APPROVED BY
Order No.
of the Minister of Education and Science
and the Minister of Economy of the
Republic of Lithuania
of 2014

ACTION PLAN OF THE PRIORITY "MOLECULAR TECHNOLOGIES FOR MEDICINE AND PHARMACY" OF THE PRIORITY AREA OF RESEARCH AND EXPERIMENTAL (SOCIO-CULTURAL) DEVELOPMENT AND INNOVATION (SMART SPECIALIZATION) "HEALTH TECHNOLOGIES AND BIOTECHNOLOGIES"

CHAPTER I
GENERAL PROVISIONS

1. The action plan of the priority "Molecular Technologies for Medicine and Pharmacy" of the priority area of research and experimental (socio-cultural) development and innovation (smart specialization) (hereinafter - the Priority RDI Area) "Health Technologies and Biotechnologies" (hereinafter - the Action Plan) was drawn up in the implementation of the Implementation Programme of Priority Areas of Research and Experimental (Socio-cultural) Development and Innovation (Smart Specialization) and their Priorities approved by Order No. 411 of the Government of the Republic of Lithuania of 30 April 2014 On the Approval of the Programme for the Implementation of Priority Areas of Research and Experimental (Socio-Cultural) Development and Innovation (Smart Specialization) and Their Priorities (hereinafter - the Programme).

2. The Action Plan was drawn up for establishing the provisions of the implementation of the Priority "Molecular Technologies for Medicine and Pharmacy" (hereinafter - the Priority) of the Priority RDI Area "Health Technologies and Biotechnologies".

3. The Action Plan shall be implemented in 2015–2020.

4. Concepts used in the Action Plan include:

4.1. **Biopharmacy** shall mean the branch of pharmacy related to the use of biomolecules and knowledge about their content and functions for the development of new technologies for medicinal preparations, diagnostic means and targeted drug (medication) delivery to organs, tissues, and cells.

4.2. **Biomarkers** shall mean specific materials, molecules, molecular fragments of materials or biochemical and biophysical processes used for the identification (diagnosis) of the disease and its progress, and for forecasting treatment efficiency.

4.3. Molecular technologies shall mean technologies based on the use of and manipulation with molecules and macromolecules, their combinations, complexes and aggregations; modification of their structure and chemical content; regulation of molecular interactions, self-organisation; analysis of molecular structure and detection of molecules in various environments using singular and holistic analysis methods.

4.4. **Postgenomics** shall mean new paradigm of biosciences that emerged and remain developed after the identification of human genome. Postgenomic technologies are based on the information on human genome and the latest inventions on genome expression, structure and its alterations, editing and regulation of genes.

5. Other concepts used in the Action Plan shall correspond to concepts used in the Programme.

CHAPTER II
DESCRIPTION OF THE CURRENT SITUATION

6. The industry of biotechnology is one of more important high technology sector in Lithuania. Notwithstanding that private industrial and service sectors, related to health and health technologies,

do not take a significant part in GDP, the European experts claim that in the area of biotechnologies Lithuania has already developed considerable business and raised international investments that are significant on a national scale.

7. As of the year 2012, 49 companies with the relevance to the implementation of the Priority projects developed, improved, and used molecular technologies for medicine and biopharmacy in the market. The sales of 28 companies reached EUR 358 million in 2012. 16 companies operated in the sector of pharmaceutical preparations. The sector employed about 500 people and created the added value for EUR 12.7 million. Such companies intensively develop new biotechnological and medicinal products. For example, currently they are at the final stage of development of the first Lithuanian monoclonal antibody for therapeutic purposes.

8. According to the data of the Department of Statistics, corporate investments in research and experimental (social, cultural) development (hereinafter - R&D) made EUR 30 million in 2012. In such companies, 246 researchers participated in R&D activities.

9. In 2012, the export of pharmaceutical preparations made about EUR 317 million. Large part (95 percent) of biotechnological products accounted in other sectors (manufacturing of chemical products) is exported. The perspectives for export depend on the needs and the development of international markets. Global biopharmaceutical market accounted for EUR 112 milliard in 2013. It is forecasted that it will reach EUR 128 milliard by 2015. Global market for generic preparations accounted for EUR 153 milliard in 2012, and it grew by about 9 percent. It is forecasted that the market for generic preparations will keep on growing at a pace of 8.4 percent and will reach EUR 229 milliard by 2017. While the other data forecast that the market for generic preparations will reach EUR 277 milliard, which means the growth by 18 percent in 2011-2016. Global market for biomarkers made EUR 13.5 milliard in 2013 and it is expected that it will grow by 18.5 percent and reach EUR 31.5 milliard in 2013-2018. The market for single nucleotide polymorphism (SNP) genotyping and analysis was assessed as EUR 1.8 milliard and It is forecasted that, growing at a pace of 21.8 percent, it will reach EUR 7.3 milliard by 2019. Global market for bioreagent life sciences accounted for EUR 4.2 milliard in 2013. It is forecasted that it will grow by 16.3 percent, it will reach EUR 8.9 milliard by 2018. Global market for molecular diagnostics (identification of pathogens and their resistance to medicines; the assessment of risk for chronic and life-style related diseases using the analysis of nucleoacids) made EUR 4.4 milliard in 2013. It is forecasted that it will grow by 9.3 percent, it will reach EUR 6.9 milliard by 2018.

10. Research and education institutions of Lithuania maintain close relationship with businesses participating in activities of Stem Cell Research and Regenerative Medicine Innovation Cluster, Complex Solutions for Health Promotion Cluster, Biotechnology Association, Biopharmaceutical Companies Association. Cooperation and synergy between Life Sciences Centre of Vilnius University and National Natural Science and Technology Centre in regards to laser technologies and biomarkers technologies is possible.

11. The potential of Lithuanian science and education institutions in the area of molecular technologies is rather high. Such institutions perform fundamental and contractual research, and, in cooperation with Lithuanian and foreign companies and science institutions, prepare highly qualified specialists. The volume of specialists prepared in this area increases every year.

Challenges and problems addressed by the implementation of the Priority had been relevant for a long time. Significant progress was reached supporting the research from the EU structural funds in 2007-2013. The progress was at a large extend influenced by National Research Programme "Chronic Non-infectious Diseases", financed from the state budged of the Republic of Lithuania from 2010, whose objective was to increase the scientific knowledge necessary to reduce the morbidity, mortality and disability from such diseases, to work out strategic principles of their prevention and develop improved their prevention and diagnostic methods. In formulating a combination of measures necessary for the implementation of the Priority, the progress achieved in the area of research of molecular technologies was taken into account.

Such area important to the well-being of the state and the society as molecular medicine is not planned to be abandoned in the future. From 2015, the implementation of new National Research

Programme "Healthy ageing", financed from the state budged of the Republic of Lithuania is planned. The programme will be aimed at the complex analysis of biomedicine and social medicine issues and problems of healthy ageing in Lithuania and deliver solutions based on research and technological development and the results of fundamental and applied research. It is likely that the programme implementation results will be useful for the implementation of the Priority.

In the implementation of the development programmes of Integrated Centres for Science, Studies and Business (Valleys), research centres containing R&D infrastructure used in activities relevant for the implementation of the Priority are created. The centres for science mentioned involve the Joint Innovative Medicine Centre developed on the infrastructure of the Centre for Innovative Medicine, Joint Life Sciences Centre combining scientific potential for biotechnological and biochemical sciences of Vilnius University, and the Centre for the Latest Pharmaceutical and Health Technologies of the Lithuanian University of Health Sciences in Kaunas launched in 2014. It shall be noted that all these centres serve the needs of the scientific community and private sector as well.

The new EU Framework Programme for Research and Innovation Horizon 2020 provides for several public area tasks, in the solution whereof active involvement of Lithuanian researchers and other specialists is expected in the areas of health, demographic changes, and welfare. In addition, active participation in the implementation of the task in the area of Advanced Science (future and developing technologies) and the task in the area of Industrial Leadership (leadership in the developing of high impact and industrial technologies) is planned.

12. Biotechnological industry of Lithuania has been developed due to targeted cultivation of research and consistent conversion of their results for demanded products. Successful operation of biotechnological and biopharmaceutical companies contributes to the national self-confidence and raises local capital that might be used for the development or the initiation of new businesses. In the nearest future, Lithuania could and should use its unique competitive advantages in the areas of biotechnologies and biopharmacy that are not characteristic to our neighbours; it should stimulate the development of this dynamic business sector.

13. Aiming to implement the Priority, it is worth while to sustain and concentrate R&D resources in such R&D subject areas as biochemistry, biophysics, molecular biology, immunology, genetics, microbiology, bioinformation, and biotechnologies; and sustain competencies in the area of instrumental molecular research methods, organic compound chemistry, polymer chemistry, self-regulating systems, micro and nano (including microliquids) systems. Also for Lithuania that aims to stimulate economic restructuring and competitiveness by research, it is worth while to promote intensive cooperation of science and education institutions with the organisations and centres, performing experimental and clinical medicine research, and businesses, developing knowledge-intensive products. In Lithuania, strong synergistic effect can be reached from the integration of specialists working in the areas of laser physics and biomolecular detection.

CHAPTER III
ALIGNMENT OF THE ACTION PLAN TO THE PROGRAMME AND OTHER STRATEGIC DOCUMENTS

14. The Action Plan contributes to the implementation of the strategic goal and goals provided for in subparagraphs 19.1 and 19.2 of the Programme as well as of the task established in subparagraph 20.2 – to promote R&D and innovation activities, which would allow for the reduction of expenses for the health care and acquisition of medicines, treatment, and nursing in elderly patients, occurring due to the increasing lifetime of humans; increase healthy lifetime; reduction of the pandemic risk and the geographical dispersion of infections; seeking for the reduction of systemic toxic pollution of the environment; growing influence of high quality medicinal specialists due to the globalisation and growing competition.

15. Actions of the Action Plan:

15.1. Create and introduce to the market new technologies, products, processes and methods.

15.2. Encourage the creation of knowledge-intensive business and development of companies having large potential.

15.3 Encourage clusterization, integration into international value creation networks and investments into RDI.

15.4. Promote science and business cooperation, transfer of knowledge and technologies in order to commercialize RDI results.

15.5. To enhance the potential of science and education institutions and their abilities to create and commercialize knowledge and to prepare science and innovation management specialists.

16. In the implementation of the Action Plan the intention is to contribute to changes, which are expected in the implementation of the National Progress Strategy Lithuania 2030 approved by Resolution No. XI-2015 of the Seimas of the Republic of Lithuania On the Approval of the National Progress Strategy Lithuania 2030 of 15 May 2012. Results achieved during the implementation of the Priority will form an integral part of good public health situation ensuring active participation in public life, thus the Priority will mostly contribute to the implementation of the vision of the creation of smart and healthy society.

CHAPTER IV
PRIORITY IMPLEMENTATION STAGES

17. Measures used for the implementation of the Priority have been selected in accordance with the Innovation Development Programme of Lithuania approved by Resolution No. 1281 of the Government of the Republic of Lithuania of 18 December 2013, the National Programme for the Development of Studies, Research and Experimental (Socio-Cultural) Development for 2013–2020 approved by Resolution No. 1494 of the Government of the Republic of Lithuania of 5 December 2012 and its implementing legislation.

18. A set of education and RDI policy measures necessary for the implementation of the Priority has been determined in light of the report presented by international working group of independent experts of 21 February 2014 Priority Implementation Signposts. Pursuant to this report, the following Priority implementation stages can be distinguished:

18.1. The stage of generation of scientific potential critical mass includes activities related to the creation of appropriate environment for the search for new ideas and solutions, development of technologies and prototypes and the readiness to carry out these activities.

18.2. The search for new ideas and solutions include fundamental scientific research of general and targeted nature necessary for the implementation of the Priority.

18.3. The stage of the creation of technologies and their prototypes includes industrial scientific research and experimental development activities necessary for the implementation of the Priority.

18.4. The stage of introduction into the market includes activities related to introducing new products in the market.

18.5. The stage of generating critical mass of business potential includes activities related to the transmission and dissemination of knowledge and innovation, and the use thereof at large.

19. Actions established in subparagraphs 15.1–15.5 are implemented by executing the measures set forth in Annex 1 to the Action Plan.

20. Annex 2 to the Action Plan provides for a set of education and RDI policy measures relevant in each Priority implementation stage.

21. Annex 1 to the Action Plan establishes actions and measures implemented given the set of education and RDI policy measures presented in Annex 2.

CHAPTER V
THEMATIC SPECIFICS OF THE PRIORITY

22. The implementation of the Action Plan is aimed at:

22.1. Examination and development of genome and post-genome research technologies developing and improving reagents and molecular tools and their sets for examination and molecular diagnostics of gene structures and their alterations, gene regulation, epigenomics, targeted genome editing, transcriptomics and metabolomics, proteomics, genetic information transfer and gene activity, individual biological particularities, influences on possible effect of medicines and the progress of disease.

22.2. Examine and develop recombinant protein and cellular technologies, optimising production processes and looking for new medicinal and diagnostic preparations, developing monoclonal antibody technologies of therapeutic and diagnostic purpose, optimising methodologies for immunisation and antibody producer selection, purification, and modification; developing cell and steam cell technologies, creating new cell extraction, manipulation, and storage methods.

22.3. Examine and develop molecular diagnostic technologies and biomarkers, looking for new biomarkers and developing in such directions where effective molecular diagnostics is lacking, analysing the application and implementation to the market of known biomarkers, developing biomarkers technologies with the use of the latest inventions in the area of genome and post-genome, the knowledge on protein interrelation in biological media, tissues, cells, and membranes.

22.4. Examine and develop sensors and liquid manipulation, micro, nano technologies, targeted drug (medication) delivery to specific organism targets (organs, tissues, cells) technologies and methods using knowledge on materials and liquids that consist of structural elements in size from several nanometres to several micrometers, latest knowledge on self-regulating processes in life organisms and their models, knowledge on medicine transportation in tissues and biological liquids, their penetration to cells, interrelation with drug (medication) targets and metabolism.

23. Successful implementation of activities mentioned in subparagraphs 22.1–22.4 of the Action Plan is inseparable from R&D activities carried out by public and private institutions.

24. Important role in the implementation of the Priority is played by Joint initiatives for educational, research and experimental (socio-cultural) development and innovation initiatives (hereinafter - joint initiatives), on the basis whereof problems relevant to sectors of economy are planned to be solved conducting R&D activities on topics relevant to the sectors of economy and hoping for the inclusion of private sector entities in the realization of R&D activity results. While implementing Joint initiatives, activities, mentioned in subparagraphs 22.1-22.4, should allow:

24.1. Introduce to the market reagents and molecular tools for genome and post-genome analysis.

24.2. Introduce to the market new biological or chemical medicinal preparations and cell technology products.

24.3. Apply new diagnostic measures and deliver services using legal (validated) molecular diagnostics methods and molecular tools.

25. Subparagraphs 22.1-22.4 of the Action Plan may be amended by excluding or including activities as suggested by Research and experimental (socio-cultural) development and innovation priority implementation coordination group formed by the Order of the Minister of Economy and the Minister of Education and Science No. V-576/4-409 of June 20, 2014 (hereinafter - Coordination group), taking into account data collected during the monitoring and evaluation of the implementation of the Programme and the Action Plan and other substantiate data and suggestions.

CHAPTER VI
IMPLEMENTATION OF THE ACTION PLAN

26. Possible sources of the implementation of the Action Plan:

26.1. state budget funds of the Republic of Lithuania:

26.1.1. Funds for measures of the 1st priority “Promoting Research, Experimental Development and Innovation” of the European Union structural fund action programme 2014-2020 (hereinafter - the Action Programme), 3rd priority of the Action Programme “Promoting Competitiveness of Small

and Medium Enterprises" and 9th priority of the Action Programme "Public Education and Increase of Human Resource Potential".

26.1.2. Lithuanian state budget funds (excluding the European Union structural funds);

26.2. Funds of scientific and education institutions.

26.3. Funds of private legal persons.

26.4. Funds of the European Union Research and Innovation Programme Horizon 2020 and other international programmes.

27. A part of funds for measures of priority 1 and priority 9 of the Action Programme are intended for direct support of activities necessary for the implementation of the Priority, thus table presented in Annex 1 provides for preliminary amount, which is planned to be used for the implementation of the Priority depending on need.

28. A part of funds for measures of priority 1 of the Action Programme unattributed to any specific priorities of priority areas of research and experimental (socio-cultural) development and innovation (smart specialization) (hereinafter - RDI priorities), the results of the implementation thereof can contribute to the implementation of all or the majority of RDI priorities. These measures are marked in the table presented in Annex 1 to the Action Plan with an asterisk.

29. A part of priority 9 measures implemented using the Lithuanian state budget funds are relevant to the entire education and RDI system, and are not attributed to any specific RDI priorities, however, their implementation results will also may contribute to the implementation of the Priority. These measures are marked in the table presented in Annex 1 to the Action Plan with two asterisks.

30. The measures under Priority 3 of the Operational Programme, although relevant to the entire business climate improvement and business support system, will contribute indirectly to the implementation of the Action Plan, mainly by facilitating the market uptake of new products from the private sector entities and by generating the critical mass of business potential.

In the course of implementing the measures under priority 3, the activities, which are relevant to the Priority implementation, like product and/or product design development, the deployment of key enabling technologies in traditional industries, the production presentation in international exhibitions and fairs, the certification of products and services, which are planned to be exported, new production and service capacity building, the development of infrastructure of business incubators, membership in international networks (platforms), awareness raising with regard to new products and services and consultations for business start-ups, are planned to be supported.

31. The plan is to have funds of science and education institutions attracted by supporting activities related to the creation and renewal of education and RDI infrastructure necessary for the implementation of the Priority (by implementing infrastructure projects, co-funding of science and education institutions is expected). These funds are included in the graph "State budget funds and other funds" in the table presented in Annex 1 to the Action Plan.

32. The plan is to have funds of private legal entities attracted by implementing measures, projects executed on the basis whereof are planned to be co-funded by the state - business companies will have to cover a part of the project value using their own funds. These funds are included in the graph "Private sector funds" in the table presented in Annex 1 to the Action Plan.

33. The Priority may be partially implemented by participating in the European Union Research and Innovation Programme Horizon 2020 and other international programmes. Funds attracted participating in international programmes are not indicated in the table presented in Annex 1 to the Action Plan.

34. The implementation of the Action Plan seeks for quantitative and qualitative results in line with the evaluation criteria set in Annex 1.

35. Deadlines for publishing calls for applications for measures implementing the actions of the Action Plan or for concluding project lists will be planned for in accordance with the plans for publishing calls for applications and concluding project lists prepared by ministries, as provided for in administration rules of 2014-2020 EU fund investment action programmes approved by Resolution No. 1090 of the Government of the Republic of Lithuania of 3 October 2014 On the Approval of Administration Rules of 2014-2020 EU Fund Investment Action Programmes.

36. Development of the priority areas of research and experimental (socio-cultural) development and innovation (smart specialization) and the implementation of priorities thereof are coordinated by the Coordination group.

37. The Programme and the Action Plans of the RDI Priorities are implemented to promote and support interaction and cooperation between business entities and science and education institutions. The promotion of cooperation between business entities and science and education institutions, in accordance with the procedure established by the Ministry of Education and Science and the Ministry of Economy, is implemented by the Agency for Science, Innovation and Technology. The implementation process of the Programme is continuously monitored by analysing and assessing the implementation of the Action Plans of RDI Priorities. Monitoring and assessment of the Programme implementation, in accordance with the procedure established by the Ministry of Education and Science and the Ministry of Economy, is carried out by the Science and Studies Monitoring and Analysis Center (MOSTA).

38. Implementation of the Action Plan is coordinated, facilitated, and analysed as well as evaluated, according to evaluation criteria set in Annex 1 and other aspects on ongoing basis, pursuant to the mechanism of the facilitation, ongoing analysis and evaluation of the implementation of priority areas of research and experimental (socio-cultural) development and innovation (smart specialization) as well as their priorities, approved by the Ministry of Education and Science and the Ministry of Economy.

39. Infrastructure created and equipment purchased during projects planned to be funded from EU funds or other sources and executed on the basis of education and RDI policy measures set in Annex 1 of the Action Plan shall not duplicate equipment currently possessed by science and education institutions or other public sector entities, except for cases when the capacity of the existing equipment is not enough for ensuring the implementation of the Priority.

40. A list of measures presented in Annex 1 to the Action Plan may be amended in light of the results of the planned interim evaluation of the Priority implementation in 2018, also having assessed the needs of potential executors of the measures.

Annex No. 1
to the Action Plan of the Priority
“Molecular Technologies for Medicine and Biopharmacy”
of the priority area of research and experimental (socio-cultural) development
“Health Technologies and Biotechnologies”

Actions, measures, preliminary need for funds for the implementation thereof and evaluation criteria

Actions and measures	Preliminary funds, thousand EUR			Institution in charge	Evaluation criteria of actions and measures	Criteria values	
	European Union structural funds	State budget and other funds	Private sector funds			2018	2023
Action 1. Create and introduce to the market new technologies, products, processes and methods.					**Prototypes (concepts) of products, services, or processes** **Created prototypes (concepts) of products, services or processes within 3 years after the implementation of the project (pcs.)**	**82**	**185**
Measure 1.1. Joint science and business projects contributing to the implementation of smart specialization	3 910			Ministry of Education and Science	Number of projects performed jointly by business and education institutions (pcs.)	2	5
	3 084		2 790	Ministry of Economy	Number of certified products (pcs.)	2	4
Measure 1.2. Support for the creation or development of the company’s RDI infrastructure and implementation of RDI activities (“Intelektas”)	45 736		41 464				
Measure 1.3. Support for company RDI providing innovation vouchers (“Inovaciniai čekiai”)							
Measure 1.4. Support for patenting inventions and design (“InoPatent LT”)							
Measure 1.5. Support for precertification of new products and technologies and for conducting tests in laboratories under actual conditions (“Inosertifikavimas”)							
Action 2. Encourage the creation of knowledge-intensive business and development of companies having large potential.	1 303		145	Ministry of Economy	**New companies having received investments within 3 years after the implementation of the project (pcs.)**	**1**	**2**
Measure 2.1. Support for the provision of innovation consulting services (“Inogeb LT”)					Number of companies receiving financial support in some other form than a subsidy (pcs.)	1	3

Measure 2.2. Support to companies engaged in RDI by financial tools (“Technostartas LT”, “Koinvest LT”)							
Action 3. Encourage clusterization, integration into international value creation networks and investments into RDI.				Ministry of Economy	**New cluster members within 3 years from the start of the implementation of the project (persons)**	**0**	**1**
					Attracted foreign investments into RDI area according to the areas of smart specialization within 3 years after the implementation of the project (thousand EUR)	**42 353***	**95 295***
Measure 3.1. Support for cluster operation (“InoKlaster LT”)	5 722		774		Number of legally binding agreements with international partners (pcs.)	4	10
Measure 3.2. Support for participating in international RDI initiatives (“InoConect LT”)							
Measure 3.3. Support for cluster operation (“InoKlaster LT+”)							
Measure 3.4. Support to the R&D infrastructure of common use ("Infrastructure of technological centres")							
Measure 3.5. Support for raising the direct foreign investments in RDI area (“SmartInvest LT”)	5 792*		-				
Measure 3.6. Support for direct foreign investments in RDI area (“SmartInvest LT+”)	28 962*		32 011*				
Action 4. Promote science and business cooperation, transfer of knowledge and technologies in order to commercialize R&D results:				Ministry of Education and Science	**Business R&D orders executed by science and education institutions (thousand EUR)**	**6**	**7.8**
					Revenues of science and education institutions from intellectual activity results (thousand EUR)	**13.9**	**18.1**
Measure 4.1. Creation of the material base intended for the implementation of joint science and business projects and the development thereof in science and education institutions (creation and development of infrastructure of centres of excellence)	8 690*				Patent applications (pcs.) Doctoral studies conducted together with business entities (number of doctoral students)	5 1	15 2
Measure 4.2. Support for the implementation of RDI activities executed by centres of excellence	11 580*						
Measure 4.3. Implementation of market-oriented science and business projects through cross-border network	268						

Measure 4.4. Encouragement of commercialization of R&D activity results in science and education institutions	122	504**	-				
Action 5. To enhance the potential of science and education institutions and their abilities to create and commercialize knowledge and to prepare specialists:					**External users from foreign science and education institutions, Lithuanian and foreign business companies having used the renewed open access research infrastructure (funds received from these users (thousand EUR)**	**102.7**	**133.5**
					Number of publications in frequently cited periodicals (pcs.)	**341**	**375**
Measure 5.1. Renewal of RDI and education infrastructure in the areas of smart specialization	52 132*	-	-		Number of researchers working in improved research infrastructure base (full-time equivalents)	127	165
Measure 5.2. Creation and development of European research infrastructures as well as integration of Lithuania into the European research infrastructures pursuant to the Lithuanian research infrastructure signpost and ESFRI**	26 066*	1008**	-		Number of spin-offs created in science and education institutions (units)	0	1
Measure 5.3. Renewal of equipment used in open-access centres by areas of smart specialization	7 124	-	-				
Measure 5.4. R&D activities conducted by Lithuanian science and education institutions	1 326	-	-				
Measure 5.5. Subscription of databases necessary for RDI activities	28 960*	-	-				
Measure 5.6. Creation of infrastructure of centres of excellence and parallel laboratories	26 645*	504**					
Measure 5.7. Development of information infrastructure for science and education (LITNET)	4 340*	-	-				
Measure 5.8. Support to activities of parallel laboratories	1 448*	-	-				
Measure 5.9. Attraction of foreign scientists and R&D activities	14 481*	-	-				
Measure 5.10. Promoting activities of innovation and technology transmission centres of science and education institutions	14 480*	-	-				
Measure 5.11. Ensurance of the doctoral study process; doctoral studies, trips, scholarship, R&D, transfer, funds for visits (including foreign doctoral students)	1 287	62 154**	-				

Measure 5.12. Employment of scientists and other researchers in knowledge-intensive enterprises	2 896*	-	-				
Measure 5.13. Attracting and reintegrating scholars	5 792*	-	-				
Measure 5.14. Student R&D activities	2 317*	-	-				
Measure 5.15. Promotion of internships after doctoral studies	7 240*	-	-				
Measure 5.16. Preparation of specialists in smart specialization priority-related study programmes	931	-	-				
Measure 5.17. Development of science popularization system	12 000**						
Measure 5.18. Funding of undergraduate, graduate, integrated and non-degree studies	-	220 032**	-				
Measure 5.19. Support for mobility of Lithuanian and foreign students and teachers	-	3 438**	-				
Measure 5.20. Practical trainings for scientists and other researchers, participation of scientists and other researchers in targeted events of international programmes, participation of Lithuanian researchers in targeted meetings for the preparation of project applications, participation of representatives from Lithuania in the European Union and other international working groups, committees, commissions, related to research and experimental (socio-cultural) development. / Encouragement of participation in H2020	4 503**	258**	-				
Measure 5.21. To ensure funding for R&D activities relevant for the solution of top-level problems strategically important to the public and the state as well as economic development	-	94 314**	-				
Measure 5.22. To support cross-sectoral cooperation in R&D area	-	2 364**	-				
Measure 5.23. To allow researchers to use digital scientific data resources	-	450**	-				

* Funds unattributed to specific priority area of research and experimental (socio-cultural) development and innovation (smart specialization), their implementation results can contribute to the implementation of all or the majority of RDI priorities.

** Funds for measures relevant to the entire RDI system and are unattributed to specific RDI priorities, their implementation results will also contribute to the implementation of the Priority.

Annex No. 2
to the Action Plan of the Priority
"Molecular Technologies for Medicine and Biopharmacy"
of the priority area of research and experimental (socio-cultural) development
"Health Technologies and Biotechnologies"

Set of education and RDI policy measures

<table>
<tr><th>Generation of science potential critical mass</th><th colspan="2">Search for new ideas and their solutions</th><th>Creation of technologies and their prototypes</th><th>Introduction into the market</th><th>Generation of business potential critical mass</th></tr>
<tr><td>Measure 5.1. Renewal of RDI and education infrastructure in the areas of smart specialization</td><td colspan="4">Measure 1.1. Joint science and business projects contributing to the implementation of smart specialization</td><td>Measure 3.1. Support for cluster operation ("InoKlaster LT")</td></tr>
<tr><td>Measure 5.2. Creation and development of the European research infrastructures and Lithuania's integration into the European research infrastructures pursuant to Lithuanian research infrastructure signpost and ESFRI</td><td colspan="3">Measure 1.2. Support for the creation or development of the company's RDI infrastructure and implementation of RDI activities ("Intellect LT")</td><td></td><td>Measure 3.2. Support for participating in international RDI initiatives ("InoConect LT")</td></tr>
<tr><td>Measure 5.3. Renewal of equipment used in open-access centres by areas of smart specialization</td><td>Measure 5.4. R&D activities conducted by Lithuanian science and education institutions</td><td colspan="3">1.5. Support for precertification of new products and technologies and for conducting tests in laboratories under actual conditions ("Innocertification")</td><td>Measure 5.12. Employment of scientists and other researchers in knowledge-intensive enterprises</td></tr>
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<tr><td>Measure 5.13. Attracting and reintegrating scholars</td><td colspan="2">Measure 3.2. Support for participating in international RDI initiatives (“InoConnect LT”)</td><td rowspan="15">-</td><td rowspan="15">-</td></tr>
<tr><td>Measure 5.15. Promotion of internships after doctoral studies</td><td colspan="2">Measure 5.14. Student R&D activities</td></tr>
<tr><td colspan="2">Measure 5.9. Attraction of foreign scientists and R&D activities</td><td></td></tr>
<tr><td>Measure 5.16. Preparation of specialists in smart specialization priority-related study programmes</td><td></td><td>Measure 1.4. Support for patenting inventions and design (“InoPatent LT”)</td></tr>
<tr><td>Measure 5.17. Development of science popularization system</td><td rowspan="13">-</td><td>Measure 4.3. Implementation of market-oriented science and business projects through cross-border network</td></tr>
<tr><td>Measure 5.18. Funding of undergraduate, graduate, integrated and non-degree studies</td><td rowspan="13">-</td></tr>
<tr><td>Measure 5.19. Support for mobility of Lithuanian and foreign students and teachers</td></tr>
<tr><td>Measure 5.10. Practical trainings for scientists and other researchers, participation of scientists and other researchers in targeted events of international programmes, participation of Lithuanian researchers in targeted meetings for the preparation of project applications, participation of representatives from Lithuania in the European Union and other international working groups, committees, commissions, related to research and experimental (socio-cultural) development. / Encouragement of participation in H2020</td></tr>
<tr><td>Measure 5.22. To support cross-sectoral cooperation in R&D area</td></tr>
<tr><td>Measure 5.23. To allow researchers to use digital scientific data resources</td></tr>
<tr><td>Measure 4.1. Creation of the material base intended for the implementation of joint science and business projects and the development thereof in science and education institutions (creation and development of infrastructure of centres of excellence)</td></tr>
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Measure 4.2. Support for the implementation of RDI activities executed by centres of excellence				