at 701+.

2.8 Summary

The Research Council of Lithuania is a key player in a complex and multi-faceted national landscape of research and higher education that has undergone substantial change in recent years. The country is seeking to modernise its economy through an increased emphasis on innovation, and the ability of the research and higher education system to support this will be a key factor in the success of this strategy. For these reasons, the decision of the RCL to commission this evaluation is timely and appropriate.

List of abbreviations	
ASU	Aleksandras Stulginskis University
BI	Institute of Biotechnology
EHU	European Humanities University
FTMC	Centre for Physical Sciences and Technology
GTC	Nature Research Centre
IMC	Centre of Innovative Medicine
ISM	ISM University of Management and Economics
LKA	The General Jonas Zemaitis Military Academy of Lithuania
KMTI	Space Science and Technology Institute
KSU	Kazimieras Simonavicius University
KTU	Kaunas University of Technology
KU	Klaipeda University
LAMMC	Lithuanian Research Centre for Agriculture and Forestry
LEI	Lithuanian Energy Institute
LEU	Lithuanian University of Educational Sciences
LII	Lithuanian Institute of History
LKI	Institute of Lithuanian Language
LKTI	Lithuanian Cultural Research Centre
LLTI	The Institute of Lithuanian Literature and Folklore
LMTA	Lithuanian Academy of Music and Theatre
LSTC	Lithuanian Social Research Centre
LSMU	Lithuanian University of Health Sciences
LSU	Lithuanian Sports University
MRU	Mykolas Romeris University
SU	Siauliai University
TI	Institute of Law
VDA	Vilnius Academy of Arts
VDU	Vytautas Magnus University
VGTU	Vilnius Gediminas Technical University
VPVI	Public Policy and Management Institute
VU	Vilnius University
VU TVM	International Business School at Vilnius University

3.

Findings of the Evaluation



The findings of the Evaluation Committee are summarised in this chapter under the agreed headings:

- I The assessment of the organisation**
 - a) Governance and management
 - b) Analysis of the strategy for the funding schemes
- II The assessment of the scientific quality of the Research Council**
 - a) The scientific quality and impact of its programmes
 - b) Its internationalisation

Conclusions and recommendations are summarised in the following chapters.

All these detailed findings must be viewed in the context of the substantial change that has been implemented in the Lithuanian national research and higher education landscape in recent years, with the RCL central to much of this. This change has brought the national system of research and higher education into greater alignment with international norms, improving its ability to compete. The RCL is to be congratulated for its achievements in leading and implementing substantial elements of this change and introducing numerous competitive funding schemes. It has delivered a transformation of the research funding system over the space of a few years, which has required considerable vision, strength of purpose and organisational ability. It is also noteworthy that the RCL has managed to achieve this while retaining strong support within the relevant sections of both government and the research community. One of a number of factors underpinning this support is the high quality of RCL personnel, both Council members and staff of the Research Foundation. The RCL is fortunate to be able to rely on the commitment of dedicated

and knowledgeable individuals, strongly committed to realising the full potential of the Lithuanian research system. However, gaps remain, and the current evaluation will point out the various areas where improvement is necessary in the opinion of the Evaluation Committee, while continuing to recognise the significant achievements of the RCL over the past five years.

3.1 RCL Governance and Management

Although this evaluation is focused on the RCL, it is important first to consider the situation of the RCL within the wider context of the Lithuanian R&D system. The Evaluation Committee was struck by the complexity of the various national mechanisms for funding and setting policy for higher education and research in Lithuania. We recognise that particular national circumstances govern the development of such systems, that international norms may not be appropriate within those circumstances, and that detailed consideration of the broader system is not in any event within the scope of this evaluation. However, we also note that the complexity of the system is likely to hinder in certain respects the ability of the Lithuanian research system, and the RCL, to compete internationally, and constrains to a large extent the freedom of operation of the RCL. We do not make any recommendations on the broader national system, since it is not within the scope of the evaluation, but we note it as a topic that might merit separate review.

The RCL serves, on the one hand, as an advisory body to the Parliament and to the Government and, on the other, following legal changes in 2008, as a

permanently functioning agency responsible for the competitive funding of research programmes. The RCL is a unique institution under the Parliament and members of the RCL are appointed by the Parliament. All higher education and research institutions are involved in suggesting membership for the RCL; however, the Minister of Education and Science finalises the list of candidates that then goes to Parliament.

The relationship with the Ministry of Education and Science is very close, but with the Ministry clearly playing the decisive role in arriving at major decisions. The expertise embodied in the RCL is certainly appreciated by the Ministry. However, the Evaluation Committee formed the impression that the Ministry does not see the RCL as a key strategic player in national plans for research and development, but primarily as a service for evaluation and disbursement of funds and as an advisory body when called upon. Perhaps a more formal structure of continuing science foresight and planning would yield a better result from the resources available. During the interviews it was not quite clear what the role of the Parliament is in strategy development, and hence what the role of the RCL is as an advisory body to the Parliament. For instance, the Lithuania 2030 Strategy was mentioned as having a chapter on research and education but it was stressed that the formulations were of a general nature. If the 2030 strategy is to be developed further then coordinated effort between ministries, the RCL as well as other agencies could pave the way for a more refined research and education agenda for the future.

A developing role for the RCL lies in the evaluation of research institutes and doctoral schools. The RCL certainly has the disciplinary expertise and the credibility within the system to play a more significant role here. If this role is to develop in the future, the mission of the RCL needs to be carefully defined in collaboration with the Ministry, and resourcing implications need to be examined.

One can distinguish, then, three roles for the RCL: a **research funding role**, a **policy advisory role** and an **emerging role in evaluation of research**. The first of these is quite clearly defined, albeit with some uncertainty around the role of the RCL in applied research. The real force of the policy advisory role is currently unclear, and the role in evaluation of research performed in Lithuanian higher education and research institutions is in the early stages of development.

The RCL commands significant respect from the Ministry as well as from the research community, and through its schemes, membership and networks has broad insight into and links with national and

international systems. These are important assets for the RCL and for the Lithuanian system of research and higher education. A more proactive role for the RCL in the development of research policy could enhance the process of setting national priorities in research and development. The Ministry and the RCL could in the future develop a more active partnership in this respect. This in turn also implies more intense and structured relationships with the Parliament on the one hand and the academic community on the other.

For the RCL to undertake a more strategic role would require a change of mindset not only within the broader system, but within the RCL itself. At the moment the RCL does not have a fully formed strategy even for its own future development. Apart from the fact that such a strategy would be welcome, it would have to be in accordance with a national R&D strategy. Thus, more meaningful discussions and more intensive ties between all relevant players would be welcome in developing strategies at all levels.

The RCL could be seen as an organisation that commands more respect than authority in the wider context of research policy in Lithuania. Its relationships with the Ministry and Parliament on the one hand and with the national and international research communities on the other mean that it has the potential to deliver greater value to the national system at a strategic level, and routes need to be found through which this can be achieved.

The RCL is one of many organisations in Lithuania involved in funding research, and the overall landscape is very complex. The Evaluation Committee met with seven R&D agencies with complementary and overlapping functions in the research system, and it was not always clear how responsibilities between the different organisations are distributed or shared. The Evaluation Committee has the impression that the current pattern of R&D agencies has not yet crystallised into the most optimum configuration for a relatively small country.

One of the most important and interesting relationships is between MITA and the RCL. In principle, the RCL is concerned with fundamental research, while MITA is concerned with applied research. In addition, the RCL and MITA belong to different levels of the overall 'political hierarchy' in decision making on research in Lithuania. MITA is an implementing body under two ministries, while the RCL reports to the Parliament. In actual day to day functioning, the responsibilities of the

RCL and MITA are sometimes hard to delimit. An RCL-MITA coordination body exists, and is primarily focused on exchanging materials on applications.

A higher level of collaboration should be encouraged between the RCL and MITA, including the production of a joint vision that could inform future research and innovation strategy for Lithuania. The national goal of 1.9% R&D expenditure/GDP, with half of the expenditure coming from business investment, is an ambitious one. The targeted increase in business expenditure on R&D will require particular attention within the system, and will necessitate a closer and more strategic relationship between the RCL and MITA. The need for the RCL to have a more prominent role in supporting and developing applied research is discussed further in the next section.

The relationships with other agencies should be considered in the same way. More specifically, more focused coordination would be welcome with the Academy of Sciences, LVPA, ESFA, CPVA as well as MOSTA, overcoming overlaps on one hand and on the other coordinating deadlines and activities. A higher level of coordination between all relevant bodies could pave the way for producing a joint vision that could determine a future research and education strategy for Lithuania.

The research and innovation system in Lithuania would benefit from more formal and regular communication and interaction between the RCL and other agencies. The relationship between the RCL and MITA, or more broadly between the Ministry of Education, Ministry of Economy, the RCL and MITA, merits particular attention, given the national target for significant increase in business expenditure on R&D. This might include formal representation of industrial/economic interests on the RCL.

The Evaluation Committee believes that the RCL would benefit from a repositioning of the boundary between governance and management. Too many relatively low level management and bureaucratic issues are brought to the RCL Committees, leaving them short of time to devote to wider issues of research policy and strategy. The relationship between the two Committees and the Research Foundation staff is very close, if not too close, with the staff having to consult with members of the Committees in relation to very minor changes to projects that are underway. Empowering the staff of the Research Foundation to deal with issues of lesser importance could effectively open up space

for Committees to deal with larger strategic issues.

A related complaint arose in a number of meetings, concerning the heavily prescriptive and time-consuming micro-management of expenditure on research projects. While not initiated by the RCL but due to requirements from the Ministry of Finances, this is implemented there and consumes enormous effort on the part of the RCL and of researchers, to no productive end. It also damages the relationship between the RCL and its funded researchers, who feel that they are not trusted to manage minor changes in the progress of their projects. In comparable international systems, researchers have the freedom to make minor spending adjustments within the overall budget envelope, recognising that the detail of scientific advancement cannot be predicted years in advance.

Additional freedoms, consistent with those that are the norm internationally, need to be permitted to researchers, and the RCL needs to rid itself of much micro-management and devolve some remaining routine oversight to staff in the Research Foundation, so that the time freed up is used by the RCL to expand its strategic capacity.

RCL issues ethical guidelines for its research funding and evaluation activities via a dedicated Commission. However, these should be further developed in collaboration with the recently elected national Supervisor for Academic Ethics and Procedure. The internal RCL Research Integrity Commission could together with the Supervisor clarify issues of conflict of interest such as whether or not RCL members are allowed to compete for RCL project funding. In principle, a division of labour on questions pertaining to research integrity should be achieved between the RCL Ethics body and the Supervisor.

The ethical guidelines and procedures for examination of infringements of ethical principles should be further developed in an appropriate relationship with the Supervisor for Academic Ethics and Procedure.

3.2 RCL Strategy for its Funding Schemes

Central aims of any research council are to foster research excellence, and to assure the state (as the main funder) and the research community (as the main constituency) that research funds are allo-

cated to the best research and/or best researchers. This holds for established research councils as well as younger research councils such as the RCL. These aims apply to both research funds for the development of scientific knowledge *per se* and research funds targeted at specific national and strategic priorities.

In Lithuania, fostering research excellence is intricately connected to the national aim to strengthen the national research system. This is a real challenge for a country that regained independence only a short time ago, and is seeking to compete with historically research intensive societies. Lithuania is in need of a balanced set of funding instruments, contributing to a set of more specific strategic aims. This implication addresses not only the RCL, but also the other players in the research system. Appropriate balance should be sought across type and scale of funding schemes, along the spectrum from fundamental to applied research and across research disciplines.

Over the past five years, the RCL has very quickly developed a diverse research funding portfolio ranging from instruments that provide researchers with a substantial grant, such as the Researcher Teams' Projects, to instruments that give small extra funding for only one aspect of research, such as the programme for small travel grants. The Evaluation Committee has counted 28 programmes in total, but it is indicative that none of the official documents consulted nor the RCL website had a full list of these programmes.¹⁴

We can identify six kinds of programmes:

1. Three **programmes funding research projects** of substantial size through a fully open competition;
2. Three **programmes aiming to fund national priorities**, including the programmes on Lithuanian studies and on economics;
3. Four **schemes to promote the integration of Lithuanian research** into the European research area;
4. Six **bilateral programmes** with selected countries;
5. Four **programmes fostering research careers** of young researchers;
6. Four **funding schemes providing subsidies** for specific aspects of the research process.

There is no overarching strategic document that has guided the development of the portfolio of funding programmes. Instead the RCL has responded to the needs and opportunities of the Parliament, the

Government, the European Framework Programme, the EU Structural Funds and international bilateral relationships.

In its self-evaluation report the RCL lists **five strategic objectives** for its funding programmes: **fostering excellence, internationalisation, national priorities, development of research careers and dissemination of scientific results**. In the self-evaluation report, RCL has scored most of the funding programmes against these goals, as a result of a survey of the RCL members and staff. The results of the survey are displayed in Table 1.

The Evaluation Committee has related the scores from the survey to the actual budget figures for each of the programmes over the years 2009-2012 (Figure 8). The results show that 40% of the budget was used for fostering excellence and 30% on national priorities. About 20% was spent on research careers and 10% on internationalisation, respectively, while the budget for dissemination was 1%.

It can be noted that, while spending on most priorities grew between 2009 and 2012, there was a slight decrease in support for research careers between 2011 and 2012 (although increasing sharply between 2009 and 2012). It would be in the future interest of the Lithuanian research system to maintain attention and investments on this strategic priority.

Despite the fact that the RCL self-evaluation report characterises internationalisation as a horizontal priority, only about 10% of RCL funding is reserved for this strategic objective of considerable importance given the size of the country. In addition, as the section on internationalisation further in this report indicates, the state budget share for international cooperation programmes has decreased between 2010 and 2012, meaning that most of these activities are funded from EU Structural Funds.

Figure 9 shows the distribution of research funding by discipline. In both of these cases, it is important that the funding breakdown be in accordance with agreed strategic objectives, and that it be monitored on a continuing basis.

The RCL and the research community would benefit from an agreed and systematic approach to the definition of national research objectives and the corresponding development of an appropriately balanced set of funding programmes. Decision making around this should be more explicit and more visible, and engage a broad range of stakeholders.

14. Appendix 6 of the self-evaluation report is the most complete list of 28 programmes

Table 1. The correspondence of the RCL funding schemes to the strategic goals (as perceived by 66 RCL members and Research Foundation staff)

	Fostering excellent science and ensuring adequate level of research	Fostering international dimension of research	Addressing pressing state issues (including innovation)	Ensuring the development of researchers' careers	Strengthening the dissemination of scientific achievements
National research programmes (6)	26.7%		70.0%		
Global Grant	69.0%	13.8%	6.9%	8.6%	
Lithuanian-Swiss cooperation programme	20.3%	66.1%		8.5%	
Researcher teams' projects	70.2%	10.5%	8.8%	7.0%	
National Development Programme for Lithuanian Studies 2009-2015	36.2%		55.2%	5.2%	
BONUS, JPI, ERA-net schemes (e.g., Mera-net, BiodivERsA)	6.9%	82.8%	10.3%		
International partnership programmes (bilateral agreements)	6.9%	84.5%	5.2%		
COST programme	6.9%	81.0%	5.2%		
Postdoctoral fellowships	13.8%			82.8%	
Support for research visits	8.3%	51.7%		26.7%	13.3%
Support for scientific events	10.0%	10.0%		6.7%	73.3%
Support for the publication of research results	6.9%	17.2%			72.4%
Promotional scholarships for doctoral candidates	26.2%		5.0%	67.2%	
Support for students' research activities	27.9%			60.7%	8.2%

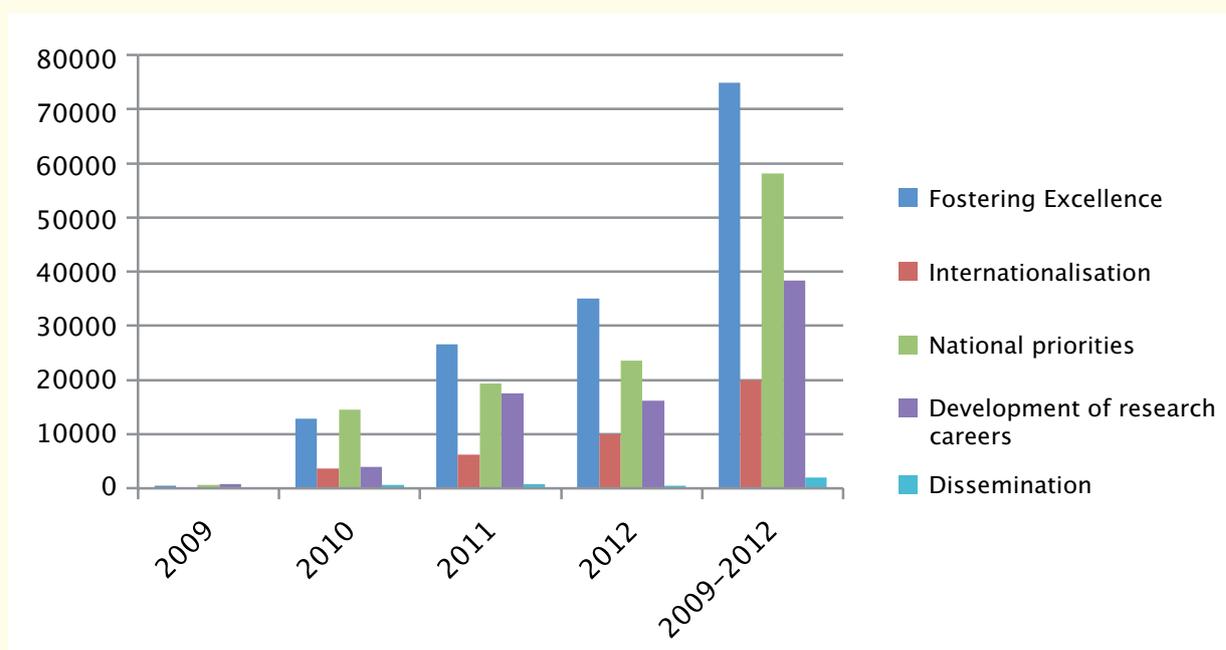


Figure 8. RCL budget portfolio according to strategic objectives, 2009-2012 (in thousand LTL)

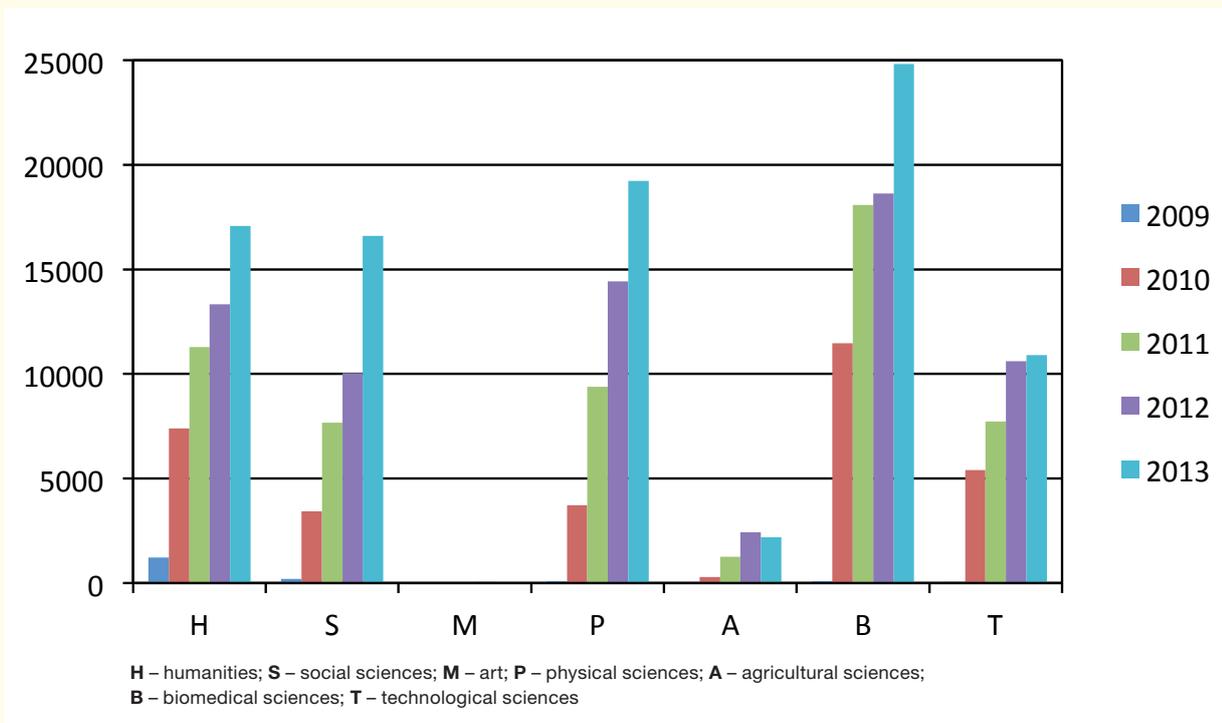


Figure 9. The funding of research in Lithuania through the RCL, 2009-2013 (in thousand LTL)

The balance of funding should be monitored on a continuing basis, and assessed against the agreed objectives. Two areas of the portfolio that merit particular examination are the support of early-career researchers and international mobility of researchers. These could be embedded within other grant schemes where possible, to avoid further proliferation of calls and small grants.

Referring to the RCL booklet¹⁵ there were, in the period from 2009 to 2012, 130 calls for proposals: 6,000 proposals were received and 2,200 projects funded. This means on average 42 calls for proposals per year. Such a large number of calls each year is complicated for the research community to follow, and represents a heavy workload for the RCL. For comparison, the Academy of Finland, whose annual research funding budget is much larger (327 M€ in 2012) processed 3,724 proposals in 2012. The RCL, with the total sum for competitive research funding in 2012 of 21 M€, processed 1,500 proposals. The RCL should consider having fewer calls in the future. Cutting down the number of calls would also be beneficial for improving the administrative capacity of the RCL. During the interviews with the RCL staff, it became clear that procedures among the various schemes would benefit from being har-

monised wherever possible. This is more difficult to achieve when administrative capacity is absorbed by a very large number of calls.

There were 141 projects financed in the National Lithuanian Studies Development Programme in 2012 with an average size of 38,719 LTL (18,500 €) per year, and in the National Research Programmes (NRP) there were 144 projects funded, of average size of 165,000 LTL (11,260 €) per year. Larger size grants are offered by the thematically open schemes such as Researcher Teams' Projects and particularly the Global Grant scheme. 241 Researcher Teams' projects have been awarded with an average size of 80,000 LTL (23,000 €) per year. For the second call of the Global Grant, 35 projects were awarded with the average allocated amount per year being approximately 380,952 LTL (110,331 €). The Global Grant scheme offers the largest grants disbursed by the RCL and was meant also to attract foreign talent.

Various researchers interviewed highlighted the two latter schemes as the most sought after in the research community, and this demand is also demonstrated by lower success rates for the two schemes than, for instance, for the National Research Programmes. This is most likely due to the bottom-up nature of the calls (researchers can submit projects on any topic) as well as the larger size of the grants awarded. These schemes build the capacity of researchers, allowing them to manage a research project in an independent fashion (e.g., grants of sufficient size to allow for engaging a small

15. *Research Council of Lithuania: 2011-2012. Start of the new decade.* Vilnius.

team of researchers and acquiring the required equipment). Streamlining funding opportunities and increasing the size of grants is likely to raise the quality and the impact of the work as well as strengthen the international collaborative potential of the research teams.

However, as mentioned before, support for the development of researcher careers should also be available at an appropriate scale. At the moment, there are a large number of small scale support activities which might be streamlined. Postdoctoral fellowships are the largest instrument for building research careers, funded by EU Structural Funds. The total budget for this scheme in 2012 amounted to 5,792 600 LTL (1.6 M€). In general, it would seem that the largest RCL instruments are aimed at established researchers and those with at least some years of independent research. Therefore, attention should be paid to ensuring that early post-doctoral researchers have sufficient opportunities – either through dedicated schemes or indirectly via schemes supporting larger research projects.

RCL funding programmes and calls require streamlining, with a need for increased emphasis on larger grants that are likely to raise quality, impact and international competitiveness. This does not rule out the establishment of new programmes, particularly ones with a focus on innovation, or on supporting various stages of research careers, but this should be undertaken with an eye to appropriate scale and efficiency.

Among all organisations in Lithuania involved in funding research, the RCL has a prime role in fostering research excellence, internationalisation and research career grants. The main overlap with other organisations is in the funding of national priorities. The RCL manages the national programmes. Apart from the National Lithuanian studies development programme and the long-term institution-based programme in economic research, there are six National Research Programmes formulated after consultation with the relevant communities. Such national programmes are important and may function in two ways: to the Government and wider society they indicate the importance of research for the development of Lithuania over longer periods of time, and to the research community they present a challenge to coordinate knowledge development in order to enhance research in such areas.

In addition to the National Research Programmes there are several other priority lists, like those on national complex research pro-

grammes, valleys and smart specialisation, either related to funding schemes of other agencies or to the EU Structural Funds – the latest being the proposed list of smart specialisations in a report from MOSTA.¹⁶ Though there is some overlap in the fields chosen, the Evaluation Committee doubts whether it is effective to have the RCL and the other agencies each formulate their own national priorities. To our regret we found little evidence that the RCL is actively involved in innovation policy. Coordination with other organisations and especially with MITA seems to aim at avoiding overlap, instead of realising synergy.

For the development of the research system of Lithuania it is of the utmost importance that scientific research is well connected and integrated into the broader knowledge and innovation system. The National Research Programmes are the appropriate instruments for this. The Evaluation Committee sees two main challenges: (i) in the social sciences and humanities, to develop national programmes that contribute to the socio-cultural and economic development of Lithuania as a modern state within Europe and in the broader global context; (ii) in the sciences, engineering and medicine, to develop programmes that link scientific research to the development of the valleys and smart specialisation.

The strategic choices before the RCL relating to applied research and innovation, the governance implications of which were raised in the last section, require further comment. Applied research and the economic impact of research is, naturally, the subject of considerable attention in Lithuania, as in other countries. To date, the RCL has not had significant involvement in this area. The RCL should consider the extent to which it wishes to involve itself in this area, and the mechanisms it might use.

The RCL could of course choose to exclusively pursue its role as currently defined in the support of fundamental science, a role it is exercising to considerable national satisfaction. However, it is likely to find its position eroded over time as the centre of gravity in research funding (domestically and internationally) moves in the direction of applied research. If it wants to maintain and expand its position it should look to expand its horizons.

To other stakeholders in this area, it should be emphasised that the development of the applied research resource nationally will not succeed if it pro-

16. <http://www.mosta.lt/en/reports-and-analyses>

ceeds without reference to the fundamental research resource that has been built up over a considerable period of time. In the RCL, they have an organisation that has successfully implemented best practice, that has an understanding of and the support of the best national researchers, and that can be used more effectively in pursuit of national goals for innovation.

The RCL should seek to come up with programmes for the next round of Structural Funds that support the scientific underpinning of the valleys, joining forces with MITA and other organisations in building up competences within the valleys based on smart specialisation. The ability to implement joint research and business projects within specific prioritised areas in a coordinated effort between different stakeholders, including RCL, could have a significant impact on the economic development of Lithuania in the future.

There are different ways to develop this kind of cooperation. Possible programmes (drawn from international examples) that link scientific research groups with industrial activities include:

- Co-funding of PhDs based in research groups but linked closely with industry (including industrial and cooperative doctorates);
- Funding sabbaticals of academic researchers in industry (domestically or internationally) or industrial researchers in Lithuanian research groups;
- Launching research funding schemes that are evaluated on the basis of both fundamental science and the impact on the national innovation goals, possibly requiring some element of co-funding by industry.

An expansion of the RCL funding in this direction should be undertaken in collaboration with MITA.

It would be beneficial for the RCL to consider how its portfolio can be expanded in the direction of applied research, without losing the focus on excellence in fundamental research that has characterised its ambitions to date. This could be undertaken in collaboration with MITA, so as to enhance coherence and avoid unproductive proliferation of programmes.

3.3 Scientific Quality and Impact of RCL Programmes

The RCL was established in 1991, and radically reorganised in 2007. This reorganisation is viewed by the Evaluation Committee and by stakeholders interviewed during the review as an extremely positive and necessary step in the modernisation of the Lithuanian research system. It has resulted in a merit-based competitive allocation of research funding better aligned to international norms. In principle this creates opportunities for new researchers, new research fields and new ideas, and improves the ability of the national research system to compete internationally.

This review has not assessed separate programmes or projects funded by the RCL – that would require a more detailed review. We have investigated whether the operation of the RCL and the quality processes of the RCL are consistent with the standards that research councils internationally have developed over time. We have also considered the nature of the international published output attributable to RCL funding.

The leadership of the RCL has a strong awareness of international standards in research and research funding allocation, and is committed to continuous improvement of the RCL rules and procedures. The quality and fairness of selection procedures were attested to by a large number of the stakeholders interviewed during the review, while some areas of improvement have also been mentioned.

The Review Process

The RCL calls for proposals are announced on the RCL website, and applicants submit their proposals via an electronic form. Prior to any evaluation, the staff of the Research Foundation check all proposals for eligibility. The evaluation of research project proposals is undertaken by the expert panels set up by the RCL Committees, with members required to evaluate their allocated proposals prior to panel meetings and joint decisions reached at the panel meeting. A rebuttal (right to response by the applicant) is a built-in part of the review process; although the time given to the applicants to respond to the panel's preliminary evaluation is only three working days.

As expert panels are limited in size and cannot contain expertise in all scientific domains, it would be advisable – especially for larger, thematically open funding calls – to consider introducing remote peer review (with reviewers being different from expert panel members) prior to panel evaluations. It is normal practice to have two to three external

expert reviewers per proposal. Where it is the panel members who evaluate proposals individually, it is also recommended that at least two of them are assigned to each proposal.

It would be advisable to adjust the peer review process for larger thematically open calls so that it involves remote international peer reviewers different from the expert panel members responsible for final prioritisation of projects.

Another area for quality improvement relates to the pool of experts used by the RCL to evaluate grant applications. In small countries the number of competent peers is small, and those countries (such as the Scandinavian countries and the Netherlands) heavily depend on international peer reviewers. In practice, this requires applications to be written in English. At the moment, out of all RCL funding schemes, only the Global Grant call and the Lithuanian-Swiss Cooperation Programme 'Research and Development' invite proposals in English, thereby allowing international evaluators to be involved in the selection process. The use of international evaluators is advantageous for many reasons: benchmarking against international standards, international exposure for Lithuanian research and avoidance of conflicts of interest that arise in a small community. In the same vein, all application procedures and evaluation criteria and processes should be made available in English on the RCL website.

It is advisable that grant applications are submitted in English (and also in Lithuanian, where required by law) and that a higher proportion of international experts (including Lithuanian expatriates) is used to evaluate such applications.

There is no detailed document describing the RCL definitions of conflict of interest. Instead, for various schemes, a simple one-page schematic chart is provided depicting whether applicants can be members of the Council, the expert panel, the programme drafting group, or the Research Foundation. Thus, in the case of National Research Programmes, applicants cannot be part of any of the above. In the case of Researcher Teams' grants, however, applicants can be members of the Council, and in the case of the national Lithuanian studies development programme, applicants can be both members of the Council and the Programme's drafting group. The latter two cases require consideration by the RCL.

Conflict of interest rules need to be harmonised for various schemes and described in detail in one document which should be available on the RCL website. The rules would normally address both perceived and real conflicts of interest.

Another aspect of the application procedures that was raised during interviews concerns the feedback supplied to applicants, which was described by some of the researchers interviewed as short and could have been more insightful. Such criticism is a general (and not a specific Lithuanian) issue when discussing peer review based selection processes, and so no specific recommendations are made in this regard, but the RCL may wish to consider the issue.

Finally, when examining RCL guidelines for experts evaluating proposals for RCL various schemes, the Evaluation Committee did not see any particular provisions for the evaluation of inter-, multi-, cross- and transdisciplinary proposals. It might be worthwhile to develop an appropriate set of procedures for evaluating such proposals, especially in the context of the apparent increase of importance of 'problem focused' research. It would be important for the RCL to monitor on a regular basis that the success rate of mono- and interdisciplinary proposals is similar.

Impact of the RCL programmes

The impact of the RCL programmes is difficult to assess as yet. Such impact is a lagging indicator, and cannot easily be quantified at this stage in a system that has recently undergone substantial change. As a preliminary and partial indicator, we show in Figures 10 and 11 the output of Lithuanian researchers in international journals as indexed in two citation databases, Web of Science (WoS) and Scopus. Of course, this is not the full output of research, and much other output – such as patents and artefacts, books, reports and national language written output – is also relevant, especially in engineering, social sciences and arts and humanities. On the other hand, high quality national and applied research outcomes are expected to correlate with international output and visibility.

The graphs suggest that research output increased very significantly just before 2007-2008, with a more gradual increase since then. As the changes within the RCL took place in 2007, it cannot be this change that resulted in the period of greatest increase. It is more likely that the sharp growth in output and the reorganisation of the RCL are both

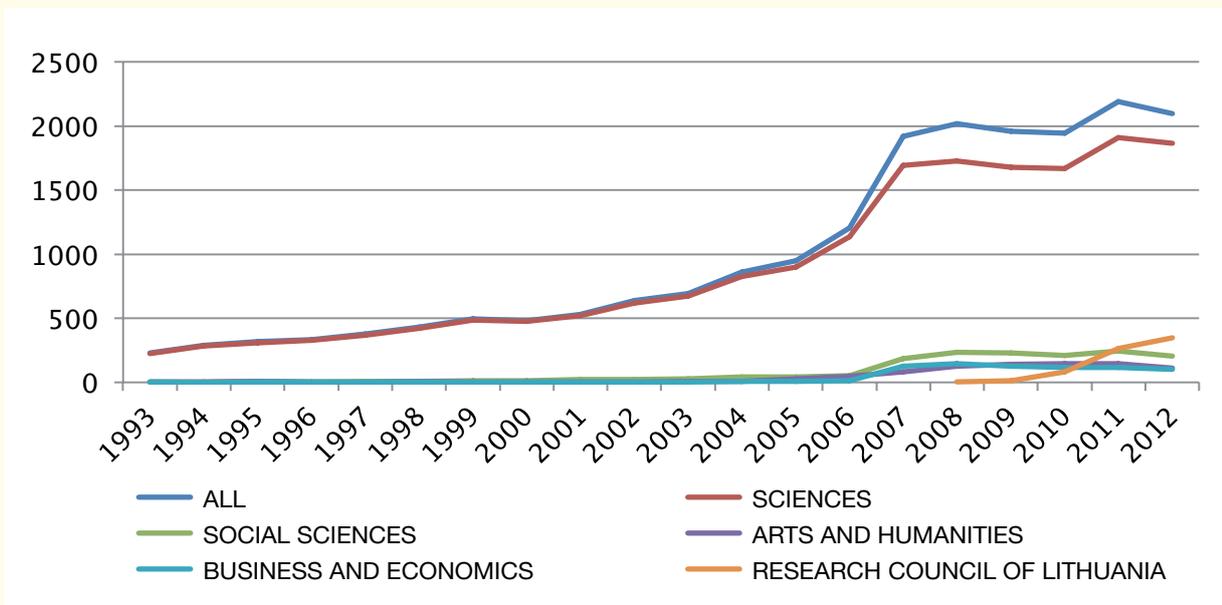


Figure 10. Growth of output – Web of Science – various domains.

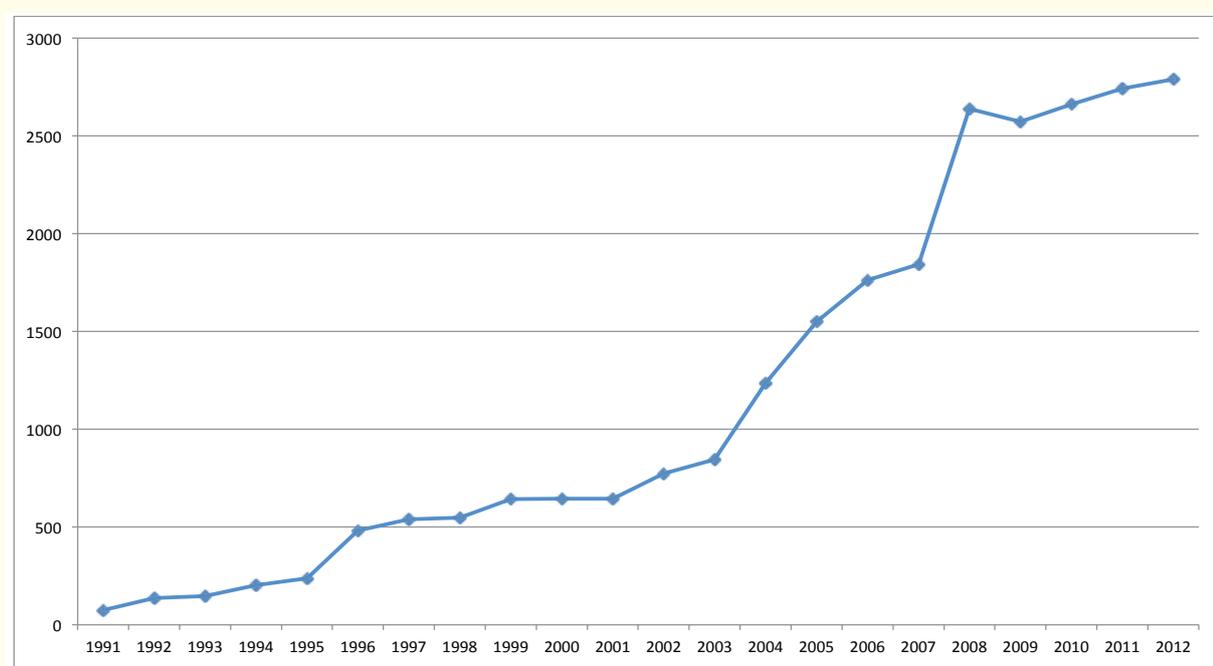


Figure 11. Number of articles, reviews and conference papers with affiliation country Lithuania, Scopus

the effect of other processes that took place in the Lithuanian research system. It can also be said that as research activity (by this measure) grew significantly, the necessity for better practices in grant evaluation and disbursement also grew, and that the RCL has done a good job of managing this newly enlarged activity.

As the WoS now includes information about funding, the number of papers with a reference to the RCL can be identified from about 2007 onwards. As Figure 10 shows, this number has increased over recent years, with 16% of the papers with a Lithuanian address in 2012 containing a reference

to the RCL.¹⁷ This is probably an underestimate, as some papers may have incorrectly referred to the

17. The following acknowledgments were included:

- Lithuanian Research Council
- Lithuanian Science Council
- Lithuanian Science Council Student Research Fellowship Award
- Lithuanian Science Foundation
- Lithuanian Scientific Council
- Research Council Of Lithuania
- Research Foundation Of The Research Council Of Lithuania
- Science Council Of Lithuania
- Lithuanian Council Of Science

Not included are the various Ministries and the acknowledgements to universities and research institutes or the acknowledgements to MITA in its various versions.

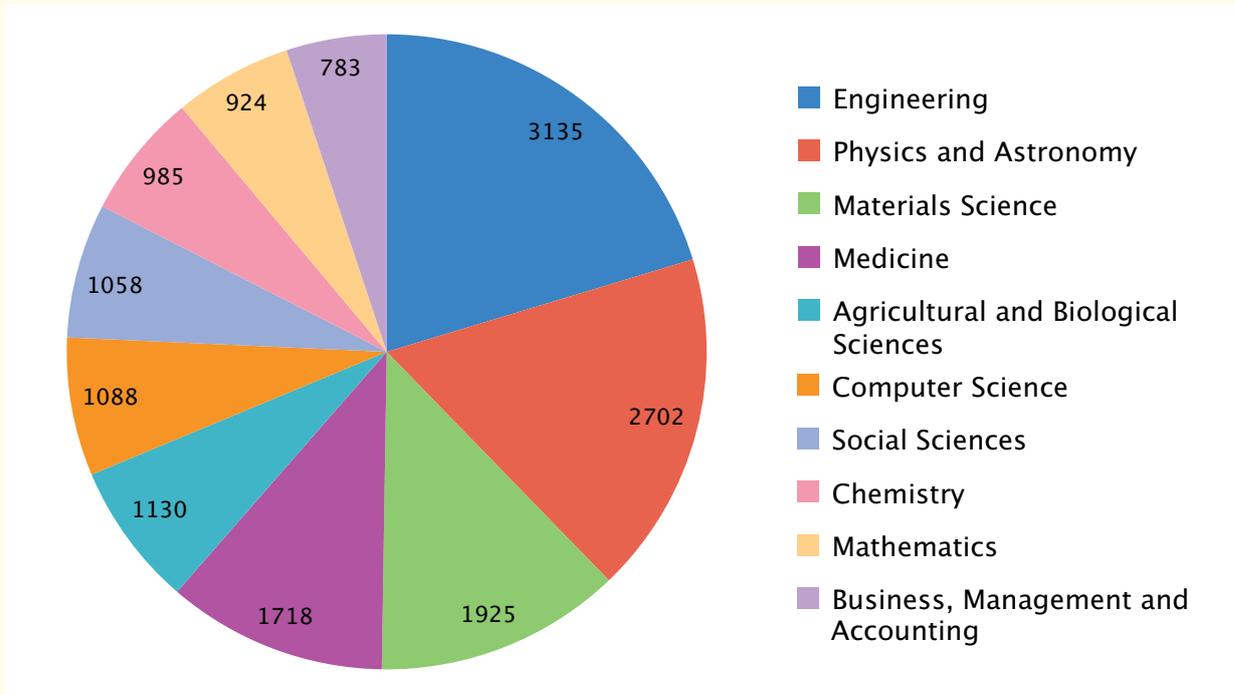


Figure 12. Scholarly output by journal category, Lithuania, 2008-2012, Scopus

RCL, or used a variety of names not identified in WoS. On the other hand, the selected references may also contain non-RCL funders. Such gaps or mismatches in attribution make it more difficult for the RCL to assess the impact of RCL funded work going forward, and it is advisable that the RCL take steps to address this.

To track impact of research over time, it is important that all publications arising from research funded by the RCL reference the RCL support in an agreed fashion, so that they can be captured systematically, and that such referencing be monitored to ensure compliance. Measures such as grant supplements or other incentives might increase the number of publications in high impact, peer reviewed, international journals.

According to the Scopus data on scholarly output per journal category during 2008-2012 (Figure 12), the most prolific publication categories with Lithuania as affiliation country are Engineering, Physics and Astronomy, Materials Science, Medicine, and Agricultural and Biological Sciences.

The distribution of publications by discipline in the WoS that reference RCL support is shown in Figure 13. The blue bar represents the share of all Lithuanian publications for the different research fields during 2008-2012; the red bar does the same for those Lithuanian publications that have a reference to the RCL.

The strong relative showing of the physical and mathematical sciences and engineering in both measures could be expected, given their share of RCL funding (Figure 9) and the traditional strength of these disciplines in the Lithuanian research system. The low level of output in both databases under the biological science categories, on the other hand, does not reflect the funding share shown in Figure 9, and merits further investigation by the RCL. The share for humanities and social sciences is also low, but this may reflect the publication outlets in these disciplines and also an emphasis on Lithuanian culture and language at the expense of international profile.

The bibliometric exercise that can be conducted at this stage is a necessarily incomplete evaluation of the impact of research funded by the RCL. Funding agencies internationally are developing broader categorisations of the scientific, economic and societal impact of research, and applicants for research funding from these agencies are expected to be able to describe the expected impact in a detailed quantitative fashion. We did not receive the sense that the RCL has as yet grappled with this topic. The RCL needs to consider setting up a framework for evaluating broader impact of research and develop appropriate methodologies (e.g., counterfactual methodologies) to isolate impact.

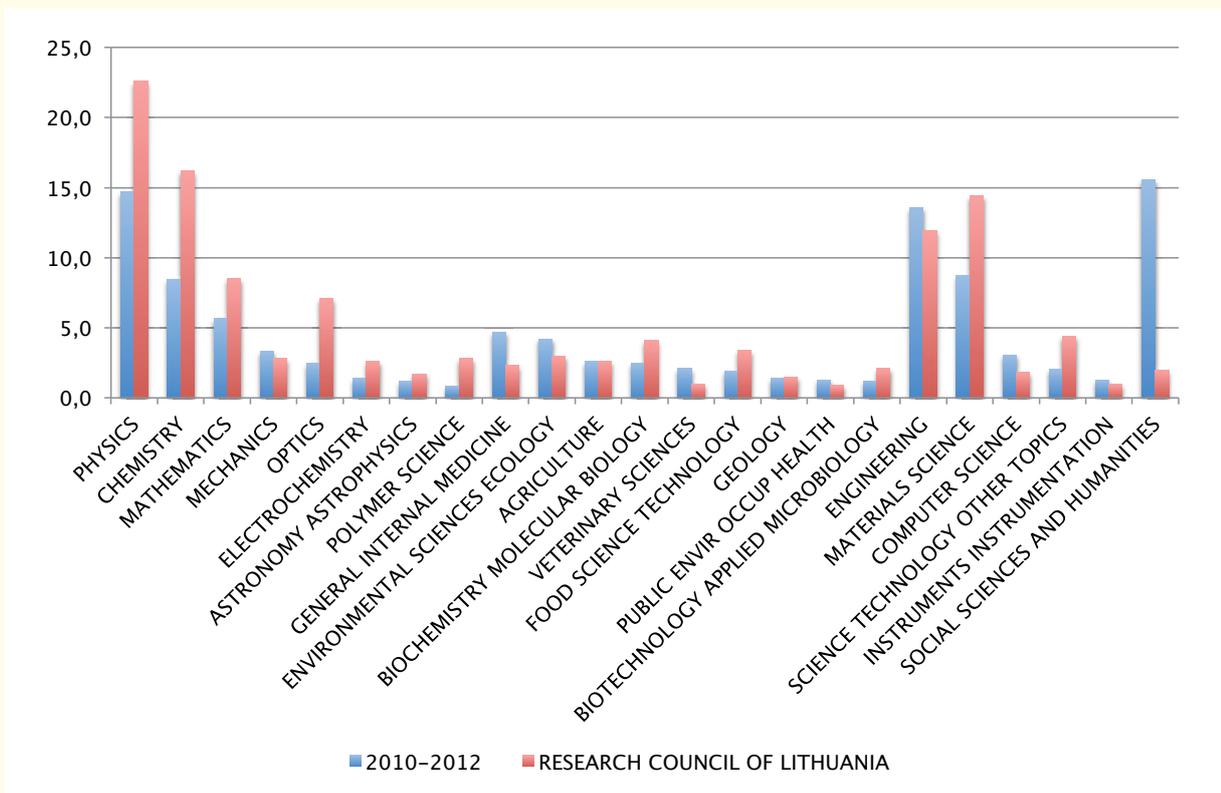


Figure 13: Distribution of papers by discipline. All Lithuanian publications (blue bars) and all Lithuanian publications with RCL acknowledgement (red bars)

The question of research impact needs to be considered, with both the RCL and its applicants developing an evidence based articulation of the expected impact of RCL funded research.

To underpin its articulation and delivery of impact, it would be important for the RCL to develop a strategic document defining its funding priorities and measurable objectives, as part of an overall evaluation framework and methodologies for the regular evaluation of success or impact of the supported programmes and of individual projects.

To support an evaluation of impact, the RCL will require data about the outputs and outcomes of funded projects. Currently, the RCL collects this data in an unsystematic way, and does not have appropriate mechanisms to assess the impact of the funded research. Since most of the RCL funding schemes have begun only recently, it is important to set up mechanisms for data collection from the start and to exploit the data already available (e.g., project final reports or proposals). Various methodologies for impact assessment should be explored based on international good practice. To facilitate counterfactual analysis, data on unsuccessful applicants should be retained.

Data collection for evaluation purposes could be rationalised and standardised, for example through an annual electronically administered census of funded researchers.

3.4 RCL Internationalisation

Although some progress has been made in recent years, the internationalisation of higher education and research in Lithuania is developing slowly and has not yet reached a level that could be called satisfactory. While measuring internationalisation¹⁸ is a complex endeavour, a funding agency can develop a number of indicators, related to knowledge production and circulation, funding flows or its governance and processes. RCL does not yet have a system of indicators to evaluate its progress in enhancing internationalisation, and the Evaluation Committee therefore has looked at available indicators and data from international databases and country reports.

According to the SCImago Journal and country rank, the share of international co-publications (pub-

18. For the list of possible indicators of internationalisation, please see a report by the ESF Member Organisation Forum on Evaluation *Indicators of Internationalisation for Research Institutions: a new approach*. http://www.esf.org/fileadmin/Public_documents/Publications/mof_indicators2.pdf

lications with authors from more than one country) in Lithuania was rather high during 1996 and 2010 (almost 50% at its peak in 1999), but the overall trend was downwards, dropping to 29% in 2010. Since then, the share increased to 36% in 2012, coming closer to the average for Western Europe.¹⁹ By comparison, countries such as Estonia, Slovenia and Hungary have demonstrated a more steady growth over the last decade, reaching 45-55% in 2012. When looking at the number of international scientific co-publications per million population, the numbers increase steadily during 2000-2012, but remain rather low (265 in 2011) compared to the EU average (300), and even lower compared to other new EU members such as Estonia, Slovenia and Hungary. A country such as Lithuania should be seeking to outperform the EU average in internationalisation indicators, as it seeks to learn from international best practice.

With regard to attracting EU funding, the Evaluation Committee looked at the participation of Lithuanian researchers in international funding programmes (FP7, ERC, Marie Curie actions, etc.). By March 2013, the number of Lithuanian applicants for FP7 reached 1,744, with 20.3% of them receiving funding, which is lower than the EU average.²⁰ In comparison with FP6, Lithuanian applicants are becoming more active in applying for funding but the success rate has been decreasing over time. Lithuania is 24th (out of 27) by the number of signed contracts and 25th by budget share, receiving less EU contribution per participant than most EU member states. Lithuania has no ERC grantees to date, with the total number of applications during 2007-2012 being 51.

Internationalisation of research is seen as a “horizontal priority” by the RCL²¹ and it is mainstreamed throughout the existing funding schemes. However, the RCL has yet to develop a strategy and a set of specific priorities, objectives and indicators which could help to measure and evaluate internationalisation and the success of RCL funding schemes in this regard. It would be important to monitor for instance the share of non-Lithuanian applicants and grantees of the RCL.

The international dimension of research is dominantly fostered through bi- and trilateral agreements (with Switzerland, Belarus, France, Ukraine, Latvia and Taiwan), funding from the EU Structural Funds, a number of ERA-Nets and related schemes, and COST actions. In particular, the Global Grant scheme funded by the EU Structural Funds has been

highlighted as an appropriate scheme to attract back Lithuanian researchers from abroad as well as to attract top foreign researchers into Lithuania. However, as some of these funds, in particular funding channelled through the Structural Funds, may vary from year to year, no proper stability of funding internationalisation activities in research can be achieved.

In terms of funding, the Evaluation Committee also noted that despite the fact that internationalisation is characterised as a horizontal priority, hardly any funds are made available by the RCL from the national budget for internationalisation activities. In addition, the state budget share for RCL international research programmes and international commitments has decreased since 2010.²²

An appropriate medium- to long-term strategy (including timeline, goals, indicators, and evaluation mechanisms) for the internationalisation of research is needed in Lithuania and state budget funds need to be earmarked for internationalisation activities (including attracting researchers abroad back to Lithuania).

The importance of using international peer reviewers and of incentivising publication in high impact international journals has been highlighted in the last section.

Mobility of researchers is another important indicator of internationalisation. While outward mobility of Lithuanian researchers is increasing, it is largely dominated by short international visits (up to 60% of the researchers go abroad for no more than three months).²³ About 10% of researchers stay in foreign research or scientific institutions for longer than one year. Only about 8% of Lithuanian researchers are actively engaged in international networks of research; moreover, only 3% of them belong to European Research Centres of Excellence.

Attracting top-level foreign researchers and PhD students to Lithuania appears to be a challenge, for a number of reasons: lower salaries, national laws preventing foreign researchers not employed by a Lithuanian research institution from accessing funding, and a language policy emphasising the importance of the Lithuanian language. Most doctoral theses as well as grant applications are in Lithuanian. If we further note that there is a sizeable brain drain, it becomes clear that a proper mobility balance has not yet been found.

19. <http://www.scimagojr.com/compare.php?c1=LT&c2=Western+Europe&c3=SI&c4=EE&area=0&category=0&in=ic>

20. Erawatch country pages: Lithuania

21. RCL Strategic Activity Plan (cf. p. 28f.)

22. *Research Council of Lithuania: 2011-2012. Start of the new decade.* Vilnius.

23. Erawatch country report: Lithuania 2012

It would be beneficial if the Parliament and the responsible Ministries become more proactive in reducing the legal and political barriers hindering incoming and outgoing mobility of researchers and relaxing bureaucratic obstacles. Furthermore, a certain degree of internationalisation should become a criterion for evaluating proposals to establish and continue doctoral schools.

The RCL has introduced a number of small-scale schemes to promote mobility of researchers, for example by providing support for travel and short-term trips for researchers and doctoral students. The self-evaluation report states that the RCL plans to develop schemes supporting Lithuanian researchers to travel to international networking and match-making events, and to strengthen RCL participation in ERA-NETs and, importantly, in international research infrastructures. At the same time, schemes encouraging Lithuanian researchers to take part in European funding programmes have also been introduced: e.g., schemes providing compensation of VAT for FP7 projects or costs for the preparation of FP7 proposals. These schemes introduced by the RCL to enhance mobility and internationalisation are welcomed by the Evaluation Committee. However, they do not go far enough. Some of the interviewees mentioned that it is difficult to find mobility support outside the several bilateral agreements established with a number of countries.

There is a clear need for more schemes promoting international mobility of researchers.

These might include, for example, obligatory periods of research abroad for doctoral students and postdocs (perhaps in the framework of evaluating doctoral schemes for which the RCL is responsible) and specific steps to import international research talent at all levels with eligibility for funding.

EU funding should be a particular focus. During the meetings with researchers and stakeholders, the Evaluation Committee developed a perception that there is low motivation among Lithuanian researchers to participate in the European competitive research funding schemes due to the availability of national competitive funding where the success rate is much higher (e.g., Global Grant scheme, Researcher Teams' Projects, National Research Programmes). This is a rational reaction from researchers, but a danger for the research system, and should be addressed by the RCL. Introduction of the Global Grant scheme with its two catego-

ries similar to ERC Starting and Advanced grants is seen as a way to build capacity and improve the performance of Lithuanian researchers in European competition.

In view of the opportunity represented by Horizon 2020, and the focused manner in which other countries are targeting that funding, special measures might need to be introduced to propel Lithuanian researchers towards greater success in the drawdown of European funding.

These measures might include: funding proposals evaluated as 'excellent' by the ERC or EC; setting EU funding targets for researchers or institutions who receive large funding from the RCL, making it clear that failure to meet these targets will be taken into account in future funding decisions by the RCL; and supporting the upskilling of researchers and institutions in the acquisition of EU grants by hiring dedicated EU grants officers with international expertise, to be placed either in the RCL or in the institutions.

4. Conclusions



The Lithuanian research system has seen substantial change over recent years, as the country seeks to realise challenging ambitions in research, innovation and higher education, and to enhance the international standing and competitiveness of its research base. The designation in 2008 of the RCL as the main funding agency for fundamental research and researcher mobility was a key step in the modernisation of the national research funding system, bringing with it a move to a merit-based system of funding that aligns with those in other national and transnational systems. It is appropriate that the performance of the RCL should be reviewed some years into this new role.

The Evaluation Committee was highly impressed by the manner in which the RCL has delivered significant change within the national funding system, skilfully achieving a modernisation of the funding landscape while retaining the support of the relevant stakeholders. The difficulty of retaining support through a period of disruptive change across a diverse and vocal system of research and higher education is not to be underestimated, and the RCL has done an outstanding job in this regard. We were very impressed by our interactions with several excellent RCL members and staff, who displayed a strong commitment to the work of the RCL and to the values of excellent fundamental research, and an appreciation of international best practice in research and research funding. The RCL is fortunate to be able to rely on such expertise and commitment.

The Evaluation Committee believes that the RCL is discharging its role as a **funder of fundamental research** in a satisfactory manner. The Committee found evidence of a strong commitment to fairness and merit, and no major lapses in standards came

to their attention. Those interviewed from outside the RCL supported this impression. In terms of seeing the enhanced competitiveness within the system translate into more obvious improvements in international publication statistics, it is early days, but one would expect to see it quite soon. The RCL should communicate their expectations that awardees will publish in peer reviewed journals; this should serve as one of the indicators to help the RCL to evaluate performance. The RCL should also expand their pool of reviewers to include more international experts. The issue of micro-management of research expenditure on grants was brought to the Evaluation Committee by many stakeholders interviewed. The RCL needs to ensure that its grant management is compatible with normal research flexibility and avoid the risk of damaging competitiveness and undermining the relationship between RCL and researchers. It is recommended that the level of management be relaxed to a level compatible with that permitted in leading agencies internationally.

Research funding agencies throughout Europe now increasingly broaden their focus to include **innovation and impact**. This is important if a national system is to reap economic and other rewards from its investment in research, and also if the research community is to compete for international funding where these outputs are given substantial weighting. Although the Lithuanian Ministries of Economy and Education and Science have rightly sharpened their focus on innovation, the Evaluation Committee saw little evidence of active involvement by the RCL in this process. In the view of the Evaluation Committee, the prospect of national success in applied research will be greatly diminished if the considerable expertise of the RCL

is not harnessed in this endeavour. This will require new structures for cooperation between agencies, new programmes and an open collaborative mindset by all those involved. One role of the RCL in this could be to guard the values of excellence in fundamental research, without which there are no foundations on which to build a successful applied research infrastructure. It could also be charged with mapping out schemes through which the fundamental research base can productively interface with the needs of an ambitious innovation system.

More broadly, the Evaluation Committee believes that the RCL should give more thought to how it can best exercise its **policy advisory role** and enhance its strategic capability. The RCL could be seen as an organisation that commands more respect than power in the wider context of research policy in Lithuania. Its relationships with the Ministry of Education and Science and Parliament on the one hand and with the national and international research communities on the other mean that it has the potential to deliver greater value to the national system at a strategic level, and the RCL in collaboration with the Ministry and the Parliament should find routes through which this can be achieved.

The RCL portfolio includes a large number of bottom-up and thematic funding schemes. The Committee saw little evidence of overarching strategy in the roll-out of RCL funding schemes, and formed the impression that strategy formulation has been sacrificed in the face of the logistical and bureaucratic demands of managing an overly large number of calls. A strategy is needed to give shape and scale to the projected activities of the RCL in an efficient and effective manner, including coordination with other agencies. It would be helpful to have a strategy that identifies outcomes against which the RCL programmes will be measured, which would in turn be captured and evaluated in a more systematic manner than heretofore.

Clearly in the current climate it is a challenge to undertake new partnerships and schemes, which will require resourcing in both finances and staff. The RCL and its stakeholders may not wish to undertake a large number of changes at speed, but should rather be selective in determining what is most important. The success rates in some of the current programmes are higher than is normally the case internationally and, as has been pointed out, this can in certain cases limit the competitiveness of a system. Some funds might be diverted here to underpin new activities, though this shift should not be too dramatic for fear of destabilising the system.

The members of the Evaluation Committee would like to express their gratitude to all stakeholders with whom they interacted during the course of this evaluation, and in particular to the leadership and staff of the RCL for their very high level of professionalism and responsiveness.

5. Recommendations



Based on the evaluation summarised in Chapter 3, all recommendations of the Evaluation Committee are presented below. All of these recommendations should be viewed in the context of the very high opinion formed by the Committee of the standing and achievements of the RCL. The Evaluation Committee believes that the RCL is a highly valuable asset of the Lithuanian system of research and higher education. The recommendations contained here are intended to strengthen the RCL and its ability to deliver value to the national system.

Most of the recommendations flow from the core need for an enhanced focus internally and externally on the strategic role of the RCL. This immediately leads to considerations of the role of the RCL in innovation and in internationalisation (including the acquisition of EU funding), as two of the most pressing concerns of the national research and higher education system in Lithuania.

Recommendations: RCL governance and management

- The RCL in collaboration with the Ministry and the Parliament, and with the national and international research communities, should find routes through which the RCL can play its policy advisory role in a more active manner to deliver greater value to the national system at a strategic level.
- The RCL should establish more formal and regular communication and interaction between the RCL and other agencies in the Lithuanian R&D landscape.
- The RCL, MITA, the Ministry of Education and the Ministry of Economy should clarify their roles and improve their collaboration, given the

national target for significant increase in business expenditure on R&D. This should include formal representation of industrial/economic interests on the RCL.

- The RCL should develop a more ‘hands off’ approach to grant management and devolve some remaining routine oversight to staff in the Research Foundation, so that the time freed by the RCL Committees is used to expand their strategic capacity.
- The RCL should further develop and communicate its ethical guidelines (including those on conflicts of interest) in an appropriate relationship with the newly elected Supervisor of Academic Ethics and Procedures.

Recommendations: RCL strategy for its funding schemes

- The RCL and the research community should agree on a systematic approach to the definition of national research objectives and the corresponding development of an appropriately balanced set of funding programmes. Decision making around this should be more explicit and more visible, and engage a broad range of stakeholders. The balance of funding should be monitored on a continuing basis, and assessed against the agreed objectives.
- The RCL should particularly examine two areas of the portfolio: the support of early-career researchers and international mobility of researchers. These should be embedded within other grant schemes where possible, to avoid further proliferation of calls and of small grants.
- The RCL should consider a reduction in the num-

ber of programmes and of calls, with an increased emphasis on larger grants that are likely to raise quality, impact and international competitiveness. This does not rule out the establishment of new programmes, particularly ones with a focus on innovation, but this should be undertaken with an eye to appropriate scale and efficiency.

- In order to ensure that scientific research is well connected and integrated into the broader knowledge and innovation system, the RCL should make better use of its funding instrument – National Research Programmes – and (i) in the social sciences and humanities, develop programmes that contribute to the socio-cultural and economic development of Lithuania as a modern state within Europe, and in the broader global context; (ii) in the sciences, engineering and medicine, develop programmes that link scientific research to the development of the valleys and smart specialisation.
- The RCL should consider how its portfolio can be balanced in the direction of applied research, without losing the focus on excellence in fundamental research that has characterised its ambitions to date. This should be undertaken in collaboration with MITA, so as to enhance coherence and avoid unproductive proliferation of programmes.
- The RCL should consider the following measures:
 - Co-funding of PhDs based in research groups but linked closely with industry (including industrial doctorates);
 - Funding sabbaticals of academic researchers in industry (domestically or internationally) or of industrial researchers in Lithuanian research groups;
 - Launching research funding schemes that are evaluated on the basis of both the fundamental science and the impact on the national innovation goals, possibly requiring some element of co-funding by industry.

Recommendations: scientific quality and impact of RCL programmes

- The RCL should consider adjusting the peer review process for larger thematically open calls so that it involves remote international peer reviewers different from the expert panel members responsible for prioritisation of projects.
- The RCL should ensure that grant applications are submitted in English (and also in Lithuanian, where required by law) and that a higher proportion of international experts (including Lithuanian

expatriates) is used to evaluate such applications.

- The RCL should harmonise the conflict of interest rules for various schemes. These should be described in detail in one document that should be available on the RCL website.
- The RCL should consider developing an appropriate set of procedures for evaluating trans-, multi-, cross- or interdisciplinary proposals.
- The RCL should monitor that all publications arising from research funded by the RCL reference the RCL support in an agreed fashion, so that they can be captured systematically.
- The RCL should consider grant supplements or other incentives for publications in high impact, peer reviewed, international journals.
- The RCL should make a particular examination of the apparently low level of publications arising from its funded research in the biological sciences.
- The RCL should give careful consideration to the question of research impact, with both the RCL and its applicants developing an evidence-based articulation of the expected impact of RCL funded research.
- To underpin its articulation and delivery of impact, the RCL should develop a strategic document defining its funding priorities and measurable objectives, as part of an overall evaluation framework for the regular evaluation of success or impact of the supported programmes and of individual projects. It should also consider the use of counterfactual methodologies to isolate impact.
- Data collection for evaluation purposes should be rationalised and standardised, for example through an annual electronically administered census of funded researchers. To facilitate counterfactual analysis, data on unsuccessful applicants should be retained.

Recommendations: RCL internationalisation

- The RCL should develop an appropriate medium- to long-term strategy (including timeline, goals, indicators and evaluation mechanisms) for the internationalisation of research in Lithuania, and ensure that state budget funds (in addition to the EU Structural Funds) are earmarked for internationalisation activities.
- The Parliament and the responsible Ministries should become more pro-active in trying to reduce the legal and political barriers hindering incoming and outgoing mobility of researchers and relaxing bureaucratic obstacles. Furthermore, the RCL should consider introducing a certain degree of

internationalisation as a criterion for evaluating proposals to establish and continue doctoral schools.

- The RCL should accelerate its schemes to promote international mobility of researchers.
- In view of the opportunity represented by Horizon 2020, and the focused manner in which other countries are targeting that funding, the RCL should consider the introduction of special measures to propel Lithuanian researchers towards greater success in the drawdown of European funding.
- The RCL could consider the following measures:
 - Funding periods of research abroad for doctoral students and postdocs;
 - Supporting the import of international research talent at all levels with eligibility for funding;
 - Funding proposals evaluated as ‘excellent’ by the ERC or EC;
 - Supporting the upskilling of researchers and institutions in the acquisition of EU grants by hiring dedicated EU grants officers with international expertise, to be placed either in the RCL or in the research institutions.

Appendices

Appendix I: **RCL Clients and Stakeholders Consulted**

RCL Board and Committees

- **Professor Dainius Haroldas Pauža**, Chairman of the Council
- **Professor Eugenijus Butkus**, former Chairman of the Council
- **Professor Rūta Petrauskaitė**, Chairwoman of the Committee for Humanities and Social Sciences
- **Professor Konstantinas Pileckas**, Chairman of the Committee of Natural and Technical Sciences
- **Professor Vladas Vansevicius**, former Chairman of the Committee of Natural and Technical Sciences
- **Dr Brigita Serafinavičiūtė**, Scientific Secretary, the Board of the RCL

Representatives of the Ministries

- **Professor Dainius Pavalkis**, Minister, Ministry of Education and Science
- **Dr Albertas Žalys**, Head of Department of Higher Education, Science and Technology, Ministry of Education and Science
- **Dr Romualdas Kalytis**, Chief Specialist, Innovation and Knowledge Society Department, Ministry of Economy

Representative of the Parliament

- **Gintaras Steponavičius**, Member of Parliament and former Minister of Education and Science

RCL Staff

- **Aušra Vilutienė**, Director of the Research Foundation
- **Dr Eugenijus Stumbrys**, Head of Science Policy and Analysis Unit
- **Dr Aistė Vilkanauskytė**, Head of International Affairs Unit
- **Dr Vaiva Priudokienė**, Head of Research Programmes Unit
- **Andrius Kaveckas**, Head of Individual Grants Unit

Experts on RCL Peer Review Process

- **Professor Matti Alestalo**, Department of Social Research, University of Tampere
- **Professor Janina Baršienė**, Institute of Ecology, Vilnius University
- **Professor Narimantas Čėnas**, Institute of Biochemistry, Vilnius University
- **Dr Ferenc Jordán**, Centre for Computational and Systems Biology (COSBI), University of Trento
- **Dr Ainius Lašas**, Department of Politics and International Relations, University of Oxford
- **Professor Dainora Pociūtė Abukevičienė**, Department of Lithuanian Literature, Vilnius University

Lithuanian R&D Agencies and Institutions

- **Birutė Bukauskaitė**, Deputy Director, Agency for Science, Innovation and Technology, MITA
- **Gražina Kišūnienė**, Deputy Director, European Social Fund Agency
- **Agnė Paliokaitė**, Director, Visionary Analytics, and author of Lithuania Erawatch country reports
- **Professor Valdemaras Razumas**, President, Academy of Sciences
- **Laura Stračinskienė**, Deputy Director, Research and Higher Education Monitoring and Analysis Centre (MOSTA)
- **Ignas Paukštys**, Deputy Director, Lithuanian Business Support Agency (LVPA)
- **Eglė Vizbaraitė**, The Central Project Management Agency (CPVA)

Representatives of Universities and Research Institutes

- **Professor Juozas Augutis**, Vice-Rector for Research, Vytautas Magnus University, Kaunas
- **Professor Juras Banys**, Acting Rector, Vilnius University, Vilnius
- **Professor Inga Dailidienė**, Vice-Rector for Research Affairs, Klaipeda University, Klaipeda
- **Professor Alfonsas Daniūnas**, Rector, Vilnius Gediminas Technical University, Vilnius
- **Professor Asta Pundzienė**, Vice-Rector for Research, Kaunas University of Technology, Kaunas
- **Dr Gintaras Valušis**, Director, National Research Institute for Physical Science and Technology Center (FTMC), Vilnius
- **Dr Inga Žalėnienė**, Vice-Rector for Research and International Relations, Mykolas Romeris University, Vilnius
- **Dr Gintautė Žemaitytė**, Academic Director, Institute of Lithuanian Literature and Folklore, Vilnius

Established and early-career Researchers

- **Dr Rūta Aldonytė**, State Research Institute, Centre of Innovative Medicine
- **Professor Vida Davidavičienė**, Department of Business Technology, Vilnius Gediminas Technical University
- **Dr Dainius Martuzevičius**, Department of Environmental Engineering, Kaunas University of Technology
- **Audrius Menkis**, Swedish University of Agricultural Sciences
- **Professor Zenonas Norkus**, Faculty of Philosophy, Vilnius University
- **Professor Jolita Radušienė**, Institute of Botany, Nature Research Centre
- **Professor Ainė Ramonaitė**, Institute of International Relations and Political Science, Vilnius University
- **Professor Jolanta Sereikaitė**, Vilnius Gediminas Technical University
- **Professor Gintautas Tamulaitis**, Semiconductor Physics Department, Vilnius University

Appendix II: List of Reference and Background Documents

A total of 33 documents were provided to the Evaluation Committee to inform them on the RCL and the general context. A number of these were provided by the RCL directly; other documents were sourced by the ESF. Web links are provided where available.

Documents are divided over two sections: those pertaining to the RCL and those more generally related to the R&D context.

1. Research Council of Lithuania

The Research Council of Lithuania.

Organisational Evaluation of the Research Council of Lithuania (RCL): Self-Evaluation Prepared by the RCL. Vilnius, 2013.

Lithuanian Law on Higher Education and Research (translated version). *Republic of Lithuania: Law on Higher Education and Research 30 April 2009 N° XI-242 (as last amended on 24 April 2012 – No XI-1987).* Vilnius, 2012. [Accessed online: 2013]. <<http://www.lmt.lt/en/legal.html>>.

SEIMAS of the Republic of Lithuania: Resolution N° XI-625. *On the Approval of the Regulations of the Research Council of Lithuania, 22 December 2009 (translated version).* Vilnius, 2009. [Accessed online: 2013]. <<http://www.lmt.lt/en/legal.html>>.

The Research Council of Lithuania: Resolution N° VII-34. *Rules of Procedure of the Research Council of Lithuania, 29 March 2010 (translated version).* Vilnius, 2010. [Accessed online: 2013]. <<http://www.lmt.lt/en/legal.html>>.

The Research Council of Lithuania. *Activity Report 2011.* Vilnius, 2012. [Accessed online: 2013]. <<http://www.lmt.lt/en/about.html>>.

The Research Council of Lithuania. *Activity Report 2012.* Vilnius, 2013. [Accessed online: 2013]. <<http://www.lmt.lt/en/about.html>>.

The Research Council of Lithuania. *2011-2012: Start of the New Decade.* Vilnius. [Accessed online: 2013]. <<http://www.lmt.lt/en/about.html>>.

The Research Council of Lithuania: Resolution N° VII-121. *2012 Budget Allocation.* Vilnius.

The Research Council of Lithuania: Resolution N° VII-138. *2013 Budget Allocation.* Vilnius.

The Research Council of Lithuania: Resolution N° VII-114. *Description of the Procedure for the Funding of Projects of Groups of Researchers,*

1 October 2012 (amended by Resolution No.VII-133 of 21 January 2013). Vilnius, 2013.

The Research Council of Lithuania: Resolution N° VII-115. *Description of procedure for expert evaluation of research projects and their reports, 1 October 2012.* Vilnius, 2012.

The Research Council of Lithuania: Decision N° VII-89. *Description of Measure - Global Grants, 12 December 2011.* Vilnius, 2011. [Accessed online: 2013]. <<http://www.lmt.lt/en/rnd/grant.html>>.

The Research Council of Lithuania. *Guidelines for experts: Global Grants measure.* Vilnius, 2010.

Chairman of Research Council of Lithuania: Order N° V-75. *Methodological Recommendations to Experts on Project Quality Assessment – Global Grants, 26 March 2012 (amended by Order N° V-52 of 30 January 2013).* Vilnius, 2013.

The Research Council of Lithuania. *The Second Call for Proposals for Global Grants.* Vilnius, 2011. <<http://www.lmt.lt/en/news/the-second-call-grant.html>>.

The Research Council of Lithuania. *The Third Call for Proposals for Global Grants.* Vilnius, 2012. <<http://www.lmt.lt/en/news/the-third-call-8th2.html>>.

The Research Council of Lithuania: Decision N° VII-87. *Scheme of the avoidance of the possible conflict of interest in case of research group projects, 21 November 2011.* Vilnius, 2011.

The Research Council of Lithuania: Decision N° VII-87. *Scheme of the avoidance of the possible conflict of interest in case of the national Lithuanian studies development programme for 2009-2015, 21 November 2011.* Vilnius, 2011.

The Research Council of Lithuania: Decision N° VII-87. *Scheme of the avoidance of the possible conflict of interest in case of the national research programmes, 21 November 2011.* Vilnius, 2011.

The Research Council of Lithuania. *Results of Research Projects financed by RCL 2010-2012.* , 2013.

2. Research and Development (R&D) Context

Government of the Republic of Lithuania: Resolution. *Lithuanian Innovation Strategy for the Year 2010-2020, February 17 2010, No. 163*. Vilnius, 2010. [Accessed online: 2013]. <http://www.mita.lt/uploads/documents/innovation_en/strategy_20102020.pdf>.

Paliokaitė, Agnė; Caturianas, Dovydas. European Commission. *ERAWATCH Country Reports 2011: Lithuania*. Luxembourg: Publications Office of the European Union, 2013. [Accessed online: 2013]. <http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/reports/countries/lt/report_0006?tab=reports&country=lt>.

ERAWATCH Country Pages: Lithuania. 2011. [Accessed online: 2013]. <http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/lt/country?tab=country&country=lt>.

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The Research Council of Lithuania. *Roadmap for research infrastructure of Lithuania 2011*. 2011. [Accessed online: 2013]. <<http://www.lmt.lt/en/about.html>>.

Ministry of Education and Science of the Republic of Lithuania. *Education in Lithuania: Facts and Figures 2006*. Vilnius, 2006.

European Commission. *Innovation Union Scoreboard 2013*. 2013. [Accessed online: 2013]. <<http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/>>.

European Commission. *She Figures 2012 - Gender in Research and Innovation*. Luxembourg: Publications Office of the European Union, 2013. [Accessed online: 2013]. <http://ec.europa.eu/research/science-society/document_library/pdf_06/she-figures-2012_en.pdf>.

Government of the Republic of Lithuania: Resolution. *Approval of the Concept of the Establishment and Development of Integrated Science, Studies and Business Centres (VALLEYS), 21 March 2007, No 321*. Vilnius, 2007.

The Research Council of Norway. *Evaluation of Research in Lithuania*. Oslo, 1996.

European Commission. *Research and Innovation performance in EU Member States and Associated countries. Innovation Union progress at country level*. Luxembourg: Publications Office of the European Union, 2013. [Accessed online: 2013]. <http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf>.

Appendix III: Overview of the RCL Funding Portfolio 2009-2013

The data on allocated funds is provided for the period 2009-2012, but activities continued in 2013.

* LRHEI – Lithuanian research and higher education institutions

** State planned project (EU) – state planned project, funded by EU Structural Funds

Funding instrument	Nature of the instrument	Approach	Objectives
National research programmes	Regulation by the Government	top-down	To initiate scientific research for solving definite problems and concentrating national research potential
Global Grant	Decision of the Government	bottom-up	To stimulate international-class research; to encourage researchers' mobility; to attract researchers of world-class into Lithuania; to strengthen Lithuania's competitiveness in the world
Lithuanian-Swiss Cooperation Programme 'Research and Development'	Agreement between the Ministry of Finance of Lithuania and the Swiss Agency for Development and Cooperation on the grant for the project 'Research and Development'	top-down	To support international cooperation in the field of research and development and strengthen the ties between the Lithuanian and Swiss research institutions
Researcher Teams' Projects	Initiative by the Council	bottom-up	To develop world-class research in of research fields
The National Lithuanian studies development programme for 2009-2015	Regulation by the Government	top-down	Programme deals with Lithuanian studies, its dissemination and enhancement of researcher qualification
Breakthrough ideas projects	Initiative by the Council	bottom-up	To enable researchers to verify their research ideas, assess the feasibility of their implementation, and facilitate their abilities to compete in preparing the projects and participating in research programmes not only in Lithuania, but also internationally
Postdoctoral fellowship in Lithuania	State planned project (EU)**	bottom-up	To develop the postdoctoral fellowship system by including into the research activities third cycle university level students enabling them to pursue independent research work, and prepare for academic pedagogical career. The project enables fellowship students to prepare for independent research work, upgrade their scholarly, pedagogical and academic management qualifications. Fellowship students may initiate their own research themes. This arrangement ensures the development of competences and enhancement of qualification of human resources.
Long-term institution-based economic research programme 2012-2014 'Long-term competitiveness challenges of Lithuanian economy'	Initiated by the Ministry of Education and Science	top-down	To facilitate the assessment of problem areas of the Lithuanian economy, and substantiate the measures and recommendations concerning maintaining the long-term competitiveness of the Lithuanian economy
BONUS	FP7 agreement between BONUS EEIG and European Commission	top-down	To integrate the Baltic sea system research into durable, cooperative, interdisciplinary and focused multinational programme in support of the region's sustainable development

Appendix III: Overview of the RCL Funding Portfolio 2009-2013

Target group	Scope of funding	Period	Allocated funds (Thousand LTL)				
			2009	2010	2011	2012	2009-12
Researchers of LRHEI*	Research, mobility, dissemination	2009-, continuous	0	15,725.3	20,310.6	23,892.5	59,928.4
Researchers of LRHEI	Research, mobility, dissemination	2011-2015	0	0	8,024.0	15,635.0	23,659.0
Researchers of LRHEI	Research, mobility and collaboration activities	2010-2016	0	0	0	2,811.2	2,811.2 (25,433.0 contracted until 2016)
Researchers of LRHEI	Research, mobility, dissemination	2010-, continuous	0	9,496.8	18,341.8	19,716.9	47,555.5
Researchers of LRHEI	Research, mobility & dissemination or mobility, or dissemination	2009-2015	1,140.0	4,730.0	5,196.6	5,509.5	16,576.1
Researchers of LRHEI	Research	2012-2013	0	0	0	122.3	122.3
Postdoctoral fellow	Research, mobility	2009- 2015	0	3,095.7	6,209.4	5,792.6	15,097.7 (36,250.3 contracted until 2015)
Researchers of LRHEI	Research, mobility, dissemination	2014-2014	0	0	0	800.0	800.0
Researchers of LRHEI	Research	2007-2011	0	0	437.0	0	437.0

Appendix III: Overview of the RCL Funding Portfolio 2009-2013

Funding instrument	Nature of the instrument	Approach	Objectives
ERA-NET projects (BiodivERsA, HERA, JPI Cultural Heritage, M-era.NET)	FP7 consortium agreements	top-down	To support international cooperation in the selected areas of research and development
Joint Lithuanian-Latvian-Chinese (Taiwanese) Cooperation Programme	Guidelines for the programmes of Mutual funds of cooperation between the Ministries of Education and Science of Lithuania and Latvia and the National Science Council of the Republic of China	bottom-up	To support cooperation in the field of science and technology
Lithuanian-Belarus Cooperation programme	Agreement between the Governments of Lithuania and Belarus	bottom-up	To develop and promote cooperation in the field of science and technology
Lithuanian-French Cooperation Programme 'Gilibert'	Agreement between the Governments of Lithuania and France	bottom-up	To develop and promote bilateral cooperation in the field of science and technology and to contribute to the creation of European research area
Lithuanian-Ukrainian Cooperation programme	Agreement between the Governments of Lithuania and Ukraine	bottom-up	To develop and promote cooperation in the field of science and technology
Sciex-NMS^{ch}	Memorandum of understanding between CRUS and the Research Council of Lithuania	bottom-up	To promote international cooperation
COST	Initiative by the Council on the basis of COST intergovernmental framework	bottom-up	To support Lithuanian participants (in 2010) and coordinators of COST actions
Support for researchers' visits	Law by the Parliament	bottom-up	To encourage Lithuanian researchers to improve their research competences, increase researchers' mobility in general and aid the dissemination of research results
Competitive financing of short-term visits of researchers	State planned project (EU)	bottom-up	Strengthening of the links between researchers working in foreign states and Lithuanian higher schools, research institutions and institutions engaged in research activities thus enhancing the level of research conducted thereby; also provision of conditions for Lithuanian scientists and other researchers to participate in international research events
Support for scientific events	Initiative by the Council	bottom-up	To facilitate research in Lithuania and international cooperation in research
Support for academic associations	Law by the Parliament	bottom-up	To promote activities of such associations related to the objectives of the HE and research system
Financial support for the publication of research results	Initiative by the Council	bottom-up	To enable Lithuanian researchers to publish their scientific articles in high level scientific journals as well as publish scientific books at international printing houses regardless of financial situation of their institution
Training of high qualification specialists (doctor's degree students) in competition-based doctor's degree studies	State planned project (EU)	bottom-up	Training of high qualification specialists (doctor's degree students) in research fields related to the subject matters of the national integrated programmes

Appendix III: Overview of the RCL Funding Portfolio 2009-2013

Target group	Scope of funding	Period	Allocated funds (Thousand LTL)				
			2009	2010	2011	2012	2009-12
Researchers of LRHEI	Research, mobility and collaboration activities	2010-2018	0	0	0	0	0
Researchers of LRHEI	Research, mobility and collaboration activities	2000-, continuous	0	160.0	303.0	444.8	907.8
Researchers of LRHEI	Mobility and collaboration activities	2009-2014	0	0	301.2	321.6	622.8
Researchers of LRHEI	Mobility (and research in 2010)	2010-2015	0	661.2	137.0	126.0	924.2
Researchers of LRHEI	Mobility and collaboration activities (and research in 2010)	2010; 2011-2015	0	1,113.8	0	208.7	1,322.5
Researchers of LRHEI	Fellowships	2009-2016	0	0	0	0	0
Researchers of LRHEI	Research	2010-, continuous	0	200.9	178.0	199.9	578.8
Researchers of LRHEI	Visits	2009-, continuous	123.0	692.7	1,128.3	195.2	2,139.2
Researchers, doctoral (PhD) students	Visits	2009-2015	0	0	53.1	819.7	872.8 (5,183.9 contracted until 2015)
LRHEI	Host events	2010-, continuous	0	649.9	947.6	648.4	2,245.9
Lithuanian academic associations	Fees, publications, host events	2009-, continuous	399.86	172.66	140.75	117.54	830.66
Researchers	Dissemination	2012-, continuous	0	0	0	12.1	12.1
Doctoral (PhD) students of LRHEI	Scholarships, mobility	2011-2015	0	0	9,970.7	3,891.0	13,861.7 (21,722.5 contracted until 2015)

Appendix III: Overview of the RCL Funding Portfolio 2009-2013

Funding instrument	Nature of the instrument	Approach	Objectives
Promotional scholarships for doctoral (PhD) students	Regulation by the Government	bottom-up	To foster scientific and artistic initiatives of doctoral candidates supporting their scientific and creative ideas and research and development activities
Short-term travel grants for doctoral students	Regulation by the Government	bottom-up	To promote mobility and career development
Promoting students' research activities	State planned project (EU)	bottom-up	To enhance interest among academic youth in research activities and reveal the prospects for a scholar's career. The project enables researchers to carry out individual research work using the most state-of-the-art research equipment and facilities and resources of scientific literature required for modern research. The project seeks to promote the mobility of academic youth between different higher education and research institutions.
Promotion of gender equality in sciences (LYMOS)	Provisional activity under the EU Structural Funds project implemented by the Academy of Sciences	bottom-up	To facilitate the restoration of scientific qualification of scientists and other researchers (including doctor's degree students) returning after maternity (paternity) leave
Reimbursement of FP7 proposal preparation expenses	Initiative by the Council		To promote Lithuanian participation in FP7
Reimbursement of VAT, paid in FP projects	Initiative by the Council		To promote Lithuanian participation in FP7

Appendix III: Overview of the RCL Funding Portfolio 2009-2013

Target group	Scope of funding	Period	Allocated funds (Thousand LTL)				
			2009	2010	2011	2012	2009-12
Doctoral (PhD) students	Scholarships	2011-, continuous	0	0	0	2,657.3	2,657.3
Doctoral (PhD) students	Visits	2011-, continuous	0	0	0	111.8	111.8
Students [including doctoral (PhD) students]	Scholarships, mobility	2009-2015	675.20	2,747.8	1,645.8	3,347.3	8,416.1 (14,209.4 contracted until 2015)
Researchers of LRHEI [including doctoral (PhD) students] returning after maternity (paternity) leave	Scholarships, visits	2011-2012	0	0	0	324.7	324.7
Researchers of LRHEI	FP7 proposal preparation expenses	2011-2013	0	0	742.8	666.6	1,409.4
LRHEI	VAT, paid in FP projects	2010-, continuous	0	493.3	574.6	456.5	1,524.4

Appendix IV: **Abbreviations**

The abbreviations that are used in this report are listed below, for quick reference and convenience.

ASU	Aleksandras Stulginskis University
BI	Institute of Biotechnology
BONUS EEIG	Baltic Organisations' Network for Funding Science EEIG
COST	European Cooperation in Science and Technology
CPVA	Central Project Management Agency
CRUS	Rectors' Conference of the Swiss Universities
EC	European Commission
E-CORDA	Common Research Data Warehouse
EHU	European Humanities University
ERC	European Research Council
ERDF	European Regional Development Fund
ERIC	European Research Infrastructure Consortium
ESF	European Science Foundation
ESFA	European Social Fund Agency
EU	European Union
FP	Framework Programme
FTE	Full-Time Equivalent
FTMC	Centre for Physical Sciences and Technology
FWF	Fonds zur Förderung der wissenschaftlichen Forschung in Österreich (Austrian Science Fund)
GDE	Gross Domestic Expenditure
GDP	Gross Domestic Product
GTC	Nature Research Centre
HDI	Human Development Index
HE	Higher Education
HEI	Higher Education Institute
HRST	Human Resources in Science and Technology
ICT	Information and Communication Technology
IMC	Centre of Innovative Medicine
ISCED	International Standard Classification of Education
ISM	ISM University of Management and Economics
IT	Information technology

IVPK	Information Society Development Committee
KMTI	Space Science and Technology Institute
KSU	Kazimieras Simonavicius University
KTU	Kaunas University of Technology
KU	Klaipeda University
LAMMC	Lithuanian Research Centre for Agriculture and Forestry
LEI	Lithuanian Energy Institute
LEU	Lithuanian University of Educational Sciences
LHREI	Lithuanian Research and Higher Education Institutions
LII	Lithuanian Institute of History
LKA	The General Jonas Zemaitis Military Academy of Lithuania
LKI	Institute of Lithuanian Language
LKTI	Lithuanian Cultural Research Centre
LLTI	The Institute of Lithuanian Literature and Folklore
LMT	Lietuvos mokslo taryba
LMTA	Lithuanian Academy of Music and Theatre
LSMU	Lithuanian University of Health Sciences
LSTC	Lithuanian Social Research Centre
LSU	Lithuanian Sports University
LTL	Lithuanian Litas (Local Currency)
LVPA	Lithuanian Business Support Agency
LYMOS	Promotion of gender equality in sciences
MITA	Agency for Science, Innovation and Technology
MOSTA	Research and Higher Education Monitoring and Analysis Centre
MoU	Memorandum of Understanding
MRU	Mykolas Romeris University
NRP	National Research Programmes (NRP)
NWO	Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Netherlands Organisation for Scientific Research)
PCT	Patent Cooperation Treaty
PhD	Doctor of Philosophy
R&D	Research and Development

Appendix IV: **Abbreviations**

R&I	Research & Innovation
RCL	Research Council of Lithuania
Sciex-NMS^{ch}	Scientific Exchange Programme between the New Member States of the EU and Switzerland
SEIMAS	Parliament of Lithuania
SKVC	Centre for Quality Assessment in Higher Education
SME	Small and Medium Enterprises
SU	Siauliai University
TI	Institute of Law
TPA	Agency for International Science and Technology Development Programmes
VAT	Value Added Tax
VDA	Vilnius Academy of Arts
VDU	Vytautas Magnus University
VG TU	Vilnius Gediminas Technical University
VPVI	Public Policy and Management Institute
VR	Vetenskapsrådet (Swedish Research Council)
VSF	State Studies Foundation
VU	Vilnius University
VU TVM	International Business School at Vilnius University
WoS	Web of Science



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