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 "ADVANCED DIGITAL CONTENT, TECHNOLOGIES FOR ITS DEVELOPMENT AND INFORMATION INTERACTION" OF THE PRIORITY AREA OF RESEARCH AND EXPERIMENTAL (SOCIO-CULTURAL) DEVELOPMENT AND INNOVATION (SMART SPECIALIZATION) "TRANSPORT, LOGISTICS AND INFORMATION AND COMMUNICATION TECHNOLOGIES"

CHAPTER I
GENERAL PROVISIONS

1. The action plan of the priority "Advanced Digital Content, Technologies for its Development and Information Interaction" of the priority area of research and experimental (socio-cultural) development and innovation (smart specialization) (hereinafter - the Priority R&D Area) "Transport, Logistics and Information and Communication 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 "Advanced Digital Content, Technologies for its Development and Information Interaction" (hereinafter - the Priority) of the Priority R&D Area "Transport, Logistics and Information and Communication Technologies".

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

4. Concepts used in the Action Plan shall be understood in this legal act as follows:

4.1. **Information services** shall mean services provided remotely by electronic means.

4.2. **Informational resources** shall mean data and computer (hardware and software) equipment for their management, interface and computer networks.

4.3. **Information systems engineering** shall mean a science studying the design, development, deployment and maintenance of information systems applying knowledge in informatics and other fields of science.

4.4. **Software engineering** shall mean a science studying the design, development, implementation and maintenance of software systems by applying information technology and other fields of science.

4.5. **Secure information interaction** shall mean the ability of information systems to exchange data and provide services avoiding unauthorized access, use, disclosure, disruptions, changes, review, recording or destruction of third parties.

4.6**. Semantization technology** shall mean a technology for the development, deployment, integration and application of semantic metadata.

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

CHAPTER II
DESCRIPTION OF THE CURRENT SITUATION

6. Information and communication technologies are the main engine of globalization and technological progress, and the basis for the development of a knowledge society. Increasing share of GNP of developed countries consists of information products. This sector is related to the management and processing technologies of digital information (data) encompassing hardware, software and digital services.

The viability and expediency of the development of information technology-related products in Lithuania is determined by such factors as the receptivity of information technologies for intellectual activities, traditions and experience in manufacturing of computer hardware and software, highly qualified information technology professionals prepared in Lithuania, and information and communication technologies (hereinafter - ICT) infrastructure. Over the last decade, Lithuania focused on ICT, the development of digital infrastructure, and introduction of the latest solutions in the public and private sectors. The country's information technology professionals have earned a good reputation both in local and international markets, and helped to attract to Lithuania a number of information technology branches of famous international companies.

7. Based on data of 2012, about 50 companies deployed information technology solutions for advanced electronic content. There are also 10 companies developing public cyber security technologies. About 190 companies provided data processing, web servers and other information services. About 2 thousand employees were employed in these companies, and the added value created amounted to about EUR 47.4 million. About 1.2 thousand companies employing about 10 thousand employees with about EUR 224 million of added value provided computer programming, consultancy and related services.

8. In 2011, Lithuanian exports of information services amounted to EUR 0.8 million. In 2011, Lithuanian computer services exports amounted to EUR 70 million. In 2012, Lithuanian exports of computer and information services amounted to USD 91 million.

9. In 2007-2013, the volume of investment of business in projects of research and experimental (socio-cultural) development (hereinafter - R & D) was about 6.8 million euro.

10. Lithuanian scientific and educational institutions and business maintain contacts by participating in the activities of the E-Cluster, Information and Communications Technology Cluster, Smart IT Cluster, Užupis Creative Cluster, Lithuania cyber crime competence and research centre, Association INFOBALT and other activities.

11. The potential of Lithuanian scientific and educational institutions in the fields of electricity and electronics, informatics, and transport engineering is relatively high, and the research has achieved significant progress. High international level scientists are concentrated in science and education institutions engaged in R & D activities in the most relevant areas for the Priority (informatics and information technology). The volume of training of specialists in these fields is increasing every year.

Challenges and problems, which are expected to be solved during the implementation of the Priority, were relevant for a long time, and systematically began to be tackled in the 2007-2013 EU Structural Funds period. Significant progress has been achieved by supporting research by the funds of this period. The National Research Programme "State and Nation: Heritage and Identity" implemented from 2011 by the state budget funds of the Republic of Lithuania one of the tasks whereof is the preparation of the concept of unified information infrastructure of Lithuanian heritage and identity, has contributed to this progress as well. The National Lithuanian studies development programme for 2009-2015 one of the tasks whereof is the support and development of Lithuanian scientific information resources is also worth mentioning.

Such area as the advanced digital content and information interaction formation which is relevant for the welfare of the state and society shall not be abandoned in the future. The implementation of the new national education programmes, such as “Modernity in Lithuania” and

"Towards Future Technologies" supported by the Lithuanian state budget funds, the results whereof will considerably contribute to the implementation of the Priority, is scheduled for 2015.

By implementing the development programmes of Integrated Science, Study and Business Centres (Valleys), research centres are being developed in science and research institutions, in which R & D infrastructure can be used for activities that are relevant for the implementation of the Priority. The Information Technology Open Access Centre of Vilnius University created on the basis of scientific potential of ICT with the largest and most modern supercomputer in the country, and Visoriai Information Technology Park with modern incubation facilities of companies working in the field of ICT, the Science and Technology Centre and Technological Business Incubator of Kaunas University of Technology, which started operating in Kaunas in 2014, in which, among other R & D centres, the Information Technology Research Centre, mobilising the researchers of this field and other professionals, is operating too, should be worth mentioning.

The intentions to move in the near future the Faculty of Mathematics and Informatics of Vilnius University to Vilnius Visoriai area where a critical mass of the scientific and business potential operating in the field of ICT is focused cannot be eliminated, as in this way the conditions for close and efficient interaction between science, education and business addressing issues relevant for the implementation of the Priority will be provided.

The new EU Framework Programme for Research and Innovation *Horizon 2020* provides for a task of Excellent Science "Future and Emerging Technologies", a task of Industrial Leadership "Introduction of Innovations in Small and Medium-Sized Enterprises" and public task „Innovative and Secure Societies" in the solution whereof active involvement of Lithuanian researchers and other specialists is expected.

Information and technology interaction needed to develop advanced electronic content may have significant impact on the social and economic well-being of the country in the face of cyber attacks, which intensified especially in recent times by enabling the public to use only reliable, comprehensive and secure information. Digitalisation of services provided to individual sections of society, including vulnerable groups, and providing greater access to the availability of services based on information technologies, is also an important aspect of social welfare. Although these processes are systematically developed already for a decade, science and innovation capabilities, which is the basis for more efficient development of ICT infrastructure and services, and enhancement of the security of electronic content previously, have not been invoked. It is expected that the successful implementation of the Priority will fill this gap.

12. In order to implement the Priority, the R & D resources should be consolidated and concentrated in such areas of R & D, as Physical Sciences (Informatics), Technological Sciences (Computer Engineering), and Humanities (Linguistics). The development of information technology and software systems, e-commerce, multimedia, computational linguistics, and cyber security is important from a thematic point of view. Lithuania, which seeks to promote the country's economic transformation and competitiveness by using its available resources, should enhance business capabilities in contributing to the creation and deployment of the already created information and software systems engineering technology, computer science technology, introducing developed technologies in such economic areas as the development of new ICT and products and services depending thereof, business development in the local and (or) international cyberspace. The implementation of the Priority will depend, to a large extent, on the existing base of professionals in IT and computer engineering, scientific expertise, research and business interaction, innovation and entrepreneurship, as well as on technologies capable of accumulating semantic resources (general and specific areas of ontologies), semantisation of structured and unstructured data, pooling of the resources of the Lithuanian language and dialect, building and maintaining the infrastructure of the Lithuanian language and semantic, and on the understanding of the importance and development.

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 20.5, namely: to promote RDI activities providing conditions for flexible and effective response to such developments as the growth in passenger and freight flows, volume of cargo handling, increase in the urban population density leading to the uneven load on road infrastructure and the growth of traffic congestion, reduction of environmental pollution and greenhouse gas emissions, promotion of innovation in transport and logistics (in order to respond to the increase in competition and reduction in prices due to third countries), and provision of high quality, safe, clean and fast transportation services to consumers.

14. Actions of the Action Plan:

14.1. to create and introduce new technologies, products, processes and methods into 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;

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 specialists.

15. In the implementation of the Action Plan, the intension 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 mostly contribute to the implementation of the smart economy creation vision, i.e. to the creation of the most modern ICT and digital infrastructure, as well as to the development of a vision of the solidarity and learning society, the effective application of ICT and enhancement of cyber security.

High impact on the implementation of the Lithuanian Information Society Development Programme 2014–2020 “Digital Agenda of Lithuania” approved by Resolution No. 244 of the Government of the Republic of Lithuania of 12 March 2014 *On the Approval of the Lithuanian Information Society Development Programme 2014–2020 “Digital Agenda of Lithuania”* with the aim to create technologically advanced electronic public and administrative services that meet people's needs, to encourage service users to use them, to foster the culture of Lithuanian and Lithuanian language using ICT tools, i.e. to develop digital cultural content that meets the needs of society and is based on the interfaces of Lithuanian written and spoken language, to develop digital products and e-services, is also expected.

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 include 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:

21.1. research, development and deployment of innovative information and software engineering, e-commerce, technologies for systems compatibility and interoperability, focusing on the specialized needs of the users (the elderly, the disabled, etc.);

21.2. develop and deploy semantization technologies of information resources and services to solve the problems of the existing Lithuanian structured (in the database) and unstructured information resources (texts, sound systems, web content, multimedia objects, etc.) and semantic services access, and their launching into cyberspace;

21.3. development and deployment of technologies for large-scale data analysis, mathematical modelling, visualization designed to speed up the work of the state and business organizations by analysing and searching for vast and complex information, and in making decisions;

21.4. research, development and deployment of technologies for integration into the digital space of Lithuanian written and spoken language and culture in order to transform the information of different formats of public and private sector (including large-scale data of the relevant state registers) to semantic systems, to customize services based on the technologies of the Lithuanian language, speech and semantics to people with special needs, to strengthen the monitoring and security of cyberspace based on the Lithuanian language and semantics technologies (including official and private social space);

21.5. research, development and deployment of e-content protection and secure information interaction technologies to ensure the monitoring of cyber security threats to personal and public safety, privacy of digital content and protection of copyright, to solve security problems of information interactions in cyberspace and social networks.

22. Successful execution of activities mentioned in subparagraphs 21.1–21.5 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 by 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 21.1-21.5 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 to:

23.1. analyse methods for interoperability of information systems and their adaptability to interact information resources;

23.2. analyse methods for semantic preparation of information resources and services, tools and their application possibilities;

23.3. analyze information resources data, methods of mathematical modelling and visualization;

23.4. analyze the possibilities for integration into the digital space of written and spoken language resources and culture;

23.5. analyze and develop methods and tools for the management of electronic content protection, secure information interaction by integrating hardware, cryptographic, steganographic, bio-cryptographic and artificial intelligence techniques;

23.6. develop methods for the application of interaction models and processes of Lithuanian structured and non-structured information resources;

23.7. develop models to ensure the interoperability of information systems, to analyze their adaptability to different users of specialized needs in various devices, including mobile devices;

23.8. develop methodologies for the development and maintenance of architecture of a platform for interoperability of information systems;

23.9. develop methodologies for the semantic preparation of information resources and services;

23.10. develop methodologies for data analysis of information resources and mathematical modelling, and visualization of information resources;

23.11. develop methodologies for integration into the digital space of Lithuanian written and spoken language and culture, involving the conversion of big data into the semantic systems, application for people with special needs, monitoring and ensuring the security of cyberspace based on the Lithuanian language and semantic technologies;

23.12. develop models and prototypes for electronic content security management, and secure information interfaces developed by integrating hardware-based adaptive, cryptographic, steganographic, biometric, bio-cryptographic and artificial intelligence techniques;

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

24.1. to create platforms for adaptive interaction of e-government and business information systems, adaptive information systems based on it, and innovative public and business services, information systems interaction, to deploy their surveillance technologies and develop services based on this interaction, and apply them for various specialized needs, and to improve the quality of these services;

24.2. introduce into the market and public sector semantic based tools, technologies and methodologies for e-government, municipal and business information systems, to develop semantic services of e-government and business, increase the intellectual level and the availability of information systems;

24.3. introduce into the market and public sector technologies for data analysis of information resources and mathematical modelling, information resources data visualization technologies and methodologies, to enhance the understanding of information systems data, retrieval and presentation of new knowledge in cyberspace;

24.4. develop resources, services, and infrastructure of integration of Lithuanian written and spoken language and culture into the digital space, and deploy technologies related thereof;

24.5. spread solutions and methods of management of electronic content protection, secure information interaction developed by integrating hardware-based adaptive, cryptographic, steganographic, biometric, bio-cryptographic and artificial intelligence techniques.

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 funds for the 2014-20120 (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 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 a 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 into 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 the Priority, 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 by 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. The Coordination Group coordinates the development of the priority areas of research, experimental (socio-cultural) development and innovation (smart specialization) and the implementation of priorities thereof.

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 interim evaluation of the Priority implementation planned in 2018, also having assessed the needs of potential executors of the measures.

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Annex 1 to the Action Plan of the Priority "Advanced Digital Content, Technologies for its Development and Information Interaction" of the Priority Area of Research and Experimental (Socio-Cultural) Development and Innovation (Smart Specialization) "Transport, Logistics and Information and Communication 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			Year 2018	Year 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.)**	**4**	**8**
Measure 1.1. Joint science and business projects contributing to the implementation of smart specialization	970	-	-	Ministry of Education and Science	Number of projects jointly executed by business, science and education institutions (pcs.)	1	2
	426	-	385	Ministry of Economy			
Measure 1.2. Support for the creation or development of the company's RDI infrastructure and implementation of RDI activities ("Intelektas")	3 382	-	3 064				
Measure 1.3. Support for company RDI providing innovation vouchers ("Inovaciniai čekiai")							
Measure 1.4. Support for patenting inventions and design ("InoPatent LT")							
Action 2. To 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. To promote clusterization, integration into international value creation networks and investments in RDI:				Ministry of Economy	New members of the cluster within three years from the start of the implementation of the project (pcs.)	**1**	**2**
					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")	2 602	-	357		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 to common use RDI infrastructure ("Technologinių centrų infrastruktūra")							
Measure 3.3. Support for attracting direct foreign investments in RDI area ("Smartinvest LT")	5 792*	-	-				
Measure 3.4. 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)**	**473**	**614**
					Revenues of science and education institutions from intellectual activity results (thousand EUR)	**2,8**	**3,6**
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 and/or applications to EFS (pcs.) Doctoral studies conducted together with business entities (number of doctoral students)	0 1	0 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	490	-	-				
Measure 4.4. Promoting of the commercialization of results of R & D activities in science and education institutions	1 221	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))**	**51,2**	**66,6**
					Number of publications in frequently cited periodicals (pcs.)	**296**	**326**

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)	25	32
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)	4	10
Measure 5.3. Renewal of equipment used in open-access centres by smart specialization areas	261	-	-				
Measure 5.4. R & D activities carried out by Lithuanian science and education institutions	712	-	-				
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, scholarship, R&D, transfer, funds for visits (including foreign doctoral students)	322	62 154**	-				
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,	4 503**	258**	-				

commissions, related to research and experimental (socio-cultural) development. / Encouragement of participation in H2020							
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-sectoral 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.

Annex 2 to the Action Plan of the Priority "Advanced Digital Content, Technologies for its Development and Information Interaction" of the Priority Area of Research and Experimental (Socio-Cultural) Development and Innovation (Smart Specialization) "Transport, Logistics and Information and Communication Technologies"

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 ("Intelektas 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 colspan="5">Measure 2.1. Support for the provision of innovation consulting services ("Inogeb LT")</td></tr>
<tr><td>Measure 5.5. Subscription of databases necessary for RDI activities</td><td colspan="5">Measure 2.2. Support to companies engaged in RDI by financial tools ("Technostartas LT", "Koinvest LT")</td></tr>
<tr><td>Measure 5.6. Creation of infrastructure of centres of excellence and parallel laboratories</td><td colspan="5">Measure 3.4. Support to common use RDI infrastructure ("Technologinių centrų infrastruktūra")</td></tr>
<tr><td>Measure 5.7. Development of information infrastructure for science and education (LITNET)</td><td colspan="5">Measure 3.5. Support for attracting direct foreign investments in RDI area ("Smartinvest LT")</td></tr>
<tr><td>Measure 5.9. Promoting activities of innovation and technology transmission centres of science and education institutions</td><td colspan="5">Measure 3.6. Support for direct foreign investments in RDI area ("SmartInvest LT+")</td></tr>
<tr><td>Measure 5.10. Assurance of the doctoral study process; doctoral studies, trips, scholarship, R&D, transfer, funds for visits (including foreign doctoral students)</td><td colspan="5">Measure 4.4. Encouragement of commercialization of R&D activity results in science and education institutions</td></tr>
<tr><td>Measure 5.12. Attracting and reintegrating scholars</td><td colspan="3">Measure 3.2. Support for participating in international RDI initiatives ("InoConect LT")</td><td rowspan="2">-</td><td>Measure 3.3. Support for investments into cluster ("InoKlaster LT+")</td></tr>
<tr><td>Measure 5.14. Promotion of internships after doctoral studies</td><td colspan="3">Measure 5.13. Student R&D activities</td><td>Measure 5.11. Employment of scientists and other researchers in knowledge-intensive enterprises</td></tr>
</table>

Measure 5.15. Preparation of specialists in smart specialization priority-related study programmes	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	Measure 5.15. Preparation of specialists in smart specialization priority-related study programmes		-
Measure 5.16. Development of science popularization system	Measure 5.4. R & D activities carried out in Lithuanian scientific and educational institutions	Measure 5.16. Development of science popularization system		
Measure 5.8. Attraction of foreign scientists and R&D activities		Measure 4.3. Implementation of market-oriented science and business projects through cross-border network		
Measure 5.17. Funding of undergraduate, graduate, integrated and non-degree studies		-		
Measure 5.18. Support for mobility of Lithuanian and foreign students and teachers				
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*				
Measure 5.21: To support cross-sectoral cooperation in R&D area				
Measure 5.22. To allow researchers to use digital scientific data resources				
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)				
Measure 4.2. Support for the implementation of RDI activities executed by centres of excellence				