

"Smarter Lithuania – Innovative and Smart Economic Transformation": EU investments in 2021- 2027

Jekaterina Rojaka Vice-Minister June 27th, 2019

In 2018, Lithuania demostrated strong growth



Source: Eurostat

However, Lithuania still lags behind EU by productivity



MANUFACTURING HAS BIG IMPACT ON ECONOMY, BUT LACKS INNOVATION

Summary of benchmark analysis (deviation from indicator average, %)



2.2.1 Business R&D expenditure

Source: European Innovation Scoreboard 2019

5.1.6 Share Knowledge-intensive services (%)

Source: European Innovation Scoreboard 2019



Lithuania has improved its digital score over 2014-2019



Source: European Commission, Digital Scoreboard

Lithuania has improved its digital score over 2014-2019



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Source: European Commission, Digital Scoreboard

Lithuania is less advanced in enabling digital tools



Population by age



• Population number in 2000



• Employed in 2000

2 296 995

or 65,4 percent



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Population by age



• Population number in 2015



• Employed in 2015

1 950 322

Or 66,8 percent



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Population by age

• Population number in 2020



• Employed in 2020

1 724 428

Or 64,6 percent



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Population by age

• Population number in 2050



• Employed in 2050

1 050 480

or 55 percent



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Recent international migration data is encouraging



Source: OSP, EIM

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STI SYSTEM REFORM: OUTCOMES

Unified STI policy:

- Adjusted strategic governance of STI area and policy coordination
- Clearly defined areas of responsibility for STI policy making
- Consolidated functions of STI policy
 implementation in one responsible agency
- Elected STI policy leader
- Common understanding of RDI activities
- New Law on Technology and Innovation
- Long term STI strategy
- Updated and optimized areas and priorities of S3

Increase of RDI oriented FDI:

- Attractive landscape and policy for more R&D oriented FDI
- Attracted top talent in RDI field
- More expertise and expert involvement in all stages of innovation
- Increase of breakthrough and disruptive innovations

Effective innovation support

system:

- Improved financial motivation system for RDI activities
- Unified assessment and evaluation system of RDI activities
- More focus on experimental development and innovation



SPENDING VS IMPACT OF R&D ON INNOVATION





- Public spending on R&D in Lithuania is similar to the EU average
- However, by utilization of R&D spending, Lithuania is among the outsiders.



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TURNOVER FROM NEW PRODUCTS

	2012	2014	2016	
New to the				
company products	1.5	2.45	5.12	
New to the market				
products	0.92	1.32	1.49	
TOTAL, bil EUR	2.4	3.77	6.6	

Income from the commercialization of new products, mil EUR (2016)

BUSINESS SPENDING ON INNOVATION





SHIFTING RDI PARADIGM



TOWARDS THE SMARTER ECONOMY



KEY 3 ELEMENTS OF INNOVATION REFORM

Revision of innovation support system

Attraction of R&D oriented FDI

Revision of STI system

- One ministry in charge of technology & innovation policy
- One agency
- Update of S3 strategy



KEY 3 ELEMENTS OF INNOVATION REFORM

Attraction of R&D

oriented FDI

Revision of innovation support system

> Revision of STI system

- Using EU SF to create
 innovative products/services
- Creating infrastructure necessary for experimental development
- Creating the framework for innovation development infrastructure
- Involving technology scouts
- Motivating scientists to cooperate with businesses
- Developing the framework of consulting services



KEY 3 ELEMENTS OF INNOVATION REFORM



- Attraction of R&D oriented FDI
- Participation of experts in the realization processes of innovations
- Talent attraction in RDI field



THE CORE OF THE REFORM





THE LAW ON TECHNOLOGY AND INNOVATION

One Innovation Agency





Embeded model of the cyclic innovation



Defined responsibilities and clear areas of governance



ACHIEVMENTS



The Law on technology and innovation

- Clear leadership and responsibilities in the STI field
- Efficient innovation support

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Empowered RDI Council



 Valuable expertise and experience

- Evaluation of the impact of EU VP1 priority
- Evidence-based analysis policy making
- Analysis of the impact of existing interventions
- Basis for an efficient and targeted preparation for the challenges of the new 2021– 2027 financing period



Economic diplomacy map of RDI

- Evidence based analysis for international co-creation
- Strengths identified
- Lithuania's interests abroad
- Networking of Lithuanian ambassies intensified



Update of S3

- Investment sustainability and continuity are ensured
- Effective project selection procedures
- Reducing the administrative burden



UPCOMING TO-DO LIST





Establishment of Innovation Support Fund

One Innovation Agency



Improvements of the operating model of governmental research institutes



Boosting of Innovative public procurement

- Venture capital, loans and guarantees to innovative businesses
- Sustainable source for innovation support

- Optimisation of the STI agencies network
- Strengthening strategic capacities
- Consolidation of the programmes and facilities
- Strengtening experimental development part in the innovation cycle
- Transfer knowledge
 to business
- Enhance demand for research and technology

- Demand-oriented innovation policy instrument
- Improvement of public service effectiveness and efficiency
- Support to start-ups and innovative business to launch and grow

Why one agency?



RDI system is fragmented, complicated and does not meet business needs



Recommendations: to consolidate institutions in order to more efficiently implement R&I policy



Research and Innovation Observatory (RIO) experts in assessing Lithuania's research and innovation system draw attention to highly fragmented policy priorities of the Lithuanian RDI system, strategic level programs, funding and low interinstitutional cooperation. Experts emphasize the need to consolidate the efforts and resources of state institutions to achieve their purposeful use for the implementation of R&I policy.

Organisation for Economic Co-operation and Development (OECD) also highlights the fragmentation and lack of coordination of Lithuanian RDI policy. OECD experts recommend **reviewing and consolidating all strategiclevel R&D programs, preparing and implementing institutional reform of RDI policy implementation**, including **consolidate agencies and their programs.** The experts propose to choose from two consolidation principles: (1) Aggregate the agencies according to the similarities and complementarity of the existing functions, or (2) Aggregate the agencies according to the similarities and complementarity of target groups of beneficiaries.





IMF discussions with Lithuania under Article IV of the Agreement states that there are many institutions in Lithuania with advisory and implementing functions and subordinate to the Government, the Seimas, the Ministry of Finance, the Ministry of Education and Science and the Ministry of Economy. The report points out that there is a lack of effective coordination between the institutions, which increases their maintenance costs and makes it difficult to use the entire STI system. IMF experts offer to merge all institutions that are dedicated to promoting innovation to a single institution, and the institutions responsible for the implementation of studies and fundamental research policies – to another one.

EC recommendations on the 2019 National Reform Programme, Stability Programme: 3. Focus **investment-related economic policy on innovation**, energy and resource efficiency, sustainable transport and energy interconnections, taking into account regional disparities. Stimulate productivity growth by improving the efficiency of public investment. **Develop a coherent policy framework to support science-business cooperation and consolidate research and innovation implementing agencies**



EUROPEAN COMMISSION

Innovation agency: one stop-shop for business





Background publications for 2021-2027 EU investments in Lithuania

- Country Report Lithuania 2019;
- OECD Economic Surveys Lithuania 2018;
- National progress programme (project);
- Evaluation on Lithuanian economic sectors finance post 2020;
- Ongoing impact evaluation on 1 priority axis (RDI);
- Ongoing impact evaluation on 3 priority axis (business sector).



Partnership in investments planning process for 2021-2027

Objective	Data	Participants
1.1 Research and innovation, advanced technologies	09/05/2019	Public institutions, business associations, etc.
1.2 Digitisation	15/05/2019	
1.2 Crowth and	04/04/2040	MOSAR LITEK
1.3 Growth and Competitiveness of SMEs	04/04/2019	Lithuanian Confederation of Industrialists 30 years LINPRA EKONOMIKOS FORUMAS
1.4 Skills for Smart Specialisation, Industrial Transition and Entrepreneurship	09/05/2019	LITHUANIAN INNOVATION CENTER

Annual increase in GDP, compared to the scenario without the EU investments



HERLIT macroeconomic model was the theoretical basis of the evaluation. In the national and EU practice of public policy analysis macroeconomic models are one of the most recognized instruments for the impact evaluation of the Programmes' investments. HERMIN macroeconomic modelling system is designed to analyse and evaluate medium and long-term impact of the state interventions. These models are used in evaluations commissioned by the European Commission and the European Parliament.



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Source: HERLIT-16, Ministry of the Economy and Innovation

Model confirms 0,56 p.p. increase in GDP and 5,9 thousand additional jobs created due to EU investments in 2020



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Source: HERLIT-16, Ministry of the Economy and Innovation

A Smarter LITHUANIA – Innovative and Smart Economic Transformation

Return on investment: on average additional value added created by projects exceeds the costs of these projects by 2.2 times, with highest economic benefit from the R&I



Experience from 2014-2020: PRIORITY AXIS 1. STRENGTHENING RESEARCH AND DEVELOPMENT AND INNOVATION




Annual increase in R&I, percentage points



Lithuania has higher potential in the capital and larger cities, while other regions are lagging behind





Innovative firms are concentrated in four regions, however innovators in R&I area are mainly located in Vilnius

Index of Lithuanian innovative firms, LT average = 100



Innovative firms indicators, by region

	Capital region	Central and Western Lithuania
Business sector employees involved in R&D (2017) - individuals	3 385	2 190
Expenditure on R&D in the business sector (2016) - million EUR	80 378	34 182
The share of innovating enterprises compared to all enterprises (2016) - (%)	50	44,7
Proportion of employees in innovative enterprises compared to employees of all enterprises (2016) - (percent)	72	66,1
Share of turnover of innovative enterprises compared to total turnover of enterprises (2016) - (%)	78,9	75,6

Current problems to be tackled

- The economy's capacity to innovate and absorb R&I is limited. Innovating firms in Lithuania are relatively small in size;
- Cooperation between businesses and universities or research centres remains scarce;
- □ Investment in R&I is below the EU average;
- Low business demand for research and innovation is mainly predetermined by the structure of the economy, which mostly consists of lower value added industry and services;
- □ Belated reform of the innovation policy started only in 2018



Proposals and recommendations

MOST SUCCESSFUL – TO CONTINUE

According to Impact Evaluation of the 1 Priority Axis (Visionary Analitics, 2019), most successful and popular activities were:

- Corporated R&I activities
- Activities promoting demand for innovation.

TO BE IMPROVED

Moreover, all activities could be improved by

- Creating more synergy between measures, less fragmentation;
- Scaling-up, as massives measures lead to more efficiency;
- more attention for new innovators;
- more attention for innovation support services;
- developing forms of cooperation.

All proposals for 1.1 objective activities in 2021-2027 were prepared according provisions of Country Report Lithuania 2019 Annex D, OECD survey 2018, National progress programme (project), 2014-2020 projects experience and Impact Evaluation recommendations



2021-2027 investments 1.1. objective "Enhance research and innovation capacities and the uptake of advanced technologies"



Digitisation for Citizens, Companies and Governments

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1.2 objective

Experience from 2014-2020: PRIORITY AXIS 2. PROMOTING INFORMATION SOCIETY

PROBLEMS

SOLUTIONS



Achieved results in 2014-2020 in information society



Created more digital services (e.g.: E-invoice, E-waybill, applied accounting system, smart cash registers and etc.)

Population usage of internet up to 78 percent (in 2013 - 65 proc.)

50,18 % population using public e-services



Current problems to be tackled

Slow development of digital economy;

□Very low share of open data compared to EU28, low availability and insufficient reuse;

Digital divide between rural, older, disabled and lower-income residents and educated, high-income, young residents in internet use: Only 55 % of people have basic digital skills (as opposed to 57 % in the EU as a whole), although Lithuania is one of the EU countries with the lowest proportion of adults with a low level of education (in 2017 only 12% Lithuanians have less than lower secondary education, against an EU average of 25%);

□Non-systemical view on Cyber Security.

All proposals for 1.2 objective activities in 2021-2027 were prepared according provisions of Country Report Lithuania 2019 Annex D, OECD survey 2018, National progress programme (project), Evaluation on Lithuanian economic sectors finance post 2020, 2014-2020 projects experience



Digital Economy and Society Index 2019: Lithuania overview

	LITHUANIA		EU average
	RANK	SCORE	SCORE
DESI 2019	14	52.0	52.5
DESI 2018	14	49.2	49.8
DESI 2017	18	44.6	46.9



ICT Infrastructure Optimization & Management Transformation

Aim of the Program: Optimization of ICT Infrastructure (policy, human resources, processes, technologies)
Budget: EUR 38.331.470
Term of the Program – 31.12.2023
Added value: 1. Centralized, standardized and secure management of information resources 2. Focusing ICT policy on the new stage of digital state and economic development 3. Cost savings for hardware and licenses by 30%



Status of the Program



Central eHealth System (ESPBI IS)



Storage and exchange of **12 different clinical documents** related to:

- referrals,
- discharge letter,
- out-patient medical records,
- E-Prescriptions,
- · lab results, etc.

as well as 8 medical certificates:

- health certificates for students, drivers, holders of weapons,
- birth or death certificates, and others.



Central eHealth System: main indicators



Central eHealth system (**ESPBI IS**) is capable of storing patient information from various health care institutions (HCI) in one eHealth history.

One Resident – One EHR (electronic health record)



Development of eHealth System



Implementation of national eHealth and other information systems New documents stored per month 2016.12 - 116.000 2017.12 - 1.240.000 2018.12 - 2.331.000 2019.04 - 3.004.000 Action plan 2019-2025 Development projects for 3 years perspective



2021-2027 investments 1.2. objective "Reap the benefits of digitalisation for citizens, companies and goverments"





Shar

1.3. objective

Experience from 2014-2020

PRIORITY AXIS 3. PROMOTING COMPETITIVENESS OF SMALL AND MEDIUM-SIZED BUSINESS

PROBLEMS

SOLUTIONS



Achieved results in 2014-2020 in business promoting

Number of enterprises receiving grants – 6054

Number of new enterprises receiving investments – 2062



Private investments matching public support:

2023 Plan in OP – 307 million EUR, of which financial instruments – 81 million EUR;

Achieved– 252 million EUR, of which financial instruments – 133 million EUR.



Source: HERLIT-16



-0,3

-Impact on real labour productivity, p.p.

- Impact on Lithuanian export (share in GDP), p.p.
 - Impact on FDI, p.p.
- Impact on firms share, invested in environmental innovation, p.p.

- —Impact on real labour productivity, p.p. (w/o FI)
- —Impact on Lithuanian export (share in GDP), p.p. (w/o FI)
- —Impact on FDI, p.p. (w/o FI)
- Impact on firms share, invested in environmental innovation, p.p. (w/o FI)

Current problems to be tackled

- The benefits of Lithuania's speedy economic convergence are heavily concentrated in the two metropolitan areas;
- Despite the improved availability of funding, SMEs access to finance score remained close to the EU average. SMEs continued to experience some challenges in obtaining loans;
- Productivity growth is concentrated in low value added sectors (decreasing competitiveness of SME's);
- Export market potential in not in use (to give more attention for EU strategic value chains)



Proposals and recommendations

MOST SUCCESSFUL – TO CONTINUE

According Impact Evaluation of the 3 Priority Axis (Visionary Analitics, 2019) most effective activities were:

 development access of SMEs, particularly start-ups, to the necessary sources of financing, searching of new export market and new trade partners.

TO BE IMPROVED

Moreover, all activities could be improved by

- more synergy between measures;
- massives measures lead to more efficiency;
- more attention for new export market;
- more attention for new technologies (Industry 4.0 and etc.);
- better access to international market and networks.

All proposals for 1.1 objective activities in 2021-2027 were prepared according provisions of Country Report Lithuania 2019 Annex D, OECD survey 2018, National progress programme (project), 2014-2020 projects experience and Impact Evaluation recommendations



2021-2027 investments

1.3. objective "Increase the growth and competitiveness of small and medium-sized enterprises"





Skills for Smart Specialisation, Industrial Transition and Entrepreneurship



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1.4. objective

Experience from 2014-2020

PRIORITY AXIS 9. EDUCATING THE SOCIETY AND STRENGTHENING THE POTENTIAL OF HUMAN RESOURCES: problems and solutions



Achieved results in 2014-2020 in human resources

Trained

sized

11 664

employees of supported micro, small and medium-

enterprises -



The employed people who participated in ESF training awarding a qualification or competence 2023 Plan in OP – 65 000; Achieved until now – 31 306



In the mid-term, highest EU investments impact in HR area is on wages, while in the long-run on productivity in manufacturing



----Impact on life-long-learning level, p.p. — Impact on productivity of market services, p.p. — Impact on wages in manufacturing, p.p.

—Impact on employment level, p.p.

-Impact on productivity in manufacturing, p.p. Impact on wages in market services sector, p.p.

Problems still remain:

- Lithuania has made limited progress in improving the quality, efficiency and labour market relevance of education and training;
- Adults participation in learning remains low;
- Lack of coordination of the validation of programmes across education, the labour market and the voluntary sector;
- Public financial incentives or grants are mostly focused on medium-sized and large business;
- Non-sustainable adult learning system.

According provisions of Evaluation on Lithuanian economic sectors finance post 2020, activities could be improved:

- more attention for variety and needs-match learning programmes;
- better access for training services;
- better motivation for better qualification.

All proposals for 1.4 objective activities in 2021-2027 were prepared according provisions of Country Report Lithuania 2019 Annex D, OECD survey 2018, National progress programme (project) and 2014-2020 projects experience



2021-2027 investments 1.4. objective "Develop skills for Smart Specialisation, industrial transition and entrepreneurship"





2014-2020 FINANCIAL INSTRUMENTS AND PARTIAL COMPENSATION OF INTEREST

EUR 420.27m amount allocated for all instruments, out of which:

EUR 229.96m ESIF: EUR 199.08m for FIs, EUR 30.88m for Partial compensation of interest

Partial Equity Instruments (EUR **Debt Instruments** (EUR **Guarantee Instruments** (EUR compensation of 169.18m) 142.35m) 73.86m) interest Co-Seed and **Development** investment **Risk Shared** Venture Funds I and II. Individual Portfolio Fund II and Loans, **Portfolio** Capital Fund, up to EUR guarantees quarantees Co-**Open Credit** up to quarantees Up to 15.6m and up for loans and for loans, investment EUR 79.65m Fund II, up to for factoring, EUR 14.8m to EUR 17.4m leasing, up to Fund R&I. (EUR 76.64m EUR 57.7m up to up to EUR 28.26m up to ESIF, EUR 3.01m **EUR 4.3m** Co-Business **EUR 29m** EUR 11.6m reflows) investment **Angels Fund** and up to EUR Up to Fund, Ш, 5m EUR 30.88m up to up to EUR EUR 12.5m 11m Seed and Individual **Portfolio Export Credit** quarantees Venture **Baltic** Crowdfunding guarantees for large **Capital Fund** Guarantees, Innovation for leasing. **Accelerator** Loans, up to companies, up to Ш, Fund I and II. EUR 5m up to Fund, up to EUR 8m Up to up to up to EUR 4.3m EUR 14.48m EUR 4m EUR 14.8m EUR 26m each ESIF/ Reflows Reflows **Reflows** Reflows Reflows **ESIF ESIF** RY OF **ESIF** ESIF (national) (national) (national) (national) ONOMY (national) OVATION

and EUR 190.31m national resources (reflows) for FIs

- Increased attention to financial instruments (19 active, 1 are coming)
- Promotion of new types of financing (including alternative) (portfolio guarantees for factoring, crowdfunding loans, export credit guarantees, coinvestment fund for R&I)
- Equity instruments for different stages of SMEs' life cycle (pre-seed, seed, start-up, expansion, growth)
- Further cooperation with other Baltic countries (Baltic Innovation Fund II)
- Wide use of reflows



CHALLENGES IN IMPLEMENTING FINANCIAL INSTRUMENTS IN 2014-2020 PROGRAMMING PERIOD

- Limited possibilities of implementation of pilot financial instruments from ESIF (due to various restrictions and audits)
- Limited possibilities of combination of grants and FIs under single operation
- Too detailed ex-ante assessment methodology delayed reaction to changing market needs

Challenges with specific financial instruments from ESIF:

- Loan instrument "Risk Shared Loans" is not running as expected (market situation changed; conditions of this instrument became unattractive for banks)
- Still no investments from Co-investment Fund R&I (science institutions are not keen to invest into spin-offs)



FINANCIAL INSTRUMENTS IN 2021-2027 PROGRAMMING PERIOD

- Financial instruments (loans, guarantees, equity) to be used to support broader scope of activities
- Further development of equity ecosystem
- Potential wider deployment of combination of grants and financial instruments (depending on the final version of CPR)
- Reflows would be used more widely

Ex-ante assessment will show which objectives would be pursued (activities would be covered) through financial instruments


Annual increase in GDP level in p.p. (Financial instruments impact) (Source: HERLIT-16)



Source: HERLIT-16, Ministry of the Economy and Innovation

SUCCESS STORIES



Success Story. Foodsniffer



- The World's first handheld mobile device that determines the freshness of raw meat and fish.
- Export to 15 countries: UK, France, Switzerland, Italy, Czech Republic, South Africa and more.

"Business Angels Fund" "InoPatent" Funded – 1.366.003 Eur Out of which 928.529 Eur Business Angels' fund Funded – 5.730 Eur

"InoVouchers" Project value – 52.618,40 Fur

Funded – 36.774.96 Eur



Success Story. LB CHAIN PLATFORM-SERVICE



E-invoice subsystem (i.SAF)







Success Story. Fishfinder Deeper







The world's most popular castable fishfinder.

"New Opportunities LT" Project value - 90.000,00 Eur Project value - 57.331,84 Eur Funded – 45.000,00 Eur

"Expo Certificate LT" Funded – 28.665,03 Eur



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Intensive trainings to increase added value created by SMEs

Program requirements:

- □ SME with export potential
- 2 participants per company (CEO+Export manager)
- Motivation to change

:Whats in it for SME

- 8 days of trainings and individual consultations
- Create or Rebrand and understand how to earn from what
- Previous participants increased their export after the trainings twice, from 8134 to 17349 thounsands EUR.



SUCCESS STORY (FI): CAFFEINE







LT: est. 2007, 40 coffee shops LV: est. 2010, 18 coffee shops EE: est. 2015, 9 coffee shops

BaltCap came in late 2012





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Thank You!

Kiek švietimo sistemos pasiūla ir įgyjami įgūdžiai atitiks darbo rinkos poreikius?

ekonomikos ir inovacijų MINISTERIJA

Įgūdžių neatitikimo komponentai, pagal kvalifikaciją, proc. nuo 15-64 m. darbuotojų



Investicijos į žmonės – viena svarbiausių sėkmės komponenčių

ekonomikos ir inovacijų MINISTERIJA

Suaugusiųjų (25-64 m.) dalyvavimas mokymuose 2017 m., proc.



Kiek Lietuvos darbo rinką paveiks automatizacija?



Nekvalifikuoti gavybos, statybos, pramonės ir transporto darbininkai (93), Maisto gamintojai, medienos meistrai, siuvėjai ir kiti giminiškų profesijų darbininkai ir amatininkai (75), Valytojai ir pagalbininkai (91)



EKONOMIKOS

IR INOVACIJŲ MINISTERIJA

> MINISTRY OF THE ECONOMY AND INNOVATION

Duomenys: OECD Country Profile of Lithuania, 2018