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

ACTION PLAN OF THE PRIORITY STRUCTURAL AND COMPOSITE MATERIALS OF THE PRIORITY AREA OF NEW PRODUCTION PROCESSES, MATERIALS AND TECHNOLOGIES OF THE RESEARCH AND (SOCIO–CULTURAL) DEVELOPMENT AND INNOVATION (SMART SPECIALISATION)

CHAPTER I
GENERAL CLAUSES

1. The action plan of the Structural and Composite Materials of the New Production Processes, Materials and Technologies priority area of the Research and (Socio-Cultural) Development and Innovation (smart specialisation) (hereinafter referred to as the of the 'RDI Priority Area') (hereinafter referred to as the 'Action Plan') was developed in the course of implementation of the Programme on the approval of the programme on the implementation of the priority areas of research and (socio-cultural) development and innovation (smart specialisation) and their priorities (hereinafter referred to as the' Programme') approved by the Resolution No. 411 of the Government of the Republic of Lithuania on 30 April 2014.

2. The Action plan was developed in order to establish the clauses of implementation of the Priority Structural and Composite Materials of the priority area New Production Processes, Materials and Technologies (hereinafter referred to as the 'Priority') of the RDI priority area.

3. The Action Plan will be implemented in 2015-2020.

4. The terms used in the Action Plan shall have the following meanings:

4.1. **Innovative structural solutions** are innovative proposals regarding production, shape, arrangement and construction of structural systems (structures, machinery, equipment, devices) and their parts, improving production, behaviour or operating properties of the systems in question.

4.2. **Composite materials** are materials made from two or more constituent materials with significantly different physical or chemical properties, that when combined, produce a material with characteristics different from the individual components.

4.3. **Structural materials** are materials used to produce building constructions, parts of machinery, equipment, devices and other installations.

4.4. **Balanced structural solutions** are combination of different and frequently contradicting requirements to the ones applied to structural systems throughout the lifecycle (e.g. price, durability, energy efficiency, environmentally-friendliness, impact on climate change).

5. Other terms used in the Action Plan have the same meanings as the terms used in the Programme.

CHAPTER II
DESCRIPTION OF THE CURRENT SITUATION

6. Researches of innovative structural and composite materials are highly important in the pursuit of the Lithuanian energy independence, since it would enable developing innovative low-energy building constructions, improving the constructions and energy solutions of buildings under construction.

7. About 500 companies concerned about innovations that may be developed in the course of the Priority implementation are engaged in the sectors of production of paper and paper products, production of rubber and plastic products, production of major metals, production of metal manufactured articles, other than machinery and equipment, waste collection, management and

disposal, materials recovery, specialised building activities and production of other non-metal mineral products. There are about fifty companies working on development of innovative structural and composite materials and constructions. The construction sector in Lithuania accounted for 6-10% of the GDP in 2005-2011 in total, employing from 7 to 12% of the total labour force in the country. The Lithuanian Construction Technology Platform established in 2009 has 18 members representing scientific and business entities. In 2011, the companies working in the construction sector experienced 25% increase in their incomes, amounting to EUR 3,2 billion.

8. According to 2011 statistics, the export of structural materials amounted to about EUR 810 million, including export of metal and concreate products used in construction amounting to EUR 73 million. Concrete production volumes are expected to grow by 60% by 2020. Volumes of sale of sustainable technological solutions and products will reach EUR 3 billion per year, application of innovative materials will allow reducing carbon dioxide emission by 33%, while recycled or reused materials will account for about 20% in the production of new products. Rapidly-growing demand for carbon fibre is predicted (reaching 130 thousand ton in 2020). By 2020, up to 70% of all polymer waste has to be recycled and 162 thousand jobs have to be created.

9. The value of investments made by business community into research and (socio-cultural) development (hereinafter R&D) projects in 2007-2013 was about EUR 0,6 million (this amount does not include investments into the modernisation of production lines and improvement of processes).

10. Lithuanian higher education and research institutions and business companies closely cooperate in the activities of the Smart Technology Cluster, Plastics and New Material Cluster. Synergy can be expected from joint efforts of scientists from different fields and different institutions with the industry and such clusters, as: MONAK, New Generation Science and Business Cluster, Secondary Raw Material Processing Technology Production and R&D Promotion Cluster, Thermal Insulation Innovation Cluster etc.

11. Lithuanian higher education and research institutions show relatively high potential in the fields of construction, materials, chemistry, information engineering, while significant progress has already been achieved in scientific researches, while in individual cases innovations are successfully commercialised. Higher education and research institutions employ scientists of high international level who are engaged in R&D activities in all areas relevant for the Priority (physics, chemistry). Increasing number of specialists is trained in these fields every year.

Scientific researches financed under the measures of the European Union Structural Funds in 2007-2013 brought significant progress, since researchers carrying out R&D activities in the fields of civil engineering, material science through active cooperation with the private sector in commercialisation of the outcomes of scientific research have vast possibilities of participating in the measures actively supported by the state, which are aimed at promoting science-business cooperation, and facing substantial demand of building sectors for application of the latest structural materials, receive a big number of business orders.

Research of new structural and composite materials being of high importance for the national economy is not intended to be neglected in the future either. From 2015, a new national scientific programme "Towards the Future Technology" is planned to be implemented from the national budget funds of the Republic of Lithuania, which with the goal of creating favourable international context and conditions for scientific research to put the foundation for developing future technologies, promoting innovations and enhancing Lithuania's competitiveness, will make a substantial contribution to the implementation of the Project.

In the course of the implementation of the Development Programmes of Integrated Science, Studies and Business Centres (Valleys), research centres are being founded in the higher education and research institutions, the R&D infrastructure available in which is used for the activities of relevance for the Priority implementation. Civil Engineering Research Centre at Vilnius Gediminas Technical University should be mentioned as one of such scientific research centres, involvement of individual researchers working in the National Centre of Physical and Technology Sciences of the largest in the country Lithuanian Scientific Research Centre under development in dealing with the problems relevant for the implementation of the Priority. National Marine Science and Technology

Centre being established in Klaipeda University should also be mentioned, in which infrastructure intended for researching marine structure reliability is planned to be developed. The above-mentioned scientific research centres will serve the needs not only of the scientific community but also of private sector.

The new European Union scientific research and innovation programme Horizon 2020 stipulates the Industrial leadership objective, i.e. leadership in developing high-impact and industry technologies, active involvement of Lithuanian researchers and other specialists is expected in pursuit of this objective. Lithuanian researchers are expected to take active part also in the implementation of such Social objectives, as fight against climate change, efficient use of resources and supply of raw materials, Advance science objective "Future Technologies and Technologies under Development".

Despite the systematic support of the R&D activities important for the Priority implementation was taken in 2007-2013, during the period of the European Union Structural Funds, commercialisation volumes are still not sufficiently big and do not make noticeable impact on the national economy. The Priority being successfully implemented is expected to fill in this gap.

12. In order to implement the Priority, R&D resources should be strengthened and concentrated in the following subject fields of the R&D: building engineering (constructions of buildings and structures), material engineering (cement composites, structural polymers, dispersive fibre, chemical additives, composite, nanostructural materials and reinforcing fibre of exceptional properties), construction engineering (physical, digital modelling, analysis of structural properties), technologies of structural materials (self-compacting, disperse-reinforced, light concrete), applied physics, polymer chemistry (innovative polymer binders for secondary recycling components binding), machinery engineering (theory of deformations and strains of composites with exceptional properties, innovative production technologies of composite materials). Furthermore, Lithuania, aspiring to promote the reorganisation and competitiveness of the national economy through the resources available, should enhance business capacities to contribute to development and launching of the developed technologies in the following economic fields: production of building materials, design and production of structures, production of composite materials and structures, ship design and building, plastic material production and recycling industry, packing material industry, paper production and recycling industry, wood composite production, etc. In order to achieve quality implementation of the Priority with the expected practical results, if needed, the R&D infrastructure should be modernised, launching of newly-developed products on the market, technologies of preparation and recycling of secondary raw materials should be supported. Subjects of practical training and lectures teaching students to apply scientific ideas into production should be introduced into the curricula.

CHAPTER III
COMPLIANCE OF THE ACTION PLAN WITH THE PROGRAMME AND OTHER STRATEGIC LEGISLATION

13. The Action Plan contributes to the implementation of the strategic goal and objectives of the Programme, as laid down in Subparagraphs 19.1 and 19.2, and the fulfilment of the objective established in Subparagraph 20.4, i.e. to foster R&D and innovation activities creating the environment for developing advanced technologies, innovative processes, products and services, for increasing business productivity and efficiency of business processes by cutting down on costs, for increasing the efficiency and synchronisation of the supply chain in pursuit of flexibility, for moving on from large-scale production to large-scale application, for moving to more profitable links of the value added chain (to orientate towards the international markets: to become at least technological partner in the international value chains, to offer high value added products based on new knowledge and technology, with exclusive properties, better applicability, to enhance trademark development including product design).

14. The Action Plan consists of the following actions:

14.1. development of innovative technologies, products, processes and methods and their application on the market;

14.2. promotion of start-up of knowledge-intensive businesses, development of companies with great potential;

14.3. promotion of clustering, integration into international value creation networks and investments into the R&D and innovations;

14.4. promotion of cooperation between science and business, sharing of knowledge and technologies in order to commercialise the R&D outcomes;

14.5. enhancement of the potential and competences of the higher education and research institutions to develop and commercialise knowledge and to train specialists.

15. Implementation of the Action Plan is intended to contribute to the changes that are expected to take place in the course of the implementation of the National Progress Strategy under the Lithuania's Strategy for the Progress of Lithuania 'LITHUANIA 2030' approved by Resolution of the Seimas (Parliament) of the Republic of Lithuania No XI-2015 of 15 May 2012 'On the approval of the National Progress Strategy 'Strategy for the Progress of Lithuania 'LITHUANIA 2030'. The results to be produced during the Priority implementation should help in dealing with the task of high importance for the Lithuanian economy, i.e. to foster sustainable use of resources and to ensure stability of ecosystems.

CHAPTER IV
STAGES FO THE PRIORITY IMPLEMENTATION

16. Measures used for the Priority implementation were chosen in accordance with the Lithuanian Innovation Development Programme, approved by the Resolution of the Government of the Republic of Lithuania of 18 December 2013 No. 1281, National Development Programme of the Studies, Research and (socio-cultural) Development for 2013-2020, approved by the Government of the Republic of Lithuania of 5 December 2012, Resolution No. 1494 and their implementing legislation.

17. The set of the measures of the studies, R&D and innovation policies needed for the Priority implementation was established in accordance with the report drawn by the international working group of independent experts on 21 February 2014 - Guidelines for the Implementation of Priorities. Considering the above-mentioned report, the following stages of the Priority implementation are distinguished:

17.1. the stage of critical mass generation of scientific potential embraces the activities concerning the creation of the environment suitable for searching for innovative ideas and solutions, developing technologies and prototypes and making preparations for carrying out the latter activities;

17.2. search for innovative ideas and their solutions embraces fundamental scientific researches of general and specific nature needed for the implementation of the Priority;

17.3. the stage of the development of technologies and their prototypes embraces industrial scientific researches and experimental applied activities needed of the implementation of the Project;

17.4. the stage on the introduction to the market embraces the activities related with the placement of innovative products onto the market;

17.5. the stage of critical mass generation of business potential embraces the activities related with the transfer and dissemination of knowledge and innovations in society and their application on a broad scale.

18. Actions laid down in Subparagraphs 14.1-14.5 of the Action Plan will be carried out when implementing the measures established in Annex No. 1 to the Action Plan.

19. Annex 2 to the Action Plan establishes the set of measures of the studies and R&D and innovation policy relevant in each stage of the Priority implementation.

20. Actions and measures established in Annex 1 to the Action Plan are implemented with consideration of the set of measures of the studies and R&D and innovation policy set forth in Annex No. 2.

CHAPTER V
THEME-SPECIFIC CHARACTER OF THE PRIORITY

21. Implementation of the Action Plan is aimed at:

21.1. researching and developing composite and structural materials with exclusive properties (resistant to external impact, of high strength, high deformability, light), and their production technologies;

21.2. researching and developing energy-efficient structural and composite materials, their production technologies;

21.3. researching and developing technologies and materials of secondary recycling (chemical, mechanical) of products made of composite materials;

21.4. researching and developing innovative and (or) balanced structural solutions, their modelling methods.

22. Successful implementation of the activities laid down in Subparagraphs 21.1-21.4 of the Action Plan is integral with the R&D activities carried out by public and private sector institutions.

23. During the implementation of the Priority, important role is played by the Joint initiatives of studies, research and (socio-cultural) development and innovations (hereinafter referred to as the 'Joint Initiatives') on the basis of which issues relevant for economic sectors are planned to be handled, by carrying out the R&D activities in the themes relevant for economic sectors and expecting the private sector entities to show involvement into the realisation of the R&D operating outcomes. When implementing the Joint Initiatives, taking the activities laid down in Subparagraphs 21.1-21.4 of the Action Plan and the actions established in Subparagraphs 14.1-14.5 of the Action Plan into account, the R&D activities are carried out in order:

23.1. to identify functional properties of materials and constructions designed for specific applications, to search and define guidelines for their development, applicable methods and efficiency evaluation criteria;

23.2. to develop structural and composite materials or controlled composition and properties through application of the technologies saving energy resources and carbon dioxide emission, to search for development methods and production technologies of the above-mentioned materials and to define the prerequisites for their realisation;

23.3. to develop new effective polymer and composite materials, to search for their reversible use and recycling methods and technologies;

23.4. to develop harmonious concepts of balanced and intellectual constructions and their computer modelling and designing methods;

23.5. to develop and apply structural, composite and intelligent materials and constructions with exclusive properties;

23.6. to develop energy-saving and environmentally-friendly materials and their energy-efficient production technologies through analysis and improvement of the control methods of properties and (or) quality of alternative structural and composite materials and specification of the key physical and chemical properties of such compounds;

23.7. to develop and assess the methods and technologies of reversible use and (or) recycling of new composite materials, by determining possibility of effective use of new materials from secondary raw materials, potential fields of application and by researching energy- and environmental-efficiency of return recycling technologies;

23.8. to develop prototypes of materials and constructions and to research them in the environment imitating their real operation conditions, to develop demonstrative technological lines;

23.9. to analyse and improve technological production parameters of alternative structural and composite materials, to manufacture and test materials and products made of industrial raw materials;

23.10. to analyse and improve the methods of production and reversible use and (or) recycling of composite materials, to assess production and (or) reversible recycling technologies of newly-developed polymer and composite materials, to research physical and other properties of composite

materials and products of reversible recycling in order to determine possibilities for their effective application;

23.11. to develop prototypes of balanced and intellectual constructions and to examine their resistance to external impact, durability and reliability.

24. Implementation of the Joint Initiatives is aimed at creation of the prerequisites by the activities listed in Subparagraphs 23.1-23.11 of the Action Plan for the following:

24.1. to manufacture composite and structural materials and constructions of exclusive properties;

24.2. to manufacture energy-saving and environmentally-friendly materials;

24.3. to optimise polymer composites and their reversible recycling technologies, taking consumers' needs into consideration, to test them in real working conditions and to adapt their production technologies for large-scale production;

24.4. when implementing the real projects, to apply algorithms of balanced and intellectual constructions and harmonious computer modelling and designing algorithms.

25. Subparagraphs 23.1-23.11 of the Action Plan can be amended by deleting or supplementing the stipulated activities at the proposal of the coordination group formed by the Minister of Education and Science and the Minister of Economy on 20 June 2014, Order No. V-576/4-409 to coordinate the implementation of the priorities of the Research and (Socio-Cultural) Development and Innovations (hereinafter referred to as the 'Coordination Group'), taking into consideration the data and proposals collected during monitoring and assessment of the implementation of the Programme and Action Plan or other valid data and proposals.

CHAPTER VI
IMPLEMENTATION OF THE ACTION PLAN

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

26.1. funds of the state budget of the Republic of Lithuania:

26.1.1. the European Union Structural Funds' assistance for 2014–2020 (assistance under measures of Priority 1 "Promotion of Research, Development and Innovations" of the Action Programme of the European Union Structural Funds for 2014–2020 (hereinafter referred to as the Action Programme), Priority 3 "Promotion of Competitiveness of Small and Medium-Sized Business" of the Action Programme and Priority 9 "Public Education and Increase in Human Resources Potential" of the Action Programme);

26.1.2. funds of the state budget of the Republic of Lithuania (without the European Union Structural Funds);

26.2. funds of higher education and research institutions;

26.3. funds of private legal entities;

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

27. A part of funds under measures of Priority 1 and Priority 9 of the Action Programme is earmarked for direct support of activities necessary to implement the Priority, therefore, a preliminary amount to be used for the implementation of the Priority as needed is provided next to these measures in the table of Annex 1.

28. A part of funds under measures of Priority 1 of the Action Programme is not earmarked for specific priorities of research and (socio-cultural) development and innovation development (smart specialisation) priority areas (hereinafter referred to as the RDI priorities), their implementation results may contribute to the implementation of all or the majority of the RDI priorities. These measures are marked with an asterisk in the table of Annex 1 to the Action Plan.

29. The measures implemented using a part of funds of Priority 9 of the Action Programme and funds of the state budget of the Republic of Lithuania are relevant to the whole study, R&D and innovation system and should not be earmarked for the specific RDI priorities, however, results of

their implementation may also contribute to the implementation of the Priority. These measures are marked with two asterisks in the table of Annex 1 to the Action Plan.

30. Measures of Priority 3 of the Action Programme, although relevant to the whole business conditions improvement and business assistance system, will indirectly contribute to the implementation of the Action Plan, mainly by creating conditions for private sector entities to place new products on the market and by generating the business potential's critical mass.

During the implementation of measures of Priority 3 of the Action Programme, it is planned to support such activities relevant to the implementation of the Priority as product design development, introduction of enabling technologies in traditional industries, presentation of products at international exhibitions and/or fairs, certification of planned export products and services, new production and service provision capacity building, business incubator infrastructure development, membership in international networks (platforms), raising awareness of new products and services, business start-up consultations.

31. Funds of higher education and research institutions are to be attracted during support of activities related to creation and upgrade of study and R&D infrastructure necessary to implement the Priority (a partial contribution of higher education and research institutions from own funds is expected during the implementation of infrastructure projects). These funds are included in column "State budget and other funds" in the table of Annex 1 to the Action Plan.

32. Funds of private legal entities are to be attracted during the implementation of measures under which state co-financing is provided for the ongoing projects – business companies will have to cover a part of the project value using their own funds. These funds are provided in column "Private sector funds" in the table of Annex 1 to the Action Plan.

33. The Priority may be partially implemented through participation in the European Union Programme for Research and Innovation "Horizon 2020" and other international programmes. The table of Annex 1 to the Action Plan does not include funds attracted through participation in international programmes.

34. The implementation of the Action Plan is aimed at quantitative and qualitative results complying with the evaluation criteria set out in Annex 1.

35. The deadlines for announcement of calls for proposals for measures implementing actions of the Action Plan or the deadlines for making lists of projects will be provided for in accordance with the plans for announcement of calls for proposals and making lists of projects developed by the ministries as provided for in the Rules for Administration of the Action Programme on Investments of the European Union Funds for 2014–2020 approved by Resolution No 1090 "On Approval of the Rules for Administration of the Action Programme on Investments of the European Union Funds for 2014–2020" of the Government of the Republic of Lithuania of 3 October 2014.

36. The development of research and (socio-cultural) development and innovation development (smart specialisation) priority areas and the implementation of their priorities 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. The infrastructure created and the equipment purchased in the course of projects implemented under study, R&D and innovation policy measures set out in Annex 1 to the Action Plan with their financing planned from the EU assistance funds or other financing sources must not duplicate the equipment currently existing in higher education and research institutions or other public

sector entities, unless capacities of the existing equipment are not sufficient to ensure the implementation of the Priority.

39. The list of measures provided in Annex 1 to the Action Plan may be amended having regard to results of the interim evaluation of the implementation of the Priority planned for 2018 as well as having evaluated the needs of potential measure promoters.

Annex No. 1
To the Action Plan of the Structural
and Composite Materials priority of
New Production Processes, Materials and
Technologies priority area of the
Research and (Socio-Cultural) Development and
Innovation

ACTIONS OF THE ACTION PLAN, MEASURES, PRELIMINARY FUNDING NEED FOR THE IMPLEMENTATION AND EVALUATION CRITERIA

Actions and measures	Preliminary funds, thousand EUR			Responsible Institution	Evaluation Criteria of Actions and Measures	Value of Criterion	
	European Union Structural Funds	National Budget and Other Funds	Private Sector Funds			Year 2018	Year 2023
Action 1. Development of innovative technologies, products, processes and methods and their application on the market:					**Developed prototypes (concepts) of products, services or processes within 3 years from the project implementation (pcs.)**	**7**	**16**
Measure 1.1. Joint research and business projects contributing to smart specialisation implementation	2,919	-	-	Ministry of Education and Science	Number of projects jointly implemented by business and higher education and research institutions (units)	2	6
	394	-	356	Ministry of Economy	Number of certified products (units)	0	1
Measure 1.2. Support to company's RDI infrastructure creation and development and execution of RDI activities (Intelektas)	5,335	-	4,859				
Measure 1.3. Support to companies' RDI by issuing innovation vouchers (Innovation vouchers)							
Measure 1.4. Support to international patenting of inventions and design (InoPatentas LT)							
Measure 1.5. Support to re-certification of innovative products and technologies and testing at laboratories and under real-life conditions (Inosertifikavimas)							
Action 2. Promotion of start-up of knowledge-intensive businesses, development of companies with great potential:	1,303	-	145		**Newly-established companies that received investments within 3 years from the project implementation (units)**	**1**	**2**

Measure 2.1. Support to provision of innovative consulting services (Inogeb LT)					The number of companies receiving financial support other than subsidies (units)	1	3
Measure 2.2. Support to RDI implementing companies through financial measures (Technostartas LT, Koinvest LT)							
Action 3. Promotion of clustering, integration into international value creation networks and investments into the R&D and innovations:					**Attracted private investments to the RDI within the smart specialisation areas, in 3 years from the project implementation (thousand EUR)**	**42,353***	**95,295***
Measure 3.1. Support to cluster operation (InfoKlaster LT)	102	-	102		Number of legally-binding agreements with international partners (units)	4	10
Measure 3.2. Support to participation in international RDI initiatives (InoConect LT)							
Measure 3.3. Support to attraction of foreign direct investments into RDI („Smartinvest LT“)	5,792*	-	-				
Measure 3.4. Support to foreign direct investments in RDI („Smartinvest LT“)	28,962*	-	32,011*				
Action 4. Promotion of cooperation between science and business, sharing of knowledge and technologies in order to commercialise the R&D outcomes;				Ministry of Education and Science	**R&D orders implemented by higher education and research institutions and commissioned by business (thousand, EUR)**	**1,100**	**1,430**
					Revenues of higher education and research institutions from intellectual activity results (thousand, EUR)	**3**	**4**
Measure 4.1. Establishment and development of a material base for implementation of co-projects of research and business at the higher education and research institutions (establishment and development of the infrastructure of competence centres)	8,690*	-	-		Patent applications (units) Post-graduate studies implemented together with business entities (number of post-graduate students)	2 1	5 2
Measure 4.2. Support of implementation of R&D activities carried out by competence centres	11,580*	-	-				
Measure 4.3. Implementation of market-oriented research and business projects through cross-border network	93	-	-				
Measure 4.4. Promotion of commercialisation of R&D outcomes at higher education and research institutions	41	504**	-				
Action 5. Enhancement of the potential and competences of the higher education and research institutions to develop and commercialise knowledge and to train specialists.					**External users from foreign higher education and research institutions, Lithuanian and foreign business companies, who have used the refurbished infrastructure of open**	**130**	**168**

					access researches (funds received from such users (thousand, EUR)		
					The number of publications frequently quoted in scientific research periodicals (units)	**47**	**57**
Measure 5.1. Modernisation of the studies and R&D infrastructure in the areas of smart specialisation	52,132*	-	-		Number of researchers working in the improved base of research infrastructure (equivalents to full-time work)	31	41
Measure 5.2. Establishment and development of European scientific research infrastructure and Lithuania's integration into the European scientific research infrastructure following the Roadmap for Lithuanian Scientific Research Infrastructure and ESFRI	26,066*	1,008**	-		Number of knowledge-intensive spin-offs at higher education and research institutions (units)	0	1
Measure 5.3. Modernisation of the equipment used in the areas of smart specialisation in open-access centres	1,448	-	-				
Measure 5.4. R&D activities carried out by Lithuanian higher education and research institutions	753	-	-				
Measure 5.5. Subscription of databases needed for R&D activities	28,960*	-	-				
Measure 5.6. Creation of the infrastructure of excellence centres and parallel laboratories	26,640*	504**	-				
Measure 5.7. Development of information infrastructure for research and studies (LITNET)	4,340*	-	-				
Measure 5.8. Attraction of foreign scientists and R&D activities	14,481*	-	-				
Measure 5.9. Promotion of the activities of the centres for innovation and technology transfer at higher education and research institutions	14,480*	-	-				
Measure 5.10. Ensuring the process of post-graduate studies; Post-graduate studies, travel, scholarship, R&D, movement, financing of visits (including foreign post-graduate students)	644	62,154**	-				
Measure 5.11. Employment of scientists and other researchers in knowledge-intensive companies	2,896*	-	-				
Measure 5.12. Brain gain and reintegration	5,792*	-	-				
Measure 5.13. Students' R&D activities	2,317*	-	-				
Measure 5.14. Promotion of study placements after the post-graduation studies	7,240*	-	-				
Measure 5.15. Specialist training in the study programmes related with the smart specialisation priorities	93	-	-				
Measure 5.16. Development of science popularisation system	12,000**						
Measure 5.17. Financing first- and second-cycle studies and integrated studies not offering degrees	-	220,032**	-				

Measure 5.18. Supporting mobility of Lithuanian and foreign students and lecturers	-	3,438**	-				
Measure 5.19. Practical training for scientists and other researchers, participation of scientists and other researchers in the earmarked events of the international programmes, participation of Lithuanian researchers in earmarked meetings dedicated to preparation of project applications, participation of Lithuanian representatives in the European Union and other international working groups, committees, commissions related with scientific research and experimental (social and cultural) development. / Promotion of participation in H2020	4,503**	258**	-				
Measure 5.20. Securing funding for the R&D activities relevant for settlement of top-level problems of strategic importance for society and the state and economic development	-	94,314**	-				
Measure 5.21. Supporting intersectoral cooperation in the R&D field	-	2,364**	-				
Measure 5.22. Providing the researchers with access to digital resources of scientific data	-	450**	-				

* Funds not attributed to specific priorities of the priority areas of the scientific research and experimental (social and cultural) development and innovations (smart specialisation), their implementation results can contribute to the implementation of all or majority of the RDI priorities.
** Funds for the measures that are relevant for the entire system of studies, R&D and innovation and not attributed to specific RDI priorities, their implementation results will contribute also to the implementation of the Priority.

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Annex No. 2
To the Action Plan of the Structural
and Composite Materials priority of
New Production Processes, Materials and
Technologies priority area of the
Research and (Socio-Cultural) Development and
Innovation

SET OF THE MEASURES OF THE HIGHER EDUCATION AND RDI POLICIES

Critical mass generation of the scientific potential	Search for innovative ideas and their solutions	Development of technologies and their prototypes	Launching on the market	Critical mass generation of the business potential
Measure 5.1. Modernisation of the studies and R&D infrastructure in the areas of smart specialisation	Measure 1.1. Joint research and business projects contributing to smart specialisation implementation			Measure 3.1. Support to cluster operation (InfoKlaster LT)
Measure 5.2. Establishment and development of European scientific research infrastructure and Lithuania's integration into the European scientific research infrastructure following the Roadmap for Lithuanian Scientific Research Infrastructure and ESFRI	Measure 1.2. Support to company's RDI infrastructure creation and development and execution of RDI activities (Intelektas LT)			Measure 3.2. Support to participation in international RDI initiatives (InoConect LT)
Measure 5.3. Modernisation of the equipment used in the areas of smart specialisation in open-access centres	Measure 5.4. R&D activities carried out by Lithuanian higher education and research institutions	1.5. Support to re-certification of innovative products and technologies and testing at laboratories and under real-life conditions (Inosertifikavimas)		Measure 5.11. Employment of scientists and other researchers in knowledge-intensive companies
Measure 5.5. Subscription of databases needed for R&D activities	Measure 2.1. Support to provision of innovative consulting services (Inogeb LT)			
Measure 5.6. Creation of the infrastructure of excellence centres and parallel laboratories	Measure 2.2. Support to RDI implementing companies through financial measures (Technostartas LT, Koinvest LT)			
Measure 5.7. Development of information infrastructure for research and studies (LITNET)	Measure 3.3. Support to attraction of foreign direct investments into RDI (Smartinvest LT)			
Measure 5.9. Promotion of the activities of the centres for innovation and technology transfer at higher education and research institutions	Measure 3.4. Support to attraction of foreign direct investments into RDI (SmartInvest LT+)			
Measure 5.10. Ensuring the process of post-graduate studies; Post-graduate studies, travel, scholarship, R&D, movement, financing of visits (including foreign post-graduate students)	Measure 4.4. Promotion of commercialisation of R&D results at higher education and research institutions			
Measure 5.12. Brain gain and reintegration	Measure 5.20. Securing funding for the R&D activities	Measure 1.3. Support to companies' RDI by issuing	-	-

	relevant for settlement of top-level problems of strategic importance for society and the state and economic development	innovation vouchers (Innovation vouchers) cross-country network		
Measure 5.14. Promotion of study placements after the post-graduation studies	Measure 3.2. Support to participation in international RDI initiatives (InoConect LT)			
Measure 5.15. Specialist training in the study programmes related with the smart specialisation priorities	Measure 5.13. Students' R&D activities			
Measure 5.8. Attraction of foreign scientists and R&D activities		Measure 1.4. Support to international patenting of inventions and design (InoPatentas LT)		
Measure 5.16. Development of science popularisation system	-	Measure 4.3. Implementation of market-oriented research and business projects through cross-border network		
Measure 5.17. Financing first- and second-cycle studies and integrated studies not offering degrees		-		
Measure 5.18. Supporting mobility of Lithuanian and foreign students and lecturers				
Measure 5.19. Practical training for scientists and other researchers, participation of scientists and other researchers in the earmarked events of the international programmes, participation of Lithuanian researchers in earmarked meetings dedicated to preparation of project applications, participation of Lithuanian representatives in the European Union and other international working groups, committees, commissions related with scientific research and experimental (social and cultural) development. / Promotion of participation in H2020				
Measure 5.21. Supporting intersectoral cooperation in the R&D field				
Measure 5.22. Providing the researchers with access to digital resources of scientific data				
Measure 4.1. Establishment and development of a material base for implementation of co-projects of research and business at the higher education and research institutions (establishment and development of the infrastructure of competence centres)				
Measure 4.2. Support of implementation of R&D activities carried out by competence centres				