GOVERNMENT OF THE REPUBLIC OF LITHUANIA

RESOLUTION
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

30 April 2014 No 411
Vilnius

The Government of the Republic of Lithuania, implementing Item 4.3.1 of the Schedule of Progress in the Implementation of Priorities of the Government of the Republic of Lithuania for 2013 approved by Resolution of the Government of the Republic of Lithuania No 318 of 10 April 2013 'Concerning Priority Activities of the Government of the Republic of Lithuania for 2013' and Item 31 of the Concept of the Establishment and Development of Integrated Centres for Science, Studies and Business (Valleys) approved by Resolution of the Government of the Republic of Lithuania No 321 of 21 March 2007 'Concerning approval of the Concept of the Establishment and Development of Integrated Centres for Science, Studies and Business (Valleys)', the Government of the Republic of Lithuania hereby r e s o l v e s:

1. Approve the Programme on the Implementation of the Priority Areas of Research and (Socio-Cultural) Development and Innovation (Smart Specialisation) and Their Priorities (appended).

2. Obligate the Ministry of Education and Science of the Republic of Lithuania and the Ministry of the Economy of the Republic of Lithuania to take the following actions, on agreement with the relevant stakeholders:

2.1. form the Group for the Coordination of Implementation of the Research and (Socio-Cultural) Development and Innovation Priorities and approve the group's regulations, within 30 calendar days from the effective date of this Resolution;

2.2. approve the Procedure for the Implementation of Joint Studies, Research and (Socio-Cultural) Development and Innovation initiatives within 2 months from the effective date of this Resolution.

Prime Minister Algirdas Butkevičius

Minister of Education and Science Dainius Pavalkis

APPROVED
by Resolution of the Government of the
Republic of Lithuania
No 411 of 30 April 2014

PROGRAMME ON THE IMPLEMENTATION OF THE PRIORITY AREAS OF RESEARCH AND (SOCIO-CULTURAL) DEVELOPMENT AND INNOVATION (SMART SPECIALISATION) AND THEIR PRIORITIES

CHAPTER I
GENERAL PROVISIONS

1. 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') has been prepared in the process of implementation of Item 4.3.1 of the Schedule of Progress in the Implementation of Priorities of the Government of the Republic of Lithuania for 2013 approved by Resolution of the Government of the Republic of Lithuania No 318 of 10 April 2013 'Concerning Priority Activities of the Government of the Republic of Lithuania for 2013' and the Concept of the Establishment and Development of Integrated Science, Studies and Business Centres (Valleys) approved by Resolution of the Government of the Republic of Lithuania No 321 of 21 March 2007 'Concerning approval of the Concept of the Establishment and Development of Integrated Science, Studies and Business Centres (Valleys)' (hereinafter referred to as the 'Valleys Concept'), having regard to the National Progress Strategy under the title '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 'Concerning approval of the National Progress Strategy 'Strategy for the Progress of Lithuania 'LITHUANIA 2030', the National Agenda of Reforms approved by Resolution of the Government of the Republic of Lithuania No 491 of 27 April 2011 'Concerning the Lithuanian Convergence Programme for 2011 and the National Agenda of Reforms', the National Progress Programme for 2014–2020 approved by Resolution of the Government of the Republic of Lithuania No 1482 of 28 November 2012 'Concerning approval of the National Progress Programme for 2014–2020', the State Programme on the Development of Studies, Research and (Socio-Cultural) Development for 2013–2020 approved by Resolution of the Government of the Republic of Lithuania No 1494 of 5 December 2012 'Concerning approval of the State Programme on the Development of Studies, Research and (Socio-Cultural) Development for 2013–2020', the National Programme on the Development of Innovation for 2014–2020 approved by Resolution of the Government of the Republic of Lithuania No 1281 of 18 December 2013 'Concerning approval of the National Programme on the Development of Innovation for 2014–2020' and other legal acts relevant to the development of the priority

areas in research and (socio-cultural) development and innovation (‘RDI‘) (Smart Specialisation) , (hereinafter referred to as the ‘RDI Priority Areas‘), as well as priorities thereof.

2. The Programme has been prepared seeking to identify the priorities of the research and (socio-cultural) development and innovation (Smart Specialisation) priority areas (hereinafter referred to as the ‘RDI Priorities‘) and to formulate the provisions for the implementation thereof, which form the basis for the smooth and effective development of the RDI Priority Areas by means of relevant measures and coordination of actions of all institutions interested in the RDI development (stakeholders) in order to promote reforms in the national economy and its competitiveness.

3. The timeframe of implementation of the Programme is the period 2014–2020.

4. The following terms as used in this document are defined as follows:

4.1. **RDI Priority Action Plan** – an interinstitutional planning document setting out the studies and RDI policy measures intended for the implementation of an RDI Priority.

4.2. **Study and RDI policy measures** – measures which are managed by different ministries and other institutions and which are financed on a planned or competition basis, including:

4.2.1. creation of the R&D-based knowledge by enhancing and pooling the RDI intellectual potential;

4.2.2. development of knowledge-intensive sectors of the economy, training of highly qualified specialists, and development, appropriate use and commercialisation of innovative products, services, technologies and/or methods enabling the higher education and research institutions, economic entities and other public and private sector entities to effectively collaborate in the RDI area by developing the knowledge and technology development and transfer activities, promoting the innovation supply and demand, networking, clusterisation and national/international cooperation of higher education and research institutions, economic entities and other entities, and implementing other measures;

4.2.3. pooling and modernisation of RDI-, innovation-, study- and knowledge-intensive business infrastructure and enabling the effective use of such infrastructure.

5. Other terms used in this Programme have the same meanings as the analogous terms in the Valley Concept.

CHAPTER II
ANALYSIS OF THE ENVIRONMENT

6. R&D is one of the priority areas identified in Commission Communication No COM-(2010) 2020 of 3 March 2010 ‘Europe 2020. A strategy for smart, sustainable and inclusive growth‘. Lithuania has been set a target to achieve that by 2020 total expenditure for R&D in Lithuania must account for at least 1.9% of the gross domestic product (‘GDP’); in 2012 the value of this indicator was 0.9%. Considerable increase in business investments in RDI is necessary in order to achieve this target as their share is disproportionally small

compared with other financing sources (2012: 26.6% of total expenditure for R&D) and almost no increase is seen. Lithuania is still lagging behind the European Union ('EU') average in terms of indicators reflecting the innovation activities of businesses and economic results of RDI. Progress in this area is hindered by low efficiency of investments and disparities in public and private sector investments in RDI. While the difference from the EU average in the field of public sector financing of R&D expressed as the share of GDP is not significant, Lithuania is next to last on the list of the EU Member States according to the investment efficiency as stated in Commission Communication No COM(2013)149 'State of the Innovation Union: Accelerating Change'. According to business sector expenditure, Lithuania's indicator is more than five times worse than the EU average. According to Eurostat, in 2011 the business sector expenditure for R&D per capita was EUR 24.1, whereas the EU average is EUR 318.4. It should also be noted that in 2007-2011 that the gap between Lithuania's and EU average indicator in terms of business sector expenditure for R&D was increasing. Lithuanian business, however, attempt to compensate for the poor R&D capacities by selecting alternative innovation creating methods, which is demonstrated by the highest indicator of business expenditure for non-R&D based innovation.

7. The purpose of the National Progress Programme for 2014–2020 approved by Resolution of the Government of the Republic of Lithuania No 1482 of 28 November 2012 and designed for the implementation of the National Progress Strategy 'LITHUANIA 2030' is to create an advanced, modern and strong state characterised by the harmony of smart society, smart economy and smart governance. In addition to the key provisions of national policies, the programme also includes the basic EU policies set out in the Europa 2020 Strategy. It sets out the lines of implementation of the long-term national priorities and proportions of the EU financial assistance for the implementation of these priorities in 2014-2020.

8. In order to effect the above-mentioned changes, it is necessary to further concentrate the science potential, to build capacities to carry out research in the fields that meet the needs of the economy and the public and to enhance the dissemination of knowledge and technologies, with the focus on the increase of innovativeness of businesses and active support for the commercialisation of the results of collaboration between science and businesses. In addition, efficiency of investments in R&D and the value added have to be increased. This can be achieved by the active use of the opportunities provided by the synergies with the EU Framework Programme for Research and Innovation HORIZON 2020 approved by Regulation of the European Parliament and of the Council No COM(2011) 809 of 30 November 2011 and of the advantages provided by integration into the international research structures and collaboration with international partners, along with the optimisation of the RDI system (by creating a legal framework conducive to innovation and by reforming the institutional structure accordingly). These objectives are in line with the provisions of Article 17 of Commission Decision No COM-(2013) 1303 of 17 December 2013 concerning the Regulation of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social

Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006 (hereinafter referred to as the 'Framework Regulation'), to the effect that while preparing the documents for the use of the EU assistance for 2014-2020, a Member State must assess the implementation of ex-ante conditions for RDI provided for in the Framework Regulation (hereinafter referred to as 'Smart Specialisation').

9. With the aim of pooling human, financial and other resources, justifying the impact of the EU funding for RDI to the maximum extent, and attracting private funding to this area, the ex-ante condition for 2014-2020 obligates Lithuania to set a limited number of the RDI priorities based on the existing RDI potential and the evaluation of the projected RDI development trends. Structural changes in the economy or its segments that could lead to a considerably strengthened competitiveness of the country on an international scale can only be expected if those economic sectors (or segments thereof) that can achieve the relatively highest rates of growth by creating increasingly higher value added. Under the conditions of limited human, financial, material and other resources it is unlikely that the growth in the country's innovation potential and sustainable economic growth can be achieved by promoting those sectors which lack a strong scientific potential that is capable of adapting new scientific knowledge for the creation of new technologies; there are no sufficiently strong economic entities that understand the benefits of employing new technologies and are able to apply them in such a way that increases competitiveness; collaboration between science and business is weak and fragmentary in the development of new technologies and formation of new knowledge-intensive enterprises.

10. According to the Lithuanian Department of Statistics, during the past decade Lithuania's expenditure for R&D was increasing at a rate that was on average 3.4% higher than the growth in GDP (EU: just 0.9% on average). Despite this, in 2012 Lithuania's expenditure for R&D as a share of GDP was more than twice lower than the EU average. In Lithuania, the larger part of R&D is financed by the Government (2011: 54% of gross domestic expenditure on research and development (GERD)), whereas in the EU it is mainly financed by the private sector (2011: 63% of GERD). Foreign funds is an important source of R&D financing in Lithuania. It is important to encourage the private sector to increase financing of R&D in order to widen the creation of knowledge-based innovation.

Lithuania differs considerably from many other EU Member States in terms of recipients of the R&D funding. Firstly, more than one half of the R&D funding in our country goes to higher education and research institutions, whereas in the EU businesses account for the largest share of recipient. Secondly, statistics of the past decade shows that in the EU Member States businesses receive more funds from the government for the financing of R&D activities than the public sector receives from business. Eurostat data for 2011 shows that Lithuania is exceptional in this respect: the amount received by higher education and research

institutions from businesses is 8 times larger than the amount received by businesses from the government. The EU average shows an opposite trend: the funding received by businesses from the government is 3 times larger than that received by higher education and research institutions from business. A comparison of the R&D expenditure in business sectors in 2011 according to the purchasing power standard per capita shows that Lithuania‘s indicator is 0.7 and the EU average is 19.9.

The Innovation Union Scoreboard of the European Commission, prepared on the basis of the Innovation Union flagship initiative of the Europe 2020 strategy, approved by Commission Communication No COM (2010)546 of 6 October 2010 ‘Europe 2020 Flagship Initiative: Innovation Union‘(hereinafter referred to as the ‘Innovation Union Scoreboard‘), compares progress of the EU Member States in the area of innovation, highlighting their strengths and weaknesses. In the Innovation Union Scoreboard, the Member States are divided into four groups according to the summary innovation index: modest innovators, moderate innovators, innovation followers and innovation leaders. According to the IUS results published in 2013, Lithuania‘s summary innovation index was 0.28 in 2012 (2011: 0.271), EU average in 2012 was 0.544 (2011: 0.531). The average innovation growth in Lithuania is one of the highest among the EU-27: 5%. From the group of modest innovators, Lithuania has risen to moderate innovators together with Italy, Spain, Portugal, Czech Republic, Greece, Slovakia, Hungary and Malta.

The highest position achieved by Lithuania among other EU Member States is in the field of human resources – 6th position; financial support – 12th position; business investments – 13th position. Lithuania should put forth more effort in the areas of a more efficient and open R&D system, entrepreneurship, intellectual results‘ management, innovation activities of businesses and economic innovation. The setting of the RDI Priority Areas and their priorities thereof as well as efficient management of implementation of the relevant measures will enable to increase the efficiency of use of the available knowledge and innovation potential of higher education and research institutions and businesses in order to enhance innovation and competitiveness in Lithuania and to cope with long-term challenges.

11. Having regard to Article 17 of the Framework Regulation, in 2012 the Ministry of Education and Science of the Republic of Lithuania (‘MoES‘) and the Ministry of the Economy of the Republic of Lithuania (‘MoE‘) initiated the process of identification of the RDI Priority Areas and their priorities, which has been coordinated by the Research and Higher Education Monitoring and Analysis Centre (MOSTA) with the help of independent international experts.

12. The RDI prioritisation process consists of two phases: the setting of RDI Priority Areas and the setting of specific RDI priorities within these areas.

13. The purpose of the first phase of the RDI prioritisation process is to determine RDI Priority Areas. An international team of independent experts has been formed for the works of the first phase of the Smart Specialisation process. The team‘s work was based on the Procedure for the Identification of the Priority Areas of Research and (Socio-Cultural)

Development and Innovation and their specific priorities Thereof approved by the Minister of Education and Science and the Minister of Economy (‘Procedure for the Identification of RDI Priority Areas and their priorities‘).

14. The output of the first phase of the RDI prioritisation process was a report issued by the international team of independent experts on 27 June 2013 under the title ‘Proposals for the Lithuanian Smart Specialisation Priorities‘ which sets out the proposed RDI Priority Areas in Lithuania (i. e. groups of scientific solutions, technologies, products, processes and/or methods responding to global or national challenges and opportunities which can be used in the best way by the Lithuanian RDI system), together with the substantiation of their selection. In determining the RDI Priority Areas, attention was focussed on the existing competitive RDI potential in science and the innovation potential of knowledge-based businesses, as well as the ability of the latter to propose the ways of dealing with the national or global challenges. The RDI Priority Areas were approved by Resolution of the Government of the Republic of Lithuania No 951 of 14 October 2013 ‘Approving the priority areas of research and (socio-cultural) development and innovation (Smart Specialisation)‘.

15. Six RDI Priority Areas have been identified:

15.1. Energy and sustainable environment. The selection of this area has been determined by the need to respond to such future challenges and trends as insufficient diversification of energy sources, high energy prices, uneconomical and inefficient use of energy, lack of ecosystems‘ sustainability (in particular, inefficient waste management and increasing pollution of air and water).

The issues of the country’s energy independence and energy security have been exacerbated by the increased dependence on imported energy upon the closure of the Ignalina Nuclear Power Plant, rapidly rising energy prices, and outdated and inefficient energy infrastructure (in particular, a district heating system, ageing buildings, and old-generation lighting systems), which have all had a negative impact upon public welfare. The rise in prices for energy restrict the international competitiveness of the Lithuanian economy, in particular, that of industry. An assessment of the global development trends leads to the conclusion that access to oil resources and related products is probably going to be further reduced, resulting in constantly rising energy prices and significant market price fluctuations. On the other hand, alternative energy resources, alternative fuel and energy-saving technologies are being rapidly developed. A significant breakthrough is expected in this area in the coming decade. Searching for alternative energy resources and energy efficiency can help counter the negative impact of the abovementioned trends. Furthermore, Lithuania, just as other EU Member States, must make a sound contribution to the EU obligations related to the Climate Package, the Energy Package and the “20-20-20” objectives: by 2020, to reduce greenhouse gas emissions by 20% compared with 1990; increase the share of energy generated from alternative resources by 20%; and increase energy efficiency by 20%.

Air pollution in Lithuania is increasing, in particular, in urban areas, with transport being the main pollution source. The issue of waste processing and waste management is extremely urgent (the majority of waste is landfilled and the opportunities for incineration with energy recovery are not being used). The related provisions of the EU climate change and environmental policies are relevant to many sectors of the Lithuania's economy, such as transport, construction, industry etc. Therefore, coordination of solutions in the areas of energy and sustainable environment is necessary.

15.2. Health technologies and biotechnologies. The area was selected because Lithuania's socio-economic development in the future will be affected by long-term health-related factors and trends such as increasing costs of healthcare and acquisition of medicines, increasing life expectancy which leads to higher costs of treatment and nursing of old-age patients, shorter healthy life (especially for men) compared with other countries, globalisation and stronger competition for highly-qualified specialists in medicine, growing threat of pandemics, rapid geographic spread of infectious diseases, and systematic pollution of the environment with toxic substances.

Chronic and lifestyle diseases (cardiovascular, oncological and neurodegenerational diseases) are responsible for the largest number of deaths in Lithuania. Cardiovascular diseases (CVD) dominated the causes of mortality of the Lithuanian population in 2011, accounting for 56.3% of all deaths. A trend towards a lowering of the age of CVD patients is being observed, which means that the length of a healthy life without diseases is becoming shorter. Oncological diseases represent the group of chronic diseases that ranks second according to mortality rates. In 2011, the number of deaths from malignant tumour diseases was up to 20% (in females: up to 18%). Neurodegenerational diseases are one of the key challenges related to an ageing society, on both a global and national scale. At present there are no effective means of treatment, early diagnostics or prevention of these diseases. The pathogenic mechanisms have not been well studied yet, which creates wide opportunities for the relevant fundamental and applied research. Neurodegenerational diseases represent a particularly heavy burden for society.

The threat of drug-resistant infections related to natural transformations in bacteria and viruses, during which they acquire resistance to the drugs used in medical practice. Therefore, both known and new pathogen species are becoming an increasing threat. According to the World Health Organization, microorganisms' resistance to drugs is one of the key factors affecting public health nowadays. This factor gains particular importance in the modern world where the physical movement of people, and with it the potential geographic spreading of pathogens, is constantly intensifying. Infections of antibiotic-resistant pathogens in medical treatment establishments and the spreading of drug-resistant forms of tuberculosis are the most urgent problems in Lithuania.

Poor state of public mental health is demonstrated, first of all, by record-high suicide rates and the rates of alcohol and drugs use. Physical and psychological violence in schools, cases of violence against children in families, alienation of society, intolerance toward

vulnerable social groups, mutual mistrust among social groups, lack of equality in workplace relations, and intellectual degradation of public space are important factors that damage the country's image and encourage emigration, which, in its turn, means a loss of labour force (most importantly, qualified labour) and a brain drain. Up until now, there is no detailed research into the causes and prevalence of suicides which would help identify the most effective preventive measures and the opportunities for using best practice of other countries.

There is a strong need for innovation in the healthcare system, mainly through solutions based on e-technologies, as society is ageing rapidly, the need for healthcare services has increased, competition for qualified healthcare professionals is becoming stronger, and demographic changes are taking place in the country. The legal framework that restricts the use of medical information for medical research including translational research requires improvement.

15.3. Agricultural innovation and food technologies. The area has been selected due to the need to respond to such future challenges and trends as insufficient sustainability of the food chain, insufficient sustainability of the use of biological resources in agriculture and food industry, insufficient safety and quality of food, and lack of efficiency in the development and use of raw food.

Lithuania has accumulated vast knowledge on sustainable food production (including knowledge on agricultural plant and animal genetics and biotechnologies, their growing/farming technologies, crop protection against harmful organisms, rational use of water, balance and migration of nutrients, sustainable use of energy and waste management, use and marketing of information technologies, the sustainable development of the food and beverage industry, and raw food and foodstuffs safety). Lithuania has great potential for the development of food raw materials and foodstuffs for the country's own needs as well as for export to the rapidly developing European markets. In order to successfully utilise this knowledge, Lithuania needs more innovative SMEs that promote growth and job creation; more investments; innovation in both established and emerging sectors; collaboration between researchers and experts in various fields in the process of the search for best solutions; interested economic entities willing to test, demonstrate and improve the innovative raw food and foodstuff technologies.

In the future, new plant growing and animal raising technologies must be applied in the area of production of raw food and foodstuffs: to select crop rotation schemes that preserve natural resources; to use fertilisers in a balanced way; to ensure reasonable use of pesticides; to use fossil fuel more efficiently, seek greater biological diversity and synergies of organic waste management and the generation of energy from non-renewable and renewable resources; create innovation in the areas of foodstuffs, animal nutrition, health promotion, and the safety and quality of raw food.

The transformation of food technologies and agri-innovation is determined by the need to ensure effective use of material and human resources, i.e. in addition to producing more foodstuffs in a sustainable manner, the diversity of public services should be increased and

biological, organic, healthy and safe foodstuffs should be supplied. Furthermore, attention must be focussed on management of resources of the interior of the earth and waste, renewable energy resources, packaging technologies, and development of non-traditional foodstuffs, balanced feedingstuffs, multipurpose fibres etc. Such a broad range of agri-research and innovation would be beneficial for the agriculture and processing sector and society at large; a due balance between production of food products and non-food products would be ensured. In order to use natural resources in the most efficient way and to increase the sustainability and efficiency of the food chain, sound interaction between agriculture, business and research is required.

15.4. New production processes, materials and technologies. The area has been selected in order to respond to such challenges and future trends as the lack of collaboration between business and science as well as intersectoral and international cooperation in the creation and adaptation of knowledge, technologies and innovation, low productivity of businesses, lack of advanced technologies, innovative processes, products and services, the need to increase productivity and business process efficiency by reducing costs, the need to increase the supply chain‘s efficiency and synchronisation in order to ensure flexibility, shifting from mass production to mass adaptation, the need to shift to more profitable parts of the value added chain (focus on international markets – becoming at least a technology partner in the international value chains, offer products with high value added based on new knowledge and technology and having exceptional qualities and better application opportunities, improve trademark development including product design).

The following global change factors have led to a loss of competitive advantage of Lithuania’s industry which had relied on low costs: globalisation and aggressive competition in the global business environment, in particular, the “new economies” (China, India, Korea, Brazil etc.) and rapid changes in technologies are putting under pressure both industries which compete through low costs and manufacturers employing new technologies in developed countries; depletion of mineral resources, energy resources etc. and rising costs of key production factors (energy and raw materials and (in Lithuania) labour resources); lack of resources is a catalyst of a science-based radical innovation breakthrough. Discoveries and technological development in such fields as materials science (new materials), information technologies, bio- and nanotechnologies as well as convergence of technologies, in particular in physics, chemistry and biology create opportunities for radical product and process innovations, open new niches for future production, change both the roles of the actors in the production chain and the geographical boundaries of the value chain; it is forecast that this “creeping industrial revolution” will change the present production standards and consumption habits of societies. Technological progress creates a strong need for new competences (including flexible learning competences).

Recession has forced Lithuanian industries to increase productivity, however, this was achieved by redundancies rather than through investments in modernisation of technologies or innovation. A large part of Lithuania’s industries operate in the less profitable parts of the

value added chain, i.e. they sell raw materials, assembly services or production capacities, or manufacture low value-added products. The share of high-tech industry remains small – largely due to weak intersectoral integration, even though opportunities for this are provided by the introduction of advanced high technologies in traditional industries.

Lithuania's industries have to become smart in the environment of higher production costs, aggressive competition and changing production technologies, i.e. in addition to applying knowledge and technologies in the development of new high-quality products, they must apply such production systems which would be readily modernised by easy and effective integration of new technologies and functions; provide opportunities for quicker preparation of prototypes and placement of new products on the market (quick design, testing and manufacture); easily adapt to orders of different scope, manufacture of different products and niche needs.

The changes will inevitably make the industries search for ways to predict or to form the new market needs, better integrate new technological knowledge, quickly update the competences of the labour force, introduce new business models, and manage new production processes and systems. This will raise new expectations for high-quality management.

At present, the national scientific potential relevant to this priority field is still underused by Lithuania's businesses. For example, scientists at the Faculty of Chemistry of Vilnius University and of the Faculty of Chemical Technology of Kaunas University of Technology have developed a number of organic semi-conductors of practical significance and patented them with patent offices of the US, Europe and Japan (about 100 patents in all). Having regard to the need for modernisation of Lithuanian industries, instruments that promote networking, reduction of information asymmetry, process of entrepreneurial discovery etc. are relevant to the implementation of the RDI Priority Area.

15.5. Transport, logistics and information and communication technologies. It is projected that the development of transport, logistics and e-systems over the next 20 years will be determined by factors such as growing passenger and goods carriage flows and the cargo handling volumes; increasing concentration of people in cities, resulting in uneven loading of road infrastructure and increasing traffic jams; increasing pollution of the environment and the greenhouse effect; stronger competition because of third countries, which lowers prices (transport and logistic innovations are becoming increasingly important in maintaining Lithuania's competitiveness); constantly increasing consumer expectations related to the quality of service and a safer, environmentally-friendly and faster transportation.

The White Paper approved by Commission Decision No COM(2011) 144 of 28 March 2011 has identified the challenges relevant to Europe including Lithuania, which must be responded to in order to create a single European transport area and a competitive transport system based on an efficient use of resources. The following tasks have been identified: reducing the use of conventionally-fuelled vehicles, reducing carbon dioxide emissions in urban logistics, shifting of road freight to other modes such as rail or waterborne transport, development of the high-speed rail network and multimodal transport network, deployment

of the modernised air traffic management infrastructure and completion of the European Common Aviation Area, deployment of the land and waterborne transport management systems, deployment of the European Global Navigation Satellite System, establishing the framework for a European multimodal transport information, management and payment system, and increasing road traffic safety.

Transport is one of the key business sectors in Lithuania. With respect to its share in the GDP, this sector surpasses such sectors as agriculture, construction and energy. Transport is much more important for Lithuania than for most other EU Member States. According to Eurostat, in Lithuania the transport sector as a share of GDP is nearly 3 times larger compared with the EU average (2012: 2.65 times). The share of transport sector in Lithuania's GDP was 12.9% in 2013.

The following main sectors create the value added in transport and logistics: land transport (including road and rail), warehousing and transport support activities including seaport and airport operations. In 2013, these three sectors contributed EUR 3.89 billion to GDP and employed 85,400 people.

15.6. Inclusive and creative society. The area has been selected in order to respond to such social challenges and future trends as worsening demographic situation, regional development disparities, poverty, illegal work and poor social cohesion, gap between skills and labour market needs, insufficient development of talent and creative potential, and lack of public sector innovation and efficient governance.

An assessment of change trends in Lithuania and the EU leads to the conclusion that the need to increase efficiency in activities of the public sector will remain in the future, i.e. better results have to be achieved at a lower cost. As has been demonstrated by other countries' experience, this can be done by implementing e-decisions (the electronic tax declaration and administration system of Lithuania is one of the "success stories"); involving people and communities in the co-creation and provision of public services; involving the private sector and NGOs.

Governments of Lithuania and other countries have not succeeded in effectively tackling certain social problems (such as social exclusion, long-term unemployment etc.) despite considerable effort and resources. This shows the increasing need for the development and application of social innovation, i.e. governments must seek new ways to resolve old problems. In this respect, the focus should be on the empowerment of people and communities and the development of new forms of interaction.

Most likely, continuous learning will remain one of the most important means in citizens' adaptation to the technological transformations, continuing structural changes in the Lithuanian economy and other change factors. Therefore, the need to strengthen the adult learning capacities (e.g. self-directed learning) and opportunities (e.g. personalised and free learning content, new learning methods, forms and environments).

The objective of enhancing the policies' performance will continue to increase the need for knowledge- and evidence-based governance. Therefore, the use of experimental, monitoring, assessment and other instruments will be intensified.

The new innovation culture and cultural industries development technologies will enable the development of innovation culture in society and options for involving activities will be proposed for the creative industry sectors. In addition to the R&D intensive areas, the breakthrough innovation potential will be created also in other areas. The wider use of design technologies and other non-technological, creative and cultural innovations will be one of the factors of creation of products with higher value added, higher efficiency and more economical use of resources.

16. The formulation of the RDI Priority Areas was based on:

16.1. analyses made by the international team of independent experts, the results of which are presented in its reports published on the website of MOSTA:

16.1.1. report dated 25 March 2013 'Global trends and opportunities as challenges for Lithuania's RDI policy', which identifies the trends and challenges that could affect Lithuania's economy and society in the coming decade;

16.1.2. report dated 27 March 2013 'Long-term national challenges to Lithuania's economy and society' stating the key domestic challenges which could be faced by Lithuania until the year 2030 and which could be responded to using the current potential;

16.1.3. report dated 15 April 2013 'Current strengths of Lithuania's economy and future growth prospects' presenting a map of economic sectors in Lithuania, which reflects the current competitive advantages of the country and its future capacities to create and apply innovative technologies, products, processes and methods and divides the sectors into segments showing their role in the national economy and its future development. The report has been prepared upon assessment of the current state of competitiveness and specialisation of economic entities (increasing competitive advantage in export markets, competitive strategies of businesses based on the growing productivity and the quality job creation, successful investment-attracting process, critical mass of human resources etc.) and opportunities for the knowledge-based growth (share of knowledge-intensive businesses in the market; share of expenditure for R&D; participation in international innovation networks etc.);

16.1.4. report dated 15 April 'Lithuanian R&D potential' discussing the country's strengths in individual branches of science that can make a valuable contribution to the implementation of the RDI priorities; the report has been prepared upon evaluation of the number of impact of international R&D publications, scientific papers' citation rates, international activity of Lithuanian researchers, doctoral students, post-doctoral trainees, other competences of human resources, capabilities to attract funding for research, investments in R&D infrastructure, scope of science and business collaboration etc.;

16.2. survey of the RDI development stakeholders: seeking to achieve stakeholder consensus, discussions were held with the participation of representatives of higher education and research institutions, business representatives and decision makers.

17. The objective of the second phase of the RDI prioritisation process is to determine the specific priorities of the RDI Priority Areas based on the report 'Methodology for the Identification of the RDI Priorities' issued by the international team of independent experts on 11 September 2013. The formulation of the RDI Priorities was based on a detailed analysis of the science and business potential, the RDI capacities in the approved RDI Priority Areas, the future challenges and national and global trends of development of these priority areas as well as critical analysis of technologies and processes therein. Seeking to achieve a consensus of the stakeholders, discussions of experts representing different interests (academic community, associated business structures, representatives of state authorities). In setting the RDI Priorities, it has been attempted to aggregate the existing mature ideas on collaboration between science and business of quite large scope and significant impact, the existing science and business potential, and the private sector opportunities for implementing the RDI Priorities. By pooling the scientific and economic potential and promoting innovation by means of coordinated efforts (from an idea for an innovative technology, product, process and/or method until placement on the market) of the government, business and science, formation of a critical mass of the RDI participants is being sought so that they can work jointly to create innovative technologies, products, processes and/or methods and to apply the outputs with the aim to increase Lithuania's competitiveness.

18. The results of the RDI Priority setting process were published in the report of the international team of independent experts 'Proposals for the Priority Fields of Smart Specialisation in Lithuania' dated 9 December 2013. The report has been published in MOSTA website. The draft list of the RDI Priorities compiled by the expert team was considered and approved by the Strategic Council of RDI.

CHAPTER III
OBJECTIVES AND TASKS OF THE PROGRAMME AND CRITERIA FOR THE EVALUATION OF THE PROGRAMME'S IMPLEMENTATION

19. The strategic goal of the Programme is to increase the impact of high value added, knowledge-intensive and highly-qualified-labour-intensive economic activities on the GDP and structural changes of the economy by means of the RDI decisions. The strategic goal includes the following objectives:

19.1. create innovative technologies, products, processes and/or methods and, using the outputs of these activities, respond to global trends and long-term national challenges;

19.2. increase competitiveness of Lithuania's legal entities and their opportunities for establishing in global markets – commercialisation of knowledge created in the implementation of the RDI Priorities as well as knowledge created in developing the RDI

Priority Areas otherwise and using the unique synergy arising from the collaboration of science and businesses, economic entities and other public and private sector entities.

20. Tasks to be carried out to achieve the Programme‘s objectives:

20.1. Promote those RDI activities which would enable a greater diversification of energy sources, lowering of energy prices, economical and effective use of energy, sustainable change in ecosystems (in particular, efficient waste management and air and water pollution control). This task will be implemented through the RDI Priority Area ‘Energy and sustainable environment‘, specifically, by implementing the following RDI Priorities (by using the existing RDI potential for the development of thematically concentrated innovative technologies, products, processes and/or methods or their groups thereof and using the existing business and other potential in the application of these technologies, products, processes and/or methods or their groups for public needs and/or introducing them into the market):

20.1.1. smart systems for energy efficiency, diagnostic, monitoring, metering and management of generators, grids and customers;

20.1.2. energy and fuel production using biomass/waste and waste treatment, storage and disposal;

20.1.3. technology for the development and use of smart low-energy buildings – digital construction;

20.1.4. solar energy equipment and technologies for its use for the production of electricity, heat and cooling.

20.2. Promote those RDI activities which would enable the cutting of healthcare and medicines‘ acquisition costs and the elderly people‘s treatment and nursing costs that are increasing due to greater life expectancy, the prolongation of healthy life, the reduction of pandemic threats and the geographic spreading of infectious diseases and seek to reduce the systemic environmental pollution with toxic substances, in the conditions globalisation and increasing competition for highly qualified medical professionals. The tasks will be implemented through the RDI Priority Area ‚Health technologies and biotechnologies‘, specifically, by implementing the following RDI Priorities:

20.2.1. molecular technologies for medicine and biopharmaceutics;

20.2.2. advanced applied technologies for individual and public health;

20.2.3. advanced medical engineering for early diagnostics and treatment.

20.3. Promote those RDI activities that enable the creation of a sustainable food chain, use biological resources in agriculture and food industry in a sustainable manner, produce safe and quality food, effectively develop and use raw food. The task will be carried out by developing the RDI Priority Area ‚Agricultural innovation and food technologies‘, specifically, by implementing the following RDI Priorities:

20.3.1. sustainable agri-biological resources and safer food;

20.3.2. functional food;

20.3.3. innovative development, improvement and processing of biological raw materials (biorefinery).

20.4. Promote those RDI activities that would enable the development of advanced technologies, innovative processes, products and services, increase business productivity and efficiency of business processes by cutting costs, increase the efficiency and synchronisation of the supply chain to achieve flexibility, shift from mass production to mass adaptation, shift to more valuable parts of the added value chain (with a focus on international markets: become at least a technology partner in the international value chains, offer high value added products based on new knowledge and technologies, characterised by exceptional properties and improved applications; enhance trademark development including product design). The task will be carried out by developing the RDI Priority Area ‚New production processes, materials and technologies', specifically, by implementing the following RDI Priorities:

20.4.1. photonic and laser technologies;

20.4.2. functional materials and coatings;

20.4.3. structural and composite materials;

20.4.4. flexible technological systems for product development and fabrication.

20.5. Promote those RDI activities which would enable the flexible and effective response to such changes as the growth in the passenger and goods carriage flows and cargo handling volumes, increasing population density in cities resulting in uneven loading of road transport infrastructure and increasing congestion, the control of environmental pollution, the reduction of the greenhouse effect; promote transport and logistic innovations (as a response to increasing competition and lowering prices due to third countries), provide quality, safe, ecological and effective transport services to customers. The task will be carried out by developing the RDI Priority Area ‚Transport, logistic and information and communication technologies', specifically, by implementing the following RDI Priorities:

20.5.1. smart transport systems and information and communication technologies;

20.5.2. technologies/models for the management of international transport corridors and integration of modes of transport;

20.5.3. advanced electronic contents, content development technologies and information interoperability;

20.5.4. information and communications technology infrastructure, cloud computing solutions and services.

20.6. Promote those RDI activities which would enable an improvement in the demographic situation, even development of regions, reduction of poverty and illegal work, improve social cohesion, increase the consistence and reduce the gap between skills and labour market needs, develop talents and creative potential, ensure efficient use of creative and culture industry resources and non-technological innovation for the promotion of progress in society and the economy, and enhance public sector innovation and governance efficiency. The task will be carried out by developing the RDI Priority Area ‚Inclusive and creative society', specifically, by implementing the following RDI Priorities

20.6.1. modern self-development technologies and processes;

20.6.2. technologies and processes for the development and implementation of breakthrough innovations.

21. Progress in the achievement of the Programme‘s objectives will be determined based on the evaluation criteria provided in the Annex to the Programme.

22. The RDI PriorityAaction Plans will state the indicators of the interim and final outputs for each specific RDI Priority.

CHAPTER IV
IMPLEMENTATION FO THE PROGRAMME

23. The implementation of the Programme is organised by the MoES and the MOE or an institution/institutions commisioned by them.

24. The implementation of the Programme is managed by a Group for the Coordination of Implementation of the Research and (Socio-Cultural) Development and Innovation Priorities (hereinafter referred to as ‘the Coordination Group‘) formed by a joint order of the Minister of Education and Science and the Minister of the Economy, who also approve its members and work regulations. The Coordination Group will be formed of representatives of the Office of the Government of the Republic of Lithuania, MoES, MoE, Ministry of Finance, other state institutions and socio-economic partners. The Coordination Group will perform the functions established in the Programme and the work regulations.

25. On strategic level, the RDI development (as well as the development of RDI Priority Areas) is managed by the Strategic Council for Research, Development and Innovation (‘the Strategic Council‘) formed by the Government of the Republic of Lithuania.

26. Tasks of the Programme are carried out in accordance with the RDI Priority Action Plans. All the RDI Priority Action Plans are approved, by a joint order, by the Minister of Education and Science, the Minister of the Economy and other minister/ministers who scope of regulation is directly related to the financing and implementation of the study and RDI policy measures set in the action plan.

27. The draft RDI Priority Action Plan, prepared in line with the Programme‘s objectives and tasks and focussed on the outcomes specified in the Annex to the Programme, sets out the study and RDI policy measures (competition-based and scheduled) contributing to the implementation of the relevant RDI Priority, funding earmarked for the implementation of the measures and funding sources, and the estimated implementation timeframe. The implementation of the RDI Priorities will involve part of the study and RDI policy measures planned for 2014-2020 by the participating ministries, in line with the areas of regulation of the relevant ministry. The draft RDI Priority Action Plan must contain provisions on the responsibilities and functions of the institutions implementing the study and RDI policy measures, coordination of activities including coordination of interinstitutional actions, interim and final result indicators, ongoing analysis and impact assessment, termination of the

implementation of the action plan or addition of new study and RDI policy measures to the plan, and other provisions related to the implementation of the RDI Priority.

28. The draft RDI Priority Actions Plans are agreed upon with the ministries the areas of regulation of which are directly related to the implementation of the study and RDI policy measures established in the action plan, and considered by the Coordination Group.

29. Ministries are responsible for the implementation of the relevant study and RDI policy measures according to the scope of competence thereof. Responsibility for the projects implemented under the measures established in the RDI Priority Action Plans and financed by the EU assistance funds or other financing sources lies with the ministries implementing the projects according to the scope of competence thereof.

30. Implementation of the Programme is monitored through ongoing analysis and evaluation of the implementation of the RDI Priority Action Plans. The purpose of the ongoing analysis of the RDI Priorities is to accumulate, in a systematic manner, information on the implementation of the RDI Priorities and compliance with the RDI Priority Action Plans. The ongoing analysis of the RDI Priorities‘ implementation is based on quantitative and qualitative indicators, both interim and final, established according to the RDI indicators adopted in international practice as well as specific indicators consistent with the Smart Specialisation concept, harmonised with the relevant indicators of the study and RDI policy measures financed from the ES assistance funds for 2014-2020. The values of the qualitative indicators may be based on objective data or expert evaluations. The indicators used for the ongoing analysis by the MoES and the MoE or an institution/institutions commisioned by them must be harmonised as components of a single set of indicators:

30.1. The field of the ongoing analysis made by the MoES or an institution/institutions commisioned by it covers the collection and analysis of the data on implementation of the projects based on the study and RDI policy measures established in the RDI Priority Actions Plans;

30.2. The field of the ongoing analysis made by the MoE or an institution/institutions commisioned by it covers the collection and analysis of the data on implementation of the projects based on the study, RDI policy measures established in the RDI Priority Actions Plans.

31. The MoES and the MoE or an institution/institutions commisioned by them:

31.1. make an ongoing analysis of the implementation of the RDI Priority Action Plans and submit to the Coordination Group, at its request, conclusions on the proposals referred to in Item 33 of the Programme;

31.2. organise interim and final evaluations of the RDI Priority Action plans and submit their conclusions to the Coordination Group upon summarisation of the evaluation results;

31.3. organise the final evaluation of the impact of the implementation of the RDI Priorities on the RDI development and the competitiveness of the economy and submit their conclusions to the Coordination Group.

32. The ongoing analysis made by the MoES and the MoE or an institution/institutions commisioned by them must not duplicate the functions of the institutions implementing the projects financed by the EU funds or other financing sources and implemented under the study and RDI policy measures.

33. At any time during the period of implementation of an RDI Priority Action Plan, the Coordination Group may present to the ministries that have approved the plan its substantiated opinion, proposing to:

33.1. approve the feasibility of financing of certain study and RDI policy measures so that projects implemented under them would contribute to the implementation of the RDI Priorities;

33.2. supplement the plan with new study and RDI policy measures;

33.3. start the implementation of any study and RDI policy measures which have been included in the plan but which have not been started as yet, projects to be implemented under such measures and/or the projects to be implemented on the basis of the study and RDI policy measures included in the plan;

33.4. allot additional funding for the financing and implementation of the study and RDI policy measures and/or projects under them;

33.5. suspend or terminate implementation of a plan without starting to finance and implement the study and RDI policy measures set out in the plan and/or projects under such measures;

33.6. suspend or terminate implementation of a project/projects implemented under the study and RDI policy measures;

33.7. reduce financing of the study and RDI policy measures set out in the plan and/or projects under such measures the implementation of which has not been started as yet;

33.8. take other actions related to the implementation of the RDI Priority Action Plan.

34. On expiry of 2 years after the date of approval of the RDI Priority Action Plan, the MoES and the MoE or an institution/institutions commisioned by them organise an interim evaluation of the plan based on the ongoing analysis and evaluation provisions established therein. It will be determined during the evaluation whether the RDI Priority is being implemented effectively and whether its further development is expedient, having regard to the results of the ongoing analysis and changes in the social, economic, technological and other environment.

35. On consideration of the interim evaluation conclusions presented by the MoES and the MoE or an institution/institutions commisioned by them, the Coordination Group will present to the Ministers that have approved the relevant RDI Priority Action plan its opinion, proposing that one of the decisions referred to in Item 33 of the Programme should be made, and notifies the Strategic Council.

36. The study and RDI policy measures established in an RDI Priority Action Plan as well as projects implemented under them may be terminated, their funding may be reduced or

other actions may be taken according to the procedure laid down in the legal acts governing administration of the EU funds.

37. On completion of the projects implemented under the RDI policy measures established in an RDI Priority Action Plan or on expiration of the period for the projects' implementation set in the action plan, provided that the period has not been extended by the Ministers that had approved the action plan, the MoES and the MoE or an institution/institutions commisioned by them will organise, with the help of independent Lithuanian and/or foreign experts, the final evaluation of the action plan according to the ongoing analysis and evaluation provisions established therein. The final evaluation involves the evaluation of the impact of the implementation of the RDI Priority Action Plan upon the implementation of the relevant RDI Priority and the development of the RDI Priority Areas, and the impact of implementation of all the RDI Priorities upon the development of RDI and competitiveness of the economy.

38. On consideration of the conclusions on the final evaluation of the RDI Priority Action Plan submitted by the MoES and the MoE or an institution/institutions commisioned by them, the Coordination Group submits its opinion to the Ministers that have approved the plan and the Strategic Council.

39. On completion of implementation of all the RDI Priority Action Plans, the MoES and the MoE or an institution/institutions commisioned by them, will organise, with the help of independent Lithuanian and/or foreign experts, the final evaluation of the impact of the Programme's implementation upon the RDI development and competitiveness of the economy, taking account of the objectives and tasks of the Programme and the outputs specified in the Annex to the Programme.

40. On summarisation of the results of the final evaluation of the implementation of the Programme, the MoES and the MoE or an institution/institutions commisioned by them submits to the Coordination Group its conclusions on the impact of the Programme's implementation upon the RDI development and competitiveness of the economy. Upon consideration of the final evaluation conclusions, the Coordination Group submits its opinion to opinion to the Ministers that have approved the plan and the Strategic Council.

CHAPTER V
DEVELOPMENT AND IMPLEMENTATION OF JOINT INITIATIVES

41. Joint Initiatives represent one of the study and RDI policy measures designed for the implementation of the RDI Priorities. The implementation of the Joint Initiatives is aimed at encouraging the higher education and research institutions, associated business structures and other structures, entities promoting public-private cooperation in RDI and other entities in both public and private sectors to propose ideas for the Joint Initiatives that could contribute to the implementation of an RDI Priority or a part thereof.

42. The procedures for the submission of applications for, evaluation, selection and implementation of the Joint Initiatives are established in the Procedure for the Implementation

of Joint Studies, Research and (Socio-Cultural) Development and Innovation Initiatives ('the Joint Initiatives' Procedure') approved by the Minister of Education and Science and the Minister of the Economy upon agreement with the stakeholder institutions the areas of regulation of which are directly related to the implementation of the RDI Priorities.

43. Implementation of the Joint Initiatives is organised, according to the provisions of the Joint Initiatives' Procedure, by the Agency for Science, Innovation and Technology.

CHAPTER VI
FINAL PROVISIONS

44. Implementation of the study and RDI policy measures provided for in the RDI Priority Action Plans will be financed by the state and municipal budgets of the Republic of Lithuania, higher education and research institutions, other public and private legal persons, EU funds, other international financing sources, international RDI programmes etc. Projects implemented under the measures and contributing to the implementation of the RDI Priorities will be financed and managed according to the procedures established by the law. The main source of funding of the Programme's implementation is the EU Structural Funds' assistance for 2014 – 2020 earmarked for RDI.

45. The study and RDI policy measures provided for in an RDI Priority Action Plan and the projects implemented under the measures may be terminated, the funding may be reduced and other actions referred to in Item 33 of the Programme may be taken according to the procedures established by legal acts governing the administration of the EU funds.

46. Any stakeholder may submit proposals to the Strategic Council concerning the identification and inclusion of new RDI Priorities in the Programme within the scope of its competence, not earlier than on expiry of 2 years after the effective date of the Programme.

47. A proposal for the new RDI Priority must be based on the Lithuanian economic and scientific potential, the anticipated future challenges, and the feasibility of adaptation of the projected innovative technologies, products, processes and/or methods to the public needs, must be consistent with the objectives and tasks of the Programme, must be focussed on the achievement of the outputs specified in the Annex to the Programme, and must be based on the provisions of the Procedure for the Identification of RDI Priority Areas and their priorities.

48. After the Strategic Council approves of the inclusion of a new RDI Priority in the Programme, such inclusion will be organised according to the procedure prescribed by the law.

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Annex
to the Programme on the Implementation of the Priority Areas of Research and (Socio-Cultural) Development and Innovation (Smart Specialisation) and Their Priorities

LIST OF CRITERIA USED FOR THE EVALUATION OF ACHIEVEMENT OF OBJECTIVES OF THE PROGRAMME AND THERI VALUES

Objective	Evaluation criterion	Value of criterion			Responsible institution
		baseline (year))	2017	2020	
Strategic objective of the Programme					
Increase the impact of high value added, knowledge-intensive and highly-qualified-labour-intensive economic activities on the GDP and structural changes of the economy by means of the RDI decisions	total expenditure for R&D (as a % of GDP)	0.9 (2012)	1.2	1.9	Ministry of Education and Science of the Republic of Lithuania (‘MoES’)
	business expenditure for R&D (as a % of GDP)	0.24 (2012)	0.5	0.9	Ministry of the Economy of the Republic of Lithuania (‘MoE’)
Objectives of the Programme					
1. Create innovative technologies, products, processes and/or methods and, using the outputs of these activities, respond to global trends and long-term national challenges	share of turnover from new products‘ sale on the market and in the entity as part of total business turnover (as % of total turnover)	6.64 (2010)	10	14	MoE
	share of small and medium-sized businesses introducing new products and processes (as a % of all SMEs)	21.39 (2010)	30	40	MoE
	employment in knowledge-intensive sectors (%)	9 (2010)	11	13.6	MoE, MoES

Objective	Evaluation criterion	Value of criterion			Responsible institution
		baseline (year))	2017	2020	
2. Increase competitiveness of Lithuania's legal entities and their opportunities for establishing in global markets – commercialisation of knowledge created in the implementation of the RDI Priorities as well as knowledge created in developing the RDI Priority Areas otherwise and using the unique synergy arising from the collaboration of science and businesses, economic entities and other public and private sector entities	impact of advanced and moderately advanced technology products on the trade balance (export/import, %)	- 0.85 (2012)	0	1	MoE
	export of knowledge-intensive services (as a % of total exports)	12.5 (2012)	24	37	MoE
	revenues of high education and research institutions from intellectual activities (as a % of total revenues)	no data	0.1	0.2	MoES

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