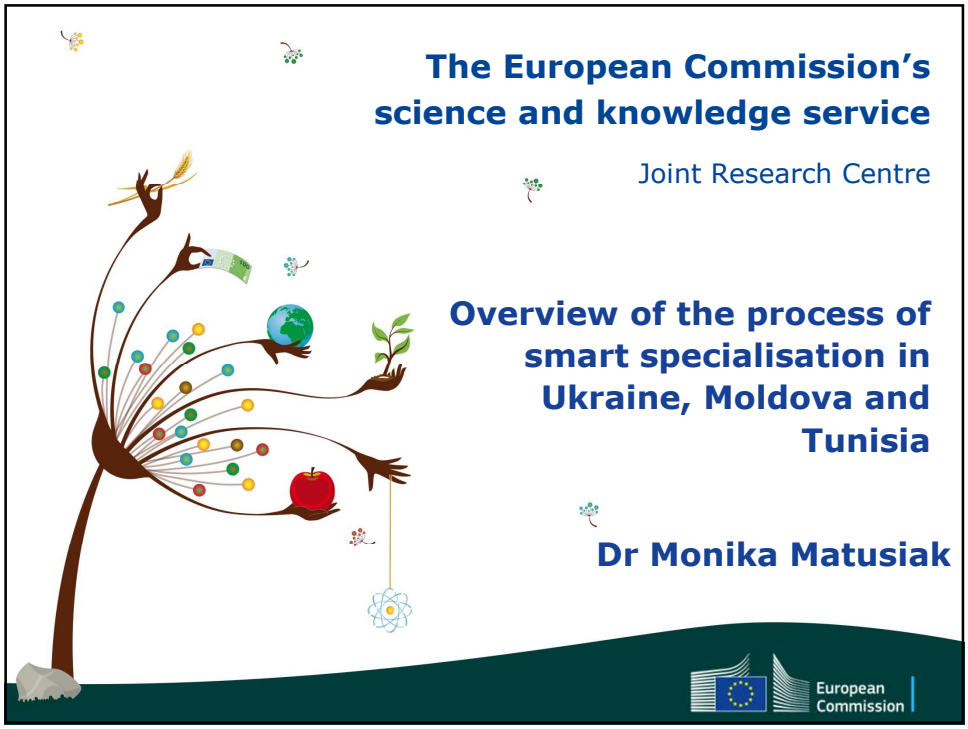

What is Smart Specialisation?

National/Regional Research and Innovation Strategies for Smart Specialisation (RIS3 strategies) are integrated, place-based economic transformation agendas that:

- focus policy support and investments on key national/regional priorities, challenges and needs for knowledge-based development.
- build on each country/region's strengths, competitive advantages and potential for excellence.
- support technological as well as practice-based innovation and aim to stimulate private sector investment.
- get stakeholders fully involved and encourage innovation and experimentation.
- are evidence-based and include sound monitoring and evaluation systems.

European Commission

What is Smart Specialisation?

= fact-based: all assets + capabilities + bottlenecks in a region, incl. external perspective, cooperation potential, global value chains

= no top-down decision but dynamic entrepreneurial discovery process uniting key stakeholders around shared vision

= all forms of innovation, not only technology-driven, existing / new knowledge

= ecosystem approach: creating environment for change, efficiency of institutions

= differentiation: focus on competitive advantages, potential for excellence, emerging opportunities, market niches, at the level of activities - granularity

= concentration of resources on priorities, problems and core needs, for critical mass/critical potential

= synergies across different departments and governance levels (EU-national-regional); cross-sector/technology links – NO Silos Thinking!

= place-based economic transformation: rejuvenate traditional sectors through higher-value activities; aiming at developing a strategic approach to territorial development

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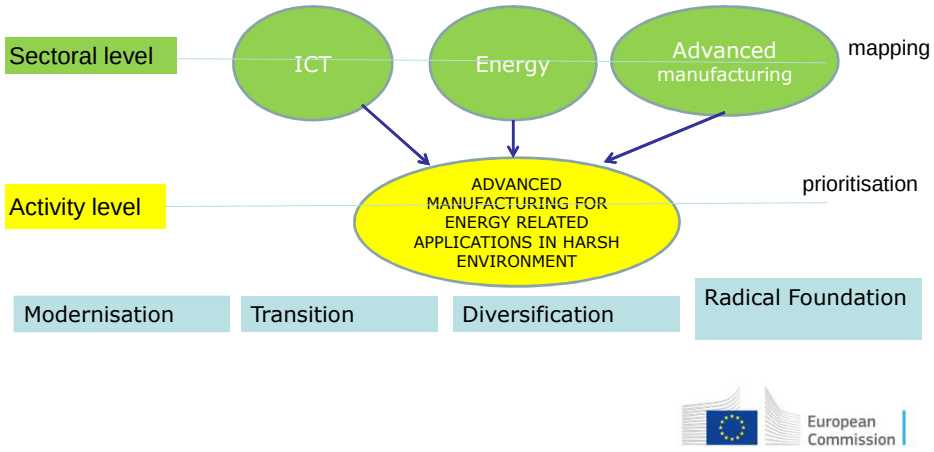
Smart specialisation as a prioritisation process

S3 is about developing new specialities based on regional concentration of knowledge, competence and market potentials (dynamic)

S3 is NOT to be understood as a sector specialised or relative to other regions (passive)



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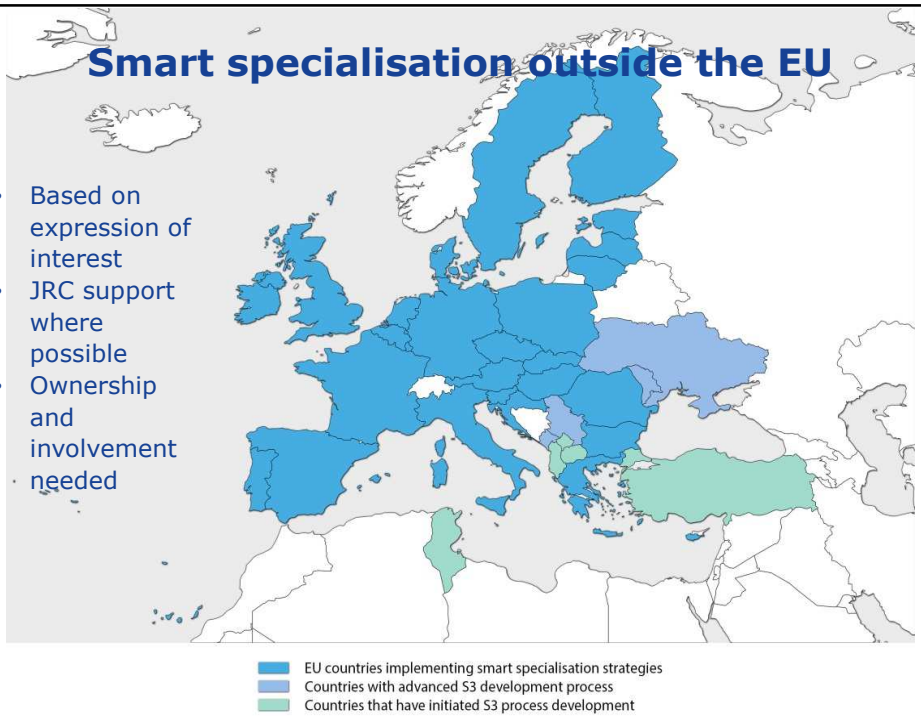
Smart specialisation outside the EU

- Based on expression of interest
- JRC support where possible
- Ownership and involvement needed



Framework for smart specialisation within E&I Action

European Commission

Country progress: Ukraine, Moldova and Tunisia

No.	Bloc	Eastern Partnership		Southern Partnership
	Country/ Stage of the process	MD	UA	TN
0	Preparatory			
0.1	Formal request	Formal	Formal	Formal
0.2	Analysis of context – country specific conditions	Planned for 2019	Planned for 2019	Planned for 2020
0.3	Discussion with public administration	X	X	X
0.4	Awareness event	X	X	X
0.5	Participation in S3 training	X	X	X
0.6	Preliminary roadmap	X	X	X
1	Decision to start smart specialisation process			
1.1	Establishment of national S3 team	Changed	Changed	Ongoing
1.2	Agreement with JRC	Informal	Informal	Informal
2	Analysis of strategic mandates			
2.1	Overview of existing policies and priorities relevant for S3	X	X	-
2.2	Decision of place of S3 in the strategic framework	X	X	-
2.3	Decision on the national/regional dimension of S3	X	X	X

European Commission

Country progress: Ukraine, Moldova and Tunisia

No.	Country/ Stage of the process	MD	UA	TN
3	Analysis of existing economic, scientific and innovative potential (quantitative)			
3.1	Provision of statistical data	X	X	-
3.2	Mapping of economic potential	X	Ongoing	Started
3.3	Mapping of innovative potential	Ongoing	Ongoing	-
3.4	Mapping of scientific potential	X	Ongoing	-
3.5	Other dimensions	-	Exports, interregional trade	To be defined
3.6	Involvement of local experts	X	X (Kh)	X
3.7	Provision of reports and policy documents	-	Partly	-
3.8	Report ready	X	1st stage	1st stage
3.9	Report consulted with stakeholders	X	September 2018	X
3.10	Report published	-	-	-
4	In-depth analysis of priority domain (qualitative)			
4.1	In-depth interviews			
4.2	Focus groups			
4.3	Case studies			
4.4	Conclusions for EDP			
4.5	Common panel organized			
5	Identification of stakeholders			
5.1	Specific analysis			
5.2	Definition of EDP working groups			

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Country progress: Ukraine, Moldova and Tunisia

6	Country/ Stage of the process	MD	UA	TN
6	Entrepreneurial discovery process (EDP)			
6.1	EDP training		September 2018	
6.2	EDP plan and working rules			
6.3	EDP workshops			
6.4	EDP input for S3			
7	Design of monitoring, implementation and financing system			
7.1	Monitoring guidance			
7.2	Monitoring system designed			
7.3	Implementation guidance			
7.4	Implementation system designed			
7.5	Financing guidance			
7.6	Coordination with EEAS			
7.7	Financing system designed			
8	Preparation of draft S3 strategy document			
8.1	Draft S3 ready			
8.2	Draft S3 consulted with stakeholders			
9	Approval of the strategy			
9.1	JRC/EC approval			
9.2	Formal approval			

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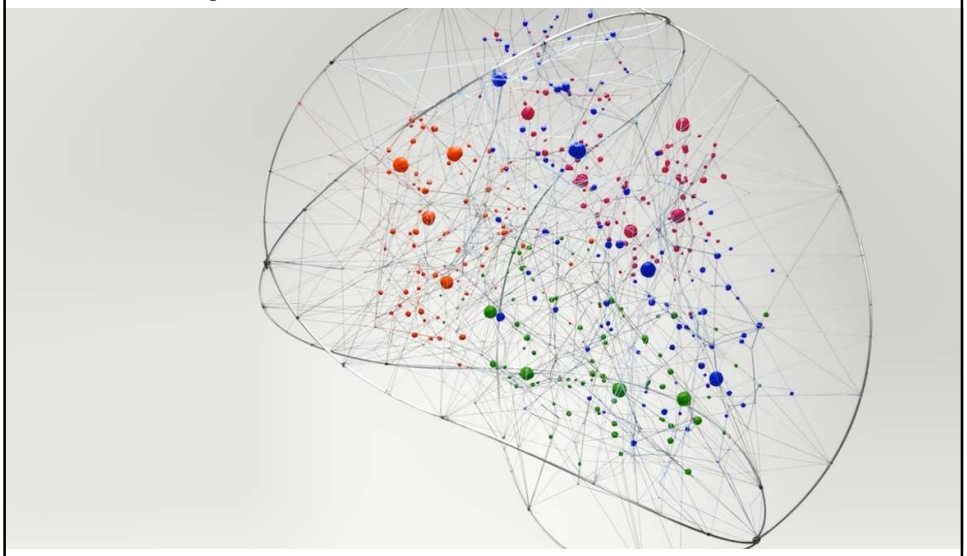
Why is the EDP essence of smart specialisation and how to do it well



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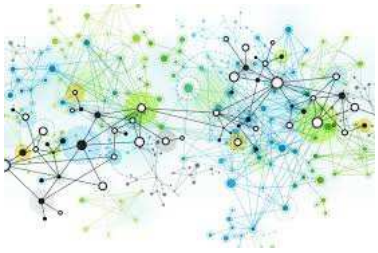
Systemic perspective

What can you change?



- Where is the critical mass?
- What is the target group?
- What are their needs?
- Who are the key players?
- What are the relations between them?
- How can you enhance knowledge spillovers?

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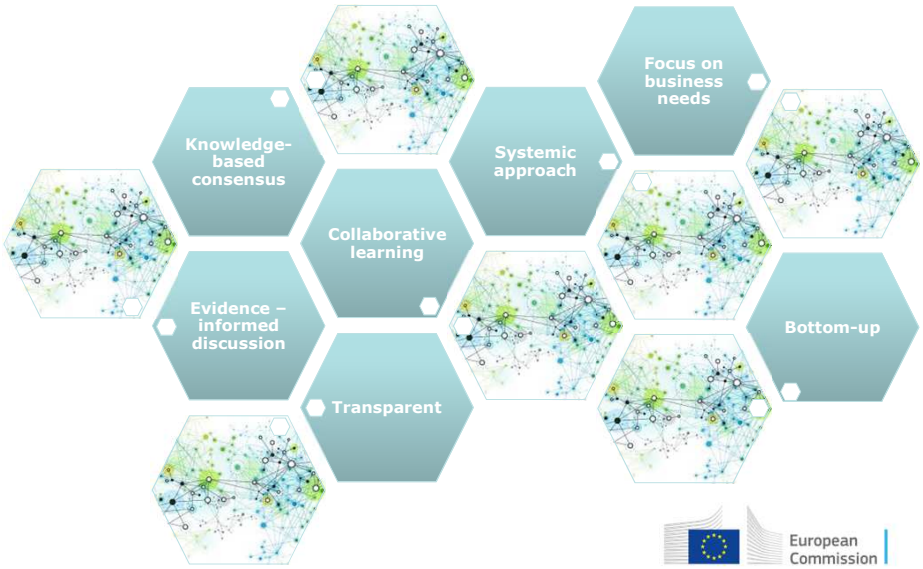
Why is the EDP essence of smart specialisation and how to do it well



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Key elements of EDP

- Right evidence-base
- Identification of relevant stakeholders
- Transparency and clear rules
- Consequence and trust building
- Managing hidden agendas
- Lasting involvement

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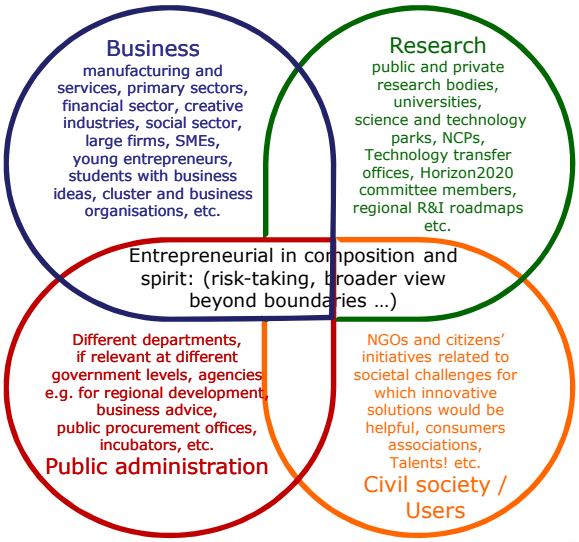
Stakeholder groups: quadruple helix



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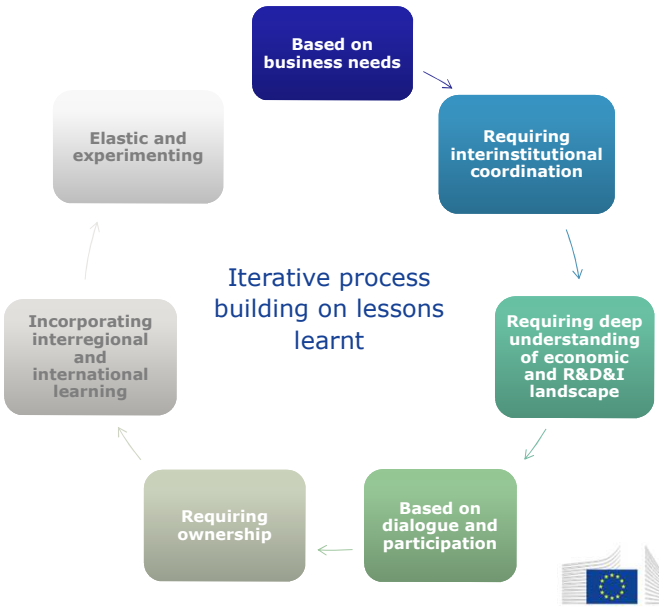
New approach to innovation policy



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Thank you

Monika.MATUSIAK@ec.europa.eu

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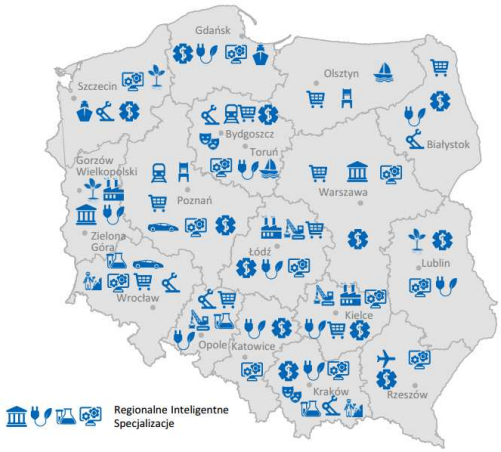
Entrepreneurial Discovery Process in Poland

Katarzyna Kaczkowska

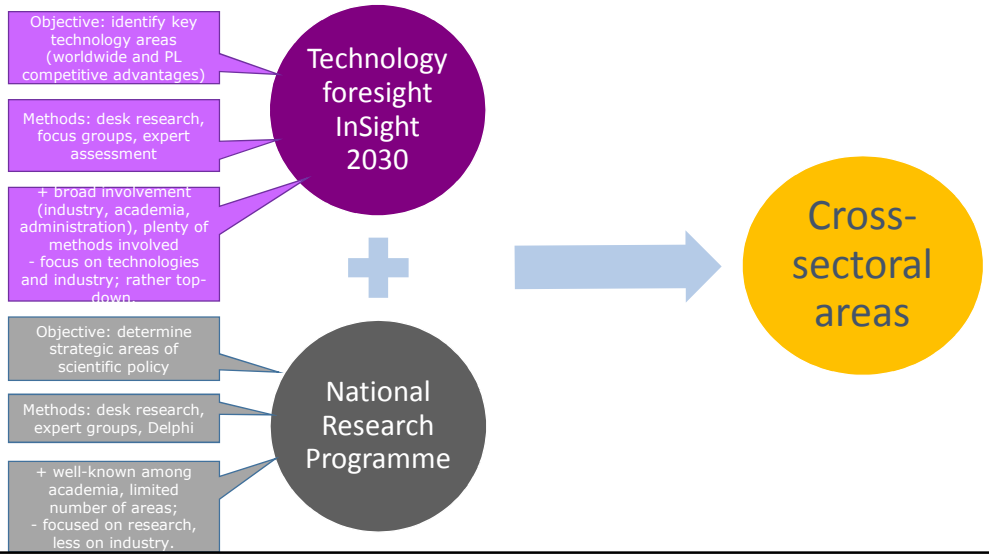
Kharkiv, September 4-5, 2018

Poland – general context

- 16 regions – EU funded programmes both on national and regional level
- Smart specialisation, EDP – national & regional
- Process initiated in 2012, developed as conditionality for EU funds



Diagnosis / Mapping – existing documents



Diagnosis / Mapping – existing data

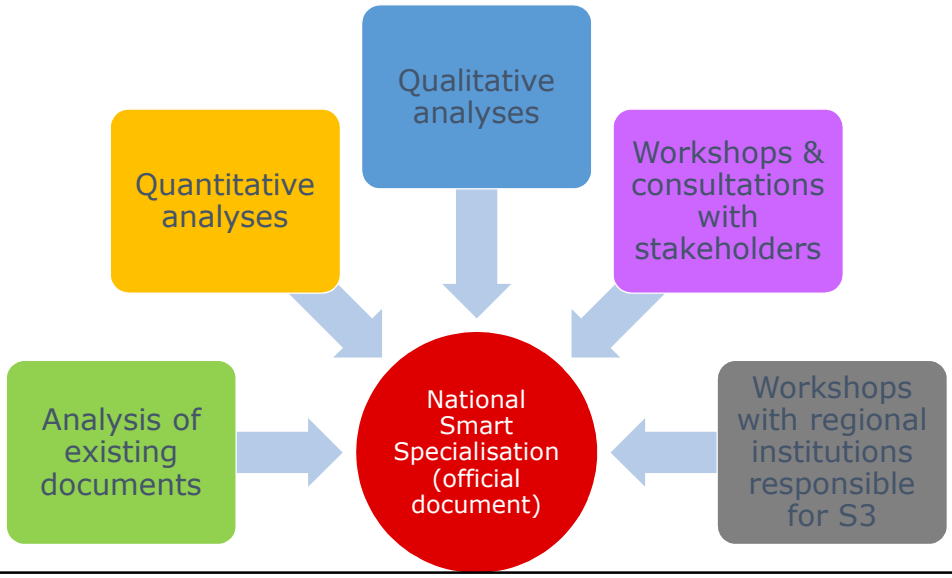
Quantitative analyses

- Exports;
- Industrial value added;
- Gross expenditure on R&D;
- Employment by industries;
- Share of sales income from new or significantly improved products;
- Inventions filed in Polish Patent Office and EPO; patents granted.

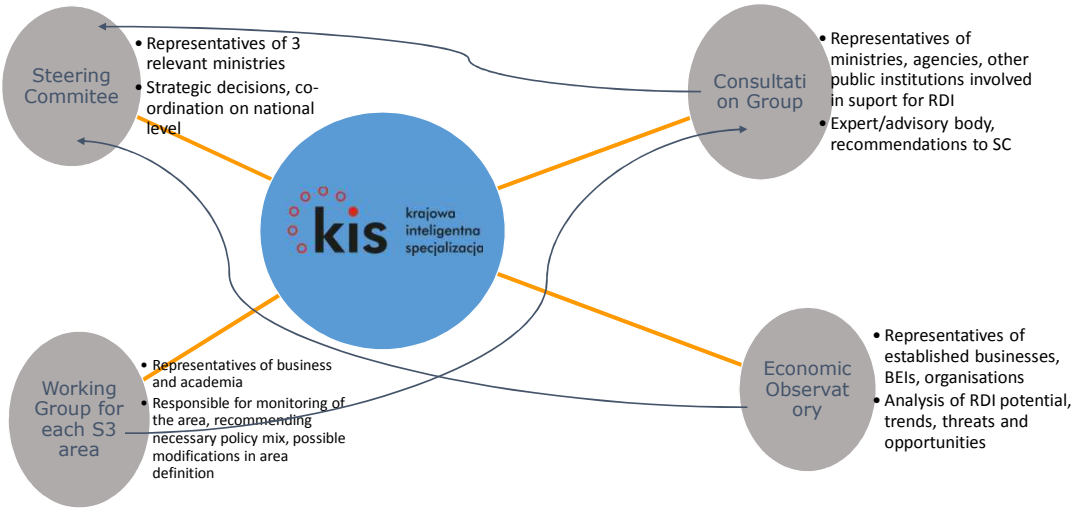
Qualitative analyses

- Clusters and co-operations;
- Projects funded from EU funds (both national and Framework Programme);
- Strategic projects in public R&D infrastructure (roadmap);
- Preliminary areas of regional S3.

Diagnosis / Mapping - outputs



Stakeholder dialogue – institutional framework



Stakeholder dialogue – reaching out

- Structured interviews:
  - with business, owners/CEOs;
  - areas: type of business, area of operations; innovative activity; decision-making process of the company;
  - whole country.
- Smart labs:
  - Grouping business / academia in a particular area (either narrower or cross-cutting the S3 areas);
  - Drafting development plans / recommendations for support;
  - Possible future S3 areas.
- Business Technology Roadmaps.

Stakeholder dialogue

- S3 areas have gained recognition as a conditionality for EU funds (only projects in one of the areas obtain financing / preference in calls).
- KIS is an open document – constantly updated based on:
  - Monitoring data (numer of applications, number of successful applications; statistical data for each area);
  - EDP, in particular discussions within working groups;
  - Collected data;
  - Strategic programming;
  - Decisions of Steering Committee.

Stakeholder dialogue - outputs

- Sample results of EDP:
  - Adding new S3 areas;
  - Redefining / consolidation of areas;
  - Restructuring of EDP (smart labs => smart panels; streamlining the institutional structure of EDP)

Stakeholder dialogue – current form

Institutional framework

Reaching out

- Smart Panels – gathering evidence
  - Collecting data on a specific area (either within current or identified as potential specialisation area)
  - Existing data + interviews with companies
- Smart Labs
  - Groups of enterprises from the area
  - Objectives:
    - input to S3 (modification/broadening)
    - building project pipeline

Institutional capacity

- A clear leader of the process (one ministry/department responsible / contact point) – PL: Ministry of Entrepreneurship and Technology
- Close working dialogue between actors in the administration – PL: three ministries as a core
- Stable financing for the process – PL: EU funds (a project devoted to S3).

National-regional co-operation

Exchange of best practice

Workshops – regional & national authorities (WB project)

Consultation Group (regular meetings, focus on specific problems)

Exchange of data

- List of common indicators
- Exchange of data
- Planned – electronic tool for the aggregation and presentation of data for monitoring and evaluation of S3

Thank you for your attention!

Katarzyna Kaczkowska
Ministry of Investment and Economic Development

Katarzyna.kaczkowska@miir.gov.pl

Disclaimer: This presentation only reflects the views and opinions of the author. It does not present the official standpoint of the Ministry.

Entrepreneurial discovery process in Lithuania as a part of Smart Specialization

Ramojus Reimeris

MOSTA

LEGAL STATUS: Public institution
OWNER: The Office of the Government of the Republic of Lithuania

WHAT WE DO: monitor, evaluate and provide evidence-based recommendations regarding the implementation and process of:

- Vocational training
- Higher education
- Research
- Innovation
- Human resources

MOSTA

Challenges that we are currently working on:

- Monitoring and evaluation of Smart specialization

Delivery of ongoing monitoring function. Yearly progress reports, interim evaluation, EDP.

- Evaluation of Science and Technology parks

Activities of science and technology parks in Lithuania have insufficient impact. The aim of the evaluation is to propose guidelines for sustainable development.

- Research activity evaluation (Research assessment exercise, international benchmark)

Piloted in 2015, the full scale research assessment exercise with 50+ foreign experts.

- Teacher demand forecast

The scope of this ongoing project is to create and implement a teacher workforce forecasting model. The mismatch between the supply and demand in the teaching workforce affects the whole educational system and labor market for teachers.

- Medical doctor demand forecast

Similar to teacher demand forecasting, but with different factors and conditions.

Generally speaking about RIS3

The concept of Smart specialization and it‘s implementation reality had tremendous positive effects:

- The best shot so far to unify the concept R&I priorities in the EU (and beyond)

A lot of decision makers and stakeholders from academia and business adopted similar understanding of the concept and similar vocabulary to describe preferences and taken actions.

- Leverage to change the culture of the (R&I) policy making

As it came with strong analytical homework necessity and higher level of justification of decisions, it will have long-lasting effects on the evidence based policy making as well.

- Has initiated analytical approach to R&I policy cycle and a swarm of projects/tools/practices/etc.

Transparency and accountability, interactive monitoring systems, constant sharing of good practices and solutions.

Smart specialization in Lithuania

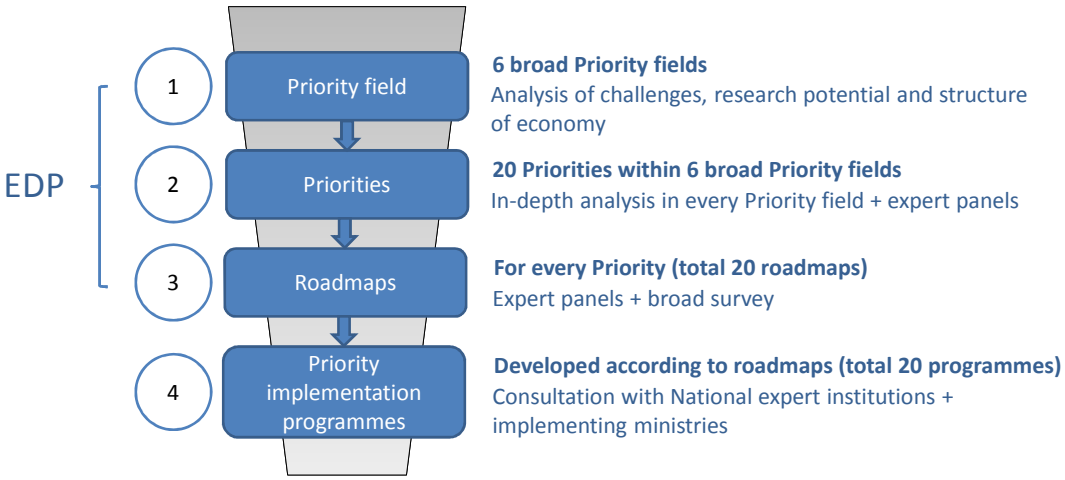
Strategic goal:

Increase the impact (and share) of high value added, knowledge-intensive and highly-qualified labour intensive economic activities in the GDP by structural changes of the economy

Objectives:

- Create innovative technologies, products, processes and/or methods and, using the outputs of these activities, respond to global trends and long-term national challenges
- Increase competitiveness of Lithuania's legal entities and their opportunities for establishing in global markets – commercialisation of knowledge created in the implementation of the Priorities

Design of Lithuanian RIS3



Analysis: research potential indicators

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 research activity
9. Marie Curie activities
10. Infrastructure
11. Local business grants
12. International business grants
13. Public-private co-publications
14. Innovation vouchers

Excellence in research

Collaboration with business

Analysis: research potential

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

Analysis: business potential indicators

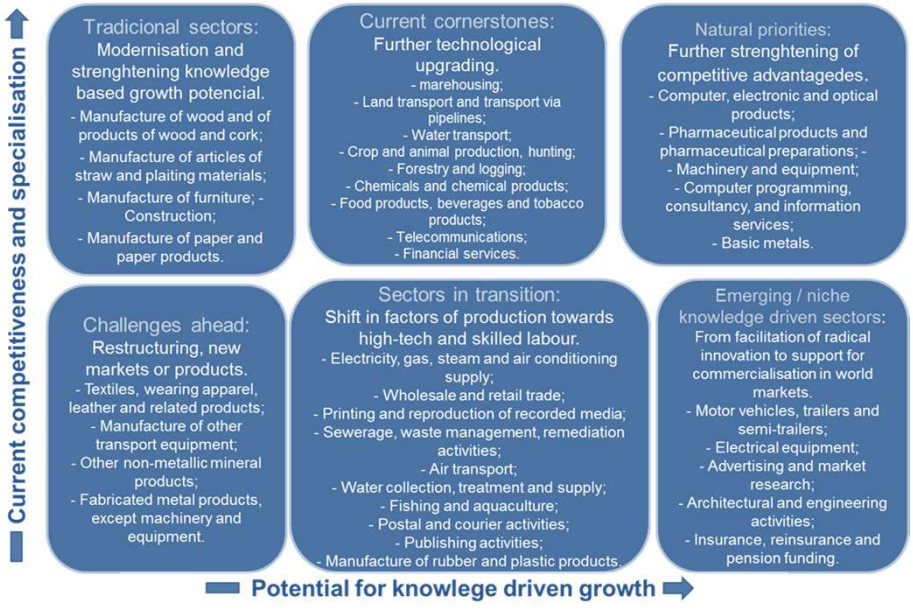
Current competitiveness and specialization

1. Export growth
2. Value-added growth
3. Investments
4. Previously been priority sectors
5. Other

Potential for knowledge driven growth

1. Share of innovative firms
2. New-to-market products
3. R&D expenditure
4. International networks
5. Other

Analysis: business potential indicators



Formation of priority fields

Priority field	Research potential	Business	Response to challenges	Connection with Valleys
Agro-innovation and food technologies	Prospective	Users	*	Nemunas
Energy and sustainable environment	Prospective	Users (excl. IT)	***	Saulėtekis, Santara, Santaka, Nemunas

Priorities

Agro-innovation and food technologies
- Safer food and sustainable usage of biomaterials
- Functional food
- Innovative development, improvement and processing of biological raw materials (biorefinery)

Energy and sustainable environment
- Smart systems for energy efficiency, diagnostic, monitoring, metering and management of generators, grids and customers
- Energy and fuel production using biomass/waste and waste treatment, storage and disposal
- Technology for the development and use of smart low-energy buildings – digital construction
- Solar energy installations and technologies for using them for the power generation , heating and cooling

Health technologies and biotechnology
- Molecular technologies for medicine and biopharmaceutics
- Advanced applied technologies for individual and public health
- Advanced medical engineering for early diagnostics and treatment

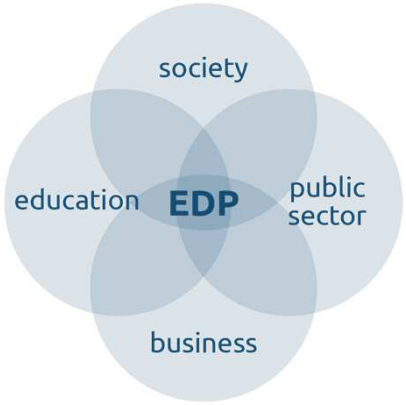
Inclusive and creative society
- Modern self-development technologies and processes promoting formation of creative and productive individuals
- Technologies and processes for the development and implementation of breakthrough innovations

Novel production processes, materials and technologies
- Photonic and laser technologies
- Functional materials and coatings
- Structural and composite materials
- Flexible technological systems for product development and fabrication

Transport, logistics and information and communication technologies
- Advanced electronic content, content development technologies and information interoperability
- ICT infrastructure, cloud computing solutions and services
- Smart transport systems and ICT
- Technologies/models for the international transport corridors' management and integration of modes of transport

The case of Lithuanian EDP

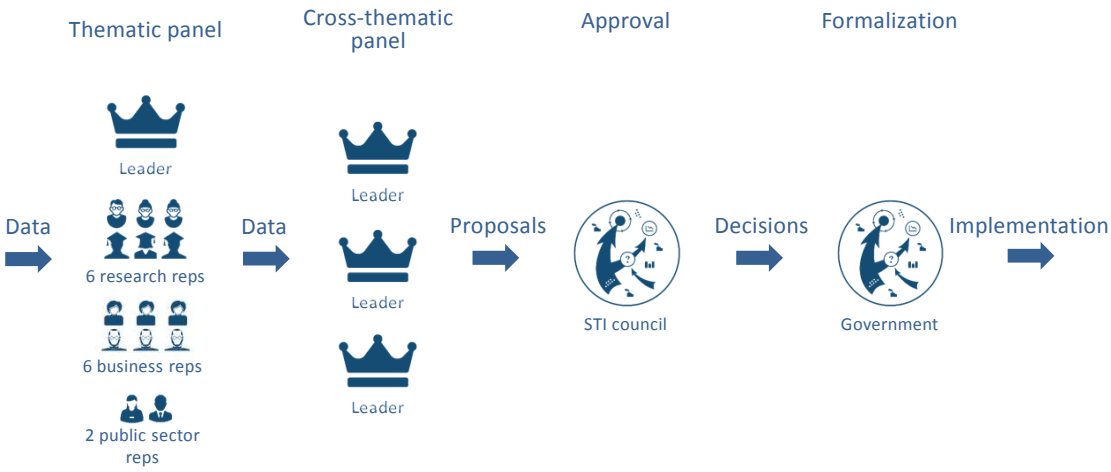
- A planned process, with a beginning and an end
- An inclusive process
- Results in RIS3 priority recommendations
- Recommendations lead to inclusive intervention design and to more effectively framed policy instruments
- The process also helps to evaluate current R&I priorities



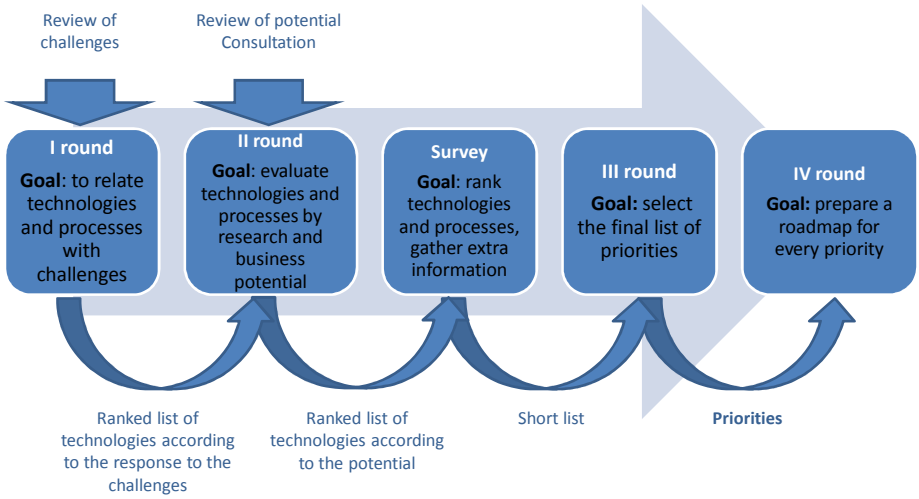
Goals of EDP

Entrepreneurial knowledge	Market opportunities	Allocation of public goods	Evaluation of previous R&I strategy
What?	Where?	On what conditions?	What has worked previously?

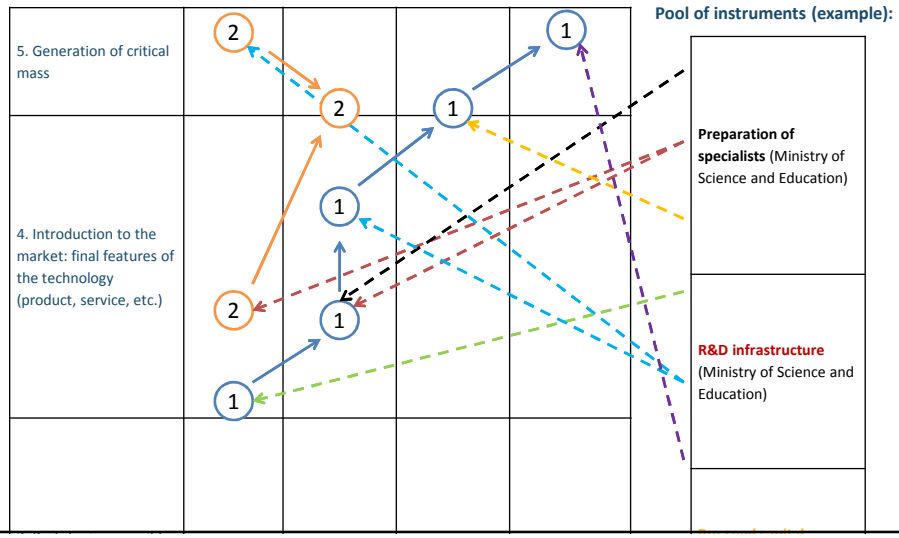
Design of the panels and process



Design of EDP



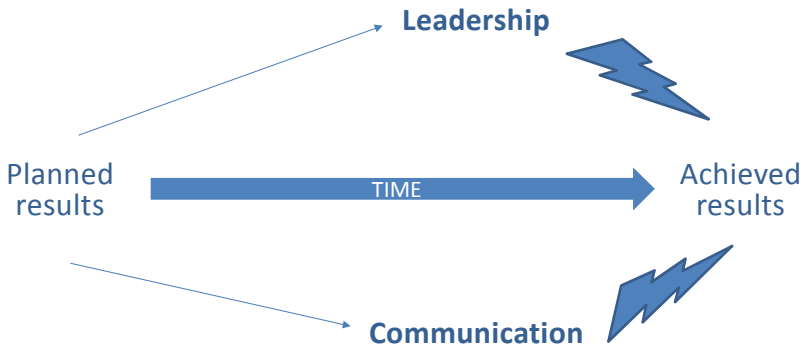
Logic of roadmap + instruments



Risks of EDP

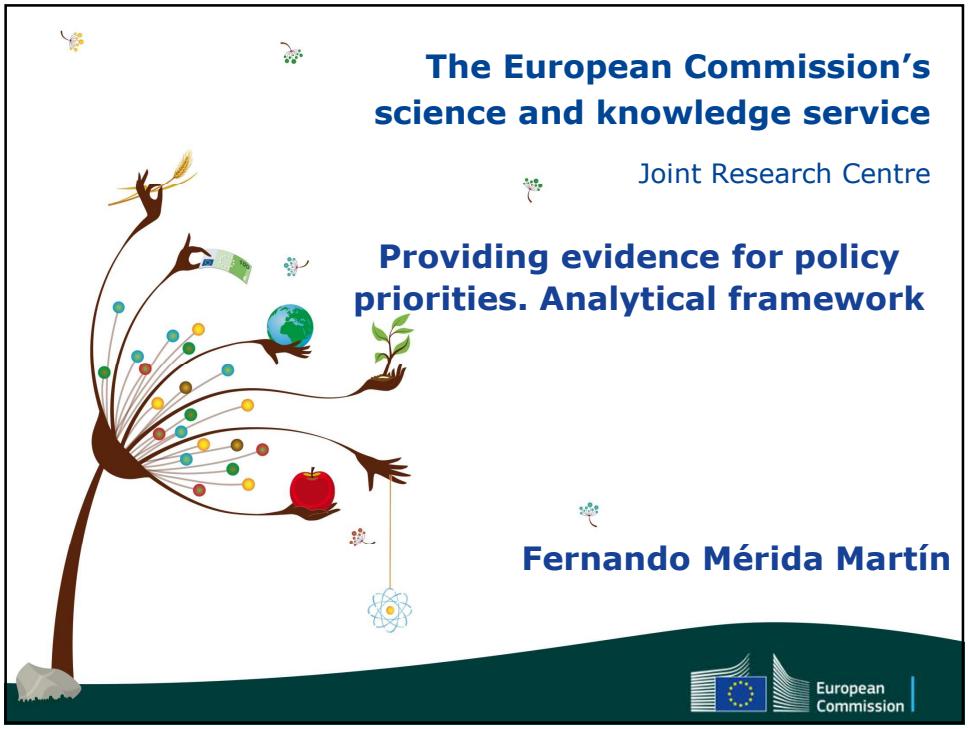
- **Incomplete appropriability** Something can be thought of not in full picture, resulting in fail to implement.
- **Lock-in**. Experts can protect their interests or fields of business/science, that does not qualify
- **Lobbying**. Experts can protect their interests or fields of business/science as more important than others
- **Fast pace of technology**. The time from idea to market (consumer) is getting shorter and is highly competitive.

The opportunity



The opportunity to change the culture of R&I policy making

www.mosta.lt



Providing evidence for policy priorities

- Smart Specialisation Strategy model encompasses a series of actions that would support the right orientation of the political intervention for developing territorial innovation capacities
- Following the analysis and the lessons learnt from the JRC activity on innovation policies in the Enlargement and Neighbourhood countries, a number of major steps would need to be taken into account in the definition of a comprehensive innovation strategy

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Providing evidence for policy priorities

- A comprehensive innovation strategy demands information on the situation of the economy, its specific characteristics and a sound analysis of regional strengths
- The analysis of this information will provide discoveries about the capacities and evolution of the different economic sectors, their linkages and the territorial variety
- This exercise would show how and where economic potential is placed, offering vital information about the actual relevance of the existing and emerging sectors
- This analysis is to be supported in the use of qualitative and quantitative evidence, as well as strategic intelligence

Providing evidence for policy priorities

- Policies requiring public spending, are better prepared to tackle the underlying challenges and to achieve relevant objectives if they are strongly rooted in evidence
- They should be grounded in a detailed diagnosis of the economic, scientific and innovative potential of countries and regions
- This evidence-based process allows a better definition of more explicit strategic models and also increases the capacity for involving relevant stakeholders
- Following this processes, the smart specialisation concept contributes to a more systematic and collective development of innovation strategies
- But, on top of it, Regional innovation systems will highly depend on the institutional capacity and in a robust governance

Analytical framework

- JRC provides with a methodology and further guidance for this kind of exercise. This is implemented with international experts who work with local teams to build capacities, ensure ownership and guarantee the sustainability of the process
- This methodology is enriched and adapted to the needs through a dialogue with the interested region
- The level of detail in the analyses depends also on the availability of data

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Analytical framework

Mapping for S3

Key indicators for smart specialisation mapping

Type of potential	Indicator	Disagg-regation	Data source
Economic potential	**Specialisation, growth dynamics and relative importance of industrial subsectors** based on: • Employment • Value added/Turnover • Number of companies **International competitiveness** based on: • Main product groups in exports • Revealed comparative advantage in exports	NACE rev. 3 or 4 digit, 5-10 year period, regionalised (NUTS2 level)	**Preferred source:** • National Statistics Office **Alternative source:** • ORBIS database • World Bank WITS database • MIT Observatory of Economic Complexity • ILO database
Innovative potential	**Community Innovation Survey indicators** • Share of innovative companies • BERD • Types of innovation • Cooperation in innovative activities **Education profiles:** • Number of students/graduates at vocational schools • Number of students/graduates at HEI • STEM graduates	NACE rev. 3 or 4 digit, 5-10 year period, regionalised (NUTS2 level)	**Preferred source:** • National Statistics Office **Alternative source:** • Innovation indicators from World Bank Enterprise Surveys • ETF skills mapping analyses
Scientific potential	**Main strengths in science and technology** • Main specialisations in scientific publications • Main specialisations in patents • R&D employment	IPC subclasses and science fields	**Preferred source:** • SCOPUS/Web of Science • EPO/WIPO/National Patent Office **Alternative source:** • SCIMAGO database • UNESCO Institute for Statistics

Source: JRC

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Analytical framework

N. of companies

2012-2016. LQ >4 base 2016 (1)

Industrial Manufacturing

Activity	NACE	LQ 2016
MANUFACTURING LQ > 4	C	
Manufacture of ceramic sanitary fixtures	23.42	10.55
Manufacture of basic iron and steel and of ferro-alloys	24.10	4.79
Cold rolling of narrow strip	24.32	5.27
Copper production	24.44	5.44
Other non-ferrous metal production	24.45	5.62
Casting of other non-ferrous metals	24.54	5.27

N.B.: Representation of LQ is on a 1:1 scale

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Employed persons

2012-2016. LQ>4 . base 2016 (1)

Industrial Manufacturing

Activity	NACE	LQ 2016
MANUFACTURING LQ > 4	C	
Manufacture of other inorganic basic chemicals	20.13	4.93
Manufacture of refractory products	23.20	7.6
Copper production	24.44	7.06
Other non-ferrous metal production	24.45	6.46
Manufacture of electric motors, generators and transformers	27.11	7.58
Manufacture of other electronic and electric wires and cables	27.32	5.59

N.B.: Representation of LQ is on a 1:1 scale

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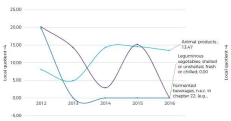
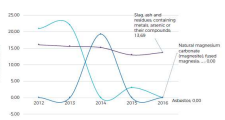
Export quantity evolution

Evolution 2012-2016 by the LQ 5% highest values >data available for at least 3 years

LQ evolution - export (2012-2016). Section I to IV (alive animals, vegetables, food & drinks)



LQ evolution - export (2012-2016) Section V (minerals). 25



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Equipment Innovation

2012-2015. LQ >4 base 2014 (1)

Activity	NACE	LQ 2014
Mining of iron ores	7.10	4.53
Processing and preserving of meat and production of meat products	10.10	3.32
Production of meat and poultry meat products	10.13	5.41
Processing and preserving of fish, crustaceans and molluscs	10.20	4.46
Manufacture of other outerwear	14.13	7.58
Manufacture of footwear	15.20	5.59
Manufacture of soap and detergents, cleaning and polishing preparations, perfumes	20.42	4.46
Manufacture of other porcelain and ceramic products	23.40	7.58

N.B.: Representation of LQ is on a 2:1 scale

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European Commission

Analytical framework

Equipment Innovation

2012-2015. LQ >4 base 2014

Activity	NACE	LQ 2014
Manufacture of wearing apparel	14.0	1.85
Manufacture of other transport equipment	30.0	2.23
Manufacture of furniture	31.0	1.72

No Avitivity sector has a LQ > 4 in 2014

* N.B.: The choice of taking 2014 is made on the base of : data availability at comparability for the 3 pilot regions. Though, in the case of Odessa we notice a lack and uneven availability and distribution of data after 2013.

N.B.: Representation of LQ is on a 1:1 scale

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Other types of innovation

2012-2016. LQ >4 base 2014

Activity	NACE	LQ 2014
Manufacture of rubber and plastic products	22	4.7

* N.B.: Several economic activities reported significant level of LQ concentration in 2012 at 2013 , different from 2014 adn 2015. The reason of this finding should be analysed more in depth with de support of local experts

N.B.: Representation of LQ is on a 1:1 scale

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Equipment innovation

2012-2016. LQ >3 at least on one year

Description	NACE	2012	2013	2014	2015
Manufacture of wearing apparel	14	0.00	2.96	1.89	3.02
Manufacture of wearing apparel, except fur apparel	14.1	0.00	10.61	0.00	0.00
(CB.17.00) - Manufacture of other textiles	13.9	0.00	4.45	0.00	0.00
Manufacture of coke and refined petroleum products	19	8.88	4.80	0.00	0.00
(DC.19.00) - Manufacture of footwear	15.20	7.61	4.22	0.00	0.00
Manufacture of paints, varnishes and similar coatings, printing ink and mastics	20.30	7.21	4.36	0.00	0.00
Manufacture of basic precious and other non-ferrous metals	24.4	3.34	0.00	0.00	0.00
Manufacture of structural metal products	25.1	0.00	5.71	0.00	0.00
(DJ.28.70)- Manufacture of other fabricated metal products	25.9	3.25	2.19	0.00	0.00
(DJ.31.4) Manufacture of electrical equipment n.e.c.	27	0.00	5.24	0.00	0.00
Manufacture of other transport equipment	30	0.00	0.00	2.23	5.02
Manufacture of furniture	31	1.04	1.24	1.72	3.39
(AD.1) Production and distribution of electricity	35.1	3.05	0.00	0.00	0.00
Manufacture of gas; distribution of gaseous fuels through mains	35.2	0.00	3.92	0.00	0.00

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Other types of innovation

2012-2016. LQ >3 at least on one year

Description	NACE	2012	2013	2014	2015
DA.15.20 - Processing and preserving of fruit and vegetables	15.3	10.7	17.8	0.0	0.0
DA.15.80 - Manufacture of other food products	15.8	2.1	4.7	0.0	0.0
Manufacture of basic iron and steel and of ferro-alloys	24.1	4.1	0.0	0.0	0.0
Manufacture of basic precious and other non-ferrous metals	24.4	17.6	0.0	0.0	0.0
Repair of fabricated metal products, machinery and equipment	33.1	0.0	6.4	0.0	0.0
WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION	E	4.3	5.0	0.0	0.0
Steam and hot water supply	35.30	3.6	16.0	0.0	0.0
Construction of buildings	41	4.2	0.0	0.0	0.0

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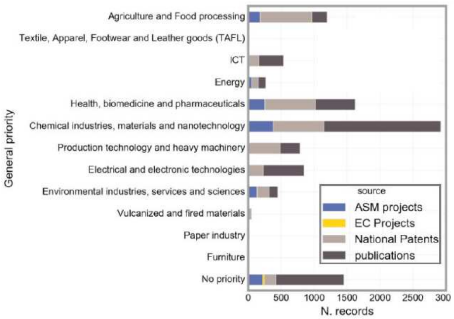
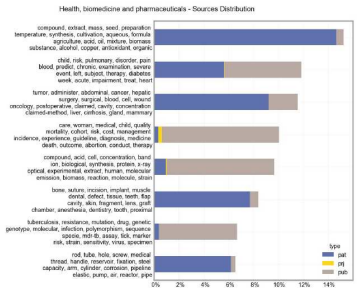
Analytical framework

- **Scientific potential example / Moldova**



Number of documents per preliminary priority divided by source



Example of topics extracted within the documents related to a preliminary priority, ranked by their relative presence. The different colors represent the distribution by source (patents, projects publications) of the keywords, through the texts most related to each topic.

European Commission

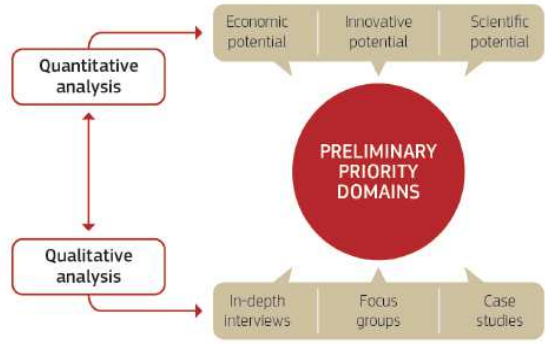
Analytical framework

- The diagnosis of economic, innovative and scientific potential results in a set of preliminary priority domains that are based on matching strengths
- Includes emerging fields and sectors with growth potential
- Since part of the analysis is based only on 'hard' statistical data, it needs to be interpreted through qualitative assessment
- The main inputs into qualitative analysis are obtained during individual and group interviews with experts and key stakeholders as well as through case studies
- Only after such an interpretation is it possible to start the next stage of the strategy development, the Entrepreneurial Discovery Process

European Commission

Analytical framework

Quantitative and qualitative inputs into place-based innovation policies



Source: JRC.

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Providing evidence for policy priorities

Key questions for qualitative assessment

- Why are the identified priority domains so strong?
- What are the sub-specialisations in each field
- What is the position of national/regional players in global value chains?
- Where is most value created in the value chain?
- What are the biggest challenges/opportunities/trends now?
- Who are the key players in the domains?

European Commission

Analytical framework

- The uniqueness of the JRC approach derives from three components of the mapping methodology
  - **Making data available**
    - can be achieved by inviting relevant agencies or data management institutions (i.e. Statistical and Patent Offices) already in the early stages of the process to the co-ordination teams. This creates opportunities for discussion with international experts on the type of indicators needed and the appropriate level of their disaggregation
  - **Creating capacity building for the analytical exercise**
    - encouraging the creation of a local analytical team and employing an international expert to work together with them on a targeted approach
  - **Improving the transparency of policy-making**
    - by providing the industry- and stakeholder-specific interpretation of the results of statistical analyses and 'hard data'. This is done by initiating discussions with stakeholders at the early stages of the mapping exercise and asking for their feedback

Thank you!

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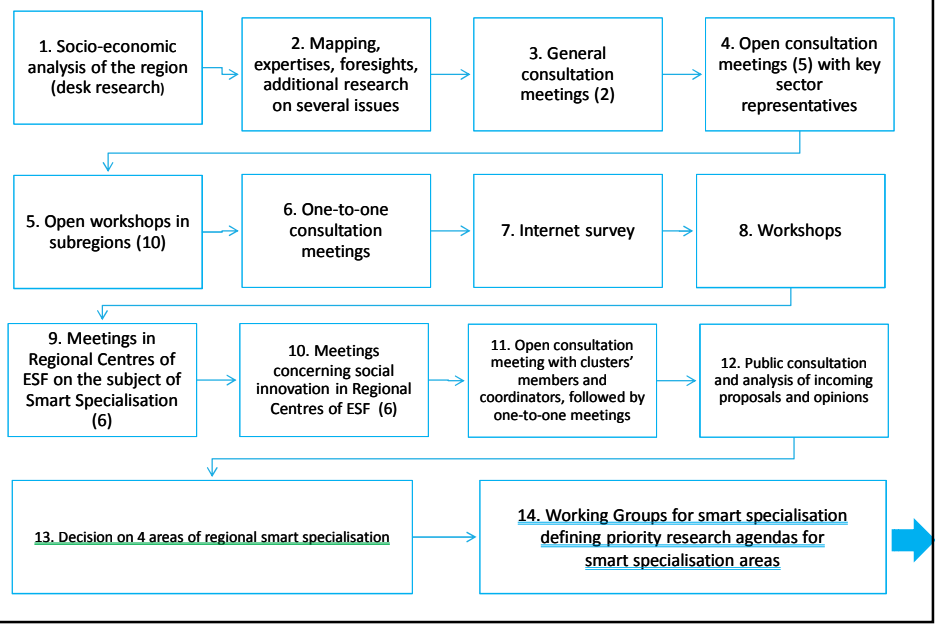
Qualitative and quantitative inputs to EDP – from evidence to participation

EXAMPLE OF POLAND – MAZOVIA REGION

From evidence to participation – process in Mazovia



1. Socio-economic analysis of the region (desk research)

- Quantitative
- Analysis of statistical data (from statistical office, patent office, national ministries databases):
  - Structure of the regional economy: industrial sectors, service sector and creative sector
  - number of companies/ innovative companies
  - employment (incl. number of researchers)
  - value added
  - export
  - scientific potential
  - patents
  - universities/ research institutes
  - demographic situation
  - number of students
  - human resources in science and technology
  - geogrphical concentration and diversity

1. Socio-economic analysis of the region – results and problems

- the lack of data/ sufficiently detailed information (industrial sectors, NUTS3 level)
- the inconclusive results
- the results „biased" by Warsaw or conflicting results on subregional level

2. Mapping, expertises, foresights, additional research on some issues

- Quantitative and qualitative
- Participation of external experts
- The review of external research, reports, expertises, foresights, rankings
- The additional studies:
  - Analysis of innovative sectors in the region
  - Analysis of R&D in the region
  - Analysis of the new technologies market in the region
  - Analysis of the sector of HighTech companies operating in the region
  - Study on the innovative potential of rural areas in the region
  - Research on the cooperation of the SME sector with research institutes/ centers in the region
  - Research on the impact of cluster initiatives on smart specialization of the region

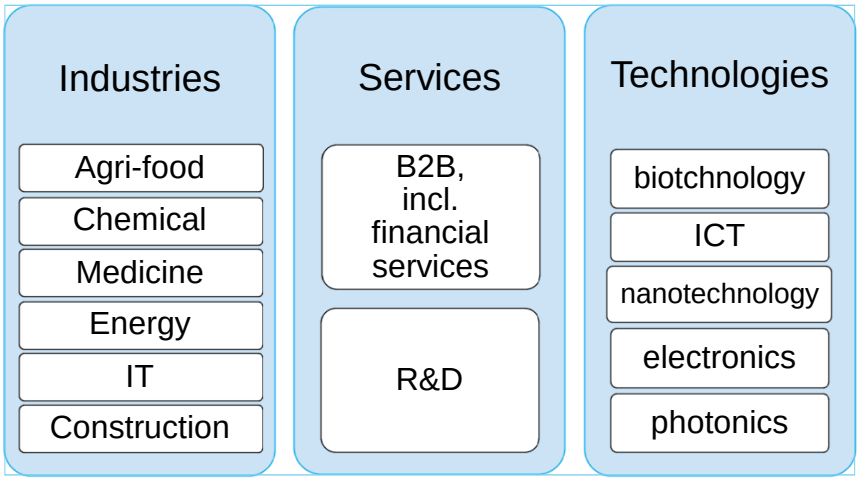
3. General consultation meetings (2)

- Presentation of analysis, studies results and mapping
- Participants: regional/ economic development experts, representatives of universities/ research centres, representatives of entrepreneur's organizations, representatives of clusters, representatives of subregional/ local administration, representatives of business support institutions
- A working discussion on the approach to defining smart specialization of the region in relation to:
  - significant regional economic diversification and lack of clear economic specialization
  - focusing the scientific and research potential in almost all the fields of science
  - the dominant position of the City of Warsaw and the metropolitan area in terms of innovation

3. General consultation meetings – results

- ❑ List of key economic sectors (industries and services) and technologies
- ❑ Formulation of the preliminary assumptions concerning the definition of smart specialization of the region:
- ✓ resignation from specifying the specialization for subregions in favor of specializations covering the entire region,
- ✓ lack of concentration on one industry (branch) and searching for synergy effects in the cooperation of industries,
- ✓ focus on the relations and use of various technologies within the industries,
- ✓ the basis for smart specialization are not only the most innovative sectors located in the metropolitan area, but also traditional sectors of high economic importance (although not innovative at the moment)

List of key economic sectors (industries and services) and technologies



4. Open consultation meetings (5) with key sector representatives

- Open, public announcement, individual invitations for universities, scientific institutions, representatives of clusters, business environment institutions and entrepreneurs selected on the basis of qualitative analysis and enities active in cooperation
- Verification of formulated conclusions and the approach to the definition of smart specialisation
- Collecting information for SWOT analysis
- Identification of links between key industries, services and technologies – the basis for smart specialisation areas (cross-sectoral)
- Proposals for smart specialisation areas

5. Open workshops in subregions (10)

- Open, public announcement, individual invitations for universities, scientific institutions, representatives of clusters, business environment institutions and entrepreneurs selected on the basis of qualitative analysis and enities active in cooperation
- Subregional dimention
- Draft version of SWOT analysis
- Identification of links between key industries, services and technologies – the basis for smart specialisation areas – workshops, in-depth discussion
- **Draft definition for smart specialisation areas**

6. One-to-one consultation meetings

- Cooperation with an expert from World Bank
- Meetings with thematic experts
- In-depth conslutation on specific issues
- Interviews with key organizations
- Meetings with key/ high level persons from industries
- Work on the detailed description of smart specialisation areas

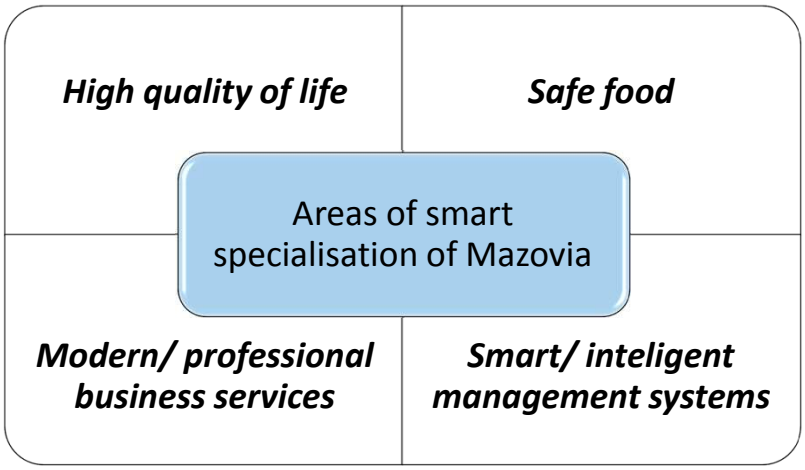
7. Internet survey

- The verification of conclusions based on diagnosis and assumptions for the definition of smart specialization
- Additional identification of links between key industrial sectors, service processes and technologies (potential development niches)
- Widenning participation, ensuring transparency
- Additional information to the conclusions formulated during working meetings.

8. Workshops

- Participants: key stakeholders: entrepreneurs, organizations of entrpreneurs, representatives of clusters, business support institutions, scientific institutions
- Presentation of the description and work on proposed areas of smart specialization
- Discussion on potential development niches
- Completing the list of connections/ links for particular areas of smart specialization
- The final version of the SWOT RIS analysis (later addinionally evaluated by external expert)

8. Workshops – results



8. Workshops – results

The definition of the Smart Specialisation area:

- Description

Intelligent management systems: Infrastructure solutions and processes characterized by a high degree of adaptability, leading to increased automation and enable effective monitoring of the processes related to economic activity ***Safe food***: Projects that improve accessibility and enable the development of high-quality food products, consistent with the idea of sustainable development, safe to the end user and the environment throughout the production and distribution

- Examples of links

Intelligent management systems: systems for traffic management and control, infrastructure, automation of measurement systems. ***Safe food:*** production process monitoring systems, supply cycle management, equipment for testing food quality, crop protection measures

- Potential of the region, challanges and the aim for particular smart specialisation area

9. Meetings in Regional Centres of ESF on the subject of Smart Specialisation (6)

- Participants: key stakeholders - entrepreneurs, organizations of entrpreneurs, representatives of clusters, business support institutions, scientific institutions
- Subregional dimention
- Verification of the smart specialisation areas: definition, description, link between sector and technology according to subregional characteristics
- Public, open consultation – transparency

10. Meetings concerning social innovation in Regional Centres of ESF (6)

- Participants: NGO, social organizations
- Subregional dimention
- Relations and links between smart specialisation areas and social innovation
- Incorporation of social innovations into smart specialisation areas

11. Open consultation meeting with clusters' members and coordinators, followed by one-to-one meetings

- ✓ Cluster policy as a part of RIS3
- ✓ Cluster initiatives as a „tool" for the development of the smart specialisation areas
- ✓ The need of strengthening a cooperation between cluster initiatives due to cross-sectoral, interdisciplinary smart specialisation areas

12. Public consultation of the document and analysis of incoming proposals and opinions

- ✓ Required by law
- ✓ Widenning participation
- ✓ Ensuring transparency
- ✓ Final verification

13. Decision on 4 areas of regional smart specialisation

- ✓ The RIS3 formally adopted by The Regional Council (Sejmik Województwa)
- ✓Formal basis for establishing Working Groups for continuous EDP

14. Working Groups for smart specialisation defining **priority research agendas** for smart specialisation areas

- ❑ Direct involvement of entrepreneurs and scientific institutions, with dominant role of entrepreneurs
- ❑ Open nature of the groups
- ❑ The combination of remote work with the traditional formula of group meetings, frequency of meetings according to needs (even every week at the final stage of defining priority research agendas)
- ❑ Documents and ideas created in a bottom-up way
- ❑ Collective mode of operation
- ❑ A decision-making role, public administration representatives as moderators
- ❑ Consultation on the construction of the instruments of support in ROP – ERDF TO 1 and TO 3 (criteria, call for proposals)

14. Working Groups for smart specialisation defining **priority research agendas** for smart specialisation areas

Designing S3	Implementing S3
Studies, analysis – selection of respondents according to parameters Consultations – representatives of the sub-regions **Workshops**	Working groups/ task teams for smart specialisation **workshops** Expertise of the results of the working groups / teams (innovation and product potential)
Smart specialisation – an annex to the RIS for Mazovia	Priority research agenda for smart specialisation areas

KHARKIV, 4-5.09.2018

Thank you!

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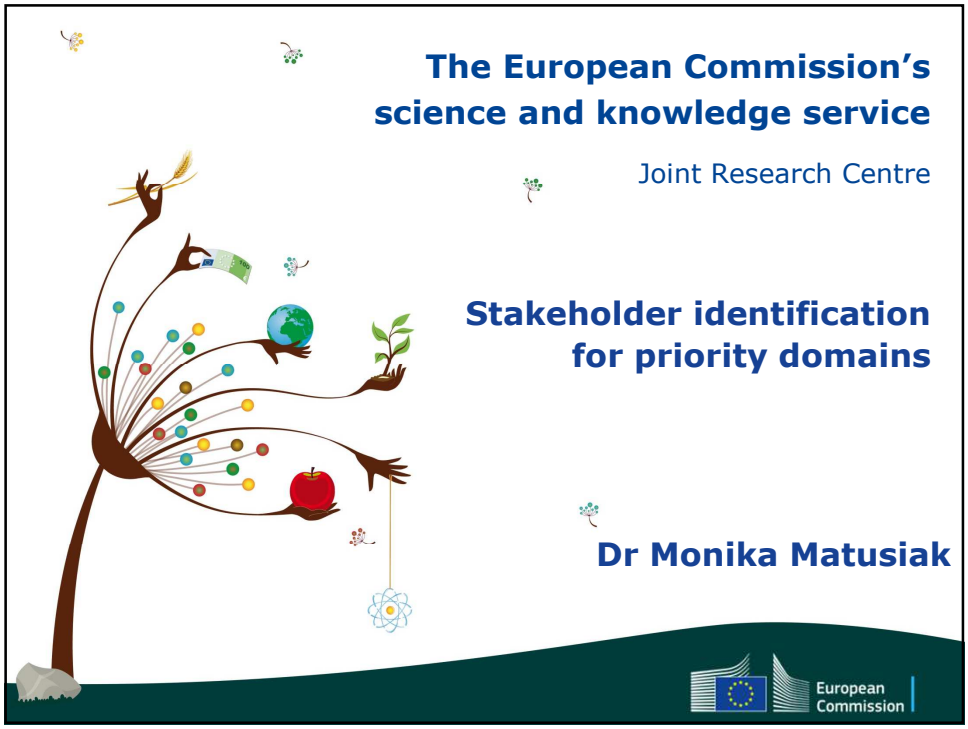
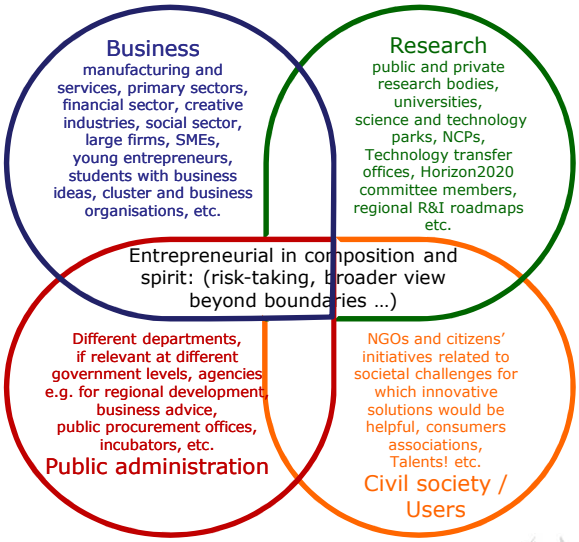
KHARKIV, 4-5.09.2018



Stakeholder groups – quadruple helix



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Whom to invite for different stages of EDP?

Qualitative interviews

Experts in specific priority domains
Key companies
Most innovative companies
Researchers from the field

Consultation of the mapping exercise

Relevant public government, agencies and other public institutions representatives working on economic development, internationalisation, innovation, research, clusters etc.
Busines representatives: clusters, associations, chambers of commerce, key employers, most innovative companies etc.
Academia: representatives of key universities and research centres
Civic siciety representatives: NGOs, educational institutions etc.
Experts on research and innovation, economic development, industrial policy, internationalisation etc.

EDP working groups

Key stakeholders identified in the qualitative part relevant for specific priority domains:
- Companies representing the most important value chains in the priority domain
- Researchers cooperating with business or conducting research that answers busniess needs
- Innovators in the field, patent holders, beneficiaries of innovative projects etc.
- NGOs working on societal challenges connected with the field
- Specific government departments or public institutions close to the priority domain

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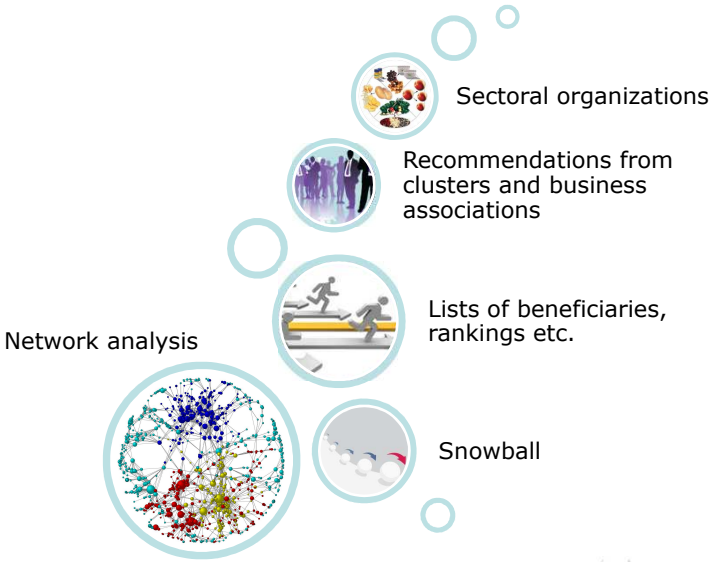
Methods of identification - examples



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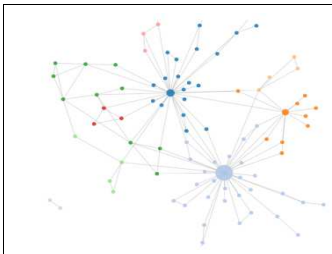
Example of evidence-based stakeholder identification

- http://sirislab.com/lab/ris3/moldova/#/



System as a whole			Chemical industries, materials and nanotechnology		
Number of scientific publications 2007-2017	**Public investment into R&D&I projects 2008-2016**	**Number of patents 2007-2017**	**Number of scientific publications 2007-2017**	**Public investment into R&D&I projects 2008-2016**	**Number of patents 2007-02017**
3925	EUR 113 023 040	2815	1771	EUR 35 215 199	762

European Commission

Thank you

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European Commission

Stakeholder identification for priority domains

EXAMPLE FROM POLAND – MAZOVIA REGION

Types of organization

- Companies
- Scientific institutions
- Public institutions/ administration
- Intermediaries
- Business/ Innovation support institutions
- Financial institutions
- Civil society organisations

Types of organization – part 1

- Companies:
  - small, medium sized, large companies
  - national companies, branches of global corporations
  - production, service, trading
  - headquarters or production sites
  - start-ups, spin-offs
- Scientific institutions
  - universities, universities of technology (education, fundamental research, applied science – multidisciplinary)
  - research centres (applied science)
  - scientific institutions (mostly fundamental research)

Types of organization – part 2

- Intermediaries
  - chambers of commerce
  - industry associations
  - clusters initiatives
  - employers organizations
- Public institutions/ administration
  - local authorieties
  - national, local level of public administration
  - development/ innovation agencies
  - labour offices
  - technical schools

Types of organization – part 3

- Financial institutions
  - banks, loan funds
  - seed/ venture capital funds
  - Business Angels
- Business/ Innovation support institutions
  - technology, industrial parks
  - innovation centres
  - technology transfer centres
  - business incubators, accelerators
  - private foundations, associations

Types of organization – part 4

- Civil society organisations
  - associations
  - fundations

whose aim is to solve problems or meet social/ environmental/ civilization challenges or to manifest interests and will of citizens

The case of Mazovia region

Companies – 699 000 (2012)

Scientific/ R&D institutions – 552 [incl. private R&D] (2011)

Business/ Innovation support institutions – 92 (2012)

Public institutions/ administration – (since 2018) 2 NUTS2, 9 NUTS 3

Cluster initiatives – 45 (2013)

Sources and criteria of identification of stakeholders

- ❑ Companies cooperating with R&D institutions, innovative companies:
  - qualitative studies on R&D cooperation, analysis of innovative sectors
  - bibliometric analysis (joint scientific publications)
  - information from TTC
  - participants of acceleration programs (spin-offs, start-ups, mentors, investors)
- ❑ Companies with the status of the R&D institutions or having own R&D centres/ units (analysis, public registers)
- ❑ Comapnies important for local economy (direct interview with local chambers of commerce, labour offices)
- ❑ Cluster members (public information – desk research)
- ❑ Beneficiaries of public programs/ funds for innovation – regional, national, european (public databases)

Sources and criteria of identification of stakeholders

- ❑ Companies located in technology industrial park (analysis, studies, public information – desk research)
- ❑ Laureates of innovation rankings (public information – desk research)
- ❑ Large companies with production sites in the region (public information – desk research, analysis, studies)
- ❑ SME's active in the local public sphere (eg. association of the family companies, with the authority on local level)
- ❑ Interviews with other companies: their competitors, suppliers, business partners
- ❑ Key companies from the value chains (analysis, studies, mapping)

Sources and criteria of identification of stakeholders

- ❑ Business/ innovation support institutions – selection based on the activity, implemented projects etc. (analysis)
- ❑ Scientific institutions – based on their achievements (eg. patents, spin-off, cooperation with industry – analysis)
- ❑ Clusters – all invited
- ❑ Financial institution – Seed Funds, VC funds, regional loan fund (external reports)
- ❑ Chambers of commerce, industry associations – all relevant to the sector/ smart specialisation area
- ❑ Civil society oranisations: temathically related, active on local/ subregional level, umbrella organizations (desk research)

Stakeholders involvment

- ✓ Different levels of commitment related to the form of interaction – working groups, workshops, consultation meetings, internet survey, public consultation
- ✓ Transparency of the process
- ✓ Equal position of partners
- ✓ Documentation of the process

Key players
identification = invitation ≠ participation

Solutions?

- ❖ invitation from high level authorities
- ❖ visit to the company – individual meetings, at least at the beginning
- ❖ recommendation of the chambers of commerce, employers organization
- ❖ educational role – individual explanation of the purpose, possible advantages
- ❖ indirect involvement through participation in research

In the case of lack of real commitment and the sense of responsibility of the stakeholders

the EDP is not productive…

Thank you!

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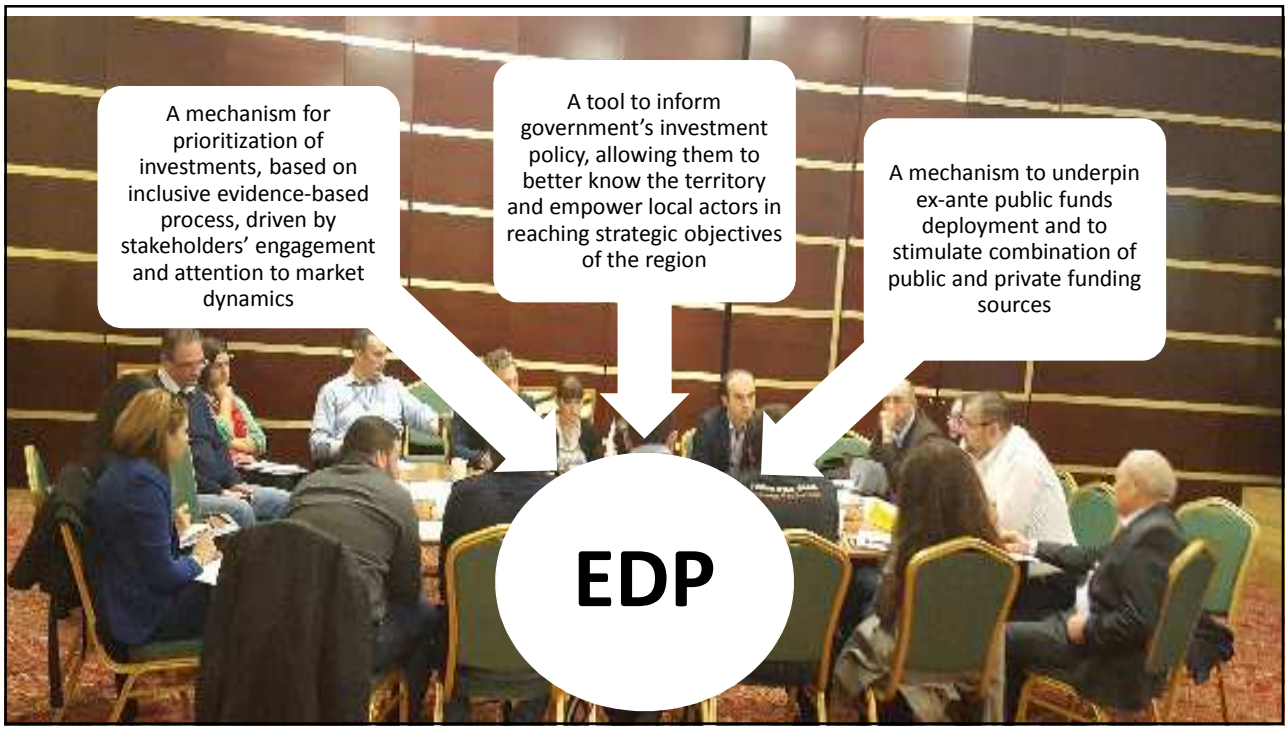
KHARKIV, 4-5.09.2018

EDP working groups organization and procedures

Gabriela Macoveiu



Organization of the EDP

Prepare the EDP

- Develop work methodologies (EDP/PDL, RIS3 partnership consortia, consultation platform)
- Plan the meetings
- Ensure resources

Organize EDP and harvest the outputs

- Ensure Q4 (relevant) participation
- Ensure good facilitators
- Provide arguments on benefits of the S3 for each stakeholder

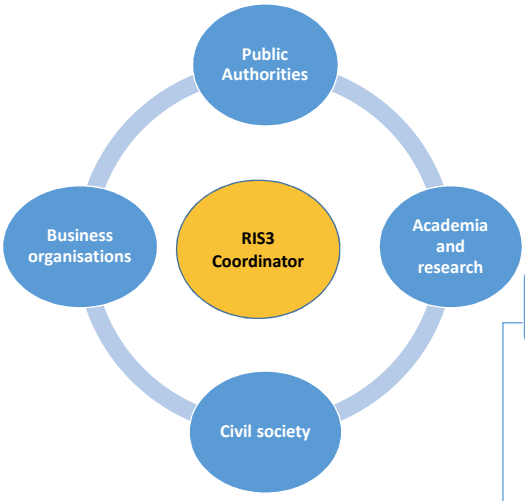
Publicize EDP outputs

- Prepare EDP report
- Publicize report and take feedback to improve
- Promote added value of stakeholder commitment

Use EDP outputs for S3

- Definition/revision of S3
- Programming/project portfolio
- Governance
- Monitoring

Relationships between EDP main actors - roles



Q4 stakeholders

- Share knowledge
- Participate proactive in the transformation process
- Recognize champions
- Propose initiatives
- Assume responsibilities
- Sustain partnerships
- Mobilize resources

RIS3 Coordinator

- Play the facilitator role
- Develop communication platforms
- Set up the governance and monitoring system
- Identify and attract financing resources

EDP workhops' organization

ADR® Agenția pentru Dezvoltare Regională N O R D - E S T

JOIN THE SMART SPECIALISATION PLATFORM

Agreed methodology

Opening session, introduction of the work plan 09:30 – 10:00
Plenary session I – Setting the scene 10:00-11:00
Coffee break 11:00-11:30
Participatory exercise 1 – 11:30-13:00
Lunch break 13:00-14:00
Participatory exercise 2 – 14:00-16:30
Coffee break 16:30-17:00
Plenary session II – Report of the outcomes 17:00 – 17:30

EDP workshop – setting the scene
ex Biotech North-East Romania

4 working groups → 4 areas to explore → 4 moderators

EDP ITC	Working group 1	Working group 2	Working group 3	Working group 4
Area to explore	Agrofood biotechnologies	Industrial biotechnologies	Environment-oriented biotechnologies Pollution-removal and waste recovery	Bio nano-technologies Medical and pharmaceutical biotechnology
Moderator/Secretary	1/1	1/1	1/1	

Setting the scene

- Present arguments in the favor of the smart specialization sector and the niches proposed for discussion (selected from)
  - Socio-Economic Analysis / Mapping Report
  - Multi criteria analysis
- Present existing trends and best practices (brief examples)
  - Value chain interviews / Dedicated surveys
  - Benchmarking reports
  - Examples of best practices
- Indicate potential leaders in the S2 area

Participatory exercises methodology

Participatory exercise 1

- Split participants in thematic subgroups
- Identification of individual challenges
- Argumentation of the challenges
- Grouping and prioritization of the challenges

Participatory exercise 2

- Form working sub-groups
- Fill in the „Regional smart specialization idea"
- Internal reporting the thematic working group

Participatory exercise 1

- Split participants in thematic subgroups
- Identification of individual challenges
- Argumentation of the challenges
- Grouping and prioritization of the challenges

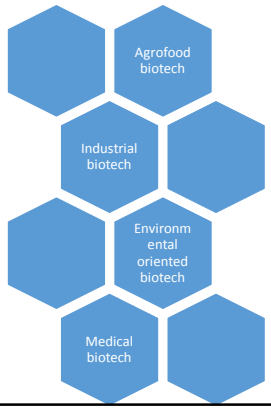
Objective of the session:

Participants formulate challenges for their organisation, which could be met with an innovation or a technological solution

Participants become familiar with other stakeholders' challenges, achieve consensus in grouping and prioritizing them

Participatory exercise 1

Split participants in thematic subgroups → Identification of individual challenges → Presentation of the challenges → Prioritization of challenges

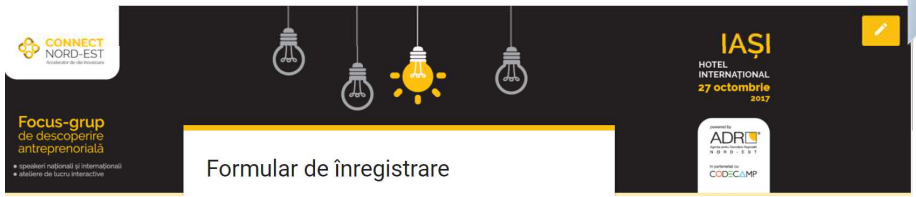


Preferable ask for this action at the registration (on-line or front office desk)

Define a way to easy recognize participants according to Q4 elements

Participatory exercise 1

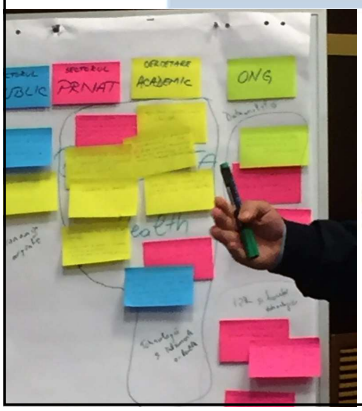
Split participants in thematic subgroups → **Identification of individual challenges** → Presentation of the challenges → Prioritization of challenges



What do you consider is the most significant challenge for your organization which could be met with an innovation or a technological solution?

Participatory exercise 1

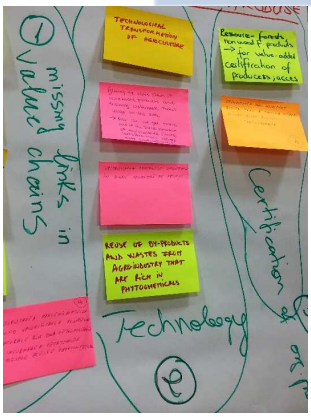
Split participants in thematic subgroups → Identification of individual challenges → Presentation of the challenges → Prioritization of challenges



- ✓ Fill-in the challenge post–it and share it on the flip-chart - in the corresponding category of Q4
- ✓ Open discussion with table participants to argument identified challenge

Participatory exercise 1

Split participants in thematic subgroups → Identification of individual challenges → Presentation of the challenges → Prioritization of challenges



- ✓ Group the challenges identified according to their similitudes – **CLUSTERISATION**
- ✓ Vote the proposed clusters according to regional preferences – **PRIORITIZATION**

Sub-group → Q4 participants sub-group to address one of the cluster of challenges (!)

Participatory exercise 2

Form working sub-groups → **Fill in the „Regional development potential" fiche** → **Internal reporting in the thematic working group**

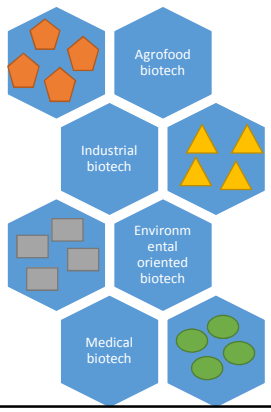
Scope of the session:
Research and business representatives introduce the opportunities, from their perspective, highlighting local capabilities and making links to the challenges identified during the morning.

Participants jointly develop "***Regional development potential***" fiches that identify and reflect on ways to address the prioritised challenges identified in exercise 1.

Define the potential of the region based on the perception of stakeholders.

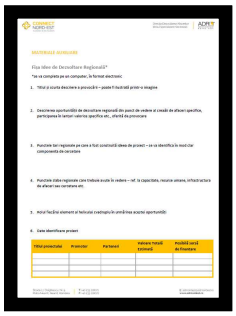
Participatory exercise 2

Form working sub-groups → **Fill-in „Regional development potential" fiche** → **Internal reporting the thematic working group**



Participatory exercise 2

Form working sub-groups → **Fill-in „Regional development potential" fiche** → **Internal reporting the thematic working group**



Title – what goal we want to achieve?
SWOT Analysis
The implementation road map – how we shall achieve this goal?
Identification of the role of each element of Q4 in the implementation

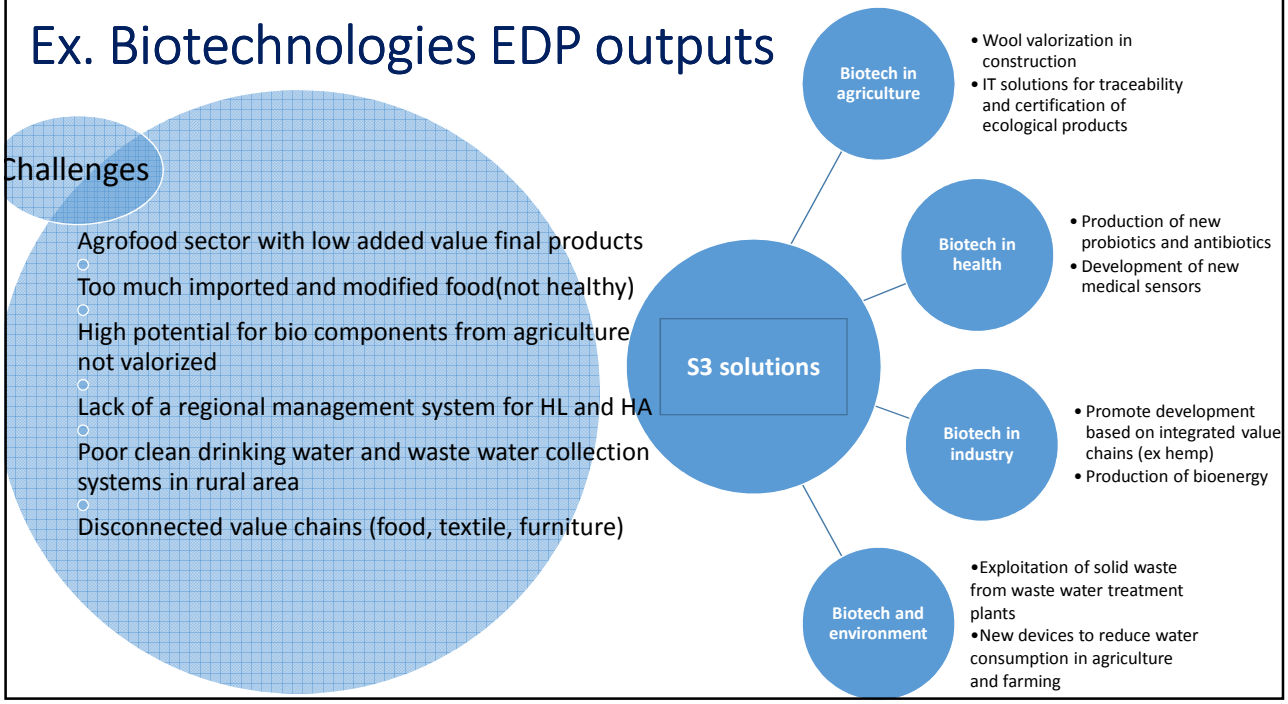
Participatory exercise 2

Form working sub-groups → **Fill-in „Regional development potential" fiche** → **Internal reporting the thematic working group**

Facilitated discussion with the moderator and participants for finalization of the „Regional development potential" fiche

The secretary collects all Fiches and brief the outcomes in the plenary session.

Ex. Biotechnologies EDP outputs



Exercise (1h)

- Participants work in national teams
- Assume the role of a stakeholder and fill-in a challenge fiche (4 participants=4 challenges
- Present the challenge in the group, give arguments and post it on the flipchart
- Discuss with the participants similarities and perspective for reducing the challenges number. Vote most significant challenge.
- Fill-in the Regional potential Fiche according to selected challenge.

Harvesting EDP – implementing RIS3 ex North-East

Identification of S3 solutions

9 EDPs (2016-2017)
Agrofood-2, Textile-2, ITC -2, Biotechnologies-2, Environment-1

Regional calls for RIS3 project proposals -2

36 letters of intent

93 project fiches -2017

39 project fiches -2018

Assessment of financing sources for RIS3 projects

36 - EITTs, PA 1.1 ROP

110 – simple projects, other OPs

22 – integrated projects, PA1.2 ROP

Maturation, prioritization and implementation of RIS3

Guideline for detailing PFs

Assistance to project promoters

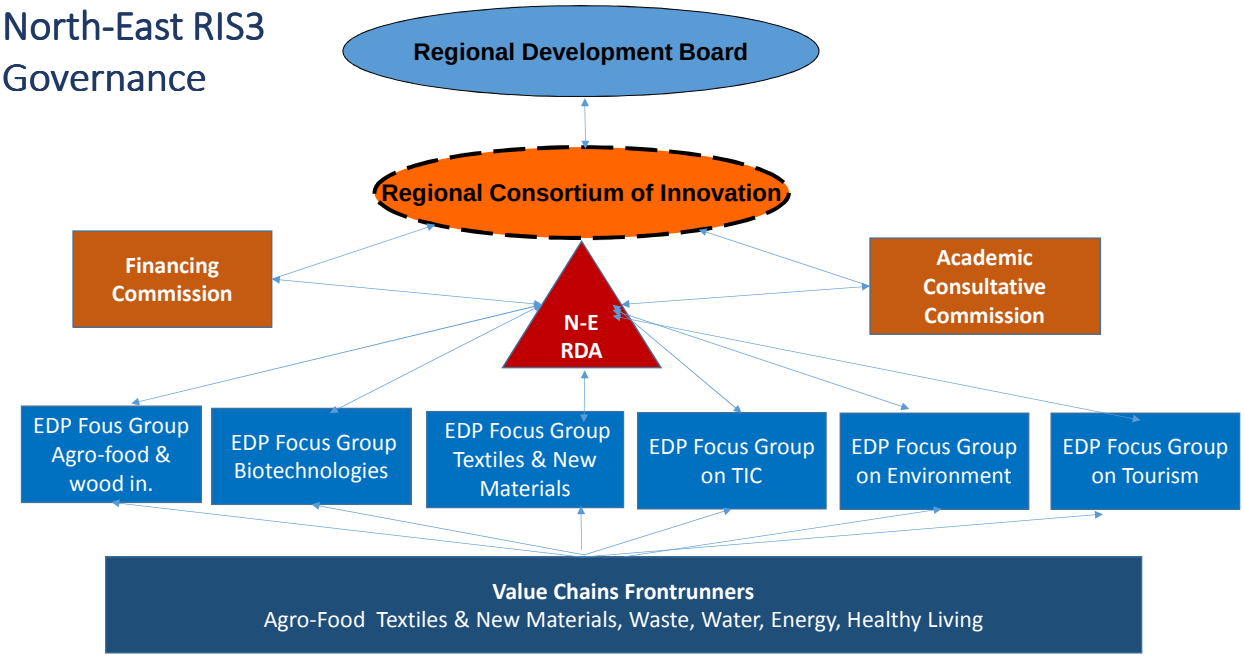
Preparation of the specific Guidelines ROP 4 calls of proposals

Total project proposals = 168; Estimated Budget = 322.24 mil Euro
!ROP allocates 50 mil Euro (FEDR+NB) for RIS3 North-East implementation

Roles in harvesting EDP

Sectorial coordinators/EDP facilitators	RIS3 Management team	RIS3 Decisional bodies	S3 Project promoters
Prepare and organize EDP workshops	Prepare and organize regional calls and PDL workshops	Approve RIS3 content, RIS3 implementation reports and project portfolio	Refine and develop project concepts
Collects S3 Fiches and prepare EDP reports	Develop/Revise RIS3 content		Prepare and submit application forms
Continuous identification of stakeholders with entrepreneurial capacity	Develop and chair RIS3 governance structures		Report status of implementation
Participate in project ideas' evaluation	Develop with MA financing conditions for dedicated RIS3 calls		Participate in new EDP/PDL
	Develop and run monitoring activities		

North-East RIS3 Governance



EDP lessons learned

- EDP is the core of the RIS3 process
- It is a cyclic, iterative, transparent and democratic process
- It is a tool for building entrepreneurial capacity
- Brings together “unusual suspects”
- Offers the chance to identify local champions and build trust and collective leadership
- A process that depends on dedicated management resources

Thank you for the attention!

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N O R D - E S T

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Main steps during the EDP process
(for each priority domain)

- Presentation of the results of mapping exercise and debate
- SWOT analysis
- Common vision for the future and final priority domains
- Main objectives and instruments
- Policy mix
- Basic indicators

European Commission

SWOT analysis

Strengths	Weaknesses
• What are our main advantages? (inside the territory) • How can we benefit from them?	• What are our main weak points? (inside the territory) • How can we neutralise them or turn into a strength?
Opportunities	**Threats**
• What trends/phenomena occurring in the country and internationally are beneficial to us? • How can we benefit from them?	• What trends/phenomena occurring in the country and internationally are influencing us negatively? • How can we avoid them?

SWOT analysis

Strengths and weaknesses:

- internal
- present
- dependent on us

Opportunities and threats:

- external
- in the near future
- independent of us

Main steps of SWOT analysis

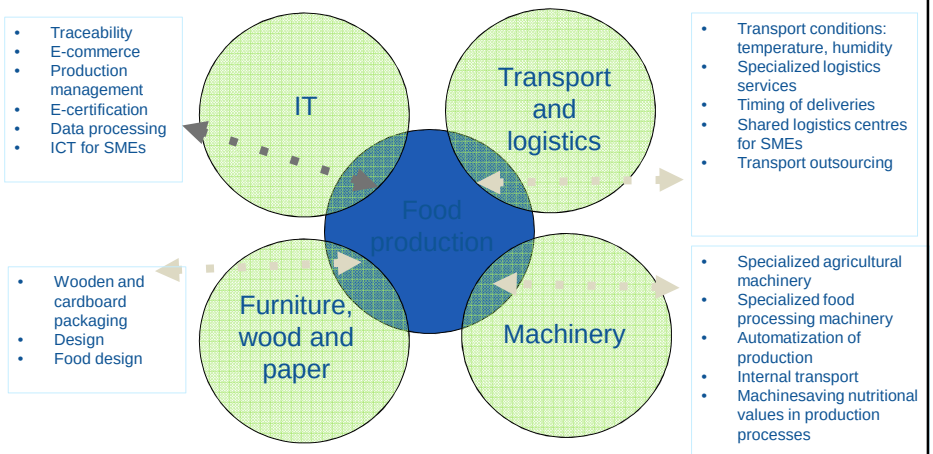
- Identification of internal and external factors influencing the priority domain
- Assessment of the strength and importance of these factors
- Identification of strategic potential

SWOT assessment

- Strength of present impact (-5 – 5 / no zero)
  - **-5** – strongly negative influence
  - **+5** – strongly positive influence
- Importance for the future development/weighing (0,01 – 1,0)

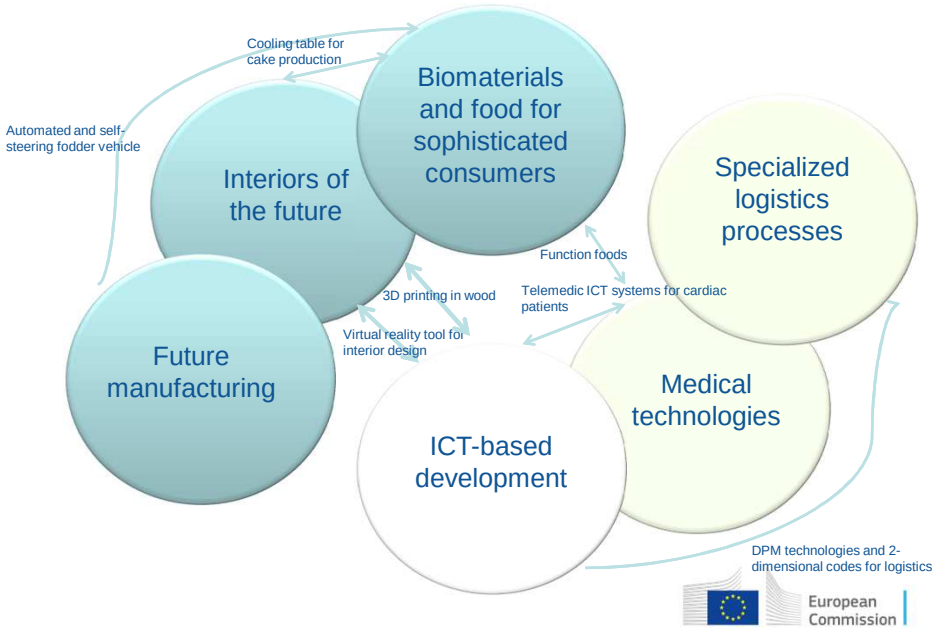
Factor	Present impact (-5 - +5)	Importance for the future (0,01-1,0)	Strategic potential
			(multiply)

Vision for the future: now



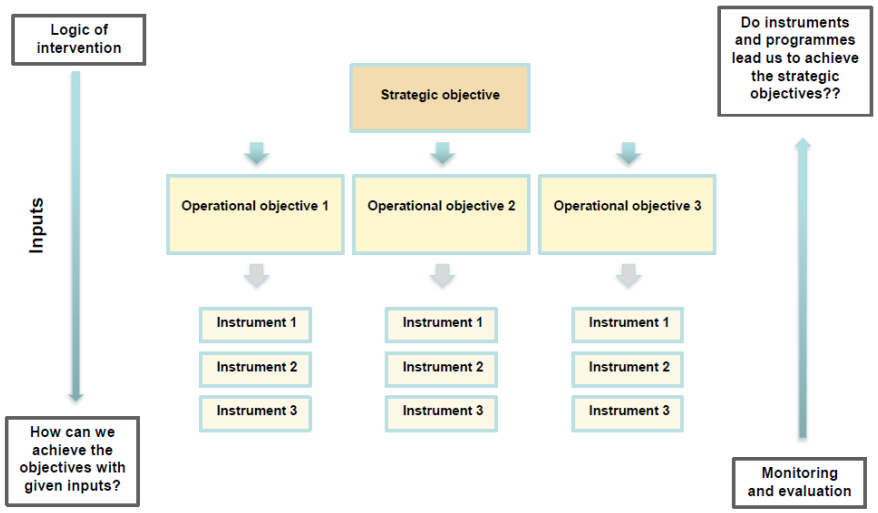
European Commission

Vision for the future: what we want to achieve



European Commission

Main objectives and instruments



European Commission

Sustaining an inclusive and continuous EDP

Role of stakeholders – Trust and participation

- **Commit** to the strategic objectives identified in S3 strategies
- Engage in the **different stages** of the policy-making process

Role of government – Inclusive governance

- Enable platforms for targeted **stakeholders' interaction** and policy coordination
- Build flexible structures and incentives to allow policies to **evolve and adapt** to a changing reality

European Commission

EDP in the strategy document

- Description of the process
- Description of stakeholder participation
- All deliverables

Contents of S3 strategy

- Description of strategic mandates and relation to other strategies
- Description of the S3 process
- Diagnosis (main results of the mapping exercise – full reports in the Annex)
- Description of priority domains
- SWOT for each priority domain
- Vision for the future
- Strategic and operational objectives and actions
- Monitoring system
- Implementation system
- Financing system
- How it will updated and how will EDP be continued

Thank you

Monika.MATUSIAK@ec.europa.eu

Entrepreneurial Discovery Focus Group
Methodological Guidelines

Introduction

This document sets out the methodology for the EDP focus group.

The workshop will be organized with opening and closing plenary sessions and two parallel sessions with a number of participatory working groups in between.

The working groups and the plenaries will examine segments of the S2 proposed sector (ex. Biotechnologies) in relation with societal challenges as identified by RIS3 coordinator. The RIS3 coordinator will send invitations for participation and identifies most appropriate speakers relevant to the topic.

Ex of RIS3 North-East – Biotechnologies EDP workshop, Iasi 06.06.2016.

Societal challenge	**Healthy ageing, demography and welfare**	**Food security, sustainable agriculture and bio-economy**	**Reliable, clean and efficient energy**	**Clean, safe water**
Field	Bio nano-technologies Medical and pharmaceutical biotechnology	Agrofood biotechnologies	Industrial biotechnologies	Environment-oriented biotechnologies Pollution-removal and waste recovery

Overview of the day

Opening remarks and outline of the day 09:30 – 10:00
Plenary Session 1 – Sharing national and international experiences 10:00-11:00
Coffee break 11:00-11:30
Participatory Exercise 1 – 11:30 to 13:00
Lunch break 13:00-14:00
Participatory Exercise 2 – 14:00 to 16:30
Coffee break 16:30-17:00
Plenary session 2- Report back and round table 17:00 – 17:30

Descriptions of the participatory exercises

Participatory Exercise 1 – 11:30 to 13:00

Aim of the session: Identification of challenges to be addressed in Exercise 2 and their related working sub-group.
Dynamics: The session will include individual thinking time, individual presentations as well as a process of consensus building. It is comprised of the following steps which are described in more detail below:

- Split into thematic working groups
- Individual identification of the challenges
- Presentation and argumentation of the challenges
- Formation of sub-groups

Support: each thematic working group will be supported by a **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.

1) Split into 4 thematic working groups
Attendees will split in four working groups addressing the related industrial segments. Each thematic working group should have participants from the whole quadruple helix (Q4 - enterprises, academia and research, civil society and local public administration). It might also be interesting to have graduates and post-graduates students from different disciplines taking part. Each working group will start with a tour de table.

Role of the moderator: facilitate participants splitting in the working group and start the tour de table.
Role of the secretary: facilitate participants splitting in the working group.
Role of the participant: locate the working table of interest.

2) Individual reflection and identification of challenges (10 minutes – 11:30-11:40)

Each individual participant will be given some minutes to think about a challenge faced by their organisation which could be met with an innovative or technological solution. The **focus should be on the challenge**, not on the technological solution.

Each participant will have a color-coded **"Challenge fiche"** (see below) and a post-it to write the challenge down. The colour reflects the element of the quadruple helix to which the participant belongs. ex: Public sector Private sector NGOs Universities

Preliminary Example of "Challenge fiche"

Challenge Title:
Pollution of a given local natural area

Challenge description and impacts
The river xxx is polluted due to the problems with given industrial discharges and this is impacting the community in the following ways:

- Agricultural…
- Economics…
- Social…

Role of the moderator: Explain the task, keep the time and ensure each participant understands the process.
Role of the secretary: Ensure that each participant has a fiche and a post-it and collect the fiches at the end of the task.
Role of the participant: Fill-in the "Challenge fiche".

3) Presentation of the challenges – (25 minutes – 11:40-12:05)

Each participant will present their challenge to the rest of the working table**, using** between 1 and 2 minutes. Each speaker will also stick one post-it on the flipchart.

Role of the moderator: explain the task, ensure time keeping and ensure that speakers do not deviate from their task.
Role of the secretary: write the challenge-title in the excel file (visible through the beamer), following the same colour code.
Role of the participant: explain the challenge, keeping the time, post the post-it to the flipchart.

4) Formation of subgroups to address the challenge in the plenary exercise 2 – (55 minutes – 12:05- 13:00)

The role of the **moderator** is critical in this step, as she/he will need to manage the discussion, reducing the number of challenges from step 3 by "collapsing" similar/complementary ones, identify common interests from participants and building consensus on the grouping process – to max 4. The **secretary** will record this step in the so called "**Preference Table**" and the "**Final challenges and subgroups"** table, drafted below.

Preference table					
Challenge title	Participant name (initials coloured according to the categories indicated in step 1)				
Challenge 1	EM	LC	KH		
Challenge 2	GM	LB	LC	MB	
Challenge 3	KH	MB			
Challenge 4	KH	GM			
Challenge 5	EM				
etc					

Final challenges and subgroups	
Challenges	**Composition of the subgroup**
Challenge 1	3 research, 2 business, 1 NGO, 1 Public
Challenge 2	1 research, 2 business, 1 NGO, 1 Public
Challenge 3	2 research, 1 business, 1 Public
Challenge 4	1 research, 1 business

The participants adhere with the support of the moderator to one priority challenge, forming a subgroup for work during exercise 2.

Role of the moderator: The moderator is critical in this step. She/he should;

1. Explain the task and ensure all participants are clear about it.
2. Lead a discussion on whether there are **challenges** which are similar or complementary and **cluster** them into one, using the flipchart.
3. Invite **participants to express up to 3 preferences** (depending on the number of participants in the working table). This can be done with the help of the secretary using the "Preference table". If the group is small, this process can also be managed orally.
4. Lead a **consensus-building interaction** in forming "sub-groups" which comprise at least 1 member of business and 1 of research. During this process the titles and definition of the challenges can be further modified and adapted to the evolution of the conversation.

Role of the secretary: The secretary should record the process by:

1. Filling the **"Preference table"** in an excel file visible through the beamer to facilitate the moderators task.
2. Filling the **"Final challenges and subgroups"** template, which describe the sub-group composition in terms of triple helix for each prioritized challenge.

Role of the participant:

1. Be active in the discussion and facilitate the creation of groups.

Participatory Exercise 2 – 14:00 to 16:00

Aim of the session: The sub-groups defined in exercise 1 will develop "**Regional development potential**" fiches. Through these, they will identify and reflect on ways to address the challenges formerly identified, in such a way that is aligned with RIS3 (through such fiches we can then review the potential of the region, based on the perception of stakeholders).

Dynamics: Following two brief presentations by business-intermediaries and research-representatives, the sub-groups will discuss and fill in the "**Regional development potential**" fiche. The following steps are included:

- **Split into thematic working groups (the same as in the morning)**
- **Brief presentation by local universities and business intermediaries**
- **Split into subgroups for the completion of the "regional-development potential" fiche**
- **Internal reporting to the thematic working group**

Support: each thematic working group will be supported by the same **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.
Each sub-group will also **have a computer**, eventually connected to the internet, which they should use to fill the "Regional development potential" fiche.

1) Split into thematic working groups
Participants will split into the same thematic working groups as in the morning.

Role of the moderator: Ensure that the working group resumes
Role of the secretary: Ensure that the working group resumes
Role of participants: Re-join the working table

2) Brief presentation by local universities and business intermediaries – (20 minutes – 14:00-14:20).
Universities and business intermediaries will give a short presentation (5-8 minutes each) on the future opportunities, from their perspective, offered by the research/business sector, highlighting the local capabilities and making links to the challenges mentioned during the morning.
This short discussion will serve to further set the scene for the subsequent steps.

Role of the moderator: to introduce the session and ensure time-keeping from the presenters.
Role of the secretary: support speakers if they need IT help.
Role of participant: attend the session

3) Split into subgroups for the completion of the "regional-development potential" fiche – (1h 30 minutes – 14:20-15:50)

The subgroups will discuss on how to address each challenge and will fill-in a "Regional development potential fiche" summarising the discussion. At the end of the session, each subgroup will present to the working table. Each sub-group will need to identify a "writer" and a "rapporteur".

Preliminary example of "regional development potential" fiche

1. Title of the proposal – what goal we want to achieve?

2. Brief description of the challenge (potentially illustrated through an image).

3. Description of the regional opportunity offered by the challenge (potentially illustrated through an image).

4. Description of regional strengths upon which the idea is built (identify clearly the research and innovation component).

5. Regional weaknesses that need to be addressed (related to capacities, human resources, research and business infrastructure or other).

6. Implementation arrangements (how we want to achieve the goal? – ex. creation of specific businesses, participation to given international value chains, development of a new industrial etc.).

7. Role of each element of the 4-ple helix in pursuing this opportunity (specific and related to 6).

Role of the moderator:

- to explain the task to the subgroups
- to move within subgroups and facilitate their discussion, ensuring they don't get "stuck"
- to ensure that each subgroups nominates a "writer" to fill-in the fiche in the computer and a rapporteur for the internal reporting (task 4)

Role of the secretary:

- Ensure each subgroup can access the computer with the "Regional development potential" fiche.

Role of participants:

- Join one sub-group
- Identify a rapporteur and writer within the sub-group
- Participate actively to the discussion

4) Internal reporting to the thematic working group – (10 minutes – 15:50-16:00)

Each sub group will summarise to the working group the discussion by appointing a speaker.

Role of the moderator:

- to facilitate the process and ensure time-keeping

Role of the secretary:

- to collect the fiches from the computers and email them to RIS3 coordinating team.

Role of participants (rapporteur or writer):

- to provide the information required by the task and keep the timing

Hand-out for the moderator

Participatory Exercise 1 – 11:30 to 13:00

Aim of the session: Identification of challenges to be addressed in Exercise 2 and their related working sub-groups.
Dynamics: The session will include individual thinking time, individual presentations as well as a process of consensus building. It is comprised of the following steps which are described in more detail below:

- Split into thematic working groups
- Individual identification of challenges
- Presentation of challenges
- Formation of sub-groups

Support: each thematic working group will be supported by a **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.

Summary of tasks for the moderator

Exercise steps	Moderators' role
1. Split into thematic working groups	• Facilitate participants splitting in the working group and start the tour de table.
2. Participants' individual identification of challenges	• Explain the task, keep the time and ensure each participant understands the process.
3. Presentation of challenges identified in step 3	• Explain the task, ensure time keeping, ensure that speakers do not deviate from their task
4. Formation of sub-groups	• This is the core task of the moderator. She/he should; 1. Explain the task and ensure all participants are clear about it 2. Lead a discussion on whether there are **challenges** which are similar or complementary and hence **cluster** them into one. 3. Invite **participants to express up to three preferences** (depending on the number of participants in the working table). This can be done in an excel sheet, with the help of the secretary. If the group is small, this process can also be managed orally. 4. Lead a **consensus-building** interaction forming max 4 "sub-groups" which comprise at least 1 member of business and 1 of research(1 for each prioritized challenge). During this process the titles and definition of the challenges can be further modified and adapted to the evolution of the conversation.

Participatory Exercise 2 – 14:00 to 16:00

Aim of the session: The sub-groups defined in exercise 1 will develop "Regional development potential" fiches. Through these, they will identify and reflect on ways to address the challenges formerly identified, in such a way that is aligned with RIS3 (through such fiches we can then infer on the potential of the region and the perception of stakeholders).
Dynamics: Following two brief presentations by business-intermediaries and research-representatives, the sub-groups will discuss and fill in the "regional development potential" fiche. The following steps are included:

- Split into thematic working groups
- Brief presentation by local universities and business intermediaries
- Split into subgroups for the completion of the "regional-development potential" fiche
- Internal reporting to the thematic working group

Support: each thematic working group will be supported by the same **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.
Each sub-group will also **have a computer**, connected to the internet, which they should use to fill the "business potential" fiche.

Summary of tasks for the moderator

Exercise steps	Moderators' role
1. Split into thematic working groups	• Ensure that the working group resumes as in the morning session
2. Brief presentation by local universities and business intermediaries	• Introduce the session and ensure time-keeping from the presenters.
3. Split into subgroups for the completion of the "regional-development potential" fiche	• Explain the task to the subgroups (i.e. filling in the "regional development potential fiche") • Move within subgroups and facilitate their discussion, ensuring they don't get "stuck" • Ensure that each subgroups nominates a "writer" to fill-in the fiche in the computer and a rapporteur for the internal reporting (task 4)
4. Internal reporting to the thematic working group	• Facilitate the process and ensure time-keeping

Hand-out for the secretary

Participatory Exercise 1 – 11:30 to 13:00

Aim of the session: Identification of challenges to be addressed in Exercise 2 and their related working sub-group.
Dynamics: The session will include individual thinking time, individual presentations as well as a process of consensus building. It is comprised of the following steps which are described in more detail below:

- Split into thematic working groups
- Individual identification of challenges
- Presentation of challenges
- Formation of sub-groups

Support: each thematic working group will be supported by a **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.

Summary of tasks for the secretary

Exercise steps	Secretary' role
1. Split into thematic working groups	• Facilitate participants splitting in the thematic working groups; use colours for badges to easily identify each element of Q4.
2. Participants' individual identification of challenges	• Ensure that each participant has a "Challenge fiche" and a post-it • Collect the challenge fiches at the end of the task.
3. Presentation of challenges identified in step	• Write the challenges-titles in an excel file (visible through the beamer), following the same colour code as for participant badges.
4. Formation of sub-groups	• Record the process by: 1. Filling the "Preference table" in an excel file visible through the beamer to facilitate the moderators task 2. Filling in the "Final challenges and composition" template, which describe the sub-group composition in terms of triple helix.

Participatory Exercise 2 – 14:00 to 16:00

Aim of the session: The sub-groups defined in exercise 1 will develop "regional development potential" fiches. Through these, they will identify and reflect on ways to address the challenges formerly identified, in such a way that is aligned with RIS3 (through such fiches we can then infer on the potential of the region and the perception of stakeholders).
Dynamics: Following two brief presentations by business-intermediaries and research-representatives, the sub-groups will discuss and fill in the "regional development potential" fiche. The following steps are included:

- Split into thematic working groups
- Brief presentation by local universities and business intermediaries
- Split into subgroups for the completion of the "regional-development potential" fiche
- Internal reporting to the thematic working group

Support: each thematic working group will be supported by the same **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.
Each sub-group will also **have a computer**, connected to the internet, which they should use to fill the "business potential" fiche.

Summary of tasks for the secretary

Exercise steps	Secretary' role
1. Split into thematic working groups	• Ensure that the working group resumes
2. Brief presentation by local universities and business intermediaries	• Support speakers if they need IT help.
3. Split into subgroups for the completion of the "regional-development potential" fiche	• Ensure each subgroup can access the computer with the "Regional development potential" fiche.
4. Internal reporting to the thematic working group	• Collect the fiches from the computers and email them to RIS3 coordinating team.

Hand-out for the participant

Participatory Exercise 1 – 11:30 to 13:00

Aim of the session: Identification of challenges to be addressed in Exercise 2 and their related working sub-group.
Dynamics: The session will include individual thinking time, individual presentations as well as a process of consensus building. It is comprised of the following steps which are described in more detail below:

- Split into thematic working groups
- Individual identification of challenges
- Presentation of challenges
- Formation of sub-groups

Support: each thematic working group will be supported by a **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.

Summary of tasks for the participant

Exercise steps	Participant's role
1. Split into thematic working groups	• Locate thematic working table of interest
2. Participants' individual identification of challenges	• Fill in the "Challenge fiche".
3. Presentation of challenges identified in step	• Explain the challenge, keeping the time, post the post-it to the flipchart.
4. Formation of sub-groups	• Be active in the discussion and facilitate the creation of groups.

Participatory Exercise 2 – 14:00 to 16:00

Aim of the session: The sub-groups defined in exercise 1 will develop "regional development potential" fiches. Through these, they will identify and reflect on ways to address the challenges formerly identified, in such a way that is aligned with RIS3 (through such fiches we can then infer on the potential of the region and the perception of stakeholders).
Dynamics: Following two brief presentations by business-intermediaries and research-representatives, the sub-groups will discuss and fill in the "regional development potential" fiche. The following steps are included:

- Split into thematic working groups
- Brief presentation by local universities and business intermediaries
- Split into subgroups for the completion of the "regional-development potential" fiche
- Internal reporting to the thematic working group

Support: each thematic working group will be supported by the same **moderator** (who will also report back to the final plenary) as well as a **secretary** who will record and collect the relevant output of the session.
IT and Stationary Equipment: Each thematic working-group will have a beamer connected to a computer for the secretary to conduct its tasks, as well as the usual flipcharts, post-its and writing pads to support the moderator and the participants.
Each sub-group will also **have a computer**, connected to the internet, which they should use to fill the "business potential" fiche.

Summary of tasks for the 12participant

Exercise steps	Participant's role
1. Split into thematic working groups	• Re-join the working table as in the morning.
2. Brief presentation by local universities and business intermediaries	• Attend the session.
3. Split into subgroups for the completion of the "regional-development potential" fiche	• Participate actively to the discussion - help the group identify rapporteur/writer.
4. Internal reporting to the thematic working group	• (if rapporteur/writer) provide the information required by the task and keep the timing.

Auxiliary Material – Exercise 1

"Challenge fiche" (for participants)

Challenge Title:

Challenge description and impacts on the region.

Preference table and Final challenges and subgroup template (for secretaries)

Preference table					
Identified challenge (title)	Participant name (initials) preference				
Challenge 1					
Challenge 2					
Challenge 3					
Challenge 3					

Final challenges and subgroups	
Final Challenge Title	Composition of the subgroup

Regional development potential fiche – for sub-groups in Exercise 2

1. Title of the proposal – what goal we want to achieve?
2. Brief description of the challenge (potentially illustrated through an image).
3. Description of the regional opportunity offered by the challenge (potentially illustrated through an image).
4. Description of regional strengths upon which the idea is built (identify clearly the research and innovation component).
5. Regional weaknesses that need to be addressed (related to capacities, human resources, research and business infrastructure or other).
6. Implementation arrangements (how we want to achieve the goal? – ex. creation of specific businesses, participation to given international value chains, development of a new industrial etc.).
7. Role of each element of the 4-ple helix in pursuing this opportunity (specific and related to 6).