APPROVED
by Order No V-133/4-88 of the Minister of Education and Science and the Minister of Economy of the Republic of Lithuania of 20 February 2014

ACTION PLAN OF THE PRIORITY "FLEXIBLE TECHNOLOGY SYSTEMS IN PRODUCT DEVELOPMENT AND PRODUCTION" OF THE PRIORITY AREA OF RESEARCH AND EXPERIMENTAL (SOCIO-CULTURAL) DEVELOPMENT AND INNOVATION (SMART SPECIALIZATION) "NEW MANUFACTURING PROCESSES, MATERIALS AND TECHNOLOGIES"

CHAPTER I
GENERAL PROVISIONS

1. The action plan of the priority "Flexible Technology Systems in Product Development and Production" of the priority area of research and experimental (socio-cultural) development and innovation (smart specialization) (hereinafter - the Priority R&D Area) "New Manufacturing Processes, Materials and Technologies" (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 "Flexible Technology Systems in Product Development and Production" (hereinafter - the Priority) of the Priority R&D Area "New Manufacturing Processes, Materials and Technologies".

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

4. Concepts used in the Action Plan:

4.1. **Innovative robotic technologies** shall mean technologies to reduce the cost of production and service provision: intelligent mechatronics and other engineering solutions related to robotics integrated into technological processes of production, assembly, logistics, service provision, or into self-contained functional robotic devices intended for the identification of products (elements, blanks and materials), spatial positioning, dosage, treatment and control of their parameters allowing to improve the product (service) quality, increase productivity, conserve resources, increase flexibility of processes and improve the quality of jobs, and reducing the cost of production and service provision, especially for products and services individualised according to the needs of users.

4.2. **Management systems of intelligent production and service provision processes** shall mean individualised, integrated or autonomous information communication technology (hereinafter - ICT) systems with organizational appurtenances necessary for their operation, as well as self-learning and intuitive interface systems for a flexible and comprehensive management of production (service provision) and other product (service) value chain processes - development, production, supply, logistics, sales, servicing and recovery: to collect, store, process and visualize data, diagnose and manage technological devices and (or) to ensure an optimal life cycle of a product or service in real-time (remotely manage existing products or service provision, collect, anonymise and analyse data, etc.).

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 economic crisis has forced the Lithuanian manufacturing companies to increase productivity; however, the growth of productivity was not due to investments in technological modernization and innovation, but due to the reduction of the number of employees. A large part of the Lithuanian industry operates in less profitable areas of the value-added chain: sells raw materials, provides collection services or production capacity, produce products with low added value. Part of high-tech industry is still low mostly due to weak cross-sectorial integration, although the deployment of advanced high technologies in conventional production provides such opportunities.

7. Currently, many companies operating in Lithuania have the potential to participate in the implementation of the Priority and to use technologies and products developed during its implementation. Flexible product development systems are relevant to 30 companies, materials and resource-efficient technologies (e.g., technologies and tools for smart stamping, casting and cutting) – to 20 companies, process automation – to 40 companies, and networks and systems integration solutions – to 20 companies. In 2011, the added value created by all companies potentially related to the Priority amounted to 1.3 billion euros.

8. In 2011, exports of all companies potentially related to the Priority amounted to about 870 million euros. There are rapidly developing global markets in some segments of this broad Priority, for instance, it is predicted that robotic installation in production will increase by 26 per cent from 2014.

9. Business investments into research and experimental (socio-cultural) development (hereinafter - R & D) projects in 2007-2013 amounted to about EUR 138 million.

10. Lithuanian academic and research institutions and businesses closely cooperate participating in the activities of Smart Technologies Cluster, Laser and Engineering Technology Cluster, Lithuanian Laser Association, Association of Photovoltaic Technologies and Businesses, and Lithuanian Engineering Industries Association (LINPRA). Technology splashing between different industry segments is promising.

11. The potential of Lithuanian scientific and educational institutions in the field of mechanics, computer science, electrical and electronics and measurement engineering is relatively high. Significant progress has been already achieved in carrying out scientific research, and in some cases, innovations are successfully commercialized. High-level international scientists engaged in R & D activities in all areas relevant to the Priority (laser physics, materials science, semiconductor physics, optics) are concentrated in science and higher education institutions. These areas of training increases every year.

Significant progress has already been achieved using measure funds of 2007-2013 European Union structural funds period for supporting research, as researchers engaged in R & D activities in the areas of virtual, robotic and intelligent technologies due to active cooperation with the private sector in commercializing the results of research have great opportunities to participate in the implementation of measures actively supported by the state to promote education-business cooperation.

Such area as research of flexible product development and production technology systems, quite important to such country's economy, will not be abandoned in the future. A new national research programme *Towards Future Technologies* supported by the funds of the state budget of the Republic of Lithuania is intended to be launched from 2015, aiming to create a favourable international context and conditions for research that would lay the foundations for the development of future technologies, promotion of innovation and increase of the competitiveness of Lithuania, will significantly contribute to the implementation of the Priority.

In the implementation of the development programmes of Integrated Centres for Science, Studies and Business (Valleys), research centres containing RDI infrastructure used in activities relevant for the implementation of the Priority are created. Science and Technology Centre, and Technological Business Incubator of Kaunas University of Technology, which started operating in 2014 and where the potential of such important scientific fields as mechanics and computer engineering is concentrated for the implementation of the Priority and the conditions to implement

new ideas into practice are provided, can be mentioned as an example of such research centres. The largest research centre in Lithuania - National Centre of Physical Sciences and Technology connecting scientific potential in the field of electric, electronics, and measurement engineering of Vilnius University and the Centre for Physical Sciences and Technology of the State Research Institute is developed in Vilnius, in Saulėtekis campus should also be mentioned.

The new EU Framework Programme for Research and Innovation *Horizon 2020* provides for several tasks of Industrial leadership - the Leadership in developing industrial and enabling technologies, and introduction of innovations in small and medium-sized enterprises in the solution whereof active involvement of Lithuanian researchers and other specialists is expected. Active involvement of Lithuanian researchers in the implementation of the public task "Fighting climate change, resource efficiency and raw materials" is also expected.

Despite the fact that systematic support for R & D activities relevant to the implementation of the Priority began in the 2007-2013 EU Structural Funds period, the scope of commercialization is not large enough and has no apparent effect on the national economy. Thus, successful implementation of the Priority is expected to fill this gap.

12. In order to implement the Priority, it is useful to consolidate and concentrate R & D resources in the thematic areas of R & D, such as mechanics and robotics, engineering mechanics and design, manufacturing technologies, informatics and telecommunications technologies, design, electrical and control engineering, process control, automatics and control technologies. Preparation of highly qualified specialists for the economic sectors involved in these activities is also relevant. Lithuania, which seeks to promote the country's economic transformation and competitiveness by using its available resources, should combine design and creative initiatives to develop new engineering and consumer products, commercialize and increase part of the products exported in the Lithuanian gross domestic product. Pursuing qualitative implementation of the Priority and expecting practical results, the modernisation, if necessary, of the R & D infrastructure by responding to the latest trends of the Lithuanian economy and global innovation development, development of an integrated engineering innovation support system allowing transfer of new ideas and products from the initial prototypes or immature technology solutions to the level of commercially developed products and technologies intended for the entire lifecycle of the product and involving the providers of R & D innovations of Lithuania and other Baltic Sea countries, should be useful.

CHAPTER III
CONFORMITY OF THE ACTION PLAN TO THE PROGRAMME AND OTHER STRATEGIC LEGISLATION

13. 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 to the implementation of the task established in subparagraph 20.1, namely to promote R & D and innovation activities, which would allow creating advanced technologies, innovative processes, products and services, enhance business productivity and business process efficiency and reduce costs, increase supply chain efficiency and synchronization for flexibility, transfer from mass production to mass customization, and switch to more profitable value-added chain (focus on international markets: to become at least a technological partner in the international value chains, offer high value-added products based on new knowledge and technologies with distinct characteristics, better adaptation, strengthen brand development, including product design).

14. Actions required for the implementation of the Action Plan:

14.1. to create and introduce new technologies, product processes and methods in the market;

14.2. to promote the creation of knowledge-intensive business, and the development of enterprises with huge potential;

14.3. to encourage clusterization, integration into international value creation networks and investments into RDI and innovations;

14.4. to promote cooperation between research and business, transmission of knowledge and technologies with the aim to commercialize R&D results;

14.5. to enhance the potential of scientific and education institutions and their abilities in the creation and commercialization of knowledge, also, to prepare research and innovation management specialists.

15. In the implementation of the Action Plan the intension is to contribute to changes, which are expected in the implementation of National Progress Strategy for 2014-2020 approved by Resolution No. 1482 of the Government of the Republic of Lithuania *On the Approval of the National Progress Strategy for 2014-2020 of 28 November 2012* which, in turn, implements 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 should contribute in solving a task which is important to Lithuanian economy, namely to promote sustainable use of resources and ensure the stability of ecosystems.

CHAPTER IV
PRIORITY IMPLEMENTATION STAGES

16. 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.

17. 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:

17.1. 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;

17.2. the search for new ideas and solutions includes fundamental scientific research of general and targeted nature necessary for the implementation of the Priority;

17.3. 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;

17.4. the stage of introduction into the market includes activities related to introducing new products in the market;

17.5. 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.

18. Actions established in subparagraphs 14.1–14.5 are implemented by executing the measures set forth in Annex 1 to the Action Plan.

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

20. 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

21. The implementation of the Action Plan is aimed at creating new technologies, developing their functionality, adapting to changing production conditions and possibilities for deployment in other spheres of application, such as:

21.1. research and development of technologies for virtual product development;

21.2. research of material-resource efficient production and service provision methods based on new technologies;

21.3. research and development of innovative robotic technologies that reduce production and service costs;

21.4. creation of new intellectual production and service process management systems and their development techniques.

22. Successful execution of activities mentioned in subparagraphs 21.1–21.4 is inseparable from RDI activities carried out by public and private institutions.

23. 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. The implementation of the joint initiatives considering the activities provided for in subparagraphs 21.1-21.4 of the Action Plan and the actions set out in subparagraphs 14.1-14.5 of the Action Plan, R & D activities are carried out in order:

23.1. to look for concepts of integrated methodologies and technologies for the development of customized and mass products, and evaluate them;

23.2. to assess clustering and energy efficiency of materials and resource efficient technologies prevailing in the country;

23.3. to analyse new and smart robotic system structure and functioning algorithms, to search for new artificial intelligence algorithms and their realization opportunities, base methodologies for the development of modular mechatronic systems, to analyse the interaction and compatibility between models, and set standards of their connections;

23.4. to analyse existing management technologies of production and other product value chain processes and methodologies, and to look for new solutions in the context of needs for the development of processing industry of Lithuania, Europe and other countries;

23.5. to integrate forecasting of technological and functional behaviour of conceptual product development (design) and product into the virtual product development process;

23.6. to create customized systems for energy and performance monitoring and process control, and energy-efficient technologies and tools;

23.7. to produce and test models that reflect the interaction between robotic systems and virtual reality elements;

23.8. to improve technologies to manage production and other product value chain processes and methodologies, and to develop new solutions and concepts;

23.9. to create customized integrated and automated product development systems;

23.10. to analyse and develop waste-free 3D print production processes to ensure efficient use of materials, to search for effective solutions for energy and other resource efficiency during production and use, and develop related technologies;

23.11. to create prototypes of smart flexible autonomous robotic systems, test their resistance to external influences and assess their productivity, and create easily scalable modular robotic system prototypes;

23.12. to create prototypes of technologies to manage smart, improved and new trial production and other product value chain processes.

24. The implementation of the joint initiatives aims that activities provided for in subparagraphs 23.1-23.12 of the Action Plan allow:

24.1. to introduce into the market standard and customized technologies and systems for creating new higher value-added products;

24.2. to introduce into the market standard and customized production technologies for materials and resource efficiency;

24.3. to apply a comfortable application creation environment in specific areas of production, to develop systems with artificial intelligence and specific systems, to file patent applications, to develop concepts of standard mechatronic system modules for easy connection, and to prepare these modules for production, to test and introduce onto the market systems developed on this basis;

24.4. to introduce onto the market standard and customized management systems for intelligent manufacturing, supply chain and other business processes.

25. On a proposal from a research and experimental (socio-cultural) development and innovation priority implementation coordination group formed by Order No.V-576/4-409 of the Minister of Education and Science, and the Minister of Economy of 20 June 2014 (hereinafter - the Coordination Group), subparagraphs 23.1-23.12 of the Action Plan may be amended by deleting or supplementing the activities provided considering data collected during monitoring and evaluation of the implementation of the Programme and Action Plan, or other reasonable data and suggestions.

CHAPTER VI
IMPLEMENTATION OF THE ACTION PLAN

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

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 entities;

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

27. Part of the funds for measures of priority 1 and priority 9 of the Action Programme are intended for the 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. Part of the 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. Part of priority 9 of the Action Programme and 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 can 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. Measures of priority 3 of the Action Programme though are relevant to the entire system to improve the business environment and to provide support for business shall indirectly contribute to the implementation of the Action Plan, mainly by allowing the private sector to present new products on the market and generating a critical mass of business potential.

By implementing the measures of priority 3 of the Action Programme, the support for activities relevant to the implementation of priorities, such as the creation of the design of products, deployment of enabling technologies in traditional industries, participation and products presentation in international exhibitions (or) fairs, certification of products and services planned to be exported,

raising new manufacturing and service capacities, development of infrastructure of business incubators, membership in international networks (platforms), raising awareness of new products and services, and business start-up advice, is planned.

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, partial contribution of science and research institutions using their own funds 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 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*. Implementing institutions are recommended to take into account a set of education and RDI policy measures necessary for implementing the Priority presented in Annex 2.

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 action plans of RDI priorities are implemented by promoting and supporting the interaction and cooperation between businesses, and research and academic institutions. The Agency for Science, Innovation and Technology, in the procedure laid down by the Government, carries out the promotion of cooperation between business entities and academic and research institutions. The implementation of the Programme is monitored by continuously analysing and assessing the implementation of action plans of RDI priorities. The implementation of the Programme is monitored and assessed in the procedure laid down by the Government by Research and Higher Education Monitoring and Analysis Centre.

38. 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.

39. 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, also having assessed the needs of potential executors of the measures.

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Annex 1 to the Action Plan of the Priority "Flexible Technology Systems in Product Development and Production" of the priority area of research and experimental (socio-cultural) development and innovation (smart specialization) "New Manufacturing Processes, Materials and Technologies"

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. To create and introduce new technologies, products, processes and methods into the market:					**Created prototypes (concepts) of products, services or processes within 3 years after the implementation of the project (pcs.)**	**11**	**24**
Measure 1.1. Joint science and business projects contributing to the implementation of smart specialization	3 406	-	-	Ministry of Education and Science	Number of projects jointly executed by business, science and education institutions (pcs.)	3	7
	534	-	483	Ministry of Economy	Number of certified products (pcs.)	0	1
Measure 1.2. Support for the creation or development of the company's RDI infrastructure and implementation of RDI activities ("Intelektas")	6 606	-	6 010				
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. To encourage the creation of knowledge-intensive business and development of companies having large potential:	1 303	-	145		**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. To promote clusterization, integration into international value creation networks and investments in RDI and innovation:					**New cluster members within 3 years from the start of the implementation of the project (persons)**	**2**	**4**
					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")	1 225	-	949		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 investments in cluster („InoKlaster LT+")							
Measure 3.4. Support for attracting direct foreign investments in RDI area ("Smartinvest LT")	5 792*	-	-				
Measure 3.5. Support for direct foreign investments in RDI area ("SmartInvest LT+")	28 962*	-	32 011*				
Action 4. To promote science and business cooperation, transfer of knowledge and technologies in order to commercialize RDI results:				Ministry of Education and Science	**Business RDI orders executed by science and education institutions (thousand EUR)**	**1 414**	**1 838**
					Revenues of science and education institutions from intellectual activity results (thousand EUR)	**6,1**	**7,9**
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)	4 1	10 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	93	-	-				
Measure 4.4. Promoting of the commercialization of results of R & D activities in science and education institutions	81	504**	-				
Action 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:					**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))**	**32,1**	**41,7**
					Number of publications in frequently cited periodicals (pcs.)	**60**	**72**
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)	28	36
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 smart specialization areas	550	-	-				
Measure 5.4. R & D activities carried out by Lithuanian science and education institutions	872	-	-				
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	26 640*	504**	-				
Measure 5.7. Development of information infrastructure for science and education (LITNET)	4 340*	-	-				
Measure 5.8. Attraction of foreign scientists and R&D activities	14 481*	-	-				
Measure 5.9. Promoting activities of innovation and technology transmission centres of science and education institutions	14 480*	-	-				
Measure 5.10.Assurance of the doctoral study process; doctoral studies, trips,	644	62 154**	-				

scholarship, R&D, transfer, funds for visits (including foreign doctoral students)							
Measure 5.11. Employment of scientists and other researchers in knowledge-intensive enterprises	2 896*	-	-				
Measure 5.12. Attracting and reintegrating scholars	5 792*	-	-				
Measure 5.13. Student R&D activities	2 317*	-	-				
Measure 5.14. Promotion of post-doctoral internships	7 240*	-	-				
Measure 5.15. Preparation of specialists in smart specialization priority-related study programmes	233	-	-				
Measure 5.16. Development of science popularization system	12 000**						
Measure 5.17. Funding of undergraduate, graduate, integrated and non-degree studies	-	220 032**	-				
Measure 5.18. Support for mobility of Lithuanian and foreign students and teachers	-	3 438**	-				
Measure 5.19. 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 5.20. 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 5.21. To support cross-sectorial cooperation in R&D area	-	2 364**	-				
Measure 5.22. 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.

"Flexible Technology Systems in Product Development and Production" of the priority area of research and experimental (socio-cultural) development and innovation (smart specialization) "New Manufacturing Processes, Materials and Technologies"

SET OF EDUCATION AND RDI POLICY

<table>
<tr><th>Generation of science potential critical mass</th><th>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="3">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 rowspan="2">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="2">Support for the creation or development of the company's RDI infrastructure and implementation of RDI activities ("Intelektas LT")</td><td></td><td>Measure 3.2. Support for participating in international RDI initiatives ("InoConect LT")</td></tr>
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<tr><td>Measure 5.14. Promotion of internships after doctoral studies</td><td colspan="2">Measure 3.2. Support for participating in international RDI initiatives (“InoConect LT”)</td><td rowspan="14">-</td></tr>
<tr><td>Measure 5.15. Preparation of specialists in smart specialization priority-related study programmes</td><td colspan="2">Measure 5.13. Student R&D activities</td></tr>
<tr><td colspan="2">Measure 5.8. Attraction of foreign scientists and R&D activities</td><td>Measure 5.8. Attraction of foreign scientists and R&D activities</td></tr>
<tr><td>Measure 5.16. Development of science popularization system</td><td rowspan="12">-</td><td>-</td></tr>
<tr><td>Measure 5.17. Funding of undergraduate, graduate, integrated and non-degree studies</td><td rowspan="12">-</td></tr>
<tr><td>Measure 5.18. Support for mobility of Lithuanian and foreign students and teachers</td></tr>
<tr><td>Measure 5.19. 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 5.21: To support cross-sectorial cooperation in R&D area</td></tr>
<tr><td>Measure 5.22. 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>
<tr><td>Measure 4.2. Support for the implementation of RDI activities executed by centres of excellence</td></tr>
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