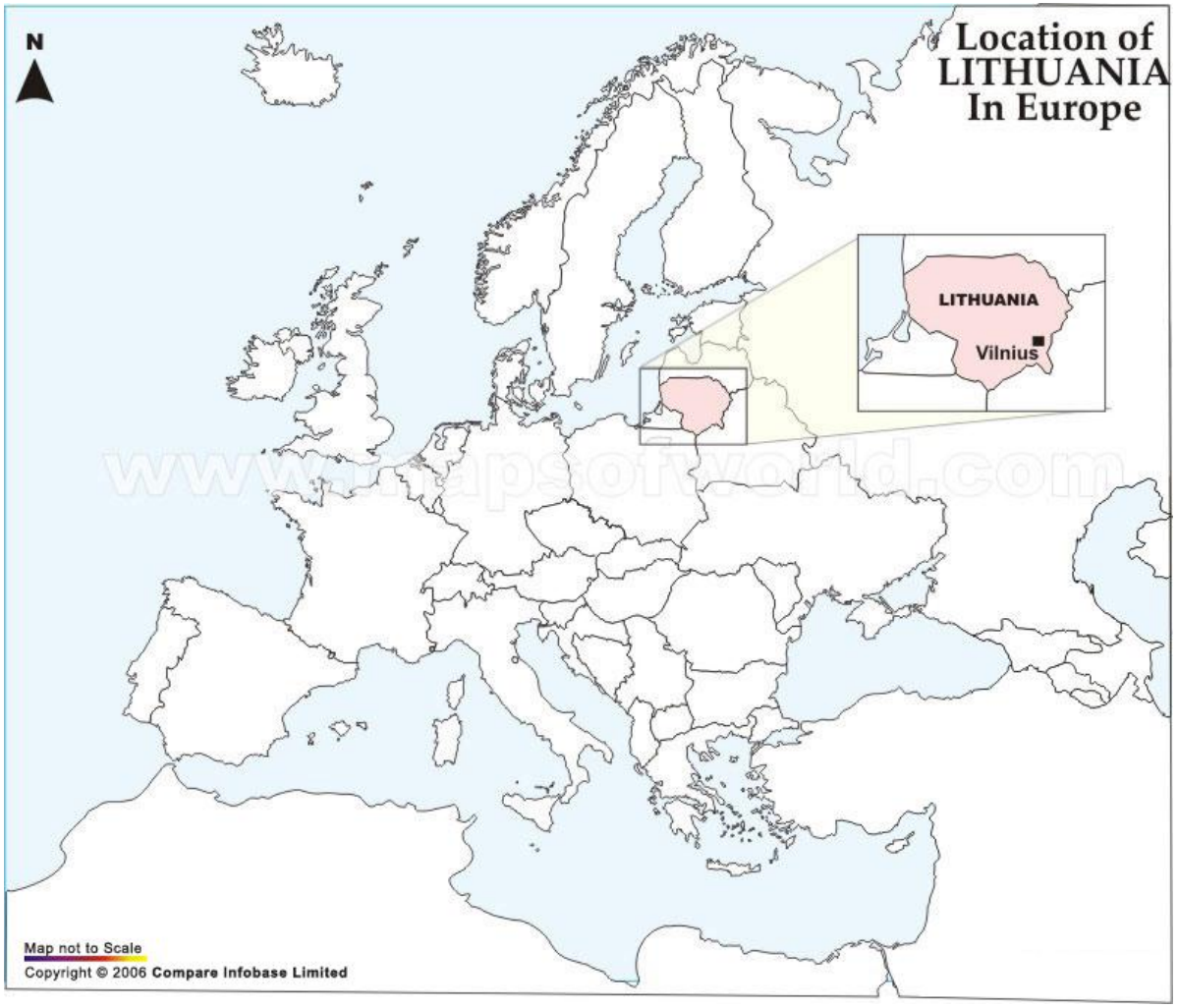
Lithuania:
Towards a RIS3 strategy



Budapest, 24-25 June 2013

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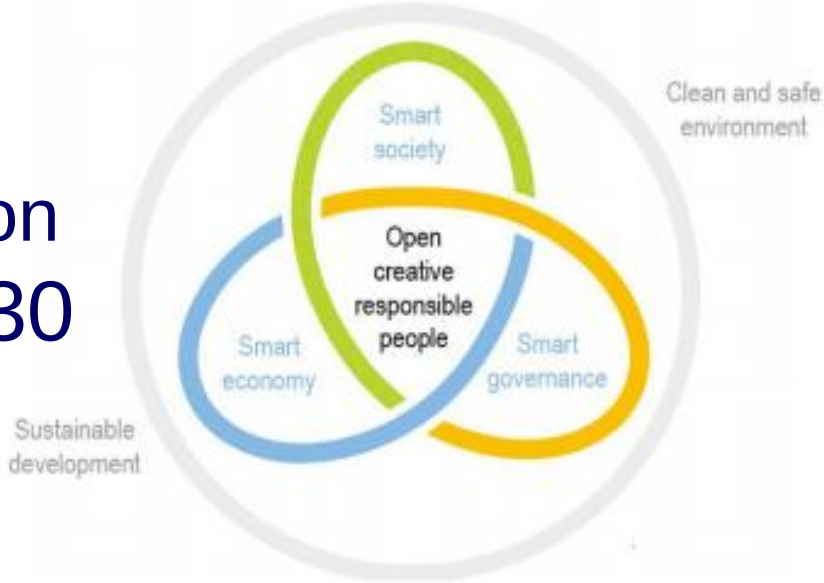
Our questions to the critical peer friends:

1. How the priorities should be implemented taking into account the different maturity of the participating sectors?

2. How the implementation of the selected priorities should be measured?

3. How RIS3 implementation should be coordinated with other R&I policy measures?

Strategic vision Lithuania2030



SMART SPECIALISATION PLATFORM

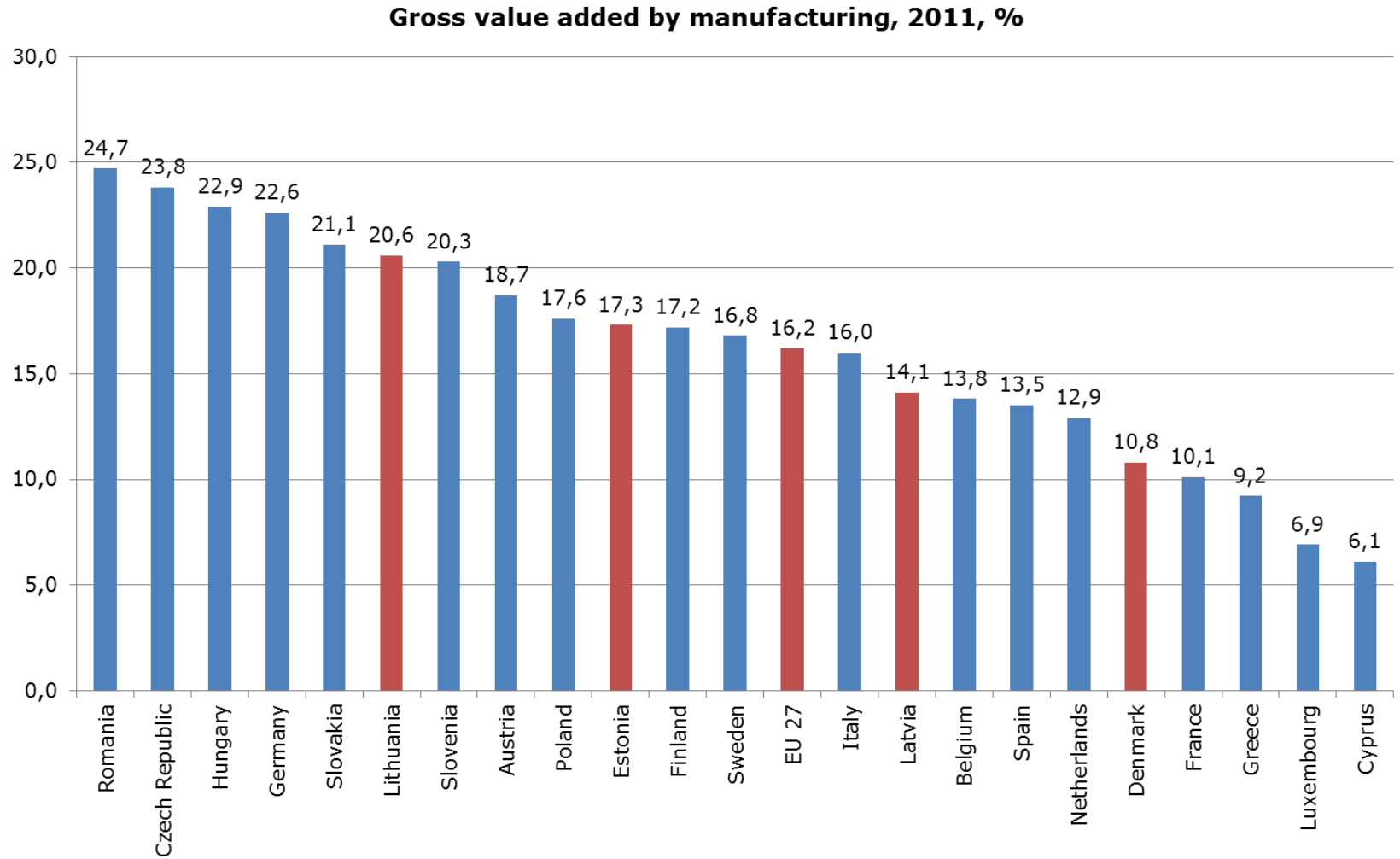
National strategy Lithuania2030 approved by Lithuanian Parliament, May 2012:

Lithuania is a smart country: a good place to live and work

- Smart society: happy society that is open [openness] to the ideas of each citizen [creativity], to innovations and challenges, demonstrating solidarity, self governance and political maturity [responsibility].
- Smart economy: economy that is flexible and able to compete globally [openness], generating high added value, based on knowledge, innovations entrepreneurship [creativity] and social responsibility as well as “green” growth [responsibility].
- Smart governance: governance that is open and participatory [openness], delivering, meeting public demands and ensuring high quality services [responsibility], as well as competent government, able to take targeted strategic decisions [creativity].

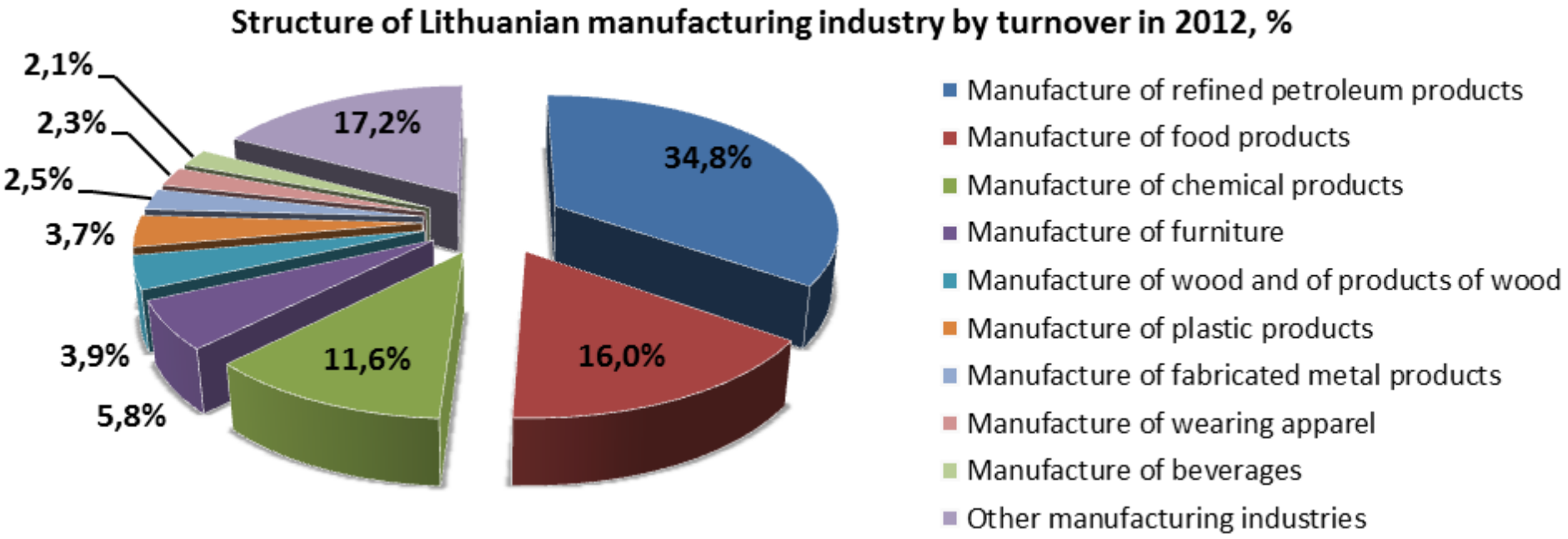
The vision Lithuania2030 will be implemented by National Progress Program and OP

The context: manufacturing and added value to GDP



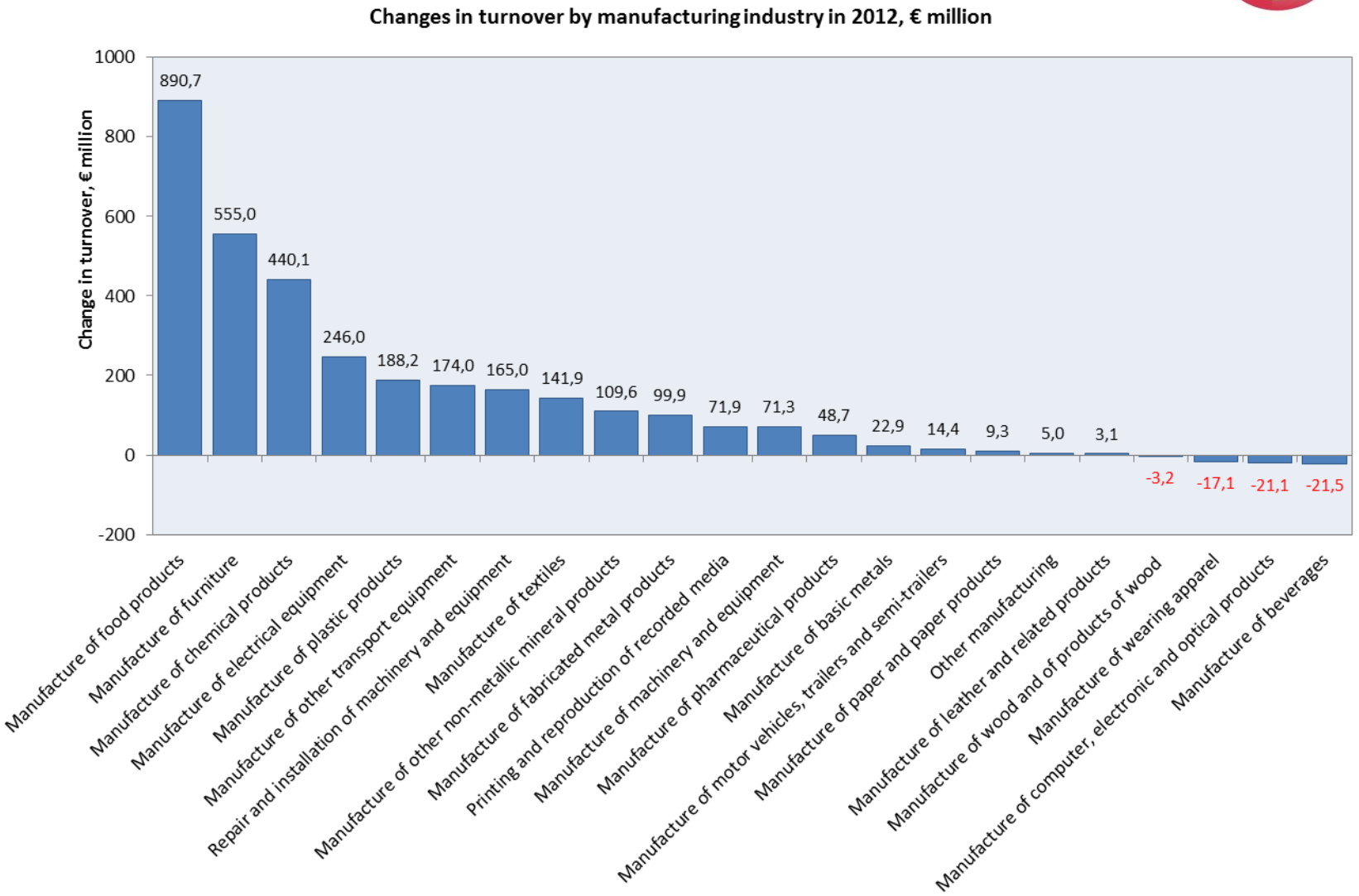
Source: Eurostat

The context: industrial structure



Source: Enterprise Lithuania, 2013

The context: industry growth



Source: Enterprise Lithuania, 2013

The context: R&D landscape

23 universities: 14 state, 9 private

24 colleges: 13 state, 11 private

21 research institutes: 13 state, 8 private

17 300 researchers, 7 800 with PhDs

300 – 400 new doctoral degrees each year

9.7 % researchers in business and industry

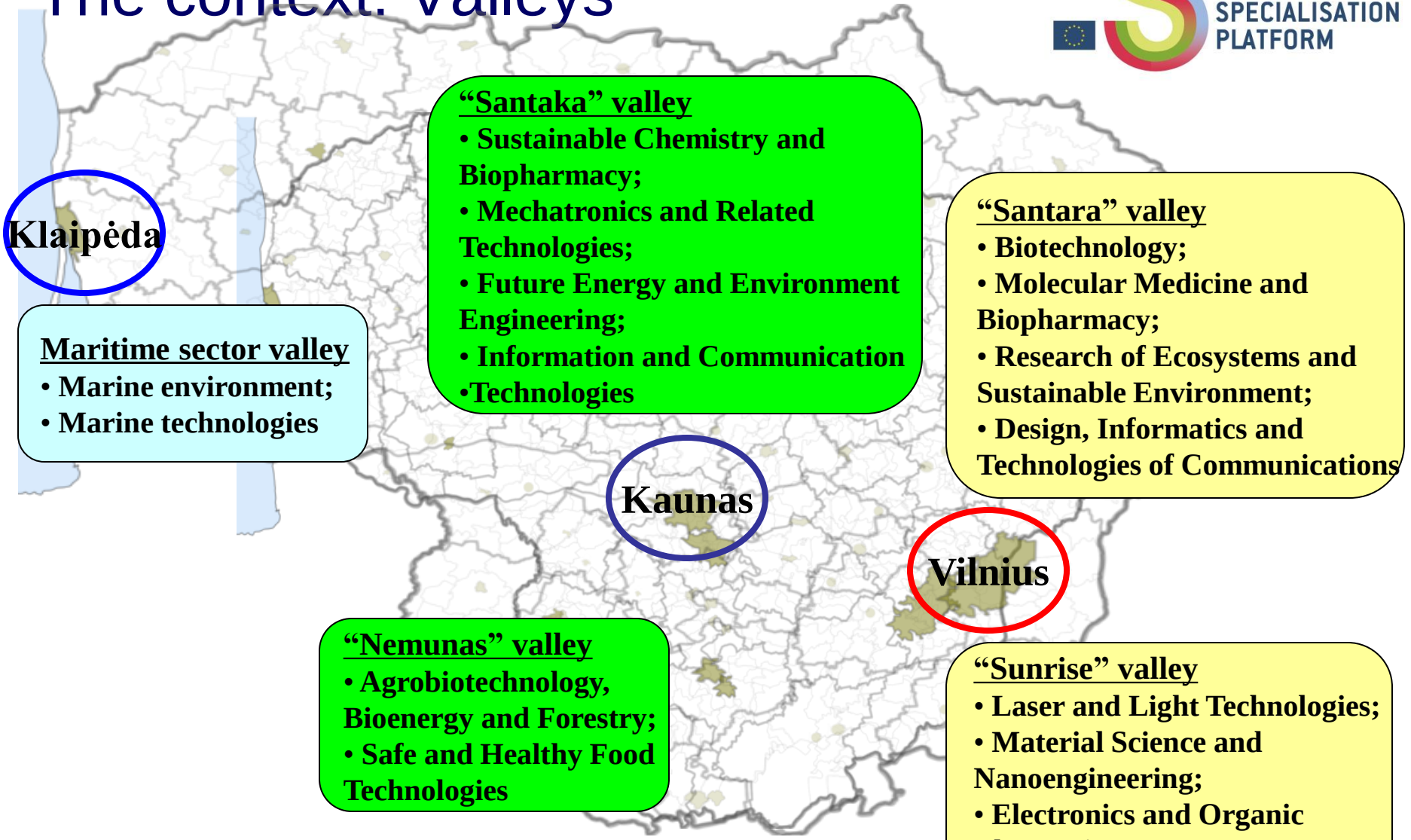
0,92 % of GDP expenditure on R&D

€ 73,6 mil. business expenditure on R&D (2011)

9 granted EPO patents from 64 applications (2002 – 2011)

Source: Ministry of Science and Education, MOSTA, 2013

The context: Valleys



“Santaka” valley
- **Sustainable Chemistry and Biopharmacy;**
- **Mechatronics and Related Technologies;**
- **Future Energy and Environment Engineering;**
- **Information and Communication •Technologies**

“Santara” valley
- **Biotechnology;**
- **Molecular Medicine and Biopharmacy;**
- **Research of Ecosystems and Sustainable Environment;**
- **Design, Informatics and Technologies of Communications**

Maritime sector valley
- **Marine environment;**
- **Marine technologies**

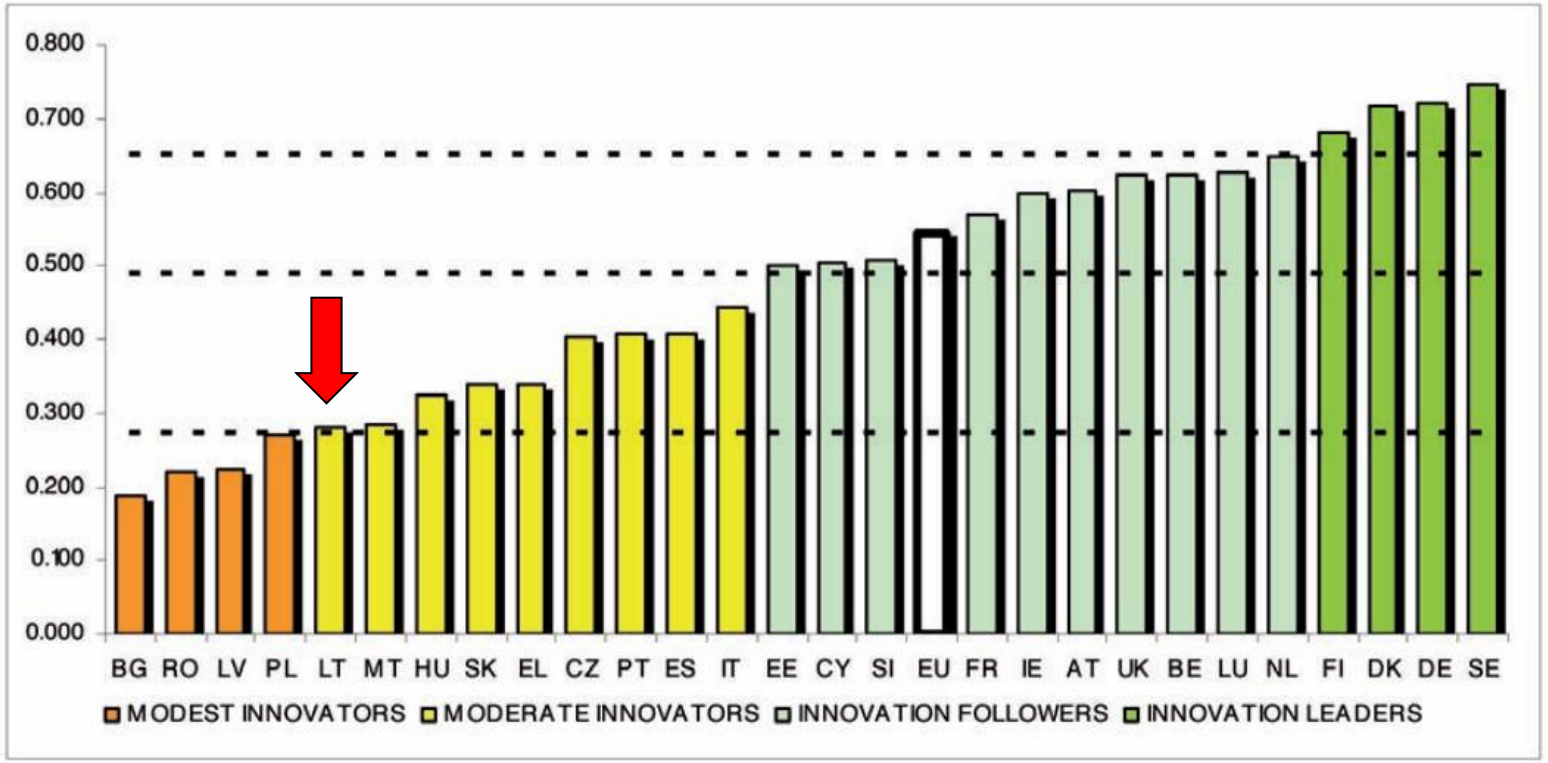
“Nemunas” valley
- **Agrobiotechnology, Bioenergy and Forestry;**
- **Safe and Healthy Food Technologies**

“Sunrise” valley
- **Laser and Light Technologies;**
- **Material Science and Nanoengineering;**
- **Electronics and Organic Electronics;**
- **Civil Engineering**

Source: Ministry of Science and Education, 2013

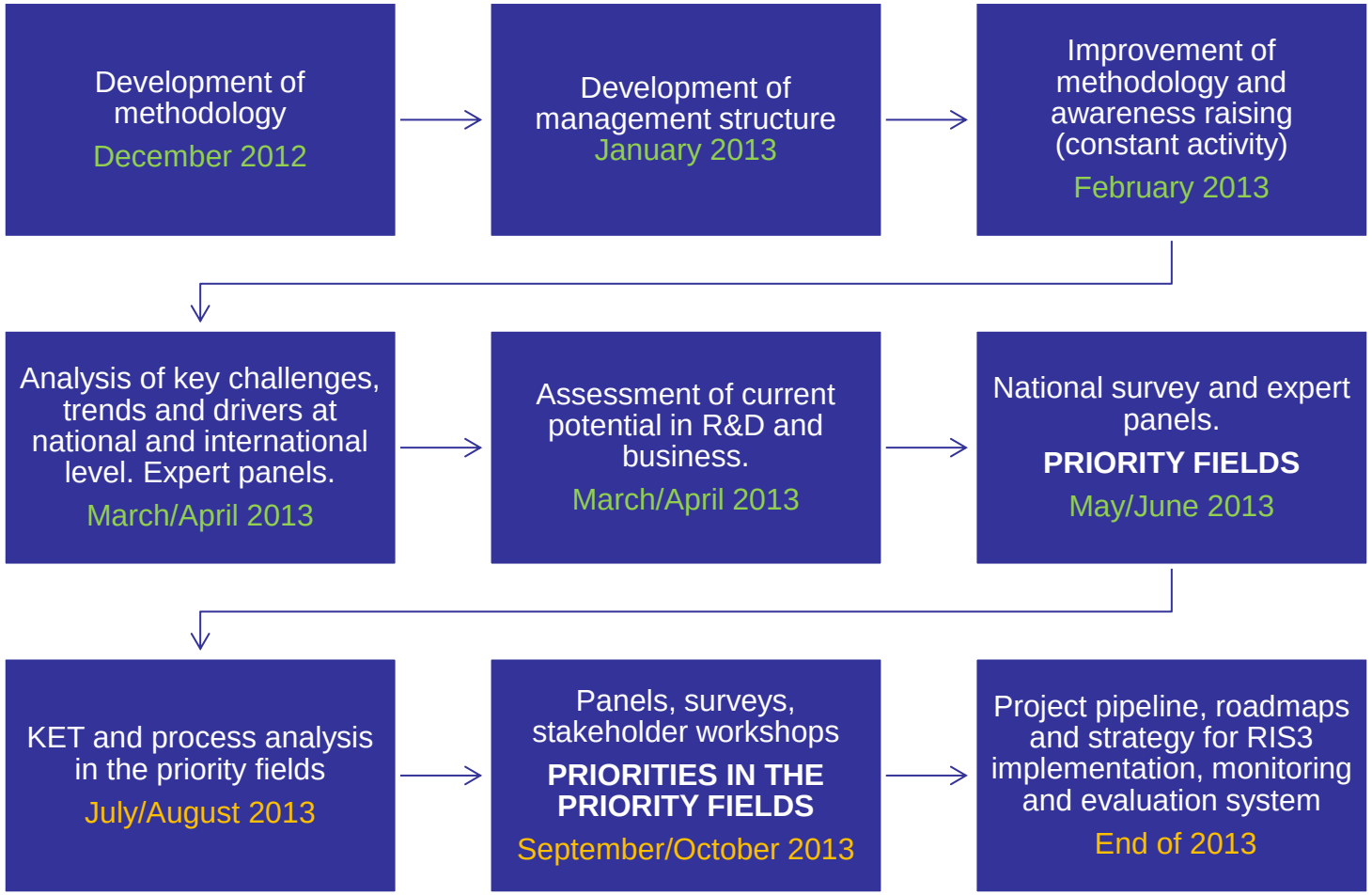
The context: innovation

Figure 2: EU Member States' innovation performance

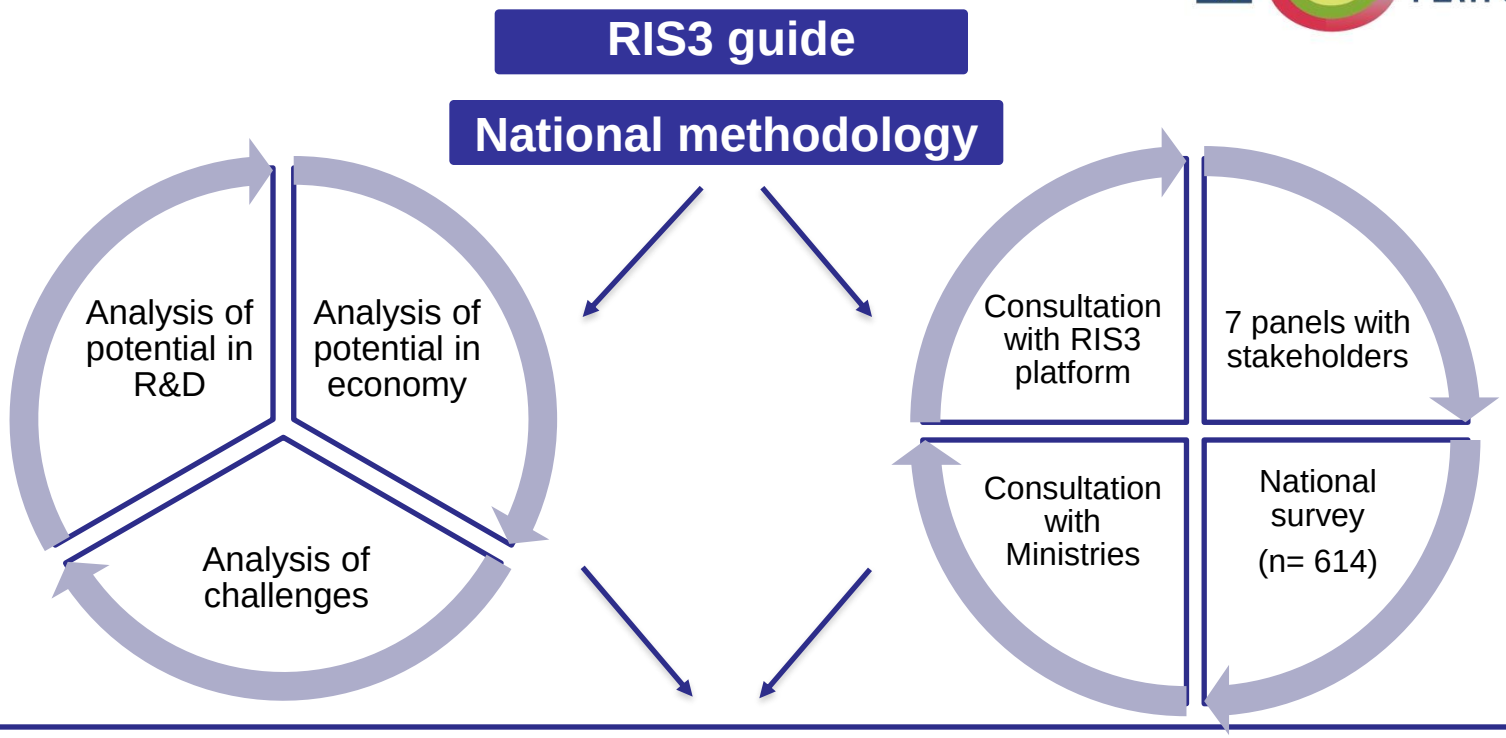


Source: Innovation union scoreboard

Our progress on RIS3



Process of identification



Priority implementation programs
Joint research-business projects

Priority field 1...6

Priority 1

Priority X

Monitoring and impact evaluation

Key challenges

The most important challenges (prioritised)	Response rate, % out of 614 respondents
The deteriorating demographic situation	62,1%
Insufficient diversification of energy sources, high energy price, improvident and ineffective use of energy	56,6%
Unsustainable regional development, poverty, shadow labour market and lack of social cohesion	55,6%
The deteriorating psychological state of the society, growing alienation and intolerance, insufficient fostering of the culture	54,1%
Gap between skills and labour market needs, insufficient development of talent and creative potential	43,5%
The lack of business-science, intersectoral and international cooperation in creating new knowledge, technology and innovations	40,5%
The lack of public sector innovations and low efficiency	38,7%
Low productivity of business, lack of advanced technologies, processes and product innovations	34,5%
The lack of smart and sustainable urban development	19,4%
Ineffective prevention, diagnostic and treatment of chronic , work and lifestyle-related diseases	17,9%
Unsustainable change of ecosystems (waste, eco-innovations, air and water quality, landscape, soil, biodiversity etc.)	15,9%
Insufficiently healthy and safe food, lack of new food sources and the waste of raw food	15,4%
Growing technological, cyber and e-security challenges	13,1%
Insufficient exploitation of international transport links and potential of smart technologies in managing logistics and transport streams	10,3%
Irrational use of Baltic Sea potential and natural resources	8,1%
Lack of smart defence systems, management of risks of natural hazards and disasters	1,9%

Competitive advantages/opportunities

Current competitiveness and specialisation

Tradicional sectors:
Modernisation and strenghtening knowledge based growth potencial.

- Manufacture of wood and of products of wood and cork;
- Manufacture of articles of straw and plaiting materials;
- Manufacture of furniture; - Construction;
- Manufacture of paper and paper products.

Current cornerstones:
Further technological upgrading.

- marehousing;
- Land transport and transport via pipelines;
- Water transport;
- Crop and animal production, hunting;
- Forestry and logging;
- Chemicals and chemical products;
- Food products, beverages and tobacco products;
- Telecommunications;
- Financial services.

Natural priorities:
Further strenghtening of competitive advantagedes.

- Computer, electronic and optical products;
- Pharmaceutical products and pharmaceutical preparations; -
- Machinery and equipment;
- Computer programming, consultancy, and information services;
- Basic metals.

Challenges ahead:
Restructuring, new markets or products.

- Textiles, wearing apparel, leather and related products;
- Manufacture of other transport equipment;
- Other non-metallic mineral products;
- Fabricated metal products, except machinery and equipment.

Sectors in transition:
Shift in factors of production towards high-tech and skilled labour.

- Electricity, gas, steam and air conditioning supply;
- Wholesale and retail trade;
- Printing and reproduction of recorded media;
- Sewerage, waste management, remediation activities;
- Air transport;
- Water collection, treatment and supply;
- Fishing and aquaculture;
- Postal and courier activities;
- Publishing activities;
- Manufacture of rubber and plastic products.

Emerging / niche knowledge driven sectors:
From facilitation of radical innovation to support for commercialisation in world markets.

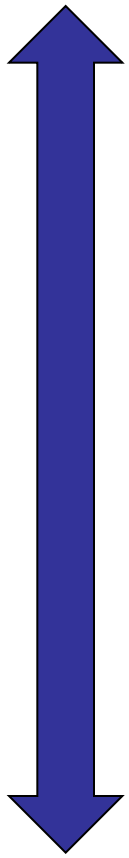
- Motor vehicles, trailers and semi-trailers;
- Electrical equipment;
- Advertising and market research;
- Architectural and engineering activities;
- Insurance, reinsurance and pension funding.

Potential for knowlege driven growth

Competitive advantages/opportunities

Analysis of potential in R&D based on criteria:

1. Research impact
2. International co-publications
3. Highly-cited publications
4. Access to national funding
5. Access to international funding though FP7
6. Doctoral student international activities
7. Post-doc activities
8. Student reseacrh activity
9. Marie Curie activities
10. Capacities
11. Local business grants
12. International business grants
13. Public-private co-publications
14. "Innocheque" program



Excellence in research

Collaboration with business

Competitive advantages/opportunities

RESEARCH AREAS															SCORE	
Physics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	Top notch
Materials engineering	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	
Chemistry	1	1	1	1		1	1	1	1	1	1	1	1	1	13	
Biological sciences-Life Sciences	1	1	1	1	1	1	1	1	1	1			1	1	12	
Earth and related Environmental sciences	1	1	1	1	1	1	1			1	1		1		10	
Clinical medicine	1	1	1	1	1	1		1	1			1	1		10	
Electrical, Electronic and Information engineering					1			1		1	1	1	1	1	7	Prospective
Economics and Business incl Management	1		1	1		1		1	1					1	7	
Civil engineering	1		1			1					1		1	1	6	
Mathematics	1		1	1			1		1						5	
Environmental engineering					1		1				1	1		1	5	
Agriculture, Forestry, and Fisheries				1	1				1	1	1				5	
Basic medicine	1	1				1				1			1		5	
Biological sciences-Natural sciences		1		1						1		1			4	Emerging potential
Health sciences	1	1	1		1										4	
Food and beverages		1						1			1				3	
Sociology				1				1				1			3	
History and Archaeology				1			1				1				3	
Arts (arts, history of arts, performing arts, music)							1	1				1			3	
Social and economic geography											1	1			2	
Languages and Literature						1		1							2	
Mechanical engineering														1	1	
Medical engineering					1										1	
Nanotechnology													1		1	
Animal and Dairy science										1					1	
Psychology				1											1	
Law						1									1	
Political science						1									1	
Philosophy, Ethics and Religion							1								1	
Other humanities											1				1	
Computer sciences														1	1	

A regional point of view

- Analysis of international (regional) challenges
- Analysis of R&D and economy potential in the context of international competition
- Dialog with Baltic countries - Latvia and Estonia (Memorandum)
- Baltic region strategy – potential to become regional platform
- Participation in RIS3 platform
- Consultations with RIS3 representatives
- Case analysis of peer-reviewed/other countries

Baltic States: Different approach to the RIS3 and sectors:

Latvia

5 priority research areas 2010-2013	9 priorities of state research centres	6 competence centres	Priority areas of national economy
BaltSmartTech Energy and environment	Energy and environment (including transport and engineering science)	Environment, bioenergetics and biotechnologies	Transport and logistics
		Transport engineering sciences	Mechanic engineering and metal processing
Sustainable use of local resources (forests, water, food)	Forest and water resources	Forestry	Timber industry
	Technologies of using agricultural resources and food		Food industry
Innovative materials and technologies and ITC NanoTechEnergy	IC and technologies of signal processing	Information and communication technologies	Information and communication technologies
	Nanostructured and multifunctional materials, constructions and technologies	Manufacturing of electric and optic equipment	Manufacturing of electric and optic equipment
BioPharmAlliance Health of the society	Pharmacy and biomedicine	Pharmacy and chemistry	Chemical manufacturing and related fields
	Health of society and clinical medicine		
	Social economics and societal management		Tourism
National identity	Latvian language, cultural-historical heritage and creative technologies		

Estonia

Sectors with greatest R&D potential

- ICT (horizontally through other sectors)
- Medicine
  - Biotechnology
  - E-medicine
- Resources
  - Materials science
  - "Innovative construction"
  - Functional food
  - Chemical industry

EESTI ARENGUFOND

Entrepreneurial dynamics

- We believe that Smart Specialization can be only achieved based on mutual stakeholder „agreement“
- Stakeholder involvement in every level from the very beginning of the process
- 7 panels with more than 100 experts involved
- More that 50 awareness raising events

- We facilitate the process of entrepreneurial discovery in three stages of different scale:
  - Agreement on broad priorities
  - Agreement on specific priorities
  - Joint science-business projects
- Every stage is based on the actual stakeholders‘ dialogue to solve mutual socioeconomic problems

Problems:

•Hard to involve all planned representatives

•Not equal participation of the business sector

•Different understanding of the RIS3

•Inertia

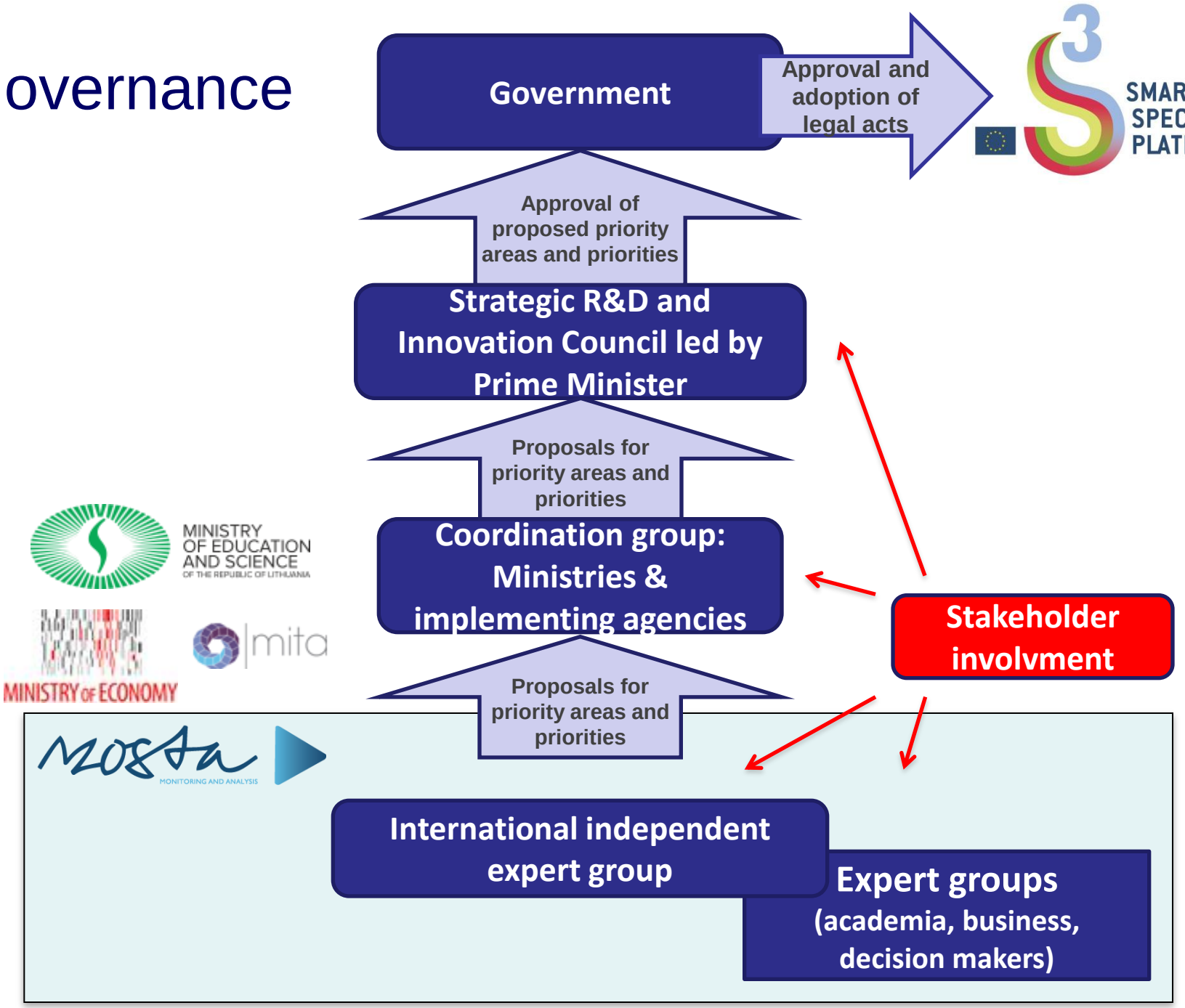
•„Excellence everywhere“

•Diversity (everything in small scale)

•Different maturity of dialogue with research

•“Political correctness”

Governance

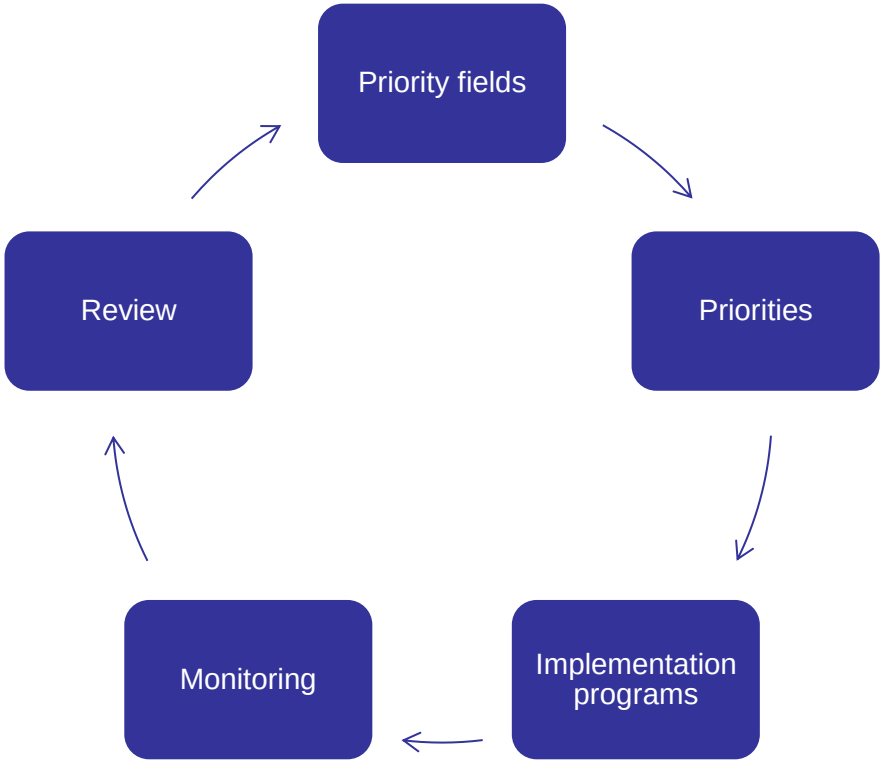

Government
Approval and adoption of legal acts
SMART SPECIALISATION PLATFORM
Approval of proposed priority areas and priorities
Strategic R&D and Innovation Council led by Prime Minister
Proposals for priority areas and priorities
Coordination group: Ministries & implementing agencies
MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF LITHUANIA
mita
MINISTRY OF ECONOMY
Stakeholder involvment
Proposals for priority areas and priorities
MOSTA
MONITORING AND ANALYSIS
International independent expert group
Expert groups (academia, business, decision makers)

Preliminary priority fields

Delivered on criteria:

1. High potential to increase global market share of Lithuanian ventures and commercialize available knowledge
2. High R&D potential in private sector
3. High R&D potential in public sector
4. Priority field is an important and appropriate answer to the national and global challenges

Mechanism for reinforcing/reshaping priorities



Preliminary priority fields

Priority field	R&D pot.	Economy pot.	Challenges	Valleys
Efficient energetics and sustainable environment	High or prospective	„Consumers“ (excl. IT)	Important (with high impact)	Saulėtekis, Santara, Santaka, Nemunas
New processes, materials and technologies for manufacturing	High	„Creators“ and „Consumers“	Important	Saulėtekis, Santaka, Santara
Health, health technologies and bio-pharmacy	High	„Creators“ and „Consumers“	Important (with high impact)	Santara, Santaka
Food technologies and agro-innovation	Prospective	„Consumers“	Significant	Nemunas
Transportation, logistics and e-systems	Prospective	„Consumers“ (excl. IT)	Significant	Saulėtekis, Santaka, Santara, Marine valley
Inclusive and learning society	Prospective	„Consumers“ (excl. IT)	Important	
ICT as a horizontal priority empowering all fields				

Implementation and Budget

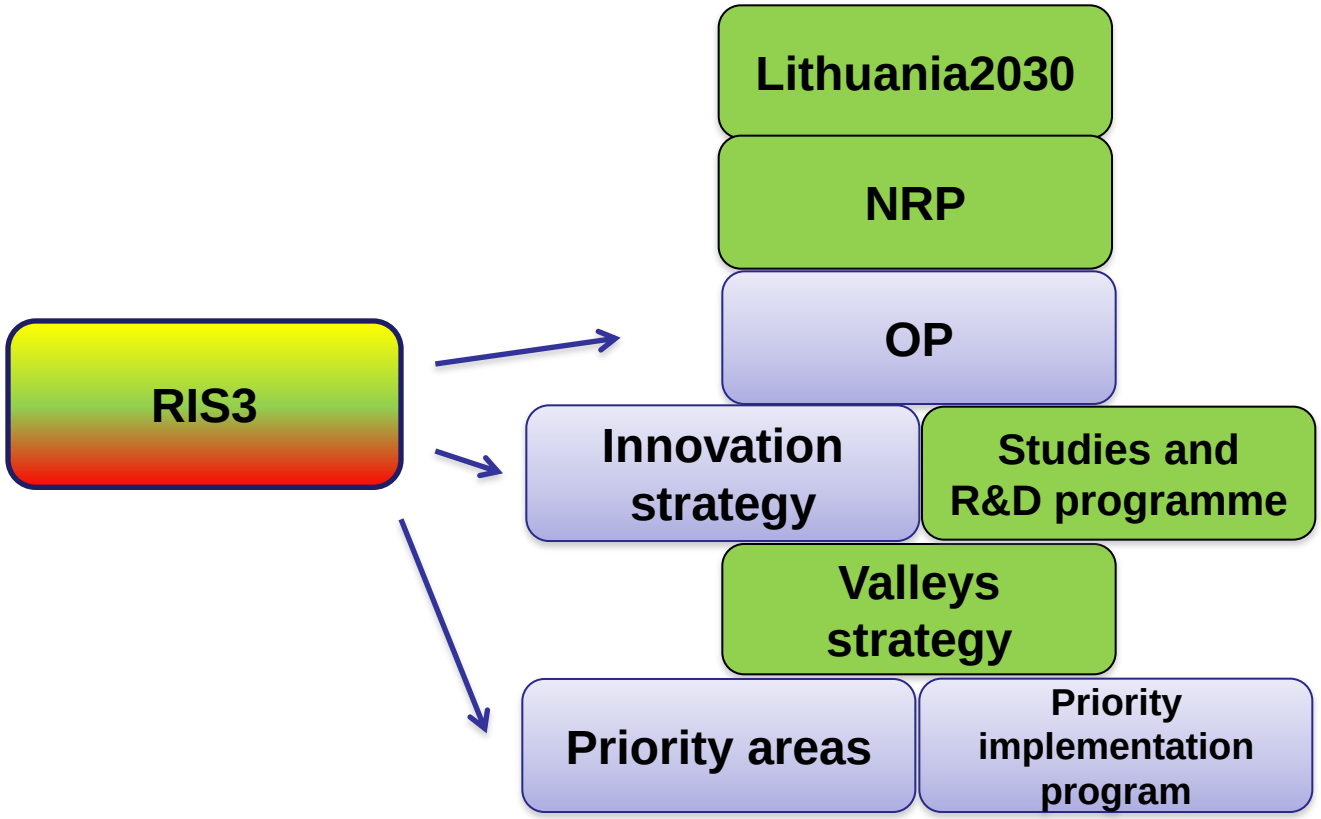
National level

- Implementation structure under development
- Budget: OP + National allocations + EU
- Covered by Ministry of Education and Science and Ministry of Economy measures and programs
- + possible measures from related ministries
- Implemented by stakeholders with private R&D+I investments
- Implementation coordinated:
  - on strategic level by the Strategic R&D and Innovation Council
  - on operational level by Ministry of Science and Education and Ministry of Economy

Regional level (Baltic states)

- Aim to map and coordinate the development of R&D infrastructure
- Horizon2020
- Possible thematic joint projects
- Joint study programs

Integration into National strategic documents

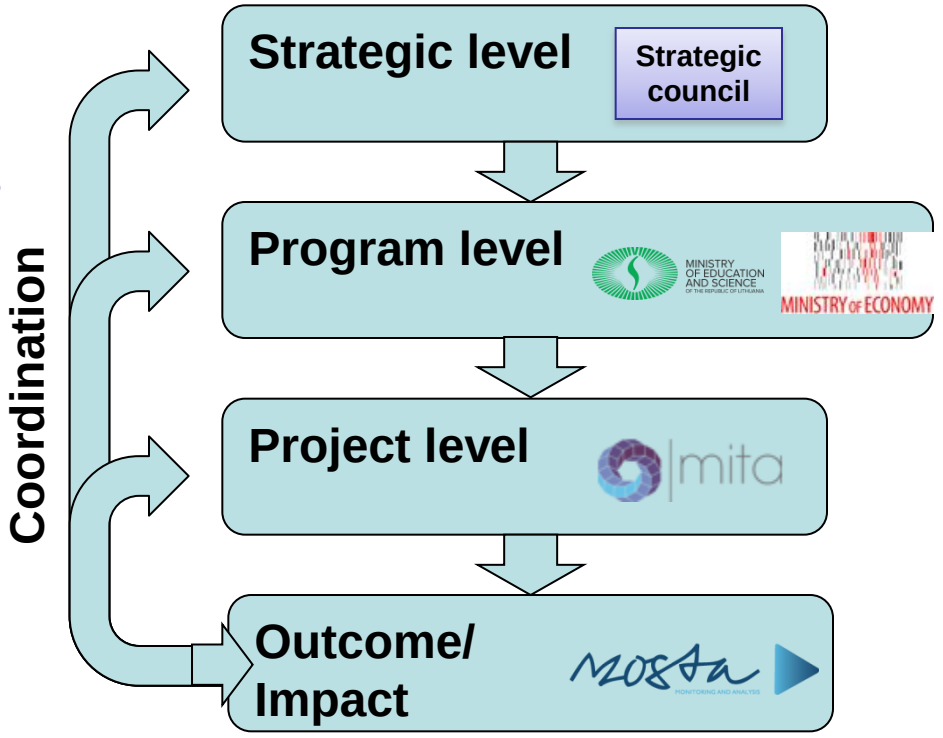


Approved

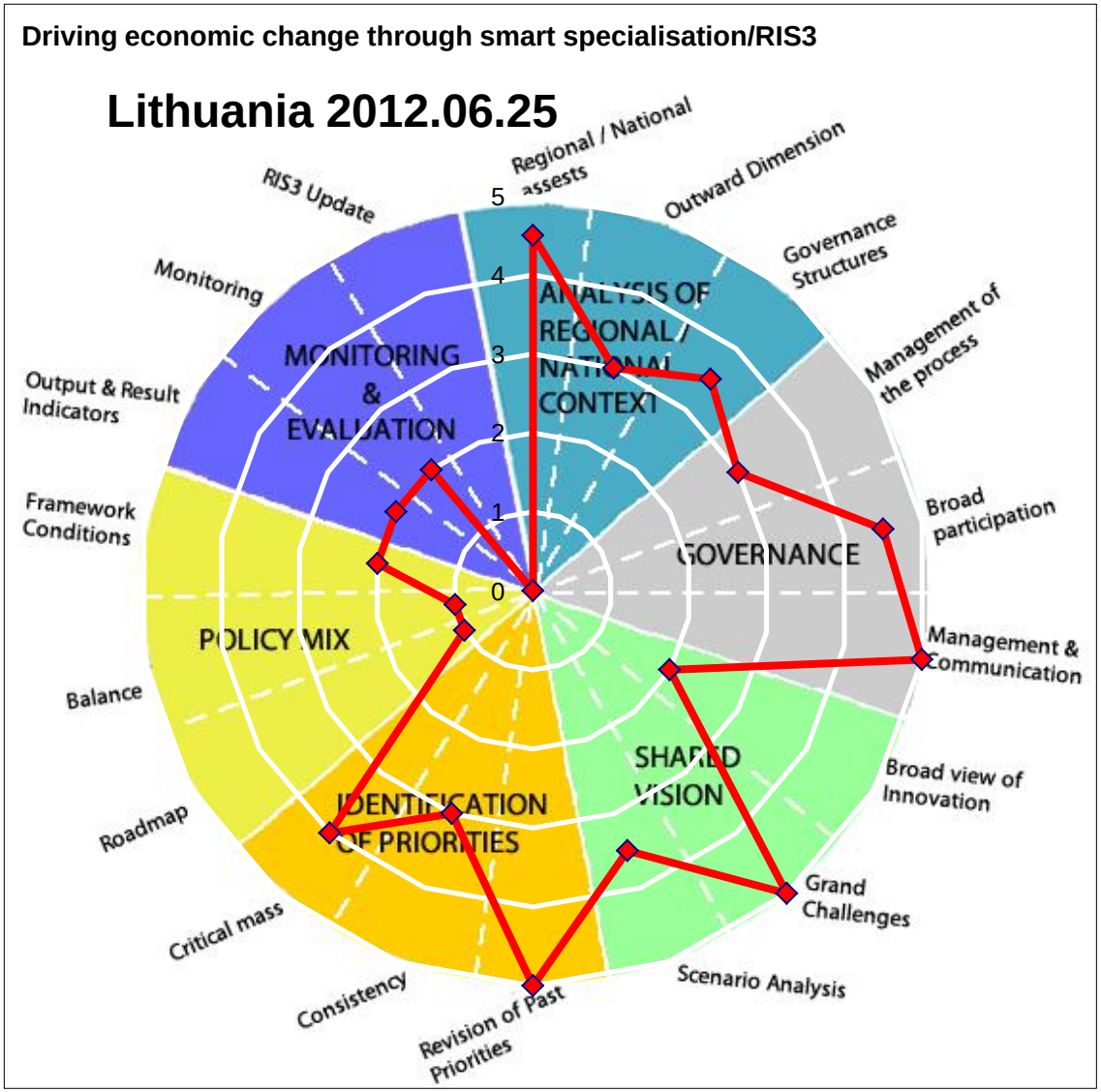
In progress/To be updated

Measuring the progress

- Monitoring and evaluation mechanisms are planned as integral part of RIS3 strategy
- At the moment the implementation model is not finalized
- Dialogue with main stakeholder ministries for coordination of monitoring and evaluation systems
- Review of existing KPIs



Self-assessment



Source: S3Platform/Eurada

Summary and next steps

- Further facilitation of dialogue between stakeholders
- Broader involvement of relevant thematic ministries
- Constant communication
- Supporting measures for deeper involvement of the private sector
- Believe that RIS3 is an instrument for development of a smart country

Our questions to the critical peer friends (1):

How the priorities should be implemented taking into account the different maturity of the participating sectors?

Following the RIS3 guide we designed a bottom up process for Smart Specialization priorities identification. Different sectors talk together and try to identify the possible collaborative priorities that they want to and can implement. We supervise the process in order that these bottom-up priorities would be achievable and significant for the socioeconomic wellbeing of the country. But the collaborating sectors might be at a very different maturity level in terms of knowledge usage, size, experience of working together with researchers and etc. This situation might be an obstacle for a successful implementation of the priorities and further dialogue until 2020.

Our questions to the critical peer friends (2):

How the implementation of the selected priorities should be measured?

We aim to deliver the priorities that are not oriented to one specific sector of economic activity or one specific field of research. Rather they should be cross-sectorial and multidisciplinary. We would like to hear any relevant experience how the process of RIS3 implementation, outcomes and impacts could be measured?

Our questions to the critical peer friends (3):

How RIS3 implementation should be coordinated with other R&I policy measures?

What policy mix guidelines could be applied to coordinate financing from different sources (in our case the main source is SF) to achieve the best result in Smart Specialization implementation?