



# What to measure in innovation ecosystems: Lithuanian experience

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# **Content review**

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- II. Lithuanian SMART Specialization Evaluation System
- III. Set of Indicators
- IV. Example Key Indicators: SMART Specialization
- V. Example Key Indicators: MANUMIX Policy-Mix

# Lithuanian SMART Specialization Evaluation Cycle





# Lithuanian SMART Specialization Evaluation System (1)



### Monitoring

Includes monitoring and evaluation of Smart Specialisation programme indicators

- · Monitoring period last 12 months
- 5 evaluation reports in total

Innovation policy evaluation in SMART specialization context

### Interim Evaluation

Includes evaluation of the Smart Specialisation programme progress on relevance, effectiveness, efficiency, and etc. aspects

- The progress evaluation period is every 24 months
- 2 evaluation reports in total
- Entrepreneurial Discovery Process applied

### Impact Assessment

Includes SMART Smart Specialisation programme final impact assessment (as ex-post)

- Impact assessment period is 5 years
- 1 evaluation report in total

# Lithuanian SMART specialization Evaluation System (2)



No.	Scope of assessment	Type of assessment
1.	Changes in environmental factors that could affect the implementation of the Smart Specialization Program	Monitoring
2.	The relevance of the Smart Specialization Program priorities for investment and the impact perspectives	Monitoring, Interim
3.	Implementation of R&D&I policy instruments	Monitoring, Interim
4.	Implementation of projects funded by R&D&I policy instruments	Monitoring, Interim
5.	Participation in international research programs	Monitoring, Interim
6.	The status of research and education institutions in the international context	Monitoring, Interim
7.	R&D&I trends in business sector	Monitoring, Interim, EDP
8.	R&D&I trends in research sector	Monitoring, Interim, EDP
9.	Effectiveness of R&D&I policies	Interim, Impact (ex-post)
10.	Impact of Smart Specialization Program on economic sectors	Impact (ex-post)
11.	Impact of the implementation R&D&I policies on the priorities of the Smart Specialization program	Impact (ex-post)

# **Set of Indicators**



## **Input Indicators**

Monitoring whether adequate public and private resources are allocated, how efforts and resources are concentrated in different areas of Smart Specialization

## **Output Indicators**

Monitoring the implementation of the priorities of the Smart Specialization Program

## **Outcome Indicators**

Monitoring the progress of the Smart Specialization Program and the value of the products created during its implementation, the benefits to the direct target groups

### Impact Indicators

Monitoring the impact of the implementation of the Smart Specialist program on the country's economy

# **Example Key Indicators: SMART Specialization**



## Input level

- Normalized citation rate
- Number of publications
- Requested amount of public investment
- ERI spin-offs
- · The amount of public investment allocated
- R&D infrastructure by ERI who submitted and received funding
- Field of economic activity / economic field of activity for which the project is intended
- The number of ERI researchers who submitted the application and received funding
- · Number of employees / researchers of the applicants who submitted and received funding
- Ratio of requested and targeted public investments
- Volume of applications for international research programs
- Number of patents and other intellectual outputs
- International publications
- Annual export volumes of applicants and applicants who received funding
- Annual R&D expenditures of applicants who submitted and received funding
- Concentration of Technologies (Herfindahl–Hirschman (HH) index)
- Estimated Return on Investment

# **Example Key Indicators: MANUMIX Policy-Mix**



TARGETED SCIENTIFIC
RESEARCH IN THE FIELD
OF SMART
SPECIALIZATION

PROMOTION OF ACTIVITIES OF CENTRES OF EXCELLENCE
AND CENTRES FOR INNOVATION AND TECHNOLOGY
TRANSFER

# COMMERCIALIZATION OF R&D

The general final goal of R&D production commercialization is settled

#### SCIENTIFIC RESEARCH

Research; attraction of foreign-based scientists; R&D activities of parallel laboratories

#### **CAPACITY BUILDING**

Competence development of R&D personnel

#### **TESTING R&D-BASED IDEAS**

Technology development, prototyping, testing, demonstration

#### R&D COMMERCIALIZ-ATION

Market launch and full commercial application

influenced over the policy process

#### **Participants:**

Institutions of research and education

University hospitals

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## of policy intervention

## Participants:

Institutions of research and education

Companies with IRE as

Companies licensed to use intellectual property created in IRE.



# **Key Performance Indicators**

#### SCIENTIFIC RESEARCH

Research; attraction of foreignbased scientists: R&D activities of parallel laboratories

#### **CAPACITY BUILDING**

Competence development of R&D personnel

#### **TESTING R&D-BASED IDEAS**

Technology development, prototyping, testing, demonstration

#### **R&D COMMERCIALIZ-ATION**

Market launch and full commercial application

### **KEY PERFORMANCE INDICATORS**

Number of patents, prototype technology and other intellectual outputs

R&D expenditure as a percentage of total costs

Number of enterprises cooperating with ERI

Number of new companies that received

investments

# **Curent MANUMIX Policy-Mix Indicators under SMART Specialisation Evaluation**



During the SMART specialization assessment, the evaluation indicators, which include the level of input and impact, are distinguished

## Input Indicators (to distinguish potential)

Requested amount of public investment; The amount of public investment allocated; Ratio of requested and targeted public investments: Number of ERI researchers who received funding; ERI annual R&D orders: Licensees and other R&D activities; ERI spin-offs; Number of publications; Normalized citation rate: International publications: Volumes of applications for international research programs; ERI R&D infrastructure; Technological Concentration

Output Indicators (to distinguish performance)

Number of new companies that received investments; Number of enterprises cooperating with ERI; Increase in the financial value of ERI contracts with companies

Outcome Indicators (to distinguish results)

R&D expenditure as a percentage of total costs; Number of patents, prototype technology and other intellectual outputs

# **Impact Indicators**

Employment; Added value; Productivity; Export; Investments; Receptivity for technologies and highly skilled workforce; Better success rate in Horizon 2020; Number of publications; ERI revenues from the results of intellectual activity

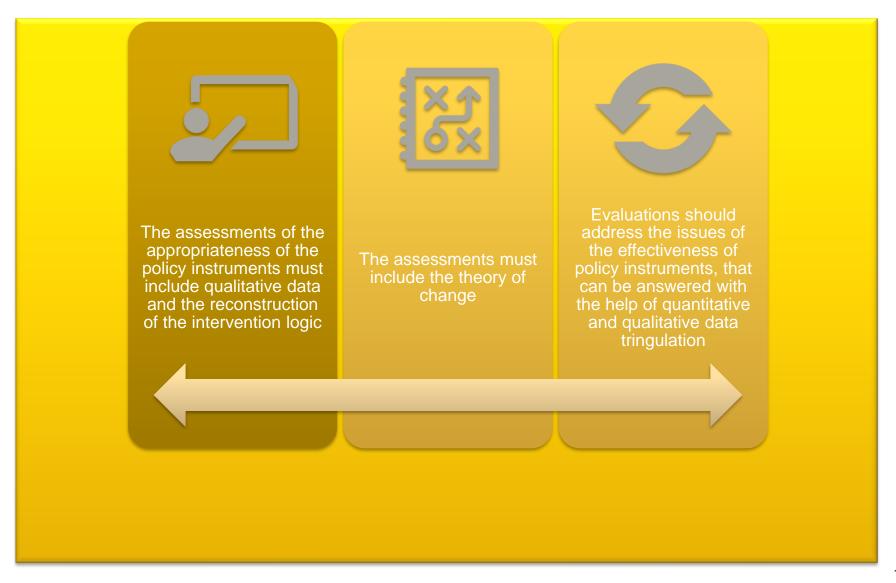


# **Main Challenges**

- ✓ How to assess the the suitability of every policy instrument to achieve the strategic objective?
- ✓ How to assess the relative impact of every policy instrument?
- ✓ How to assess the degree to which every intervention is competing or is complementary in terms of contribution?



# **Opportunities for Improvement**



# MANUMIX

**Interreg** Europe



Thank you!





