Expert Mission on Centres of Competence

Sofia, April 17

Kuriame Lietuvos ateitį

2014–2020 metų Europos Sąjungos fondų investicijų veiksmų programa

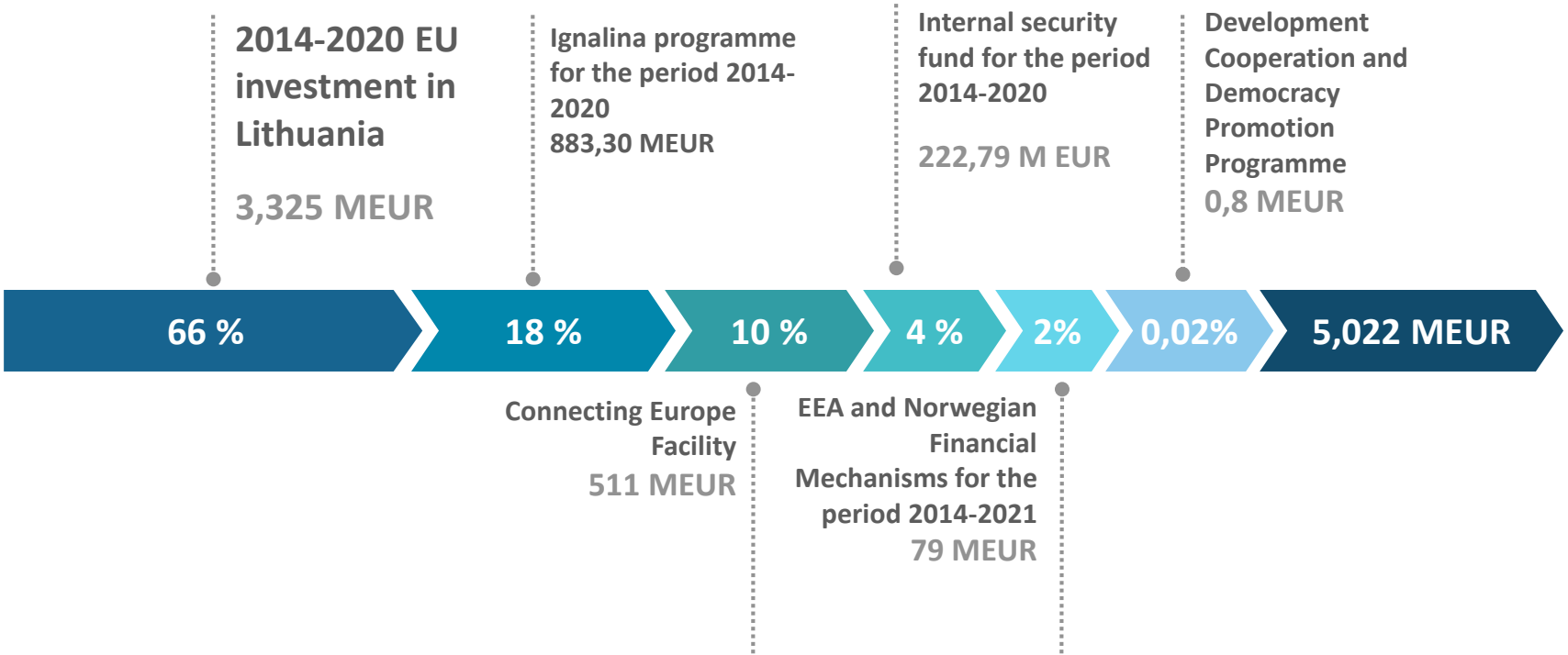
Central Project Management Agency (CPMA) activities

Administration and implementation of various EU and other Donors' funded programmes

Public Private Partnership (PPP) Competence Centre

International co-operation and international projects

CPMA's Programmes' Portfolio



2014-2020 EU investment in Lithuania: 9 investment sectors

3,325 MEUR

Functions performed by CPMA in the Program administration

Participation in the development and improvement of the management and control system

Monitoring of Projects

Management of Grant contract

On the spot checks

Management of Irregularities

Project Evaluation

Ex-ante and ex-post procurement control

Management Verifications

Forecasts of payment flows adn absorbtion

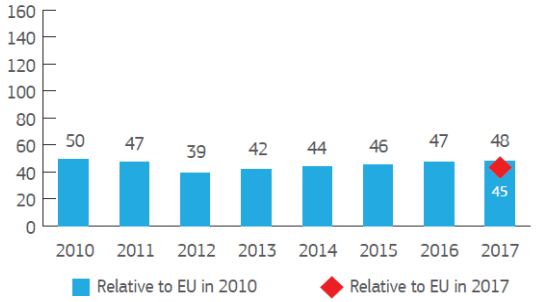
Information and Publicity campains

Here we are..

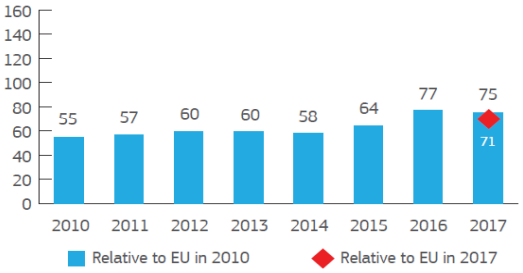
Since 2010, the EU's average innovation performance has **increased by 5.8 %**, and it is expected to improve by an additional 6 percentage points over the next 2 years.

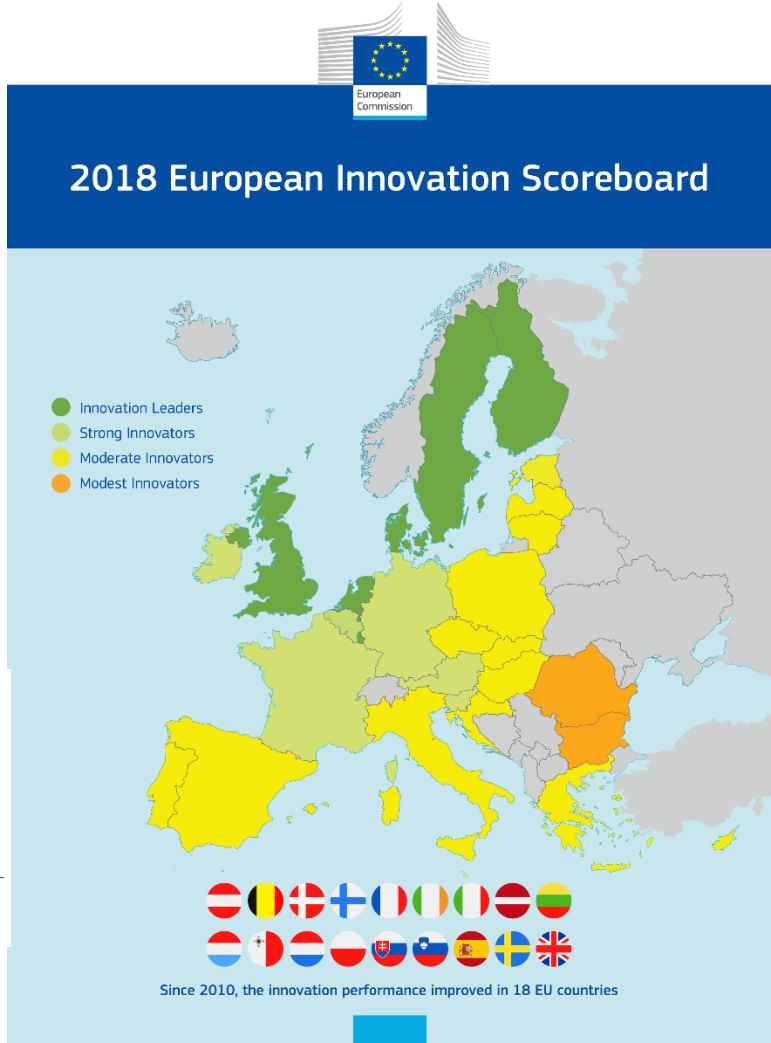
Summary Innovation Index

BULGARIA

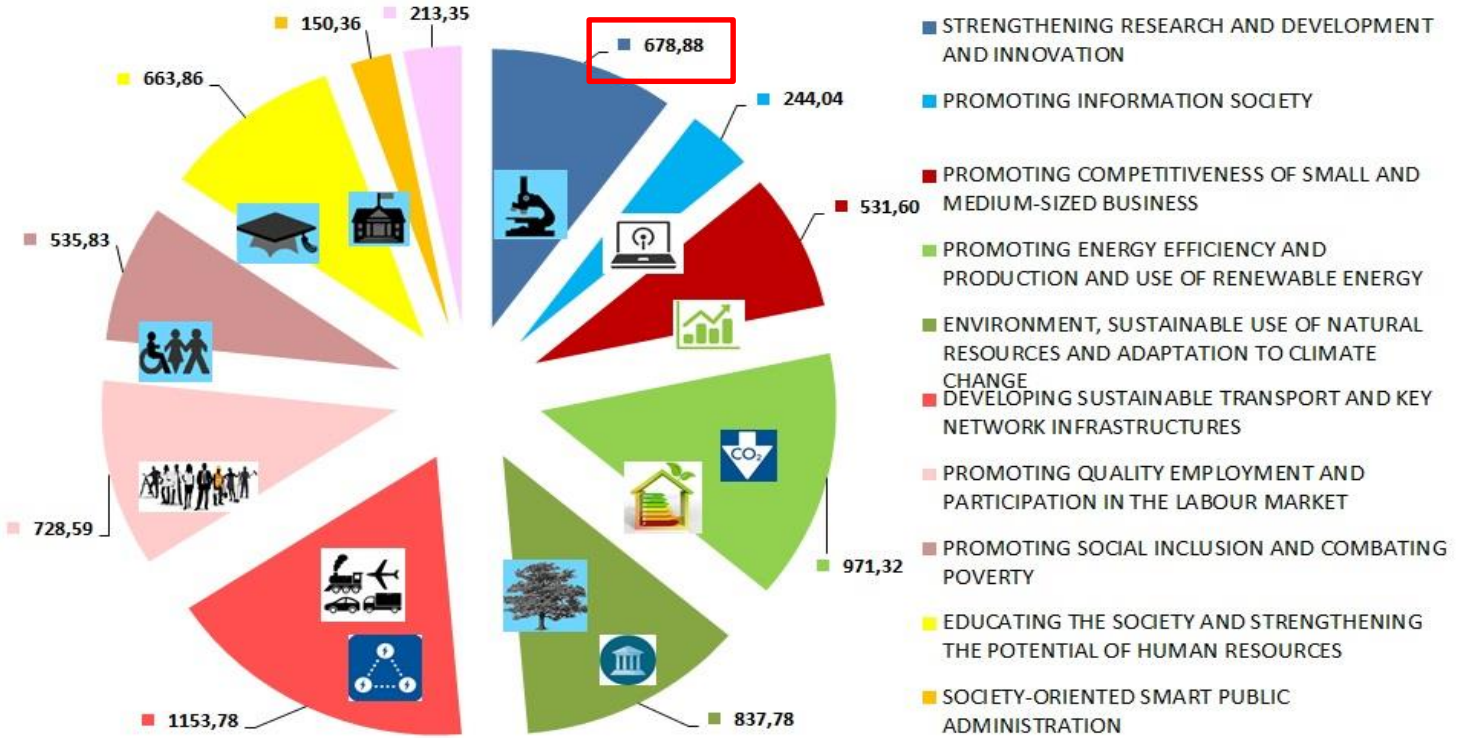


LITHUANIA

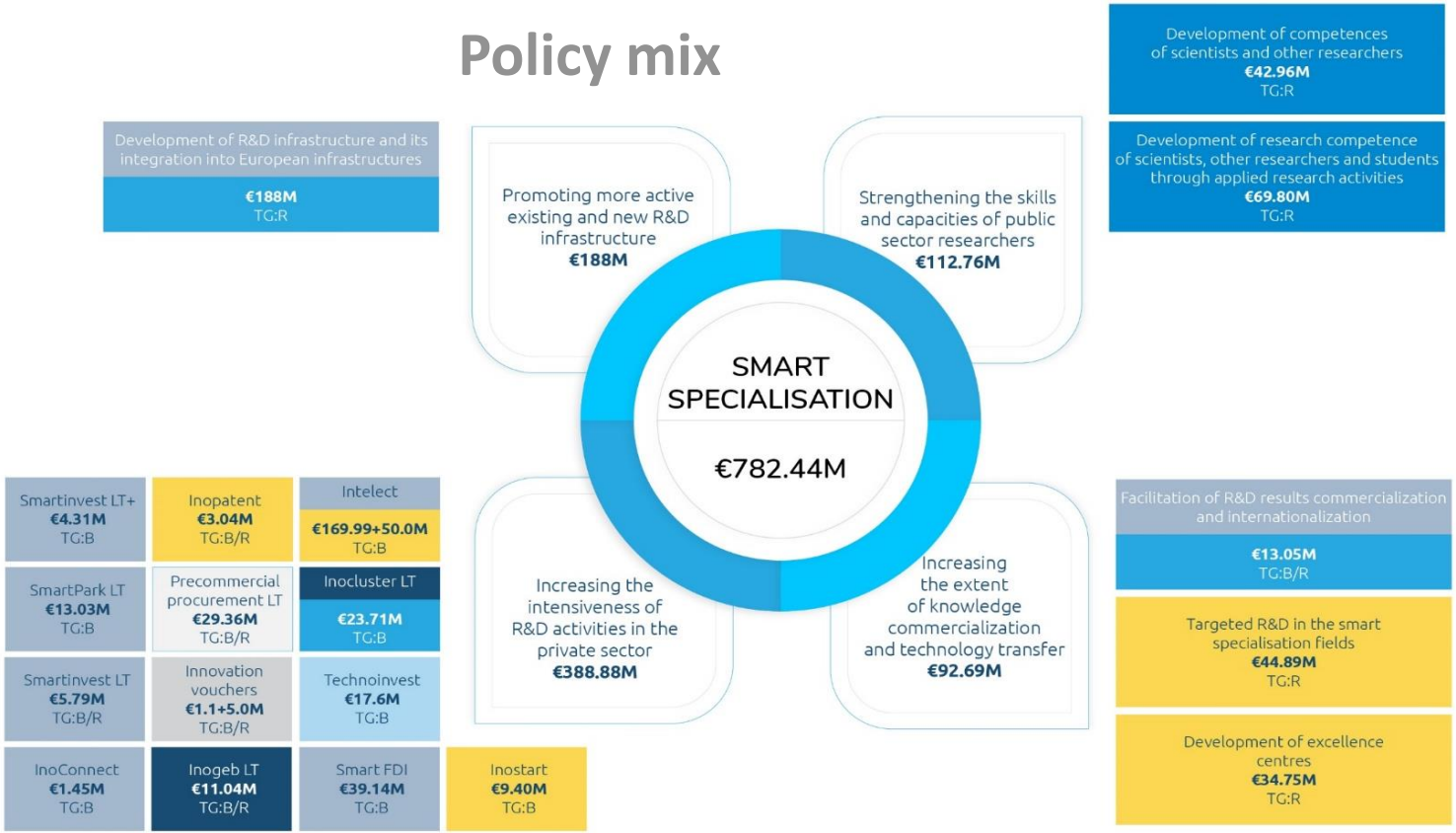




EU structural assistance for 2014-2020. Priorities and Funding – **total amount 6 709 MEUR**



Policy mix

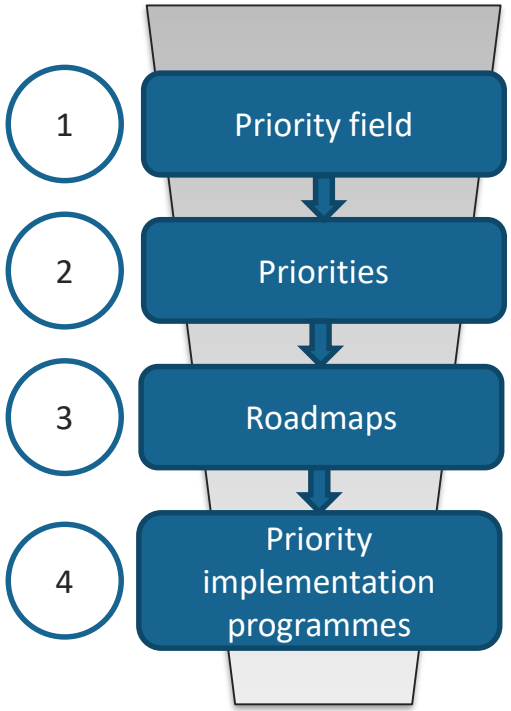

Development of competences of scientists and other researchers
€42.96M
TG:R
Development of research competence of scientists, other researchers and students through applied research activities
€69.80M
TG:R
Development of R&D infrastructure and its integration into European infrastructures
€188M
TG:R
Promoting more active existing and new R&D infrastructure
€188M
Strengthening the skills and capacities of public sector researchers
€112.76M
SMART SPECIALISATION
€782.44M
Increasing the intensiveness of R&D activities in the private sector
€388.88M
Increasing the extent of knowledge commercialization and technology transfer
€92.69M
Facilitation of R&D results commercialization and internationalization
€13.05M
TG:B/R
Targeted R&D in the smart specialisation fields
€44.89M
TG:R
Development of excellence centres
€34.75M
TG:R
Smartinvest LT+ €4.31M TG:B
Inopatent €3.04M TG:B/R
Intelect €169.99+50.0M TG:B
SmartPark LT €13.03M TG:B
Precommercial procurement LT €29.36M TG:B/R
Inocluster LT €23.71M TG:B
Smartinvest LT €5.79M TG:B/R
Innovation vouchers €1.1+5.0M TG:B/R
Technoinvest €17.6M TG:B
InoConnect €1.45M TG:B
Inogeb LT €11.04M TG:B/R
Smart FDI €39.14M TG:B
Inostart €9.40M TG:B
RDI infrastructure
Venture capital
Innovation support services
R&D grants
R&D based FDI, internationalisation
Public-private RDI collaboration, public sector RDI commercialisation
Innovation demand building
R&D human resources (grants)
Target group (TG):
B: Business
R: Rerearch and higher education organizations, public sector institutions

What we expect

- Conditions have been created for science and study institutions to operate in a competitive environment
- Developing innovative technologies, products, processes and / or methods and using them to respond to global trends and long-term national challenges
- Strengthened R&D capacity by attracting high-level researchers and other researchers from abroad
- Balance between researcher skills and business needs
- Orientation from low to high technologies

Design of Lithuanian RIS3 in 2014-2015

EDP



6 broad Priority fields
Analysis of challenges, research potential and structure of economy

20 Priorities within 6 broad Priority fields
In-depth analysis in every Priority field + expert panels

For every Priority (total 20 roadmaps)
Expert panels + broad survey

Developed according to roadmaps (total 20 programmes)
Consultation with National expert institutions + implementing ministries

6 SMART Priorities

1. Agro-innovation and food technologies

- Safer food
- Functional food
- Biorefinery

2. Energy and sustainable environment

- Smart energy systems
- Energy from biomass, waste treatment
- Digital construction
- Solar energy

3. Health technologies and biotechnology

- Molecular technologies
- Advanced technologies for health
- Advanced medical engineering

4. Inclusive and creative society

- Educational technologies
- Implementation of breakthrough innovations

5. Novel production processes, materials and technologies

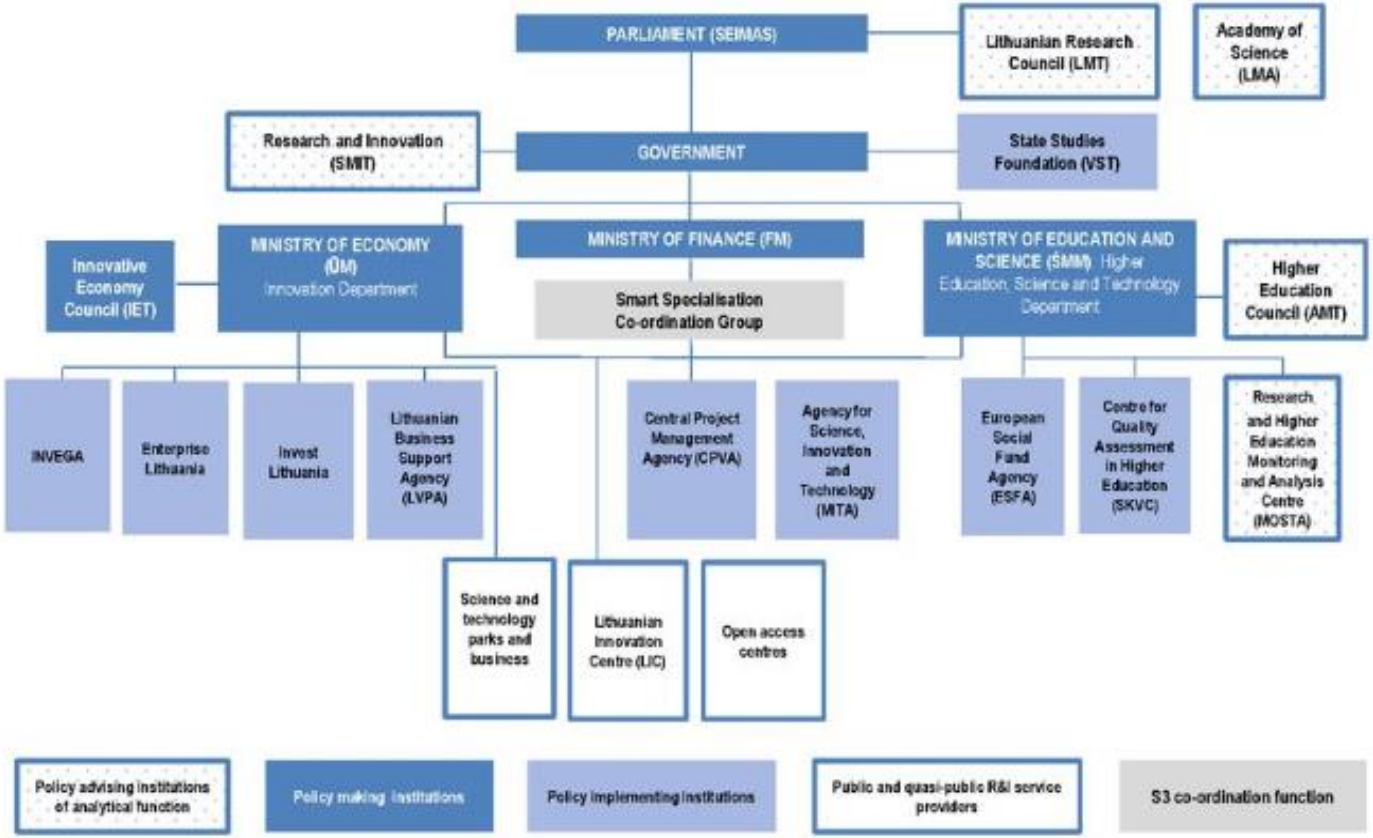
- Photonic and laser technologies
- Functional materials and coatings
- Structural and composite materials
- Flexible production systems

6. Transport, logistics and information and communication technologies

- Smart transport systems and ICT
- International transport corridors
- Digital content
- Cloud computing and services

Structure of R&D and higher education policy institutions in Lithuania

Figure 5.1. **Structure of the R&D and higher education (HE) policy institutions in Lithuania**



Infrastructure projects - Valleys

Research Centers

Science and technology parks

Technology transfer centers

Necessary laboratory equipment

2007-2013

2014-2020

Commercialization of R & D activities

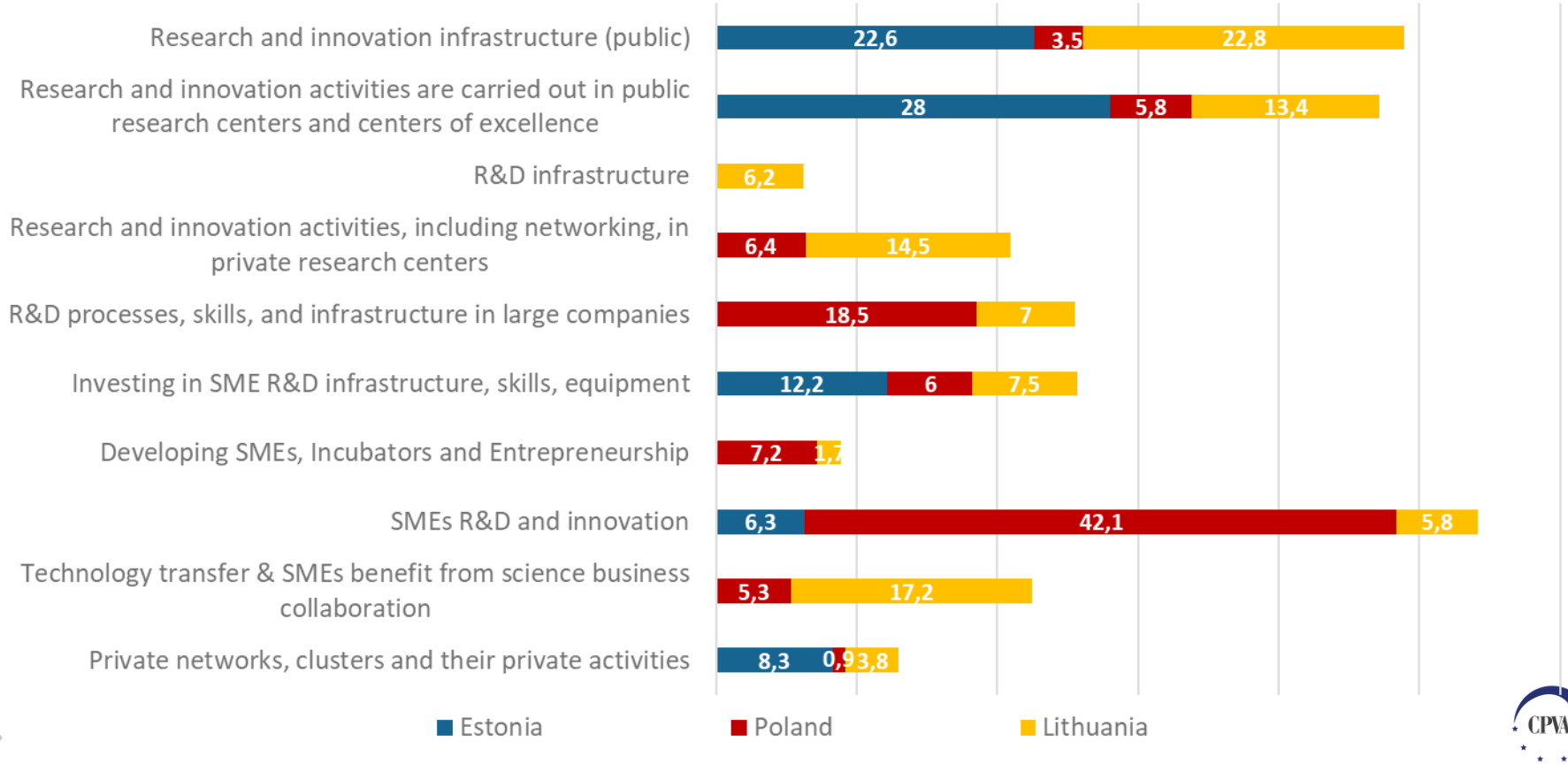
New product development and introduction on the market

Business Sector Needs

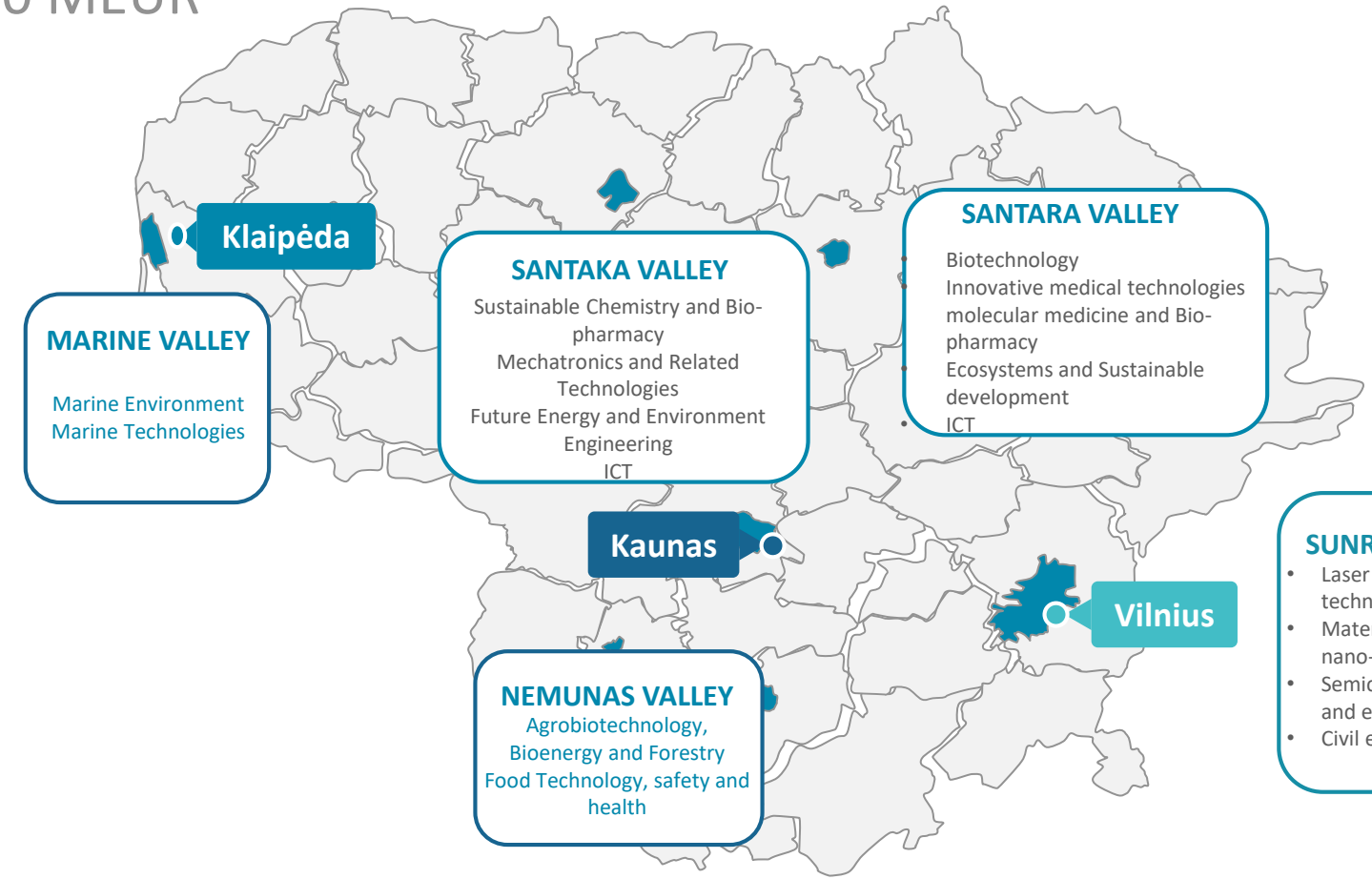
Participation in the European infrastructure (ESFRI)

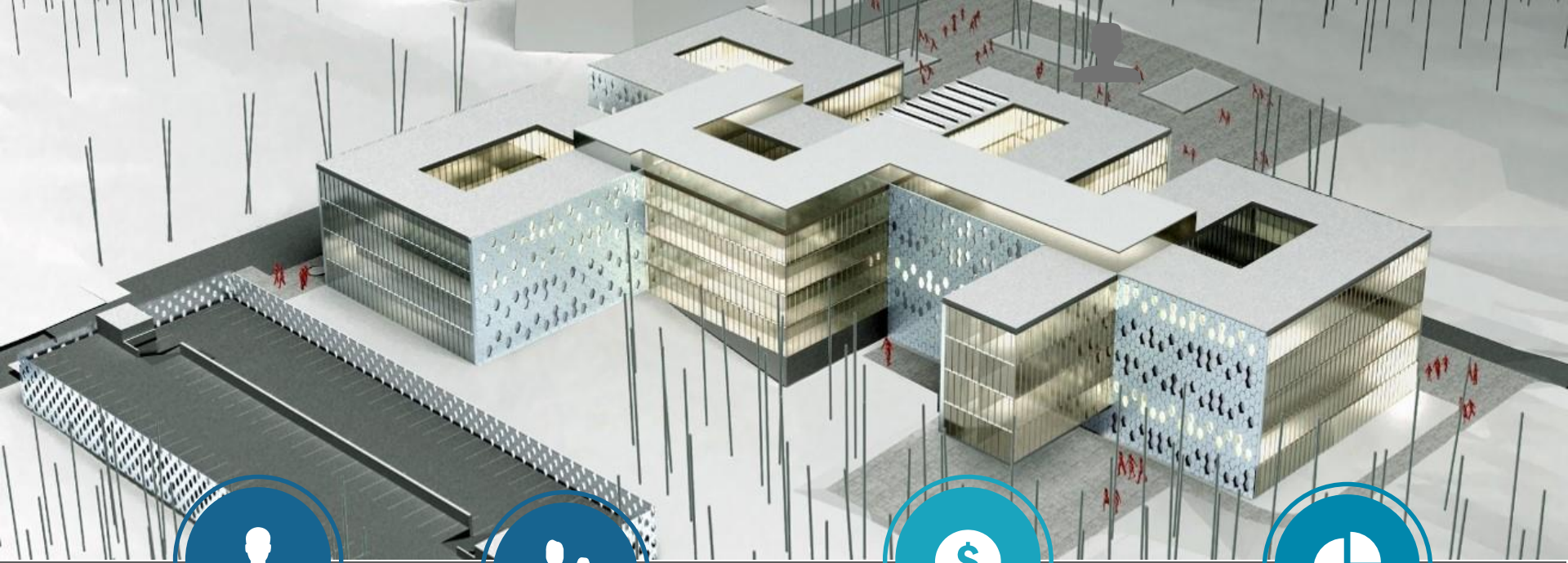
Participation in international / regional initiatives

Investments by area of intervention, from all 1st Priority funds, %



Valleys – Concentrating R&D and Innovations. Investments over 300 MEUR





BENEFICIARY
Vilnius University

PARTNERS
- Institute of Chemistry
- Institute of Physics
  Semiconductor Physics Institute
- Vilnius Gediminas Technical University

BUDGET
69 MEUR

DURATION
72 MONTHS

Outputs

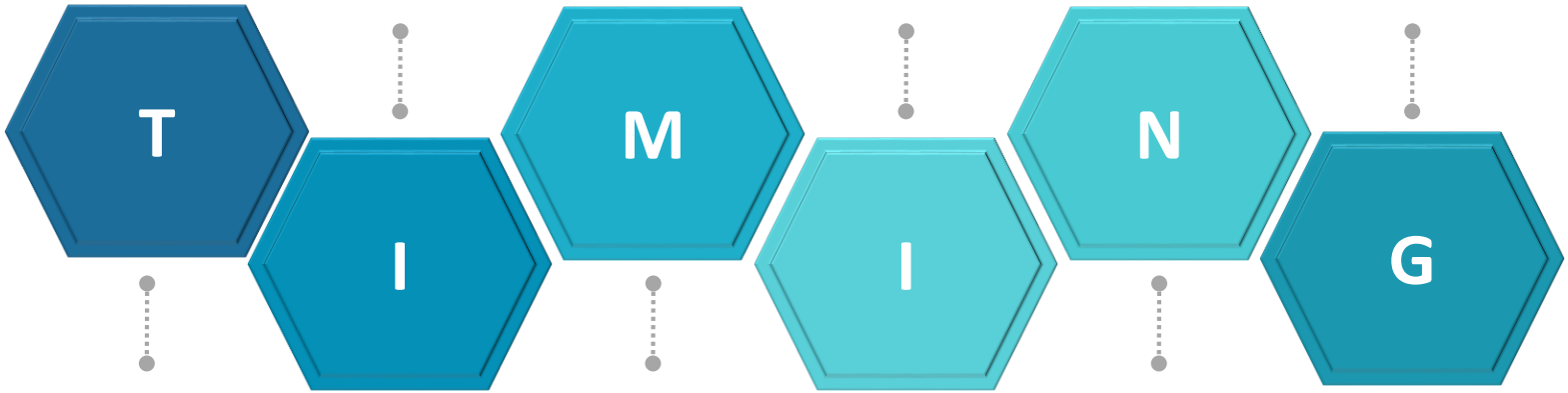
- **1** Functioning research center
- **9** Co-op agreements between research institutions and micro, small and medium-sized enterprises signed
- **24** Created, updated and / or equipped scientific laboratories
- **40** New jobs created in the field of research
- **750** Improved working conditions for scientists and researchers

Key factors influencing infrastructure project

PLAN OF RISK MANAGEMENT
All the possible risks and plan a possible solution

SUPPORT
Trust team, management support, empowerment

COOPERATION
With partners, Agency, Ministry



SCOPE OF PROJECT
Number of activities; value; importance

PROCUREMENT
It is important to have procurement plan while submitting an application

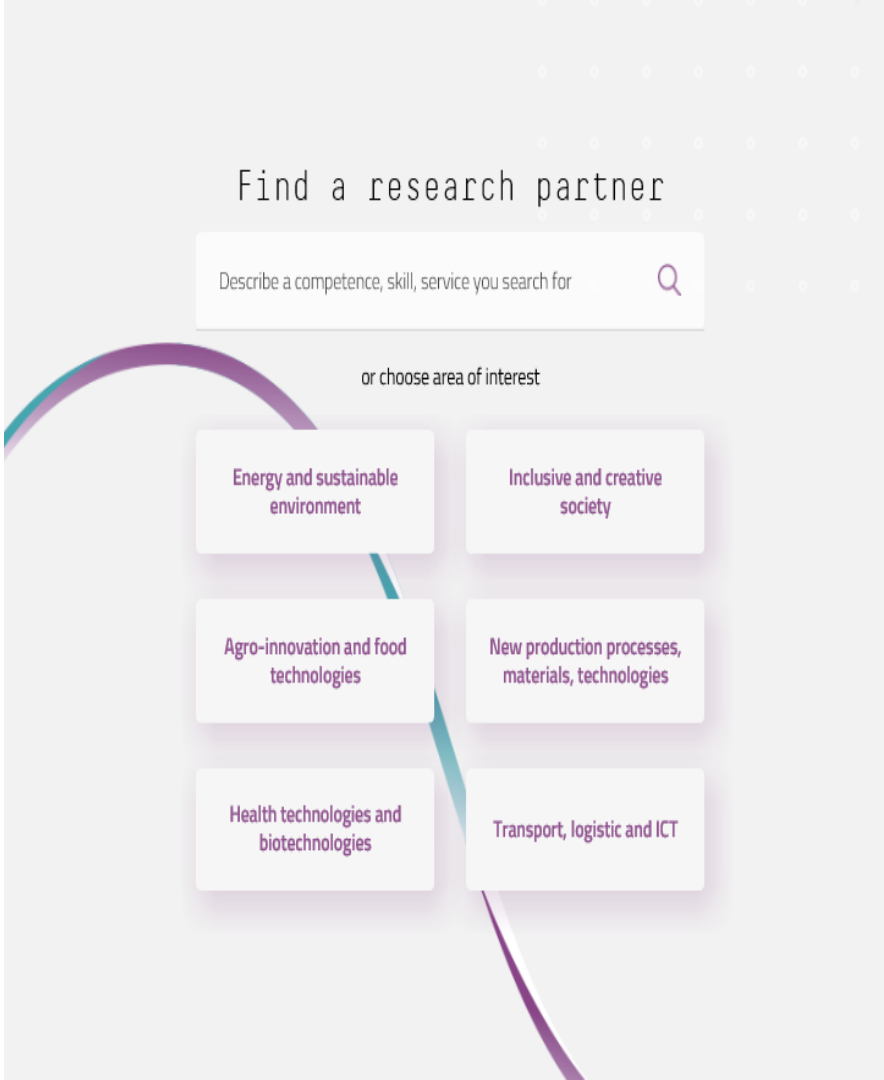
COMPETITIVE TEAM
Strong project manager, sufficient resources and expertise

Factors for limited business science co-operation

- Complicated procedures for the use of public R&D infrastructures
- Researchers' career regulation (high dependence on academic publications and low attention to collaboration)
- Orientation towards "pure" research, the narrow definition of R&D (largerly only research)
- Lack of involvement of business players in the governing structures and decision-making processes

Experience boosting science and business co-operation

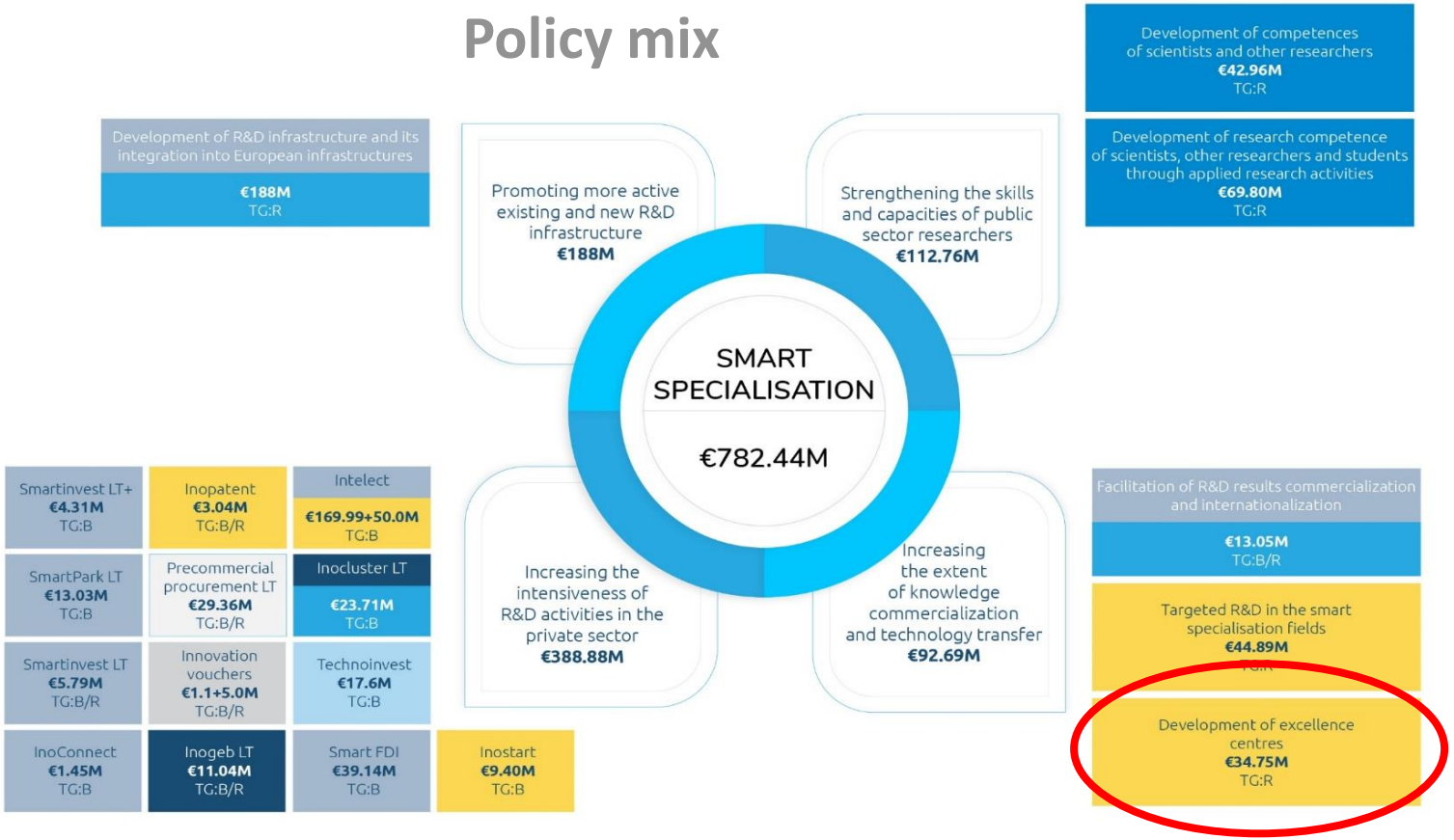
- Agency for Science, Innovation and Technology (MITA) established
- Foster business and science cooperation and to create a friendly environment for business needs and innovation
- How they work:
    1. Analysis
    2. Search
    3. Faster process



Lessons learned from the past programming period

- 3-steps way did not work – why?
- Two long and complicated way for business entity to find R&D partner
- Centres for innovation and technology transfer must be closer to R&D (within Universities)

Policy mix



- RDI infrastructure
- Venture capital
- Innovation support services
- R&D grants
- R&D based FDI, internationalisation
- Public-private RDI collaboration, public sector RDI commercialisation
- Innovation demand building
- R&D human resources (grants)

Target group (TG):
B: Business
R: Rerearch and higher education organizations, public sector institutions

Actions of specific objective 1.2.2

Promotion of scientific knowledge transfer and commercialisation of R&D results:

- implementation of joint science-business projects contributing to the implementation of priorities of the smart specialisation strategy;
- targeted research in the area of smart specialisation (research carried out by groups of high-level researchers, attraction of foreign researchers and R&D activities, activities of parallel laboratories);
- **promotion of activities of centres of excellence and technology transfer centres;**
- commercialisation of R&D results and promotion of internationalisation

Creation, updating and development of the RDI infrastructure of units (centres of excellence, technological centres) – 28 MEUR

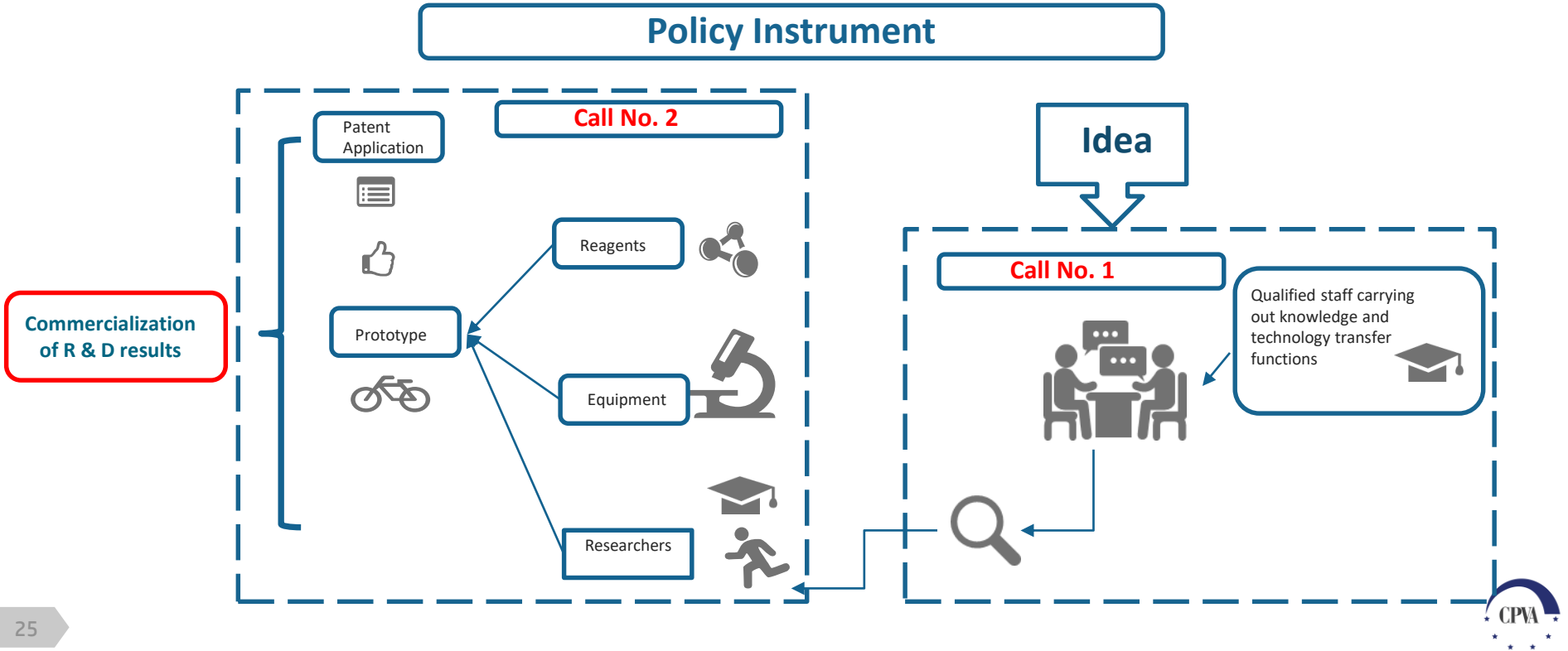
Purpose of Instrument

To promote the activities of Research and Higher education institutions for research and experimental development (R & D), **which have <u>commercial potential</u>**

Activities supported

- Promotion of **innovation and technology transfer centers**
- Promotion of competence centers to test **R & D-based, commercially-promising** ideas, create a follow-up investment or other outcome that can be tailored to market deployment

Promotion of Activities of Centres of Excellence and Centres for Innovation and Technology Transfer



Outputs expected to be delivered

Technology Transfer Centers

Outputs to be delivered:

"Increase in Financial Value of Contracts with Enterprises". Minimum target value - 20%;

"Number of Innovation and Technology Transfer Centers of Research and Higher Education Institutions Received Investments". The minimum target value is 1 Center for Innovation and Technology Transfer of Science and Studies Institutions.

Competence Centers

Product indicator "Patent applications filed by research and study institutions that have received investment". Minimum target value - 1 application (applied to science and studies institutions);

Product indicator "R&D Projects Implemented". Minimum target value - 1 R&D project.

Promotion of Activities of Centres of Excellence and Centres for Innovation and Technology Transfer – current situation

- 22 applications in total received
- 11 applications did not score the min score, one application did not pass eligibility criteria
- **9 projects under implementation since 02.2018**
- Amount allocated **5,701 MEUR**
- The maximum amount of funding available for project **700.000 EUR**
- The maximum duration 36 month

- 35 applications in total received
- 26 applications **did not score** min score of 41, one application did not pass eligibility criteria
- **9 projects under implementation since 06.2018**
- Amount allocated **7,451 MEUR**
- The maximum amount of funding available for project **1.000.000 EUR**
- The maximum duration 36 month

What is Centre of Competence ?

Definition

- Center of Competence means the high intellectual potential **within** relevant Research and higher education institution or University hospital

Objective

- Orientation towards faster technology transfer
- Faster and more efficient way to the market

Features

- Exceptional activity in the field (s) of R & D
- International and / or interdisciplinary and / or cross-sectoral cooperation
- Commercialization of R & D activities

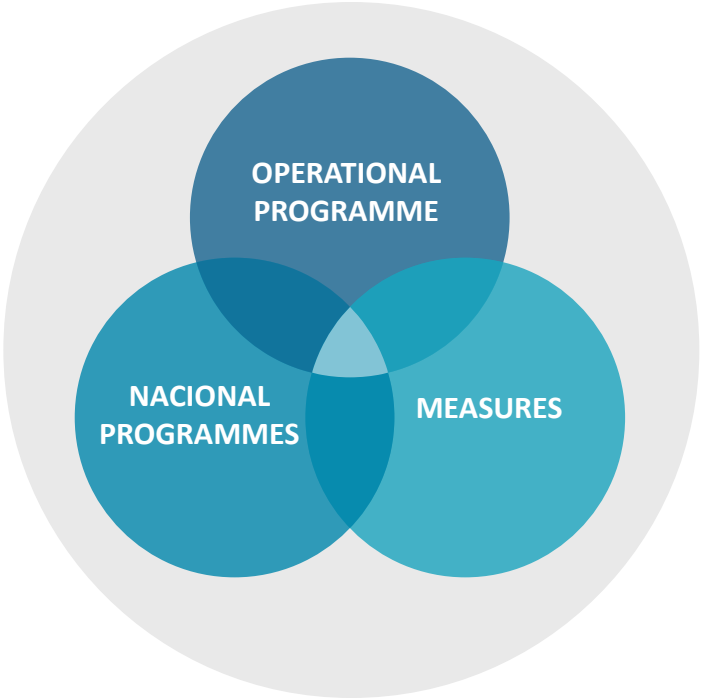
Added value

- Internal networking /Interdisciplinary teams
- Acquired / raised researcher qualification and competence
- New projects initiate projects or become partners of new international projects.

Eligible expenditure

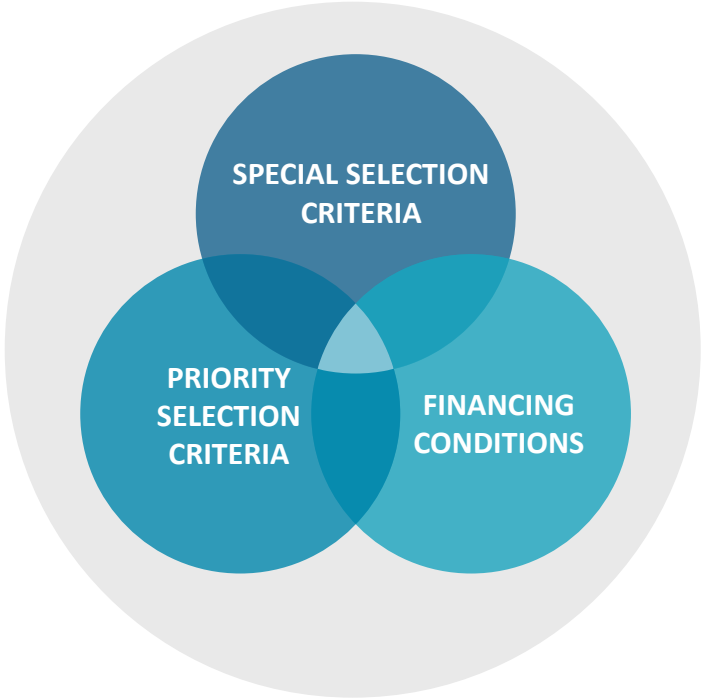
No.	Type of Expenditure	Reikalavimai ir paaiškinimai
1.	Land	Not eligible
2.	Real estate	Not eligible
3.	Construction, reconstruction, repair and other works	Not eligible
4.	Equipment, facilities and other assets	Eligible - furniture, computer equipment, software.
5.	Project execution	Eligible expenditure: Wages and business trips for the personnel performing knowledge and technology transfer, science and business cooperation, open access to R&D infrastructure services: 1) **consultancy costs** relating to the coordination of knowledge and technology transfer processes, the organization of the invention discovery process and the protection of intellectual property; Commercialization of R&D results; development of new R&D based business; organization of target markets and funding sources for the conduct of commercialization of intellectual property results; search for partners for scientific and business cooperation; organization of open access to R&D infrastructure services. 2) Cross-financing costs are used to finance the costs of upgrading the skills of personnel involved in the transfer of knowledge and technology transfer, science and business cooperation.
6.	Communication on project	Not eligible
7.	Indirect costs and other costs according to the fixed project cost rate	The fixed project cost rate for indirect project costs shall be calculated in accordance with Annex 10.

Importance of Coherence



REQUIREMENTS
RULES
PRIORITIES

- OUTCOMES
- SCOPE
- EXPENDITURES
- ACTIVITIES
- RESULTS
- INDICATORS
- TERMS



What are they?

Types of SELECTION criteria

GENERAL SELECTION CRITERIA
General for all measures and applicants

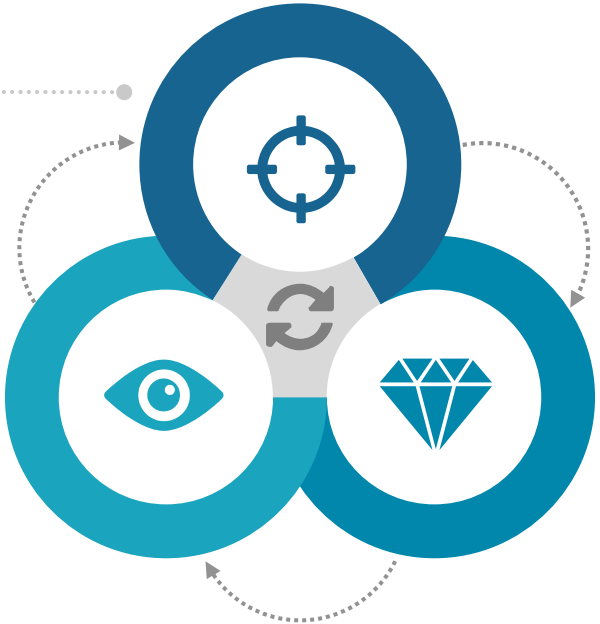
SPECIAL SELECTION CRITERIA
Approved by the Monitoring Committee
Specific for concrete measure

PRIORITY CRITERIA (for open calls)
Approved by the Monitoring Committee

General selection criteria

Basic principles of general selection criteria

ELIGIBILITY
Eligibility of the beneficiary and eligibility of the project application



QUALITY
Quality and relevant of the proposal

EFFICIENCY
Indicators, outcomes, cost-benefit analysis shows efficiency of the project

CAPASITIES
Financial and operational capasities of the beneficiary

How the commercialization potential is defined and evaluated?

Call No. 1	
Priority criteria	Max score
1. Project' impact on the results of R&D commercialization.	40
2. Staff experience (competence) in R&D commercialization.	40
3. The Applicant has an organizational structure for the commercialization of R & D results and / or knowledge and technology transfer.	10
4. Readiness of Applicants and Partners for carrying out technology transfer activities.	10
Max score:	**100**
Min score:	**41**

Criteria vs Commercialization potential (1)

1st Criterion

Project‘ impact on the results of R&D commercialization:

1. Applicant must submitt **a cost-benefit analysis of the projected increase in the financial value of contracts with joint ventures** (including business-to-business R&D contracts);

2. List of contracts under specified RIS3 priority. **Range of 2 years**

2nd Criterion

Staff experience (competence) in R&D commercialization:

Staff experience is being measured by their contribution to the commercialization of R&D results (**according to the number of completed projects related to the commercialization of R&D results**).

1. Documents (CVs or other documents provided by the applicant that can be used to assess employee participation in projects related to the commercialization of R&D results) must be submitted.

Criteria vs Commercialization potential (2)

3rd Criterion

Applicant has an organizational structure for the commercialization of R & D results and / or knowledge and technology transfer:

1. Description of how Applicant will continue to perform its functions of scientific management, knowledge and technology transfer and R&D service development.

4th Criterion

Readiness of Applicants and Partners for carrying out technology transfer activities:

1. Priority is given to the Applicant who submits **Feasibility Study**

How the commercialization potential is defined and evaluated?

Call No. 2	
Priority criteria	**Max score**
1. **Experience** of applicant and partner (if applicable) in **R & D**, participating in international R & D programs, results reflecting co-operation with business, reflecting the thematic specificity of RIS3 action plan.	55
2. **Opportunities** for applicants and / or partners to commercialize R & D activities that may be generated by the project.	45
Max score:	**100**
Min score:	**51**

Criteria vs Commercialization potential

1. Experience of applicant and partner (if applicable) in **R & D**, participating in international R & D programs, results reflecting co-operation with business, reflecting the thematic priority of RIS3 action plan.

Activity of the applicant and partner for the last 2 years of R&D in at least one RIS3 thematic priority .	**Ranking – did we do right?**
Being evaluated: **1. Submitted patent applications** to the European Patent Office, the US Patent and Trademark Office or the Japanese Patent Office. ***2.*** **Number of products** created and placed on the market.	✓ 1 application – 3 points, 2 applications – 5 points, 3 and more applications – 10 points. ✓ 1 product – 4 points, 2 products – 5 points, 3 products – 6 points, 4 products – 7 points, 5 and more products – 8 points.

Criteria vs Commercialization potential

1. Experience of applicant and partner (if applicable) in **R & D**, participating in international R & D programs, results reflecting co-operation with business, reflecting the thematic specificity of RIS3 action plan.

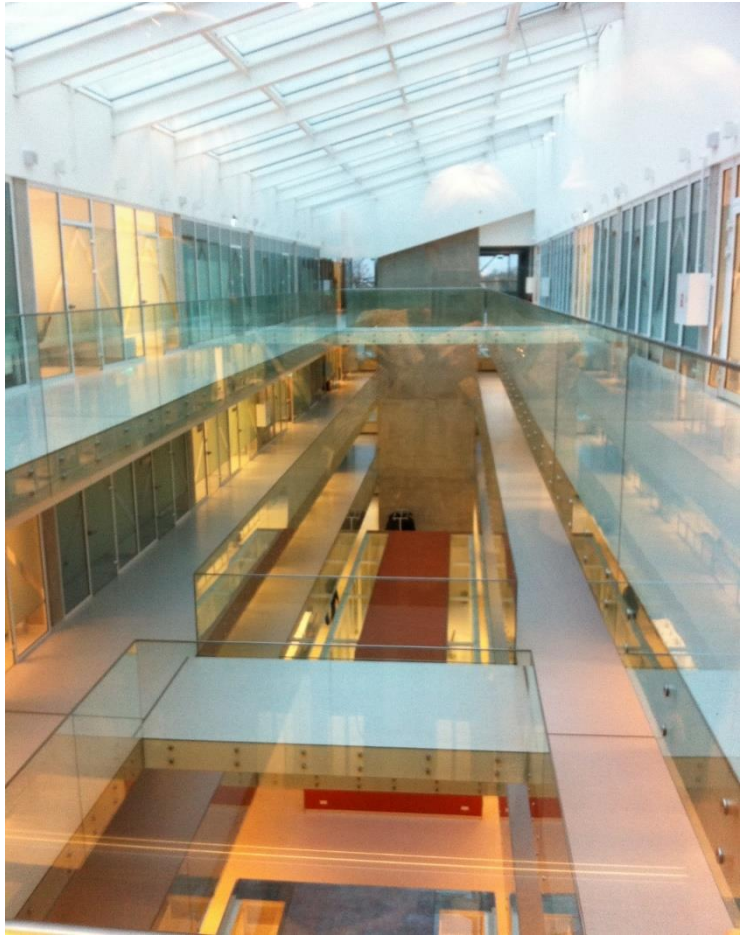
Activity of the applicant and partner for the last 2 years (starting from the filing date) of R&D in at least one RIS3 thematic specificity	Ranking
Being evaluated: **3. Number of spin-offs**. *4.* **Number and financial value of contracts with businesses.**	✓ 1 spin-off – 3 points, 2 spin-offs – 4 points, 3 spin-offs – 5 points, 4 spin-offs – 6 points, 5 and more spin-offs – 7 points; ✓ 1) up to 5 contracts – 1 point, 5 and more contracts – 5 points; ✓ 2) financial value of contracts from 10.000 Eur to 100.000 Eur – 1 point, from 100.001 Eur to 200.000 Eur – 3 points, from 200.001 Eur to 500 000 Eur – 7 points, more than 500.001 Eur – 10 points.

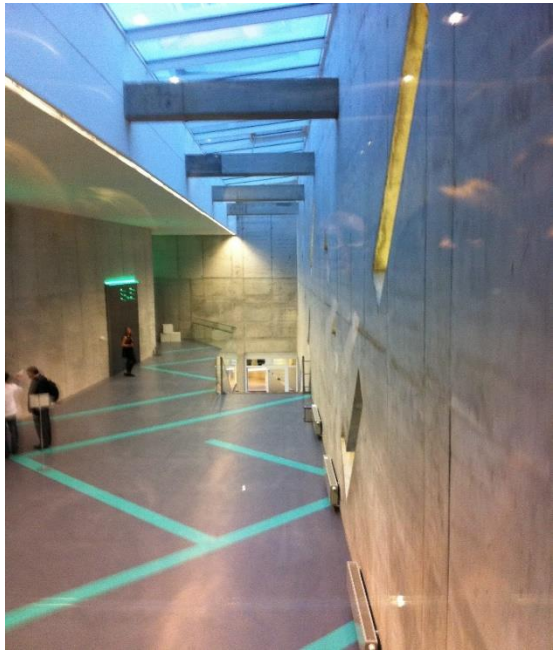
Criteria vs Commercialization potential

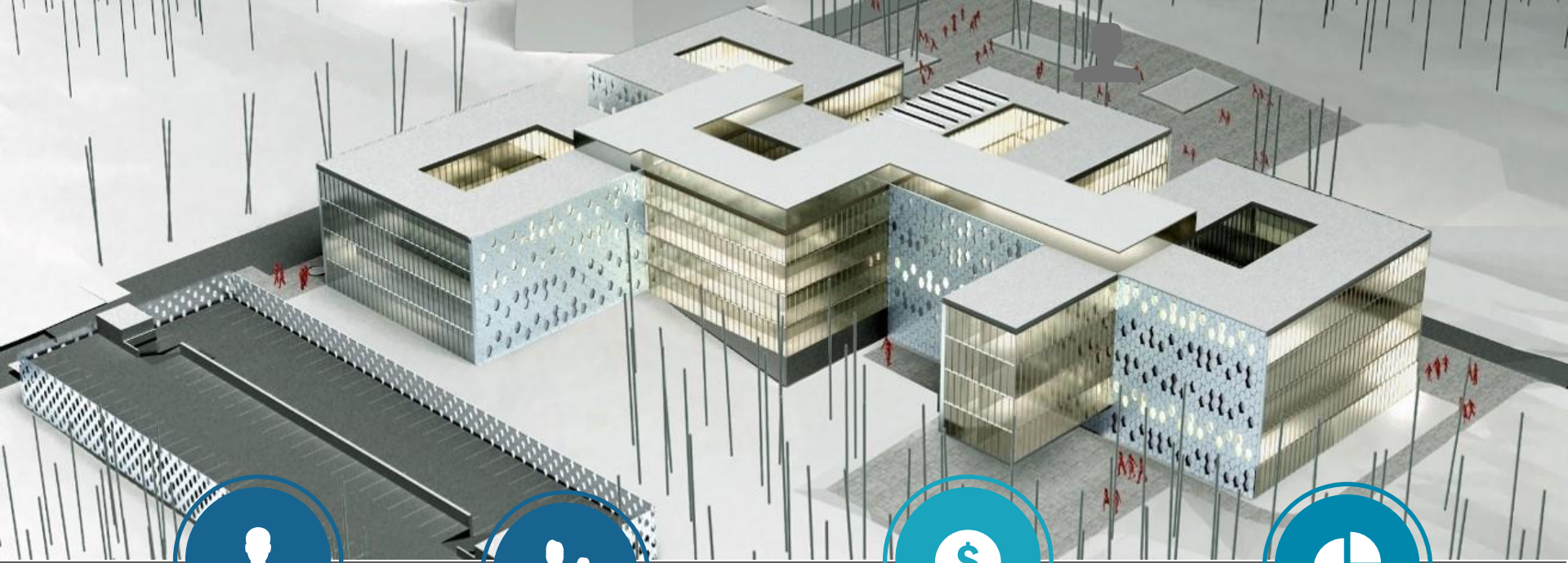
2. Opportunities for applicants and / or partners to commercialize R & D activities that may be generated by the project.

Evaluating whether the applicant and / or partner is planning to commercially exploit the R&D results that can be generated by the project:	**Ranking – did we do right?**
➢ *Intends to set up a new knowledge-intensive company* ➢ *Intending to submit a patent application* ➢ *Has signed a letter of intent with the entity (company) regarding the result of the R&D activity* *Evaluated on the basis of the economically reasonable market analysis provided by the applicant, submitted protocols of intent*	*1) 1 company – 3 points, 2 companies – 6 points, 3 companies – 9 points, 4 companies – 12 points, 5 companies and more – 15 points;* *2) 1 patent application – 4 points, 2 patent applications – 7 points, 3 and more patent applications – 10 points.* *2. For 1 letter of intent, binding contract or other form of binding document, 10 points are awarded for 2 and more - 20 points.*


“Project: Competence Center of ”
Kaunas University of Technology







BENEFICIARY
Institute of Material Science
Kaunas University of Technology

PARTNERS
No partners

BUDGET
565 265 Eur

DURATION
36 MONTHS

Results expected

1 **R&D project implemented**

2 **Applications for patents submitted**

Method of manufacturing nanotechnological optical devices.
Method of producing security signs.

3 **Prototypes created**

2 **Layouts tested**

1 **Product created**

Description of Produc/Technology

Development and application of a **new generation of optical elements, structures and micro devices.**
The project will continue **cooperation** with Lithuanian high-tech companies working in **laser technologies and equipment, metrology, optical devices and technologies**.

Factors for success story (1)

1. You have to know your **state of play**
2. Analysis of competitiveness, existing and **expected market and target groups**
3. **5-7 year business plan**, well measured indicators
4. **Clear policy** on the exchange of R&D results and / or the transfer of knowledge and technology **within your institution**
5. Integration into institution's strategy
6. Mechanisms and measures for the implementation of R&D results and / or the transmission of knowledge and technology

Factors for success story (2)

7 Strategy for start-ups and spin-offs

Internal regulation of commercialization & technology transfer 8

9 Motivation policy

Active marketing 10

11 Financial plan

Promotion of Cooperation 12

Institute of Materials Science in Figures

Administration (3)

4 laboratories

- Research Laboratory of Surfaces and Thin Films (6)
- Nano- and Microlithography Research Laboratory (4)
- Research Laboratory of Vacuum and Plasma Processes (7)
- Research Laboratory of Development and Implementation (3)

6 PhD students, 2 Post doctoral students, BSc and MSc students

In total 18 PhDs, 23 permanent positions

Partners

EU/Japan research institutions:

- Paul Scherrer Institute (Switzerland)
- Research institute of the ETH Domain, Empa (Switzerland)
- Poitiers University (France)
- University of Nantes, Institute of Materials - Jean Rouxel (France)
- Kiel University (Germany)
- University of Southern Denmark
- Royal Institute of Technology (Sweden)
- University of Latvia
- Lodz University of Technology (Poland)
- National Institute for Materials Science (Japan)

Lithuanian research institutions:

- Vilnius University
- Center for Physical Sciences and Technology
- University of Health Sciences
- Subdivisions of KTU

ktu kaunas university of technology 1922

Main industrial partners:

- UAB “Precizika”
- UAB “Lodvila”
- UAB “Technologija”
- UAB “Teravil”
- UAB “Altechna”
- UAB “Optida”
- UAB “Šviesos konversija“
- UAB “Ortopedijos technika”
-
- .....

CPVA

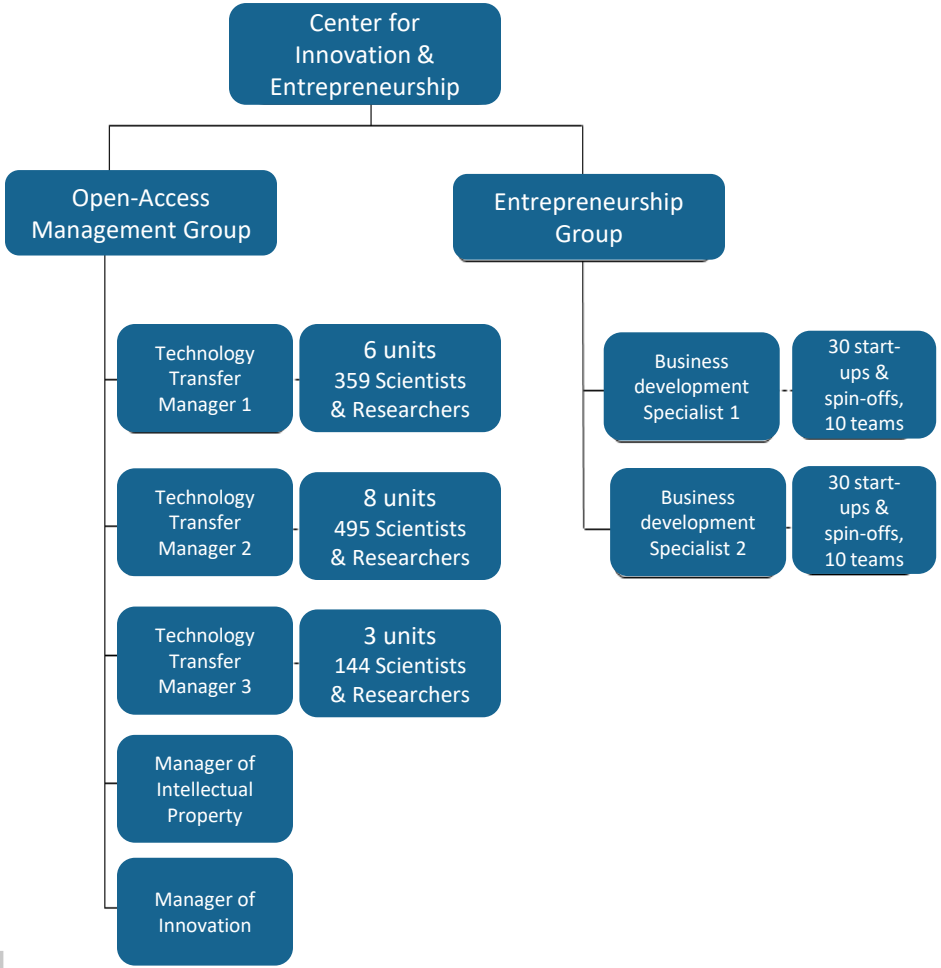
Participation in national and international infrastructure networks

- At national level KTU is a member of OPEN R&D platform.
- Via an Interreg project BalticTram KTU showcases research infrastructure at a European level.
- KTU is a member of ECIU – European Consortium of Innovative Universities, where the platform for equipment sharing has been created.
- Unit is a member of Baltic region cleanroom network Technet_Nano. The network joins 12 research centres from he countries of Baltic region (Lithuania, Latvia, Estonia, Sweden, Denmark, Germany and Poland),
- Unit also is a member of BIRTI platform, which joins and coordinates cooperation between universities, scientific institutes and entrepreneurs from Latvia, Lithuania and Estonia in order to strengthen the Baltic states and the Baltic Sea region capacity, enhance its international competitiveness; their integration into the common European Research Area and Higher Education Area.
- Facilities of Institute of Materials Science is a part of KET of EC

Analysis of competitiveness, existing and **expected market and target groups**

- The main region for commercialization of R&D results is Lithuania, EU countries and USA.
- Priority scientific fields: Energy and sustainable environment, health, health technologies and biopharmacy, new materials, processes, and technologies for production, transport, logistics, e-systems.
- At the national level, the most innovative companies in the technology production profile are SMEs in Vilnius, Kaunas, Šiauliai and Marijampolė counties.
- The majority of foreign-owned companies operating in Lithuania in the fields of IT, service and technical service and production are from Scandinavia, USA, UK and Germany.
- Partnership in Lithuanian and foreign cluster networks.
- Exploit the potential of the R&D market of neighboring countries – Latvia, Belarus, Poland (these markets lack modern R&D infrastructure).

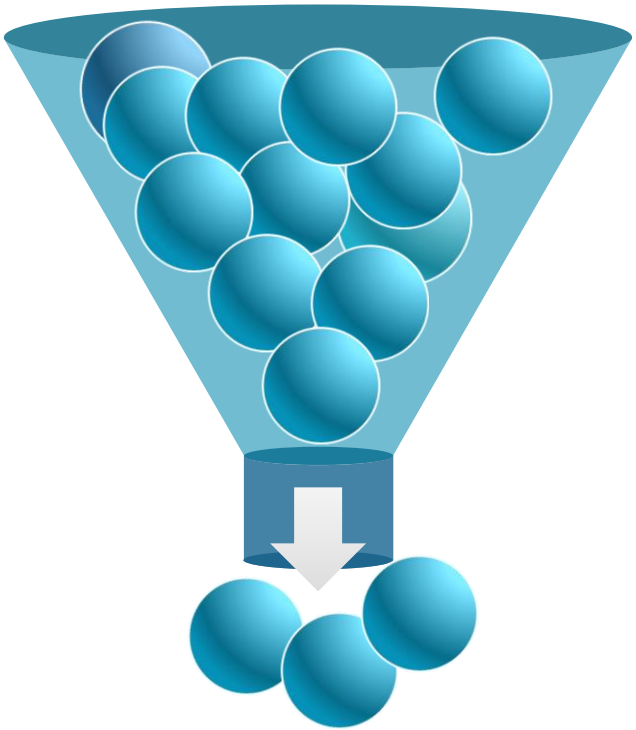
Long term action plan for Commercialization – 4 focuses



Main functions of the CENTER

- Transfer of nationally and internationally recognized knowledge and technology;
- Ensure management and protection of intellectual property;
- Development of the Open Access Centre (OAC) management system that meets the highest management and services standards;
- Coordination and management of the OAC information system (APCIS);
- Forming and developing teams that create innovative product at the University;
- Creating and developing new businesses (start–ups and spin-offs);
- Development and promotion of entrepreneurship and innovation culture.

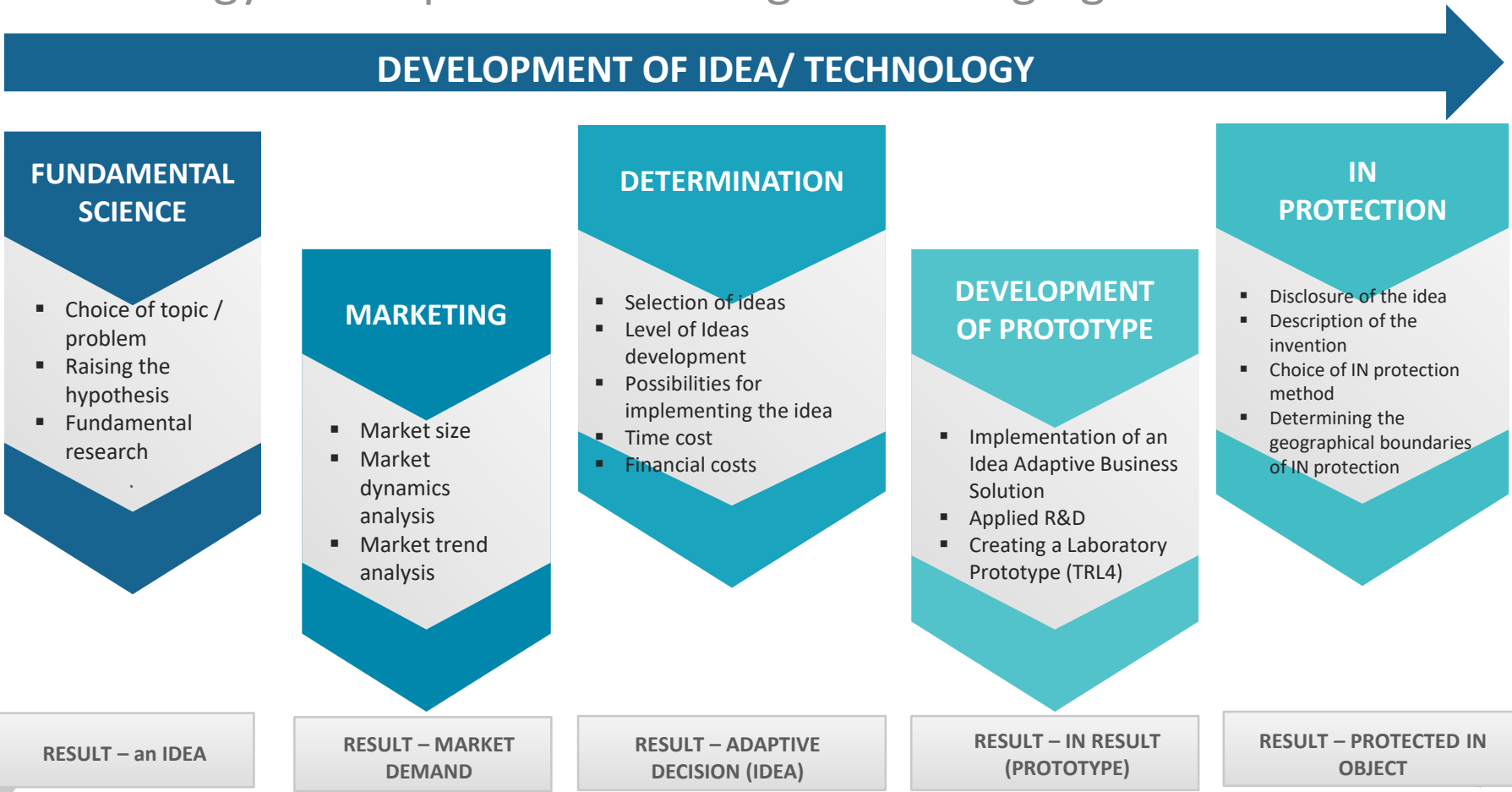
SCHEME FOR DEVELOPMENT OF INVENTIONS



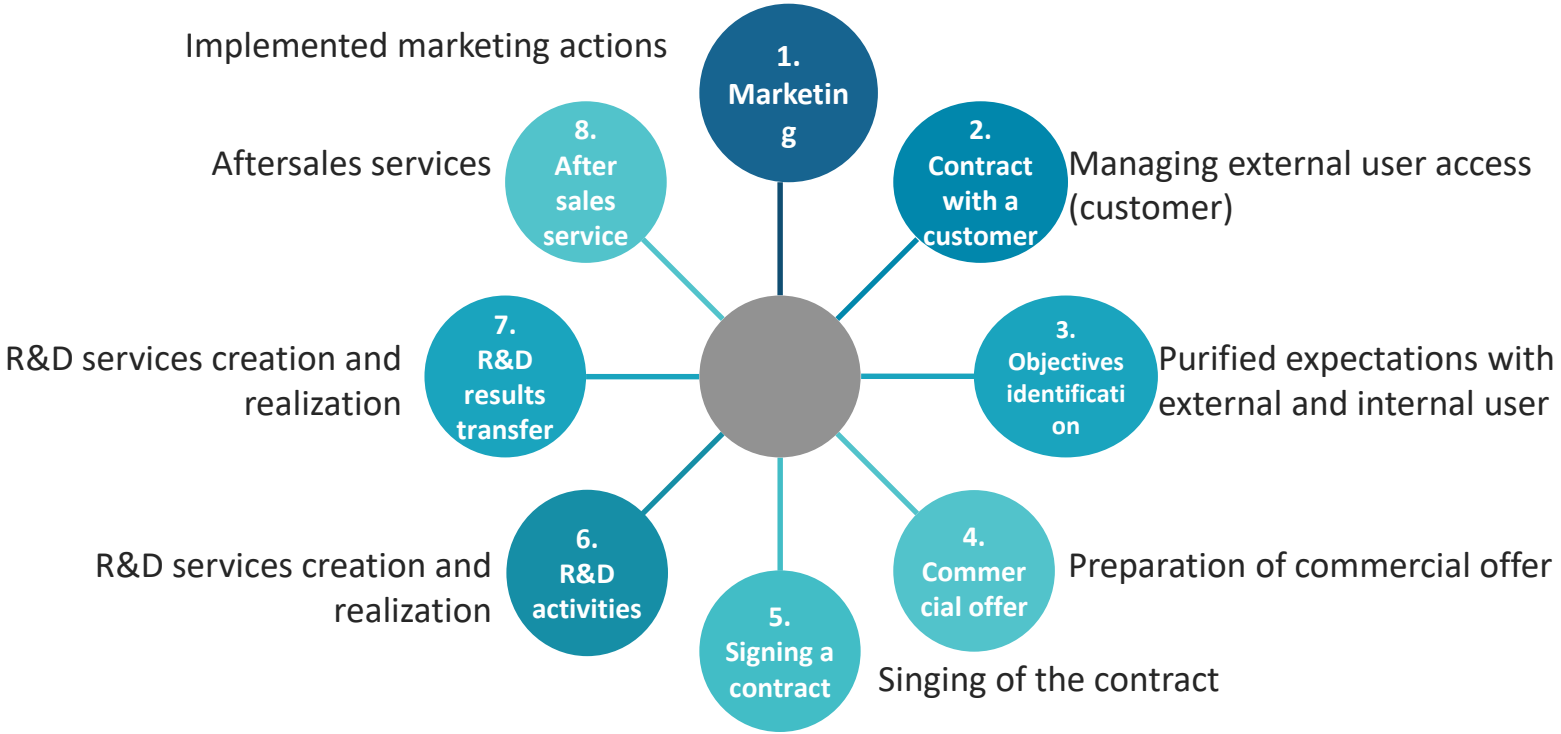
- DISCOVERY OF INVENTIONS
- FIRST SELECTION
- PERIODIC EVALUATIONS
- MARKETING
- COMMERCIALIZATION

INPROTECTION

Technology development according to the stage-gate model



R&D Sales Process – external service model



Competence Centers Program in Estonia. Good practice

Main insights:

- Started in 2002
- There are currently **6 state-funded** technology centers in Estonia.
- Success factors –
  (a) involvement of a stable and sufficiently large business nucleus in centers of excellence;
  (b) a sufficiently developed system of higher education to ensure that universities do not have full control over centers of excellence.
- Ensured by the status of an **independent legal entity**.
- Business plan for at least 3 years – increases the business's contribution to the project and encourages it to pay more attention.
- Lot of attention to learning, visits to Austrian and Swedish centers of excellence.

Благодаря!

Thank you!

Ačiū!

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