Strategic planning methodology
Annex 4

APPROVED by
_____
(job title of the approver)
_____ No. _____
(date, type of legislation)

LITHUANIAN RESEARCH CENTRE FOR AGRICULTURE AND FORESTRY (code 302471203)

_____

STRATEGIC ACTION PLAN FOR 2019 - 2021

SECTION I
MISSION

The mission of the Lithuanian Research Centre for Agriculture and Forestry (hereinafter referred to as the Centre) is to create, garner and disseminate novel scientific knowledge in order to foster competitive and sustainable use of land, forest and environmental resources, development of innovative technologies and products and to meet the social needs of the public.

SECTION II
PRIORITIES

The Centre's priorities are as follows:

- to carry out long-term basic and applied research and development important for the national economy, to increase and disseminate scientific knowledge for the rational and sustainable use of land, forest and environmental resources, as well as for the production of high-quality products;
- to ensure scientific competence of the international-level in the fields of agronomy, forestry, ecology, environmental and biochemistry sciences and to cooperate with the representatives of business, government and society; to provide methodological and expert assistance, to train scientists jointly with higher education institutions, to help them train specialists, to carry out formal and informal training and education.

SECTION III
STRATEGIC OBJECTIVES AND PROGRAMS

The strategic objective is to carry out scientific research and development in the domain of agricultural sciences, in the fields of agronomy and forestry, biology, biophysics, ecology, environment, botany, and zoology.

One program, financed from the two funding sources, is devoted to the implementation of the strategic objective:

01 002 program "Basic and applied research and development in the fields of agronomy and forestry"

Funding sources:

- 11111 basic funding for R&D activities ;

- 14111 revenue from services and sales of produce.

STRATEGIC OBJECTIVE AND PROGRAMS OF THE CENTRE

To develop R&D work

01 002 program "Basic and applied research and development in the fields of agronomy and forestry"
Appropriations, total – 8489,0 thous. EUR, of which wages – 4502,0 thous. EUR

Table 1. **Distribution of funds by programs (thous. EUR), 2019-2021**

No.	Code and title of the program	Appropriations for *2019*				Appropriations for 2020				Appropriations for 2021			
		total	of which			total	of which			total	of which		
			costs		acquisition of assets		costs		acquisition of assets		costs		acquisition of assets
			total	wages			total	wages			total	wages	
1.	**1.2. "Basic and applied research and development in the fields of agronomy and forestry"**	**8489**	**7582**	**4502**	**907**	**8850**	**7870**	**4692**	**980**	**8439**	**8109**	**4862**	**330**
	Total	**8489**	**7582**	**4502**	**907**	**8850**	**7870**	**4692**	**980**	**8439**	**8109**	**4862**	**330**

(*n*) – the first planned year, (*n* + 1) – the second planned year and (*n* + 2) – the third planned year.

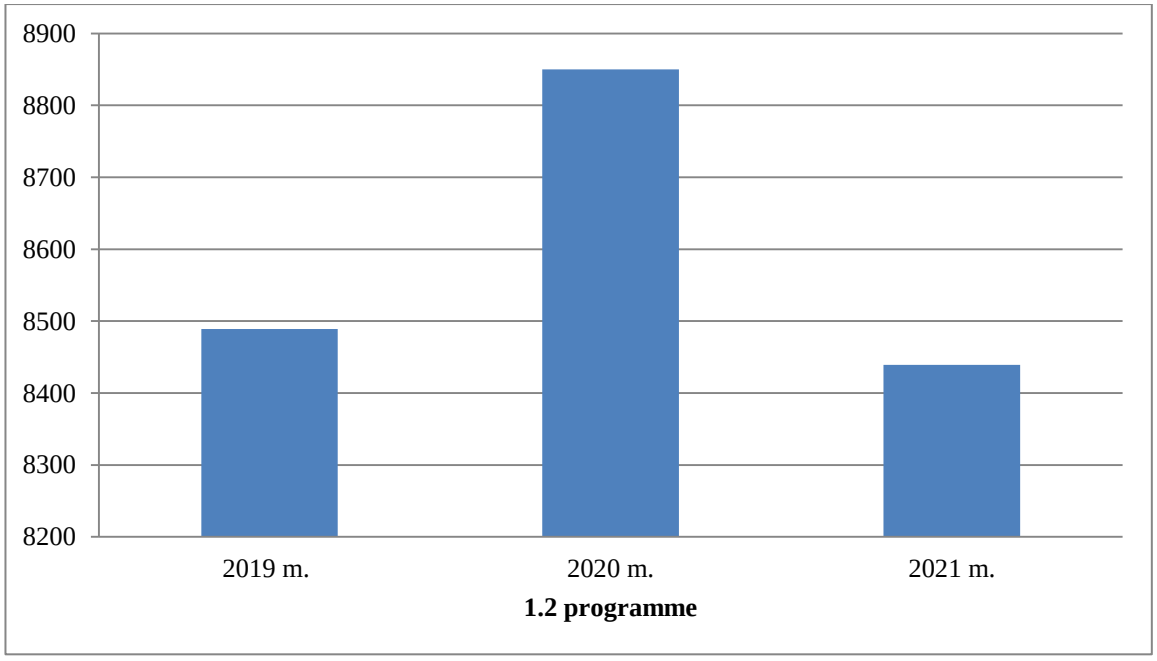

Figure 1. **Distribution of funds by programs (thous. EUR), 2019-2021**

Strategic objective 1: is to carry out scientific research and development in the domain of agricultural sciences, in the fields of agronomy and forestry, biology, biophysics, ecology, environment, botany, and zoology.

EFFECT EVALUATION CRITERIA

The effect evaluation criteria for the Centre's strategic objective "To carry out scientific research and development in the domain of agricultural sciences, in the fields of agronomy and forestry, biology, biophysics, ecology, environment, botany, and zoology" were chosen having appraised the main activity and targeted results/performance.

The first effect evaluation indicator is points for the Centre's scientific output. This indicator is calculated in accordance with the 2017 October 4 Order of the Minister of Education and Science of the Republic of Lithuania No. V-747 "On the approval of the regulation for the annual assessment of R & D and the development of artistic activities by universities and research institutes" approved by Chapter II of the methodology. Points for the scientific output are calculated on the basis of the annual publication of the Center's scientific activities. The assessment indicators based on which points for scientific output are calculated are as follows:

- A scientific monograph or its chapter (chapters) published by an internationally recognized scientific publishing house;
- A scientific article in the journal with an *IF/AIF* greater than 0.25, and if the journal covers several scope categories and the average of all categories of *IF/AIF* calculated on the basis of category size, is greater than 0.25, except for the cases when the experts of the Lithuanian Science Council establish that the citation index of the journal is artificially increased due to excessive number of self-citations or other means. The list of such journals is published on the website of the Lithuanian Science Council, together with a detailed justification of the expert judgment and the year to which this decision applies. The list is complemented if necessary;
- EPO, USPTO or JPO patent applications (according to registration certificate);
- EPO, USPTO or JPO issued patents owned by natural or legal persons of Lithuania;
- Varieties of plants, except for ornamental plants, and breeds of animals that have undergone international testing in the European specialized centres (*Reports on Technical Examination of the DUS Testing* are to be submitted).

In accordance with this methodology, the points are calculated in the evaluation of the aforementioned scientific output, taking into account the contribution of the authors of the institutions, the contribution of foreign scientific institutions and co-authors of Lithuanian and foreign business entities, the citation and level of the scientific journal in different categories, and therefore are an objective indicator for the evaluation of the institution's performance. Planned and achieved outputs of the Centre are presented in Figure 3. When elaborating a detailed strategic plan, they will be adjusted/specified according to the current situation.

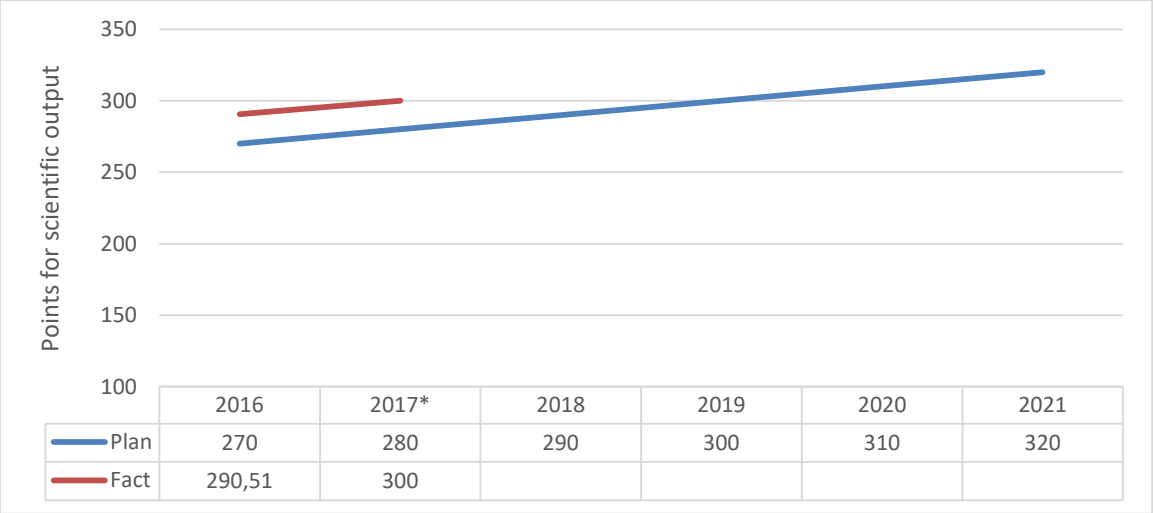

Figure 3. Points for scientific output, calculated in accordance with the 2017 October 4 Order of the Minister of Education and Science of the Republic of Lithuania No. V-747.

** - in 2017 the number of points was calculated according to IF and AIF of the journals in 2016, when preparing the revised plan, this figure will be specified according to the latest data.*

The second criterion for assessing the Center's strategic objective is the funds received from the activities of the R & D & I. The numerical value of this indicator was obtained upon assessment of the Centre's activity report by the experts of the Lithuanian Science Council. International projects and services contracted by economic entities were evaluated in accordance with the 2017 October 4 Order of the Minister of Education and Science of the Republic of Lithuania No. V-747 "On the approval of the regulation for the annual assessment of R & D and development of artistic activities by universities and research institutes" based on the methodology and *Frascati* manual.
The planned and actual results are presented in Figure 4.

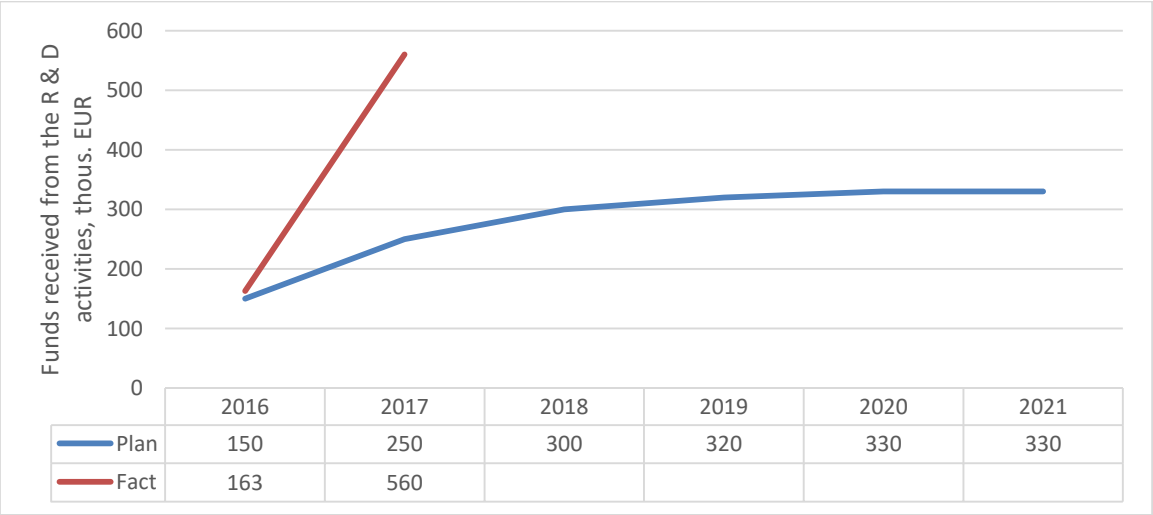

Figure 4. Funds received from the R & D activities, thous. EUR

PROGRAMS IMPLEMENTING THE STRATEGIC OBJECTIVE

BASIC AND APPLIED RESEARCH AND DEVELOPMENT IN THE FIELDS OF AGRONOMY AND FORESTRY (01 002)
The Centre is a state research institute, a public legal entity acting as a state budget

institution, which carries out long-term research and development in the fields of agronomy, forestry, ecology, environment, and biochemistry sciences, which is of interest to the state, the public, international cooperation or economic entities. The founder of the Center is the Government of the Republic of Lithuania.

The Centre's activities are carried out and the strategic objective is implemented in accordance with the main documents forming the basis for the action strategy of the Centre.

The program "Basic and applied research and development in the fields of agronomy and forestry" contributes to the implementation of the objectives and priorities approved in the program of the Government of the Republic of Lithuania. National Progress Strategy "Lithuania's Progress Strategy *Lithuania 2030"* (Official Gazette, 2012, No. 61), National Progress Program 2014-2020 (Official Gazette, 2012, No. 144-7430), Lithuanian Innovation Development Program 2014-2020 (Official Gazette, 2013, No. 140-7110), National Program for the Development of Studies, Research and (Social, Cultural) Development for 2013-2020 (Official Gazette, 2012, No. 145-7455), the Europe 2020 Strategy, the EU's Horizon 2020 Research and Innovation Program, etc.

The agriculture of the future must be developed by increasing the production of high added value products and contributing to Lithuania's sustainable development, which will ensure sustainable use of resources now and in the future and meet the needs of consumers in national and international markets. This can be achieved through the development of research focusing on the environmentally sustainable crop production methods, without neglecting biodiversity and plant productivity, more efficient use of biological processes for practical purposes, risk assessment of climate change and mitigation of its consequences, the yield potential and quality of conventional and new crops in various soils, more intensive and more rational use of renewable resources for the production of traditional and non-traditional products. Therefore, the general aim of the program is new research results, new knowledge, innovative technologies or their parts, practical recommendations for the sustainable use of land, forest and environmental resources, and the production of high-quality products.

Forestry and forest economy must be developed by increasing the productivity of forests, employing continuous and multi-purpose use of forests for social, economic and ecological well-being of the country, while ensuring the sustainability of forest ecosystems and increasing the value of their ecological and social services. Harmonizing the three components of sustainable development in the context of the bio-economic needs of growing forest raw materials in the context of climate change and other challenges is only possible through the development of research and development. The development of science and modern technologies in forestry and environmental protection is the basis for the economic and social progress in these areas of activity. The program develops research and development in the fields of forestry and environmental protection.

The Institute of Agriculture and the regional divisions of the Center have strong traditions and potential of agronomic research, and therefore can carry out research and development in pursuit of the objectives of the program: to develop research and experimental development work in the fields of soil science, agronomy, agrochemistry, crop production, plant pathology and protection, plant genetics, physiology, and breeding, seed production, biotechnology, agroecology and rural development, to analyze and disseminate scientific knowledge to consumers and the public.

The development of modern horticulture under the agro-climatic conditions of Lithuania requires the development of agro-biological scientific foundations. The implementation of this program envisages development of horticultural research and development in the fields of plant genetics, breeding, biotechnology, physiology, plant protection, biochemistry and horticultural technologies.

This program contributes to the implementation of the provisions of the Government program:

84.2 we will create conditions for reducing pollution in the agricultural sector;

91.1 we will improve the legal framework governing forestry and forest management;

91.9 we will give priority to promoting investments in the modern Lithuanian wood and biotechnology industry and biomass energy, thus contributing to the development of cyclic (circular) economy in practice, while promoting agricultural activities alternative to energy phytomass cultivation and / or processing into fuel;

92. Our agricultural policy is geared towards bringing agriculture to the forefront of diversity in the countryside. We need to ensure that agricultural activities allow for a real increase in areas of high natural value. As a result, we will promote diversity of land use and of crops grown and organic farming, as well as a responsible approach to landscape conservation;

92.4. In order to preserve the soil fertility, we will promote the implementation of sustainable agricultural practices through the introduction of advanced agricultural systems by applying sustainable balanced fertilization and the use of plant protection products, sustainable soil tillage and crop rotation that facilitate restoration of its fertility;

144. We will purposely direct applied research in all areas of science towards innovative solutions to business and societal development tasks;

143.3. On the basis of international practice, we will modernize doctoral studies of phase III, establish professional doctoral studies, create preconditions for doctoral students to undertake research in state priority fields and participate in international research programs, seek to increase the number of doctoral students and researchers working in business enterprises, Lithuania will enter the international scientific infrastructure projects (European Social Survey (ESS), projects carried out by the European Nuclear Research Organization (CERN), etc.), at least one international high-competence center will operate in the country. We will create a model for the development of research and development infrastructures that will ensure clear and transparent financing of infrastructures, involving not only public budget but also private equity funds;

143.5. We will seek to promote the development of science-intensive sectors and the development of innovation in the regions. We will develop a system of open innovations by promoting a more efficient use of scientific resources and meeting the needs of society. We will ensure the interaction of national research infrastructures, valleys and technology parks with a view to improving the quality of science.

Objectives, tasks and task accomplishment measures of the program:

01 To conduct basic, applied research and development in the field of sustainable use of land, forest and environment resources and production of high quality products.

01 01 To carry out scientific research in the fields of agronomy, forestry, ecology, environmental and biochemical sciences.

01 01 01 To carry out basic and applied research on the relevant issues of soil, plant nutrition, pathology and protection, crop yield formation, plant genetics and breeding, forestry, ecology and environment in different agro-climatic regions of Lithuania, and to ensure the management of scientific research, as well as the economic, informational and infrastructural functioning of the objects.

01 02 To disseminate scientific knowledge, introduce new technologies and perform various expert services on the issues of agriculture and forestry.

01 02 01 To organize events and produce publications designed for science popularization, to introduce new agricultural production and forestry technologies, to carry out seed production of developed varieties and the propagation of healthy planting material and forest plants, to carry out environmental quality monitoring, to organize demonstration objects, to provide evaluation of economic activity and other expert services to state institutions and to economic entities.

The program is scheduled to be implemented continuously. The coordinator of the program – dr. Gintaras Brazauskas

Table 2. **Objectives, tasks, measures and appropriations for the 2018-2021 program (thous. EUR)**

Code of objective, task, measure	Title of objective, task, measure	Appropriations approved for 2018				Appropriations for *2019*				Prospective appropriations for 2020				Prospective appropriations for 2021				Code of the inter-institutional action plan	Code of the government program's implementation plan element
		total	of which			total	of which			total	of which			total	of which				
			costs		acquisition of assets		costs		acquisition of assets		costs		acquisition of assets		costs		acquisition of assets		
			total	wages			total	wages			total	wages			total	wages			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
01	**Objective:** To carry out basic and applied research and development in the field of sustainable use of land, forest and environment resources and production of high-quality products.	7544	7244	4042	660	8489	7582	4502	907	8850	7870	4392	980	8439	8109	4862	330		
01 01	**Task:** To carry out scientific research in the fields of agronomy, forestry, ecology and environmental and biochemistry sciences	3695	3395	2599	300	4663	4130	3000	533	4986	4336	3150	650	4550	4550	3310			

01 01 01	**Measure:** To carry out basic and applied research on the relevant issues of soil, plant nutrition, pathology and protection, crop yield formation, plant genetics and breeding, forestry, ecology and environment in different agro-climatic regions of Lithuania, and to ensure the management of scientific research, as well as the economic, informational and infrastructural functioning of the objects.	3695	3395	2599	300	4663	4130	3000	533	4986	4336	3150	650	4550	4550	3310			

01 02	**Task:** To disseminate scientific knowledge, introduce new technologies and perform various expert services on the issues of agriculture and forestry.	3949	3849	1443	360	3826	3452	1502	374	3864	3534	1542	330	3889	3559	1552	330		

01 02 01	**Measure:** To organize events and produce publications designed for science popularization, to introduce new agricultural production and forestry technologies, to carry out seed production of developed varieties and the propagation of healthy planting material and forest plants, to carry out environmental quality monitoring, to organize demonstration objects, to provide evaluation of economic activity and other expert services to state institutions and to economic entities.	3949	3849	1443	360	3826	3452	1502	374	3864	3534	1542	330	3889	3559	1552	330		
	of which: 1.1. basic funding	3695	3395	2599	300	4663	4130	3000	533	4986	4336	3150	650	4550	4550	3310			
	1.2. EU and other international funding																		

	1.3. Special purpose funds and revenue from services and sales of produce	3949	3849	1443	360	3826	3452	1502	374	3864	3534	1542	330	3889	3559	1552	330		
	2. Other EU funds																		
	Total funds (1+2)	7544	7244	4042	660	8489	7582	4502	907	8850	7870	4392	980	8439	8109	4862	330		

(*n* – 1) – the current year, (*n*) – the first planned year, (*n* + 1) – the second planned year (*n* + 2) – the third planned year.

***Table 3*. Objectives, tasks, assessment criteria and values**

Code of assessment criterion	Objectives, tasks, assessment criteria and units of measurement	Values of assessment criteria			
		2018	2019	2020	2021
	Objective 1 To carry out basic and applied research and development in the field of sustainable use of land, forest and environment resources and production of high-quality products.				
R-01-002-01-01	Number of research publications, published in the journals included in the *Clarivate analytics* database and having a citation index, per research worker.	0.44	0.45	0.46	0.67
R-01-002-01-02	Number of national and international cooperation agreements.	4	5	5	6
	Task 1 of objective 1 To carry out scientific research in the fields of agronomy, forestry, ecology and environmental and biochemistry sciences				
P-01-002-01-01	Number of research publications, published in the journals included in the *Clarivate analytics* database and having a citation index.	50	53	53	55
P-01-002-01-02	Number of students involved in the PhD studies in the fields of agronomy, forestry, ecology, environmental and biochemistry sciences.	51	53	54	54
P-01-002-01-03	Number of plant varieties, except ornamental plants, and animal breeds that have passed international expertise/testing in European specialized centres.	5	5	5	5
P-01-002-01-04	Number of scientific and science-popular articles published in other publications.	30	32	35	38
	Task 2 of objective 1 To disseminate scientific knowledge, introduce new technologies and perform various expert services on the issues of agriculture and				

	forestry.				
P-01-002-02-01	Funds received from performance of contract services for economic entities, thous. EUR	2000	2040	2080	2120

(*n* – 1) – the current year, (*n*) – the first planned year, (*n* + 1) – the second planned year and (*n* + 2) – the third planned year.

SECTION IV
STATE INVESTMENT PROJECTS

Table 4. **Investment projects and appropriations (thous. EUR), 2019-2021**

Code of the measure	Name of the institution (enterprise) (implementing the measure)	Title of investment project	Implementation timeline		Total value	Planned funds by 2018	Planned to be used in 2018	*2019*					2020					2021				
			beginning	end				State budget funds	of which			Other sources	State budget funds	of which			Other sources	State budget funds	of which			Other sources
									Special purpose funds and revenue from services and sales of produce	Other EU funds	Basic funding			Special purpose funds and revenue from services and sales of produce	Other EU funds	Basic funding			Special purpose funds and revenue from services and sales of produce	Other EU funds	Basic funding	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01 01 01	Lithuanian Research Centre for Agriculture and Forestry	Modernization and adaptation for R & D of Lithuanian Research Centre of Agriculture and Forestry's Fruit and Vegetable Storage, based in Sodai str. 5, Babtai municipality, Kaunas distr.	2019	2020	1183			533					650									
01 02 01	Lithuanian Research Centre for Agriculture and Forestry	Acquisition of long-term assets	2014	2020	2758	1916	283	287	287				272	272								
Total investment for the projects																						

(n – 1) – the current year, (n) – the first planned year, (n + 1) – the second planned year and (n + 2) – the third planned year.

SECTION V
HUMAN RESOURCES AND MANAGEMENT COSTS

Table 5. Information on human resources, appropriations for their maintenance (thous. EUR)

No.	Institution name	2018				*2019*				2020				2021			
		Number of posts		Wage costs	Management costs*	Number of posts		Wage costs	Management costs*	Number of posts		Wage costs	Management costs*	Number of posts		Wage costs	Management costs*
		total	civil servants			total	civil servants			total	civil servants			total	civil servants		
1.	Lithuanian Research Centre for Agriculture and Forestry	483		4042		491		4502		500		4692		514		4862	
2.																	
3.																	
4.																	
Total																	

* Management costs are calculated in accordance with the requirements of the 2003 Finance Minister of the Republic of Lithuania's July 3 Order No 184 "On Approval of the Classification of Revenue and Expenses of the State and Municipality Budget of the Republic of Lithuania". Information is provided on the appropriation holders listed in Annex 2 to the said Order.
The increase in the number of posts and wage fund is determined by admission of the doctoral students, who have defended dissertation.

SECTION VI
DIRECTIONS FOR ENHANCEMENT OF ACTIVITY EFFICIENCY

The Centre's actions planned to be taken in order to enhance its activity efficiency are presented in Table 6.

Table 6. Directions for enhancement of activity efficiency

General area of activity	Planned work to be done	Expected outcome	Implementation timeline
1. Personnel management	To adapt the existing personnel management software or install new one for creation of documents, reports and generation of summarised information. The existing regulations will be implemented in order to ensure protection of personal data.	Lower time resources, prevention of technical errors	2019-2021
2. Public procurement	To execute public procurement procedures in accordance with the Law on Public Procurement (PPL) and other legislation in the Central Public Procurement Information System (CPP IS) and using the electronic catalogue of the central purchasing organisation (CPO).	Using the CPP IS and CPO, all procedures will be executed in a proper and timely manner. The expected result and benefits of the planned work will be expressed in quantitative or qualitative terms.	2019-2021
3. Management of assets	Assessment of the need for real estate managed by the Centre	Increased utilization efficiency of real estate by gradually abandoning unused real estate	2019-2021
4. Financial management and accounting	To more effectively perform financial management work using IT tools and systems	The Finance Department will more easily ensure the uniform performance of accounting operations, control and compliance with the Public Sector Accounting and Financial Reporting Standards. This will enable achievement of higher work efficiency and reduction of likelihood of errors and will facilitate	2019-2021

		financial accounting management of the institution.	
5. Management of information technologies	Enhancement of cyber security and management of cyber security incidents on LAMMC computer networks.	Upon completion of the planned work it will be possible to effectively manage cyber-attacks of various levels within the Centre and to ensure the security of the information contained in the Centre's networks and computers used for work and scientific analysis.	2019-2021