

# The European Commission's science and knowledge service

## Joint Research Centre



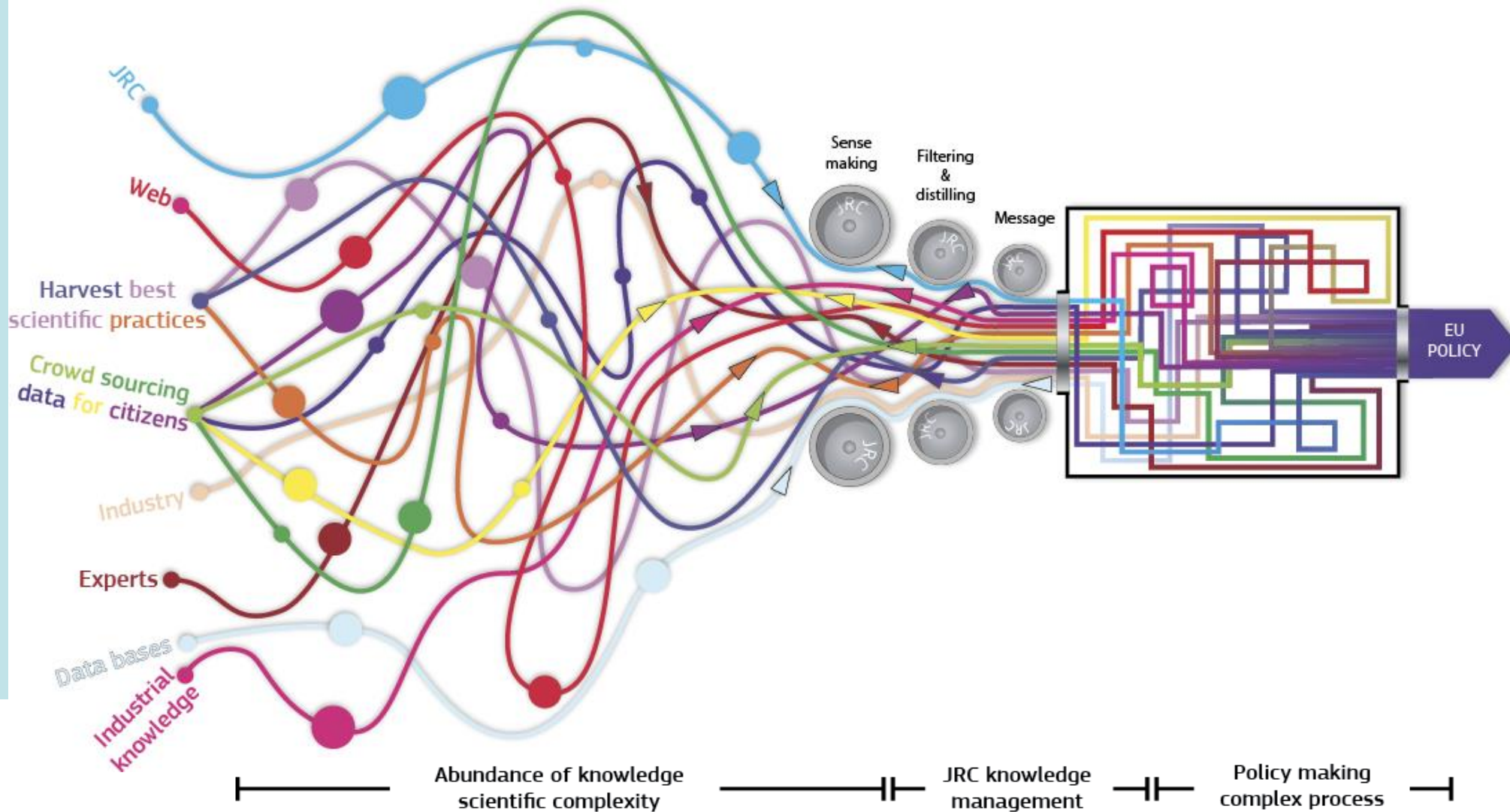


# Building innovation eco-system through mapping STI activities and multi-stakeholder engagement

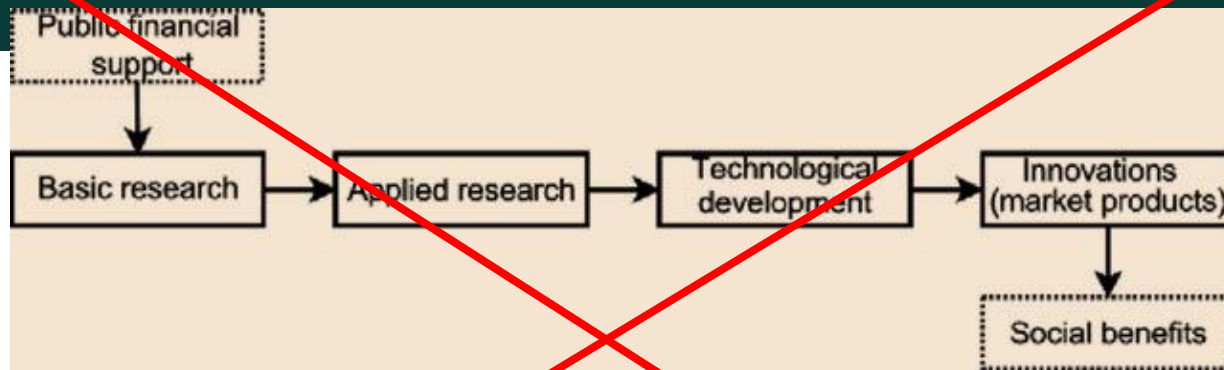
Guilin, 9 December 2019

**Monika Matusiak**

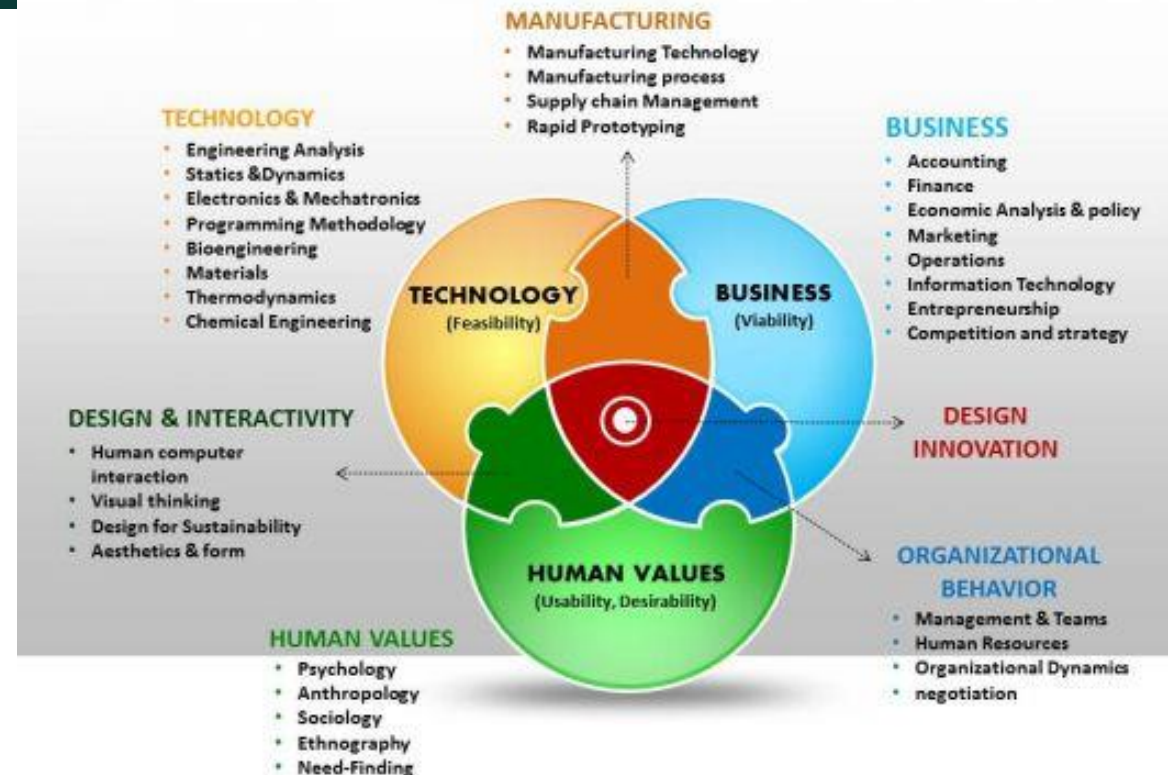
# The role of Joint Research Centre in the European Commission



# EU experience in developing an innovation ecosystem



## Innovation Process



From linear to cyclic innovation processes

# Lesson 1:

## Innovation comes from many sources and is often not R&D or technology pushed:

Business/  
managerial innovation



Social innovation



Technology transfer



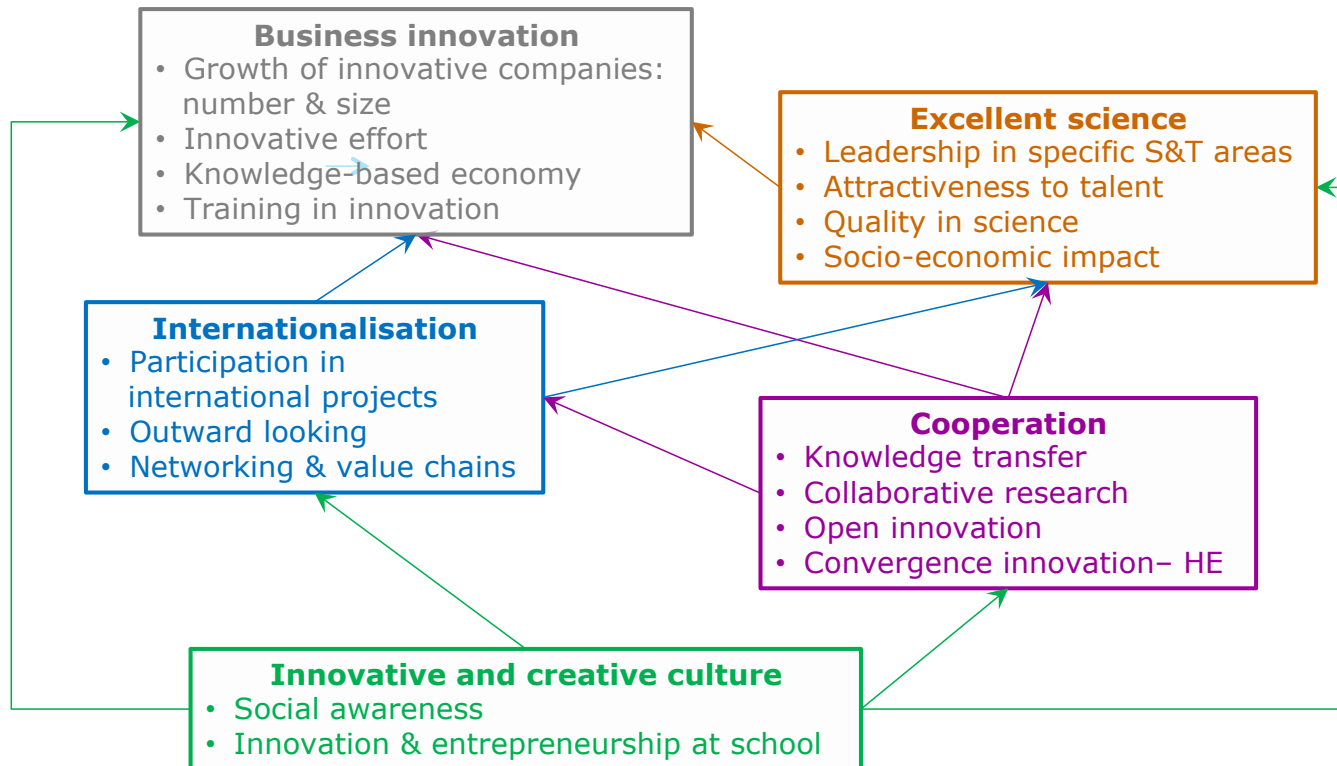
**This is even more important in transition and less developed countries**

# - you need smart support and strategic focus

**Sustainable economic  
growth and employment**

**Social and  
territorial cohesion**

**Better quality  
of life**



## Region of Castilla y León in Spain



# - you need smart support and strategic focus



Matricial structure: choice of adequate tools



## Region of Castilla y Leon in Spain



		THEMATIC PRIORITIES				
TOOLS		Agriculture, Food, and Natural Resources	Automobile & Aeronautics	Health, Social Care, Demographic Change & Wellbeing	Natural & Cultural Heritage (incl Spanish language)	CT, Energy, & Sustainability
PROGRAMMES	Business innovation	- Small demonstration projects	- Financial support (soft loans) - Basic research projects in companies	- Attraction of new companies (FDI)	Etc.	Etc.
	Excellent science	- Pre-doctoral fellowships	-	- Excellence centres - Scientific equipment	Etc.	Etc.
	Internationalisation	- Guidance for export for SME - Promotion of H2020 SME initiative	- Support to join European platforms.	- Training mobility grants for post-doc	Etc.	Etc.
	Cooperation	- Technology vouchers	- Huge collaborative R&D projects between companies - Joint infrastructure (tech. centres)	- Patent exploitation	Etc.	Etc.
	Innovative culture	- Exhibition fair about tech applications to traditional foods	-	- Open days in Health research institutes	Etc.	Etc.



# Lesson 2:

## There needs to be a balance of horizontal innovation support and specialized excellence:



### Less developed R&I ecosystems:

Basic innovation infrastructure:  
Development/reforms of universities/research centres, science and technology parks, incubators, etc.

Businesses not able to use STI inputs for innovation

Innovation through imitation

Low 'appetite for innovation' in society



### Transition phase:

Specialised niches of excellence in science

Small number of innovation champions in business

Innovation through adaptation

Weak collaboration networks

Growing societal support for innovation and innovative attitudes



### Advanced R&I ecosystems:

World-class organizations in a number of fields

A big number of innovating SMEs

Breakthrough innovation

Strong collaboration networks

Innovation is an obvious need



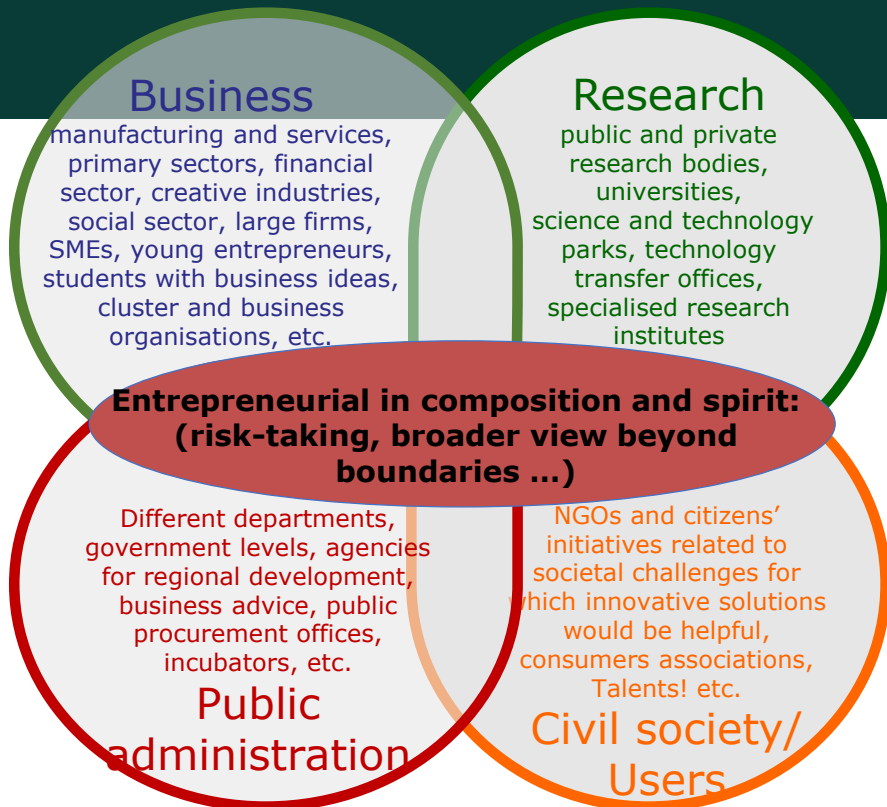
# - design a mix of horizontal and specialised support measures

	Incubators and accelerators programmes	Support to the establishment and strengthening of incubators and accelerators programmes. This is a grant scheme.		MoS	Start-ups
	R&D tax incentives	Tax credits aimed at fostering investment in research and development.		MoF	Enterprises; Research organisations; Start-ups
	Support scheme for digital transformation of companies <sup>27</sup>	Support to digital transformation, i.e. the adoption of digital processes and tools to achieve strategic business goals. This is a complex, multifaceted process that brings a cultural shift in the workplace and changes every part of an organisation. This is a co-financing scheme.		MoPA	Enterprises (Start-ups)
	Environment protection and waste management programme <sup>28</sup>	Support measures that address new technologies in the field of environment protection and waste management with a special focus on ecological black spots. This is a co-financing scheme.		MoSDT	Enterprises (Research organisations)
	Support scheme for innovative health tourism services <sup>29</sup>	Support measures that create a new and innovative business model (process) for entrepreneurs to fulfil the special needs of patients and their families in the field of health tourism. This is a co-financing scheme.		MoSDT, MoH	Enterprises (Start-ups)

## Smart Specialisation Strategy of Montenegro 2019-2024

# Lesson 3:

## You don't know it all: talk to your businesses and society:



Quadruple helix model

- Businesses are best placed to lead the identification of new opportunities for growth
- The process of discovery of the new niches/markets inspire public policies on innovation

**- participation is different than consultation**



**Entrepreneurial discovery Moldova May-December 2019**  
4 regions, 4 priority areas ~ 190 regional, national participants

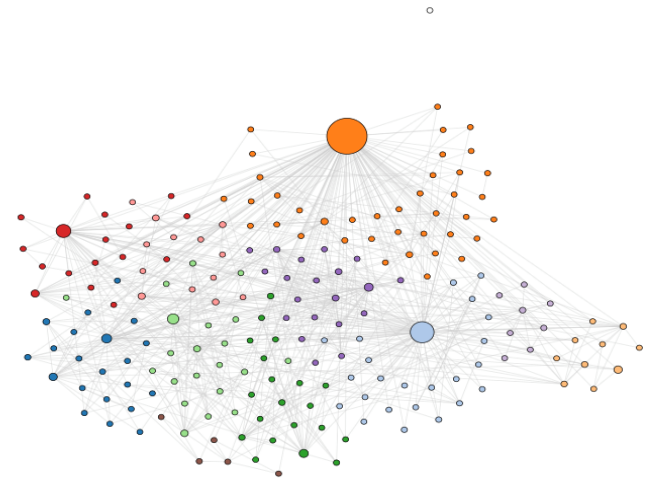
# - know whom to talk with

Search

For performance reasons, only the **200 most connected nodes** are displayed.

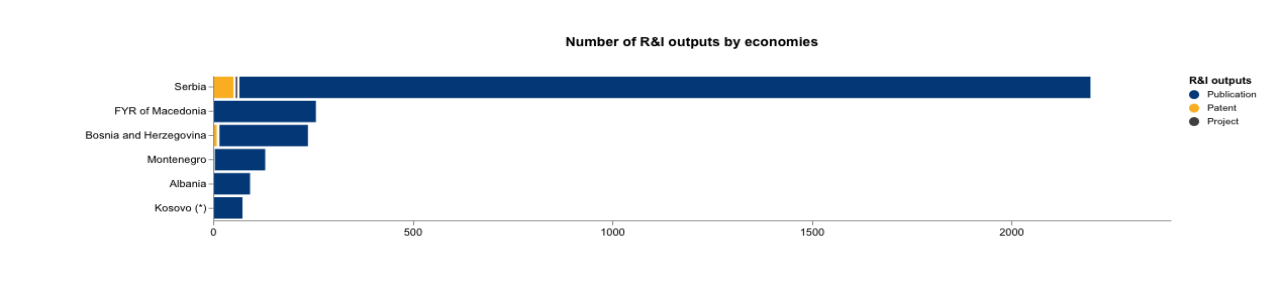
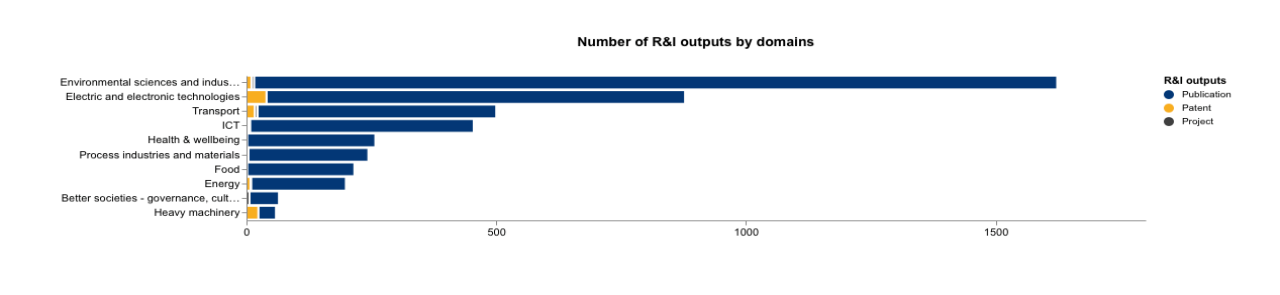
Legend

- Entities collaborating
- Entity



2736 publications
67 patents
10 projects
492 organizations

Specialization | Temporal evolution | Top organizations



# ...and what to talk about



## SMART SPECIALISATION PLATFORM

European Commission / Smart Specialisation Platform / Sections / S3 Beyond EU / Sustainable Development Goals / **National inspirations**

Home S3 Platform **Sections** Tools News Events Knowledge Repository

## S3 Cooperation

- [EU Enlargement](#)
- [EU Neighbourhood](#)
- [International Cooperation](#)
- [Resources](#)
- [Other Initiatives](#)
- [Sustainable Development Goals](#)
  - [International partnerships](#)
  - National inspirations**
    - [S3 for SDGs in Croatia](#)
    - [S3 for SDGs in Poland](#)
    - [S3 for SDGs in Malta](#)
  - [Regional inspirations](#)
  - [Urban inspirations](#)

## National inspirations



**S3 for SDGs in Croatia**

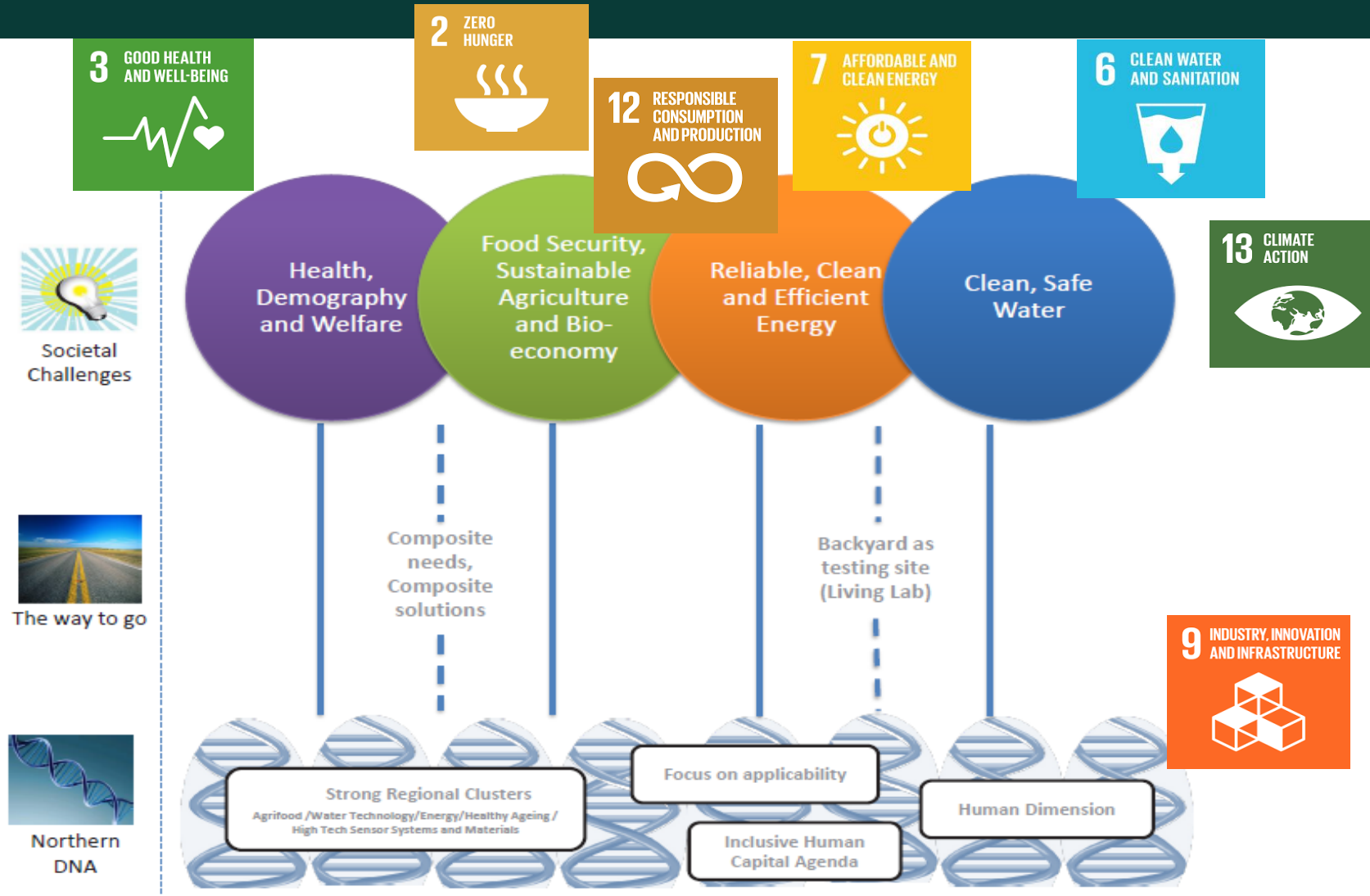


**S3 for SDGs in Poland**



**S3 for SDGs in Malta**

# ...and what to talk about



Smart Specialisation Strategy of Northern Netherlands

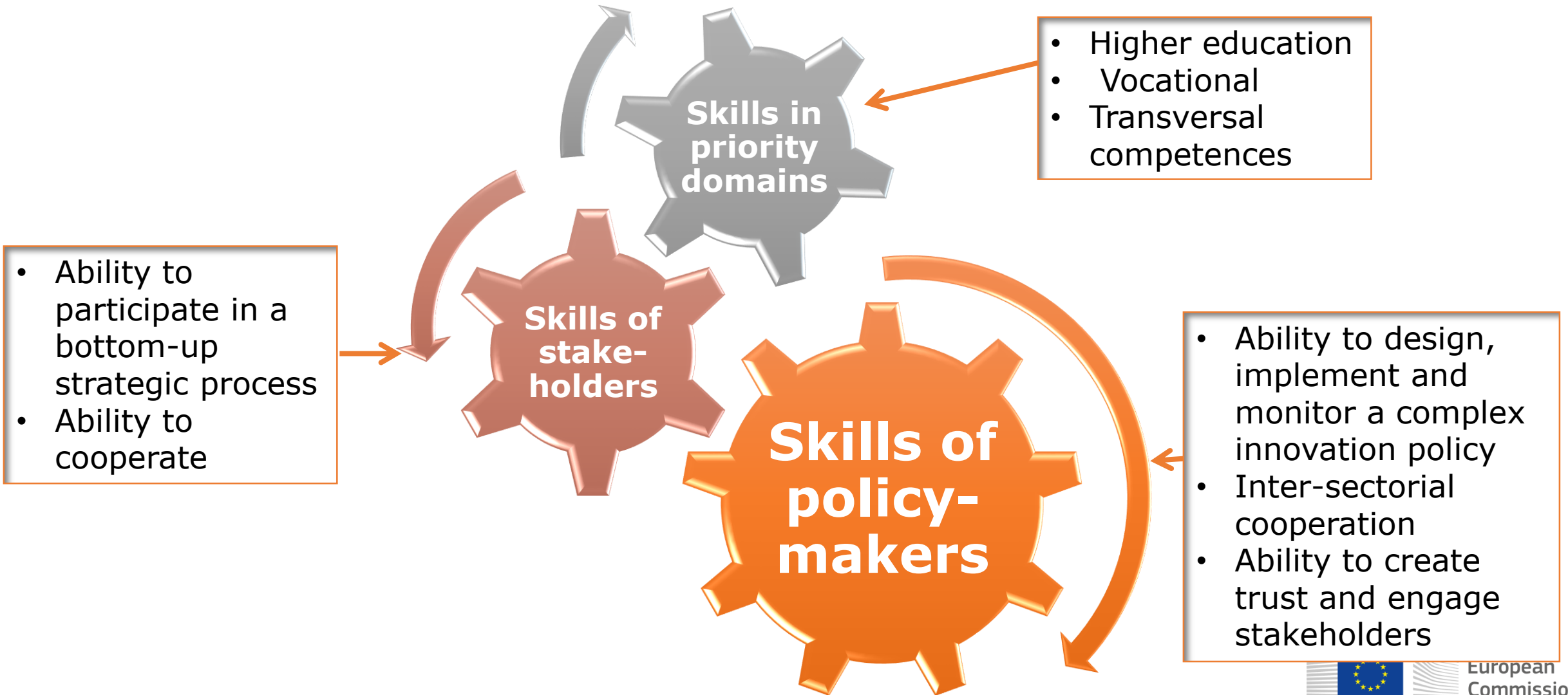
# Lesson 4:

## Don't invest in buildings but in people:

### The case of Spain:

- With EU support, Spain has developed the highest number of technology parks per capita in Europe – yet it's not the most innovative country in Europe
- Similarly, the country built a great number of regional airports, which are empty – as there's no accompanying economic growth

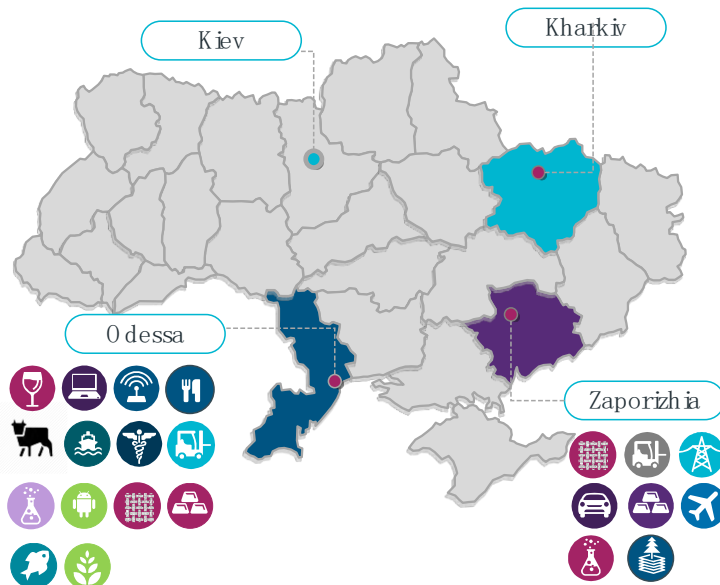
# - it's not only about higher education but also skills at different levels





# Lesson 4: Be vary of territorial inequalities – localise STI activities

## Economic specialisations



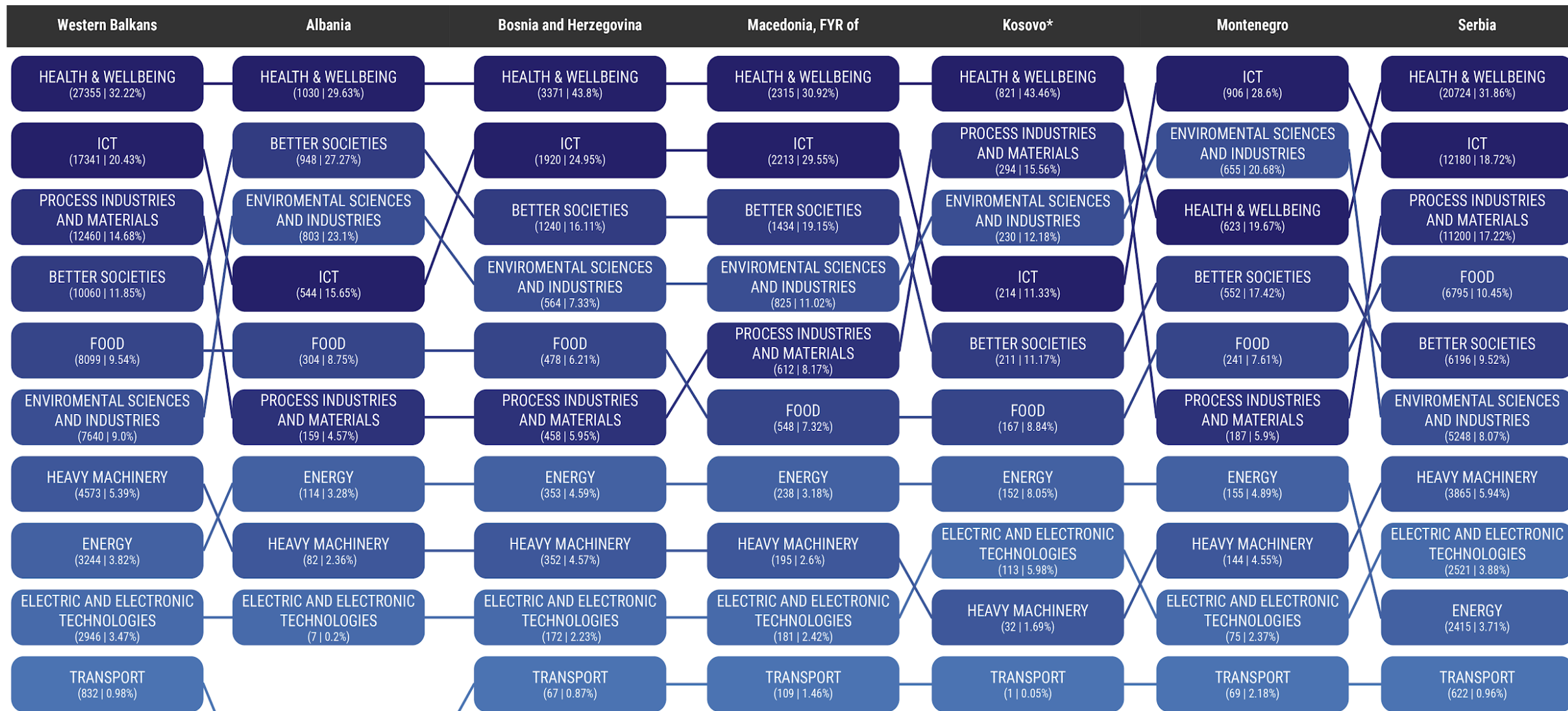
The three regions analyses appear to present some similar characteristics and some peculiar specificities. Highly industry oriented, strong exporters, the 3 regions have common economic grounds : metal processing, chemicals, equipment sectors and transport sectors, together with key light industries: agro-food, textile and wood derivatives.

At a closer glance, specific areas of specialisation emerge. In the transport sector, for instance, Kharkiv is specialised in construction of military vehicles and sport/leisure boats, while Odessa is concentrated in the repair and maintenance of ships and Zaporizhzhia in the air-spacecraft and the production of cars. Among the three, Odessa is the region that have the strongest and largest specialisation in the agro-food insry.

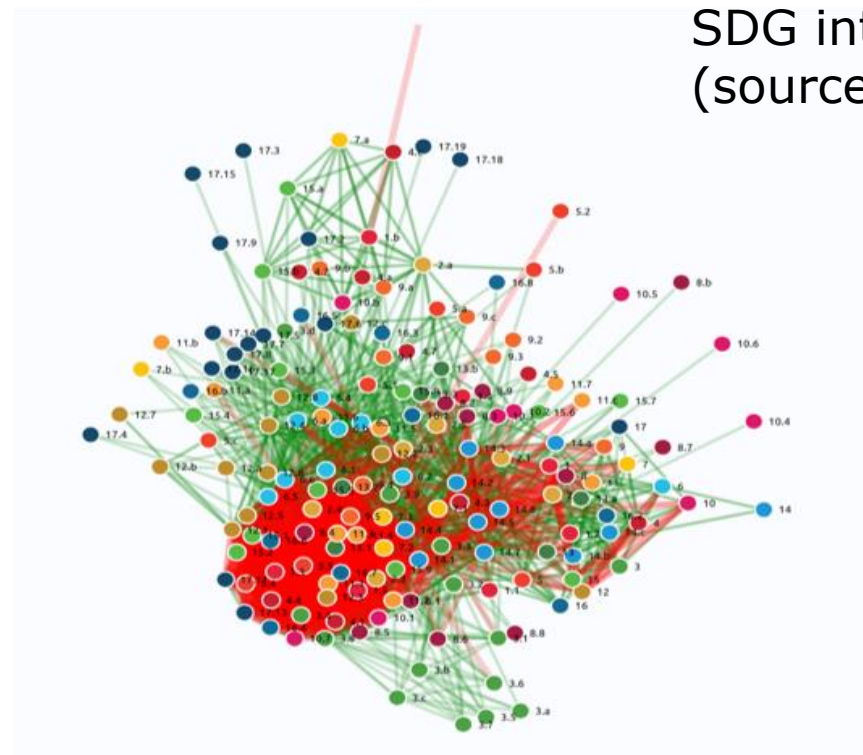
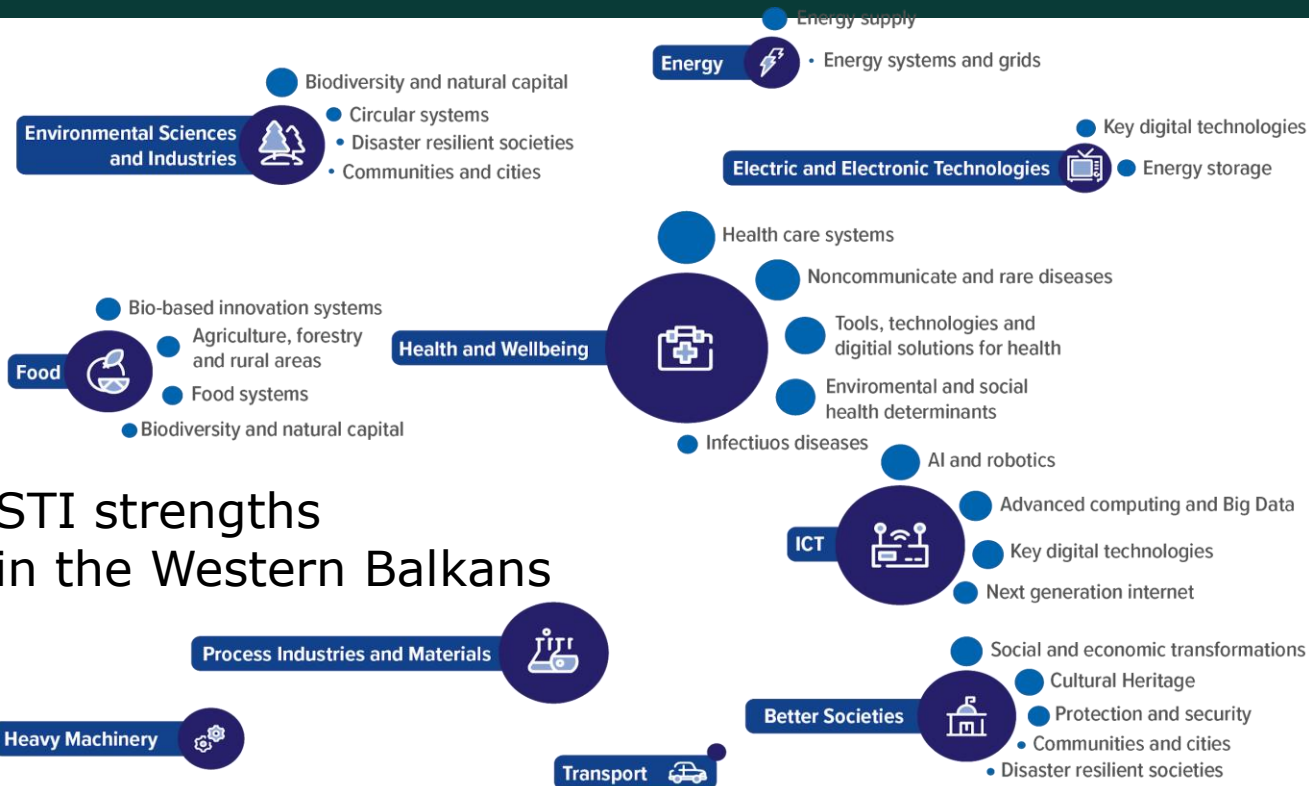
## Patent specialisations



# STI specialisations in the Western Balkans



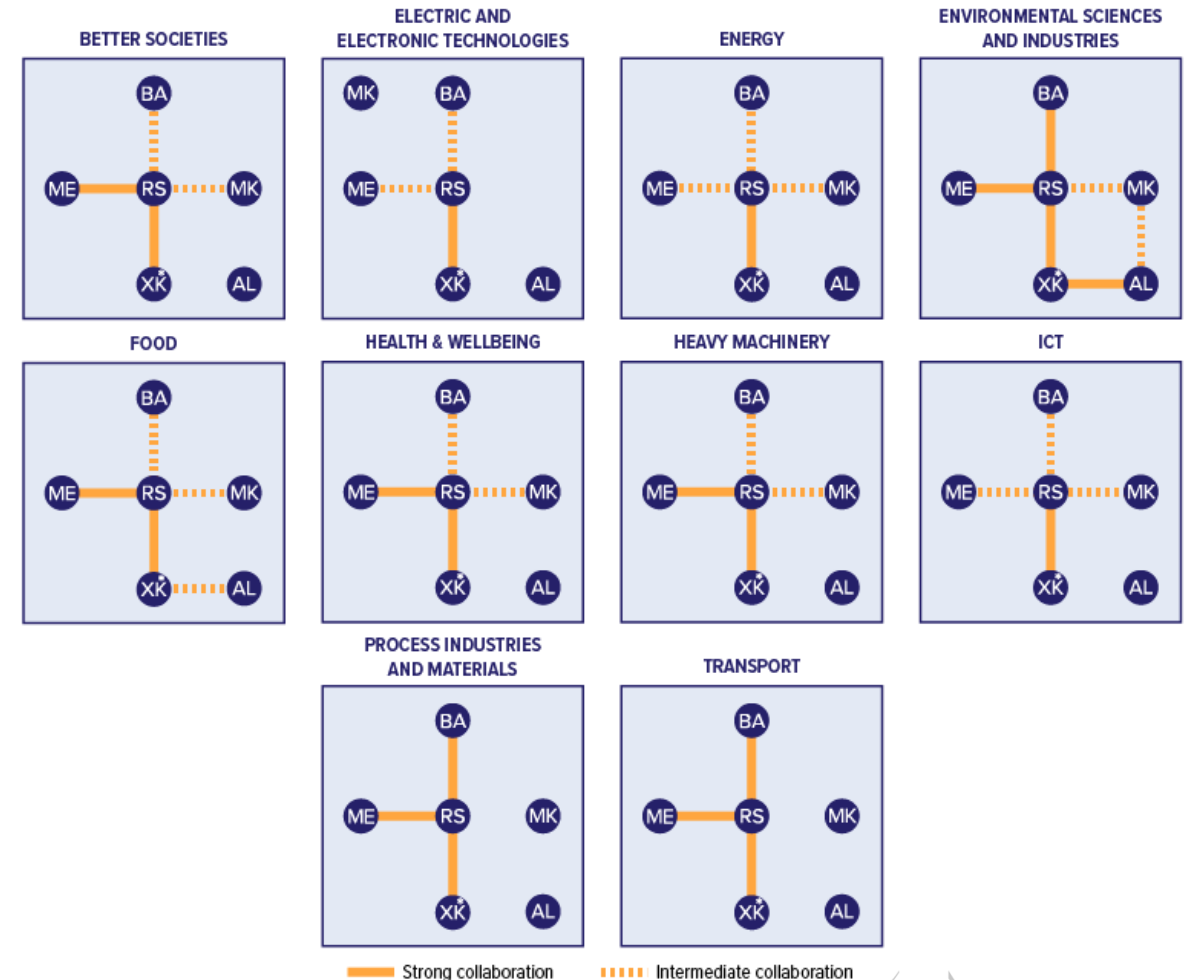
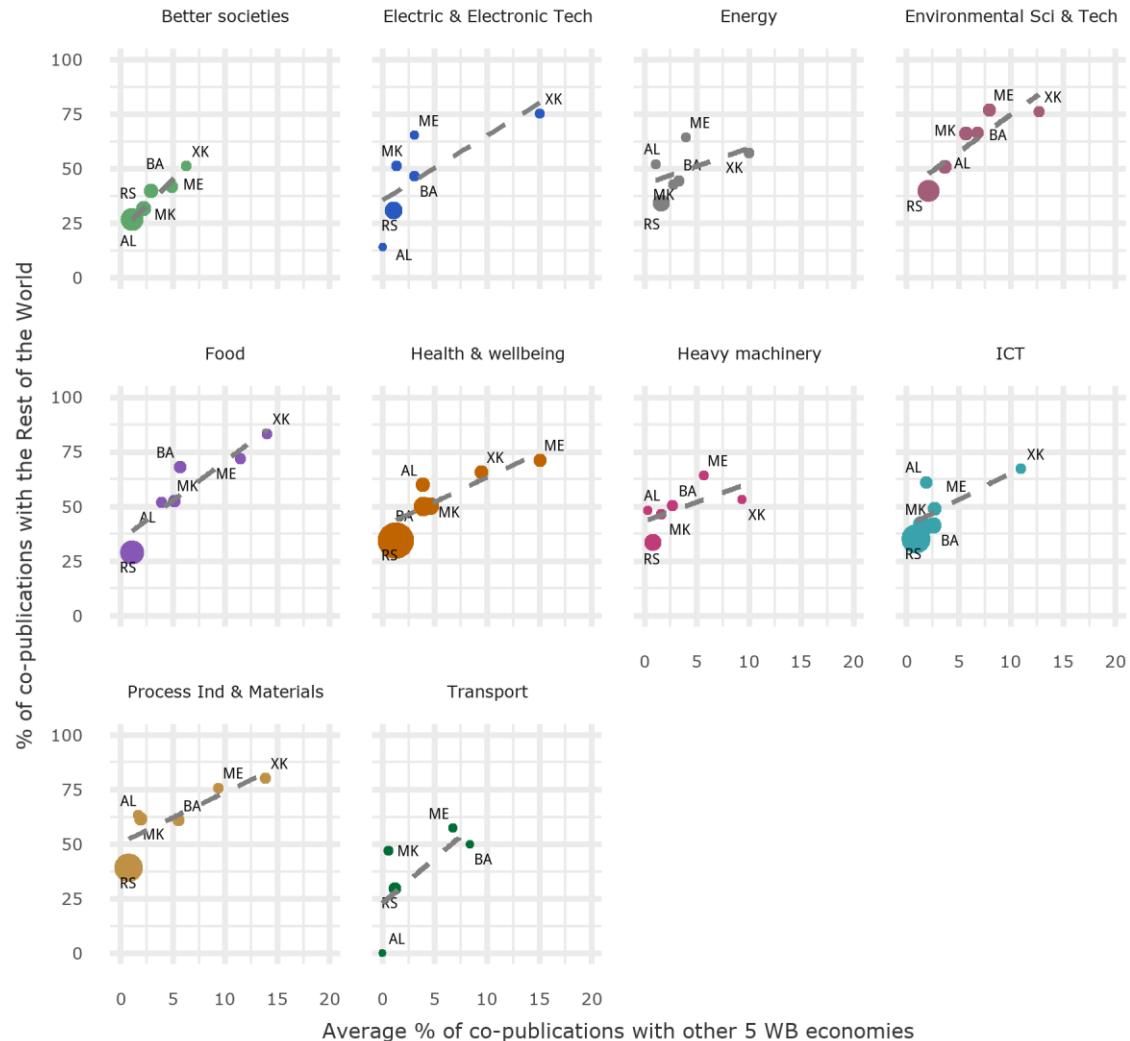
# Lesson 5: You can't do it all – prioritise and focus on where you can achieve a meaningful impact



SDG interlinkages  
(source: JRC)

# STI collaboration in the Western Balkans

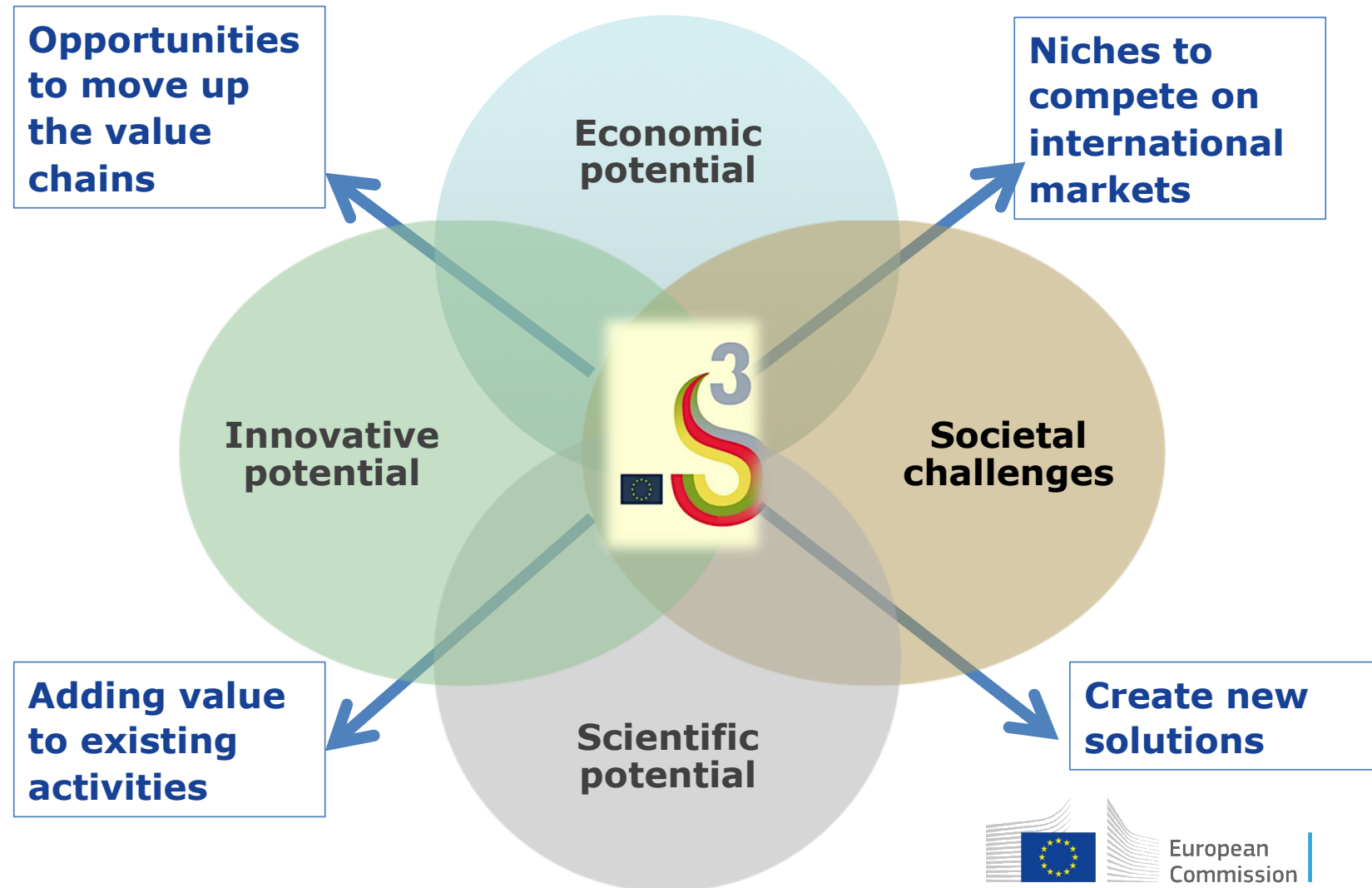
Collaboration Statistics Per Domain: Publications



# How we have used these lessons: The concept of smart specialisation (S3)

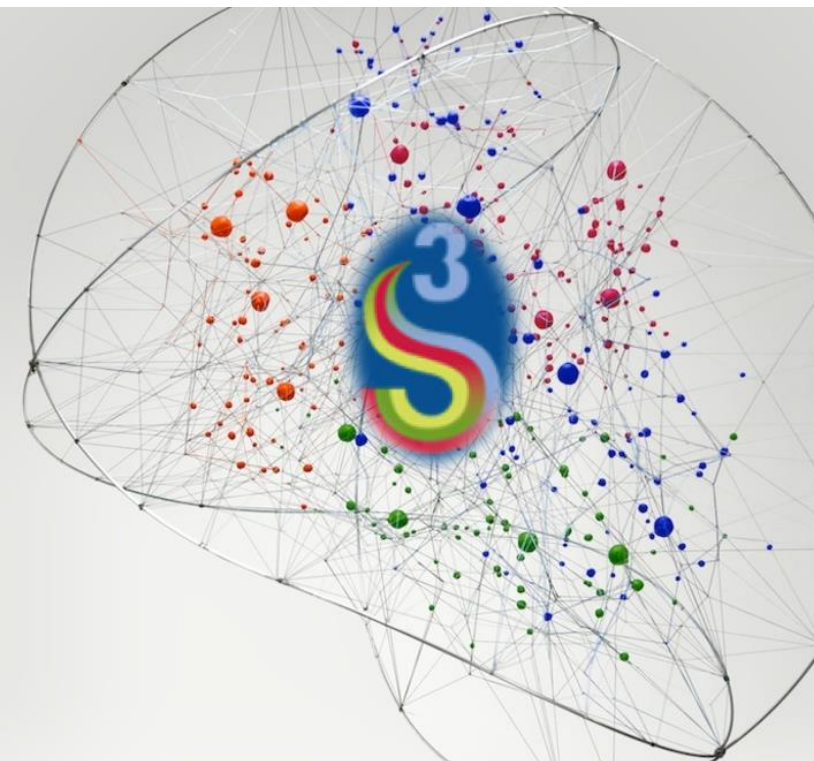
Smart and strategic diversification:

- Build on what you already have
- Promote intersectorial innovation
- Innovation should solve business and societal problems



# Concept of smart specialisation (S3)

## Example:



### **Economic potential:**

High level of production and employment in agriculture and food processing

### **Scientific potential:**

Top level pharmaceutical and biotechnology research

### **S3 priority:**

Function foods for cardiac patients

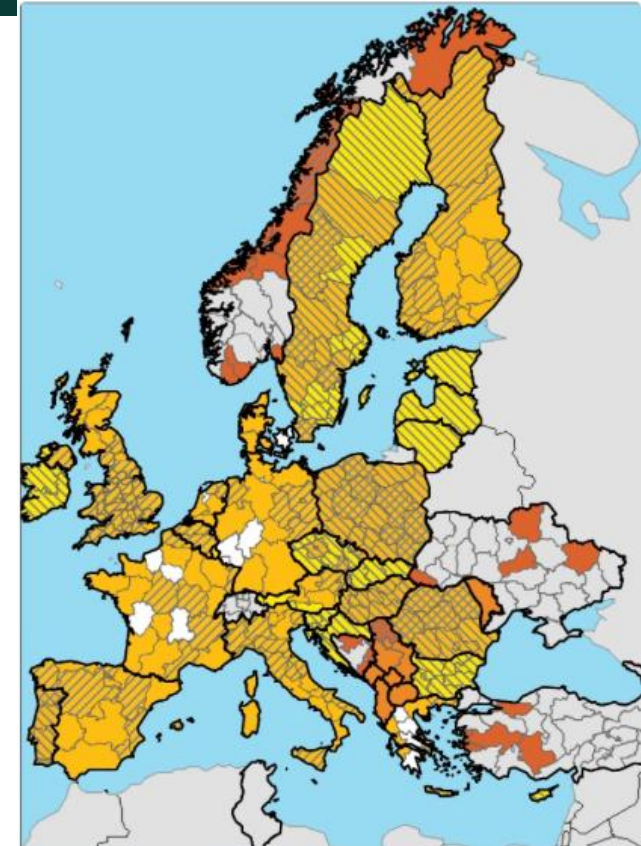
### **Innovative potential:**

Quickly growing bio-tech cluster

### **Societal challenge:**

Health –obesity and cardiac disease

# JRC support for smart specialisation



- EU Countries registered in S3P: 19
- EU Regions registered in S3P: 183
- Non-EU Countries registered in S3P: 7
- Non-EU Regions registered in S3P: 18
- S3P Peer-reviewed Countries: 16
- S3P Peer-reviewed Regions: 75



# Thank you

## Any questions?

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