Policy mix in Smart Specialisation Strategies in the European Union

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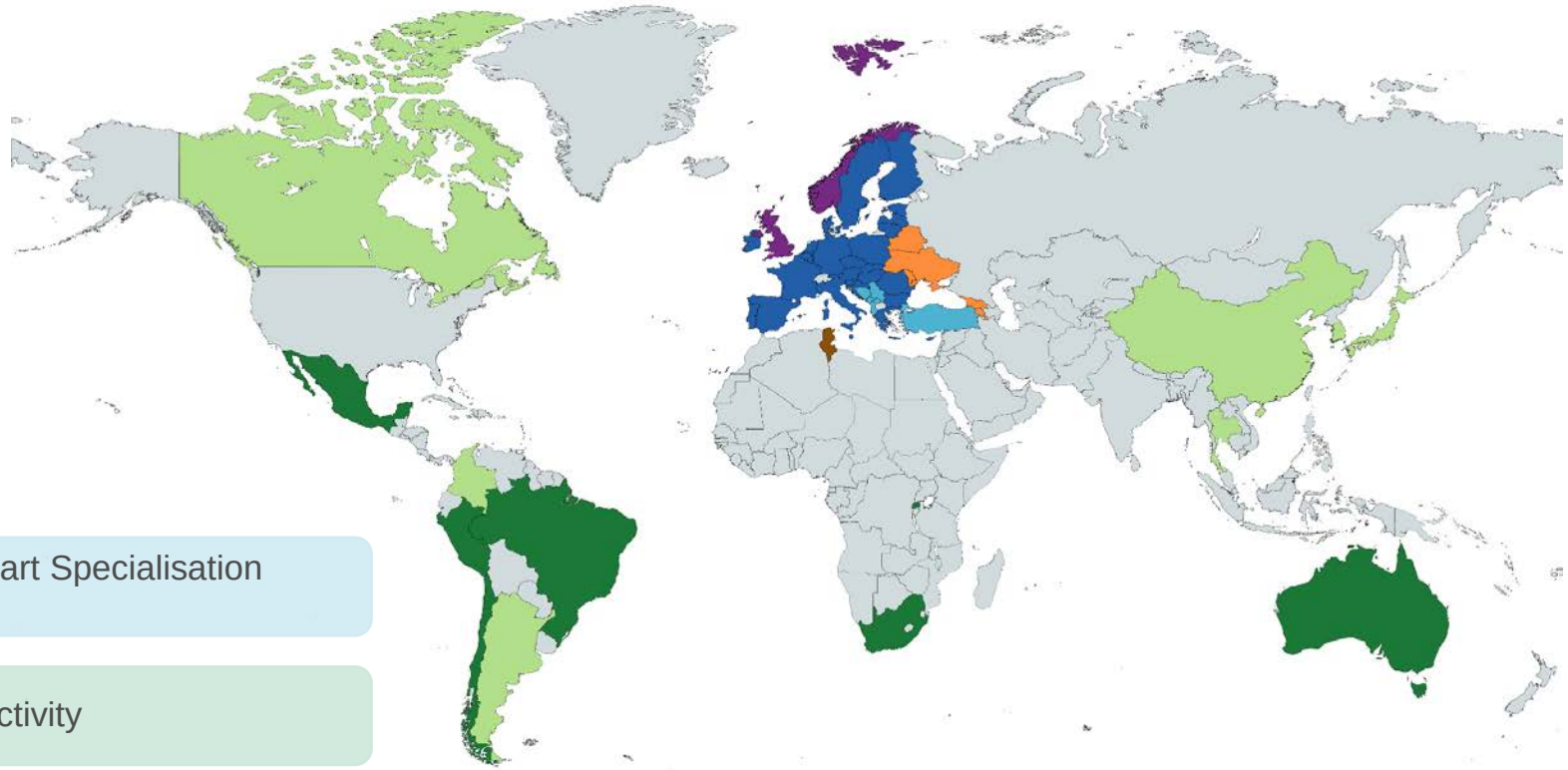
7 December 2021

What I would like to share today:

- What is Smart Specialisation?
- What is policy mix?
- How to design and improve policy mix:
  - Stakeholder dialogue
  - Monitoring and evaluation

EU-made concept of innovation policy that gained global popularity

- EU27: implementing S3
- Enlargement Region: designing and implementing S3
- EU Eastern Partnership: designing S3
- EU Southern Neighbourhood: designing S3
- EEA and UK: UK, Norway
- International countries: structured cooperation
- International countries: expressed interest in S3



South Africa	• Interest in applying Smart Specialisation concept
Rwanda	• Exploratory research activity
Tunisia	• Developing Smart Specialisation Strategy
Sub-Saharan Africa	• New cooperation starting in 2022

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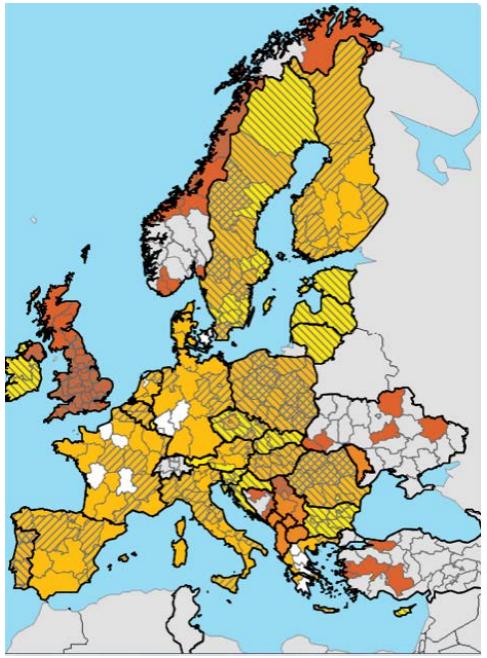
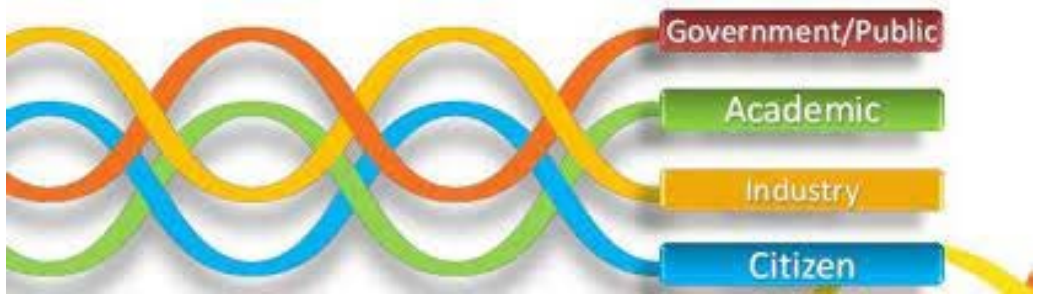
Why the success?

Interdisciplinary and adaptive concept that looks to identify value added in what we have



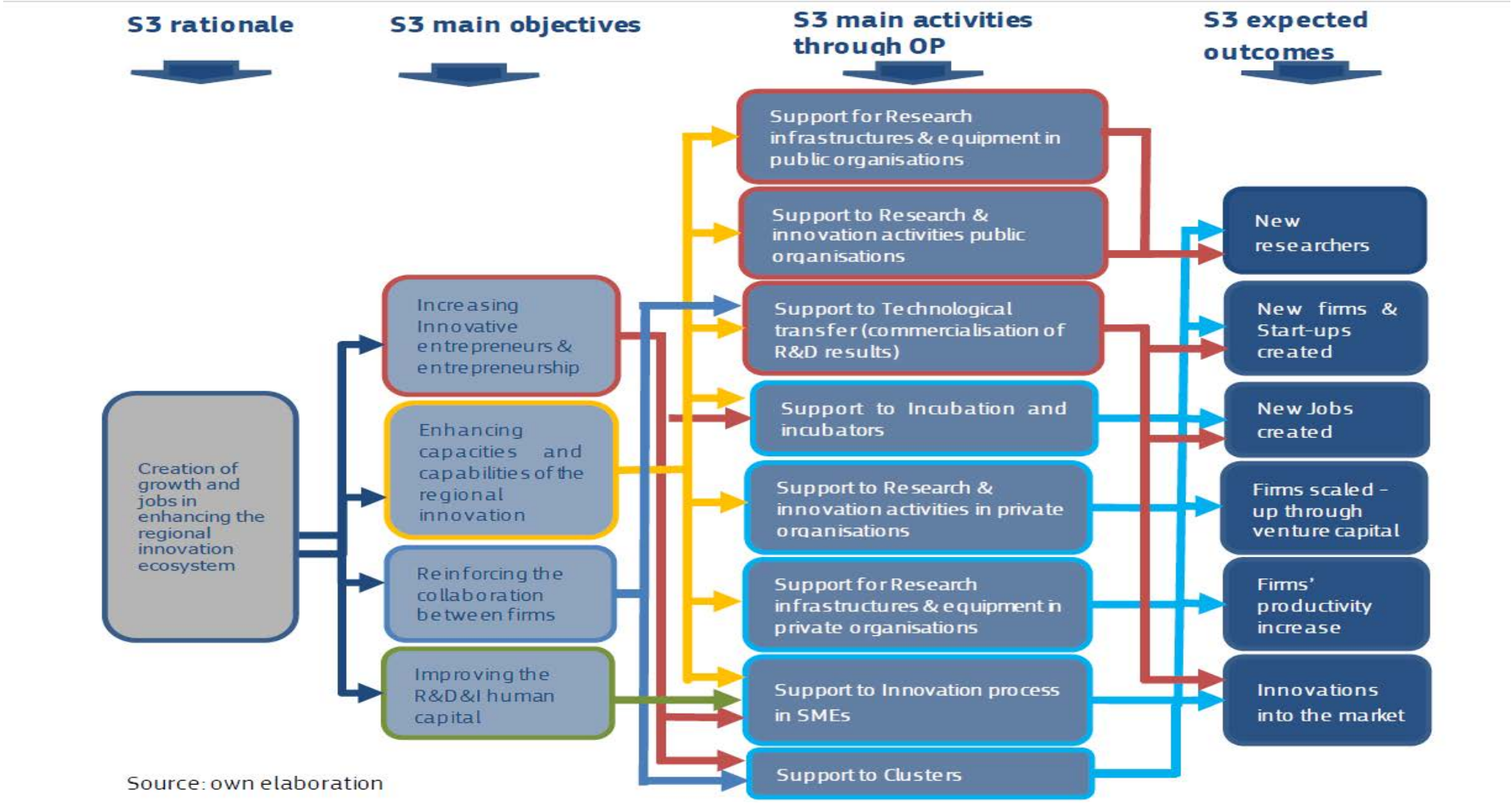
based on a decentralised



and participative model

The government, academia, industry and citizens work together to achieve structural change that would not be possible for any of them on their own

Policy mix is designed to implement our goals based on the logic of public intervention



Intervention logic in Smart Specialisation Strategies

Source: Doussineau M., Saublens C., Harrap N., An intervention-logic approach for the design and implementation of S3 strategies

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Smart Specialisation in Castilla y León

Specialisation patterns

ECONOMIC SPECIALISATION PATTERN
- Food and agriculture industry
- Automobile industry, Components, and Equipment
- Health Care and Quality of Life
- Tourism, Heritage, and Spanish Language
- Energy and Industrial Environment
- Habitat

SCIENTIFIC SPECIALISATION PATTERN
- Medicine
- Agriculture, Biology, and Veterinary Sciences
- Chemistry and Material Sciences
- Earth and Environmental Sciences
- Engineering

TECHNOLOGICAL SPECIALISATION PATTERN
- Advanced Materials
- ICT
- Biotechnology
- Advanced Processes and Manufacturing

https://fuescyl.com/images/03innovacion_conocimiento/Comisionado/RIS3_Castilla_y_Leon_2014-2020_(eng).pdf

Understanding the potential

AGRICULTURE AND FOOD INDUSTRY

Economic pattern

Its core activities are the agriculture and food industry (specifically meats, dairy, and milling) and beverage manufacturing. It is closely linked to the agricultural, livestock, and forestry sectors.

Scientific pattern

Agricultural and Biological Sciences and Veterinary:
- Food Science
- Animal Science and Zoology
- Food Animals
- Small Animals and Equine
- Ecology, Evolution, Behaviour and Systematics
- Agronomy and Crop Science and Soil Science
- Forestry

Chemistry
- Analytical Chemistry
- Spectroscopy

Chemical engineering
- Bioengineering
- Chemical Engineering

Engineering
- Industrial Engineering

Environmental Sciences
- Environmental Chemistry
- Water Science and Technology

Pharmacology, Toxicology and Pharmaceutics
- Toxicology
- Pharmaceutical Science

Technological pattern

Capacities
- Cluster VITARTIS
- Biotechnology Institute (INBIOTEC), CARTIF Foundation, Technological Agricultural Institute of Castilla y León (ITACyL), Natural Resources and Agrobiologic Institute (IRNASA, CSIC), Technological Center for Cereals and Grain (CETECE), Technological Agricultural and Food Institute (ITAGRA), Center for Food Quality, Universal Institute for Sustainable Forest Management, Luso Hispanic Center for Agricultural Research (CIALE), Experimental Agriculture Station (EAE), Service Center and Forestry Promotion and Industry of Castilla y León (CESEFOR), Society of Public Infrastructure and Environment of Castilla y León (SOMACYL)

Technologies

Advanced Materials
- Food packaging and preservation technology (smart multi-use, bio-sourced, and biodegradable materials)

IT
- Robotics
- Artificial vision
- Precision agriculture, geolocation, agricultural sensing systems, etc.
- IT traceability and consumer information systems
- Remote Management and Geographic Information Systems (soil maps, pest control, etc.).
- Environmental information systems (sensors, real time measurement)

Biotechnology
- Application of molecular tools to improve crops and food safety and quality
- Green biotechnology: fertilization, breeding & genetics, crop optimization, prevention of disease and pests
- Energy crops
- Livestock production technology: animal wellbeing, breeding and genetics, animal feed, reproduction
- Vegetable biomaterials
- Biosensors
- Biocatalysts
- Food biotechnology: starters, food ingredients, etc.
- Immunonutrition
- Biopreservatives for extending useful life of agri-food industry product

Advanced Processes and Manufacturing
- Food safety
- Functional foods and bioactive compounds
- Agri-business waste use and processing
- Energy efficiency technology in processes
- Emerging food processing technologies (high pressure, vacuum frying, etc..)
- Forest management technology, use and new uses for forest products and forestry

Possible regions of reference
- Zuid-Holland (Holland)
- Noord-Holland (Holland)
- Noord-Brabant (Holland)
- Gelderland (Holland)
- Midtjylland (Denmark)
- Ireland
- Emilia-Romagna (Italy)
- Tuscany (Italy)
- Trentino Alto Adige (Italy)
- Sassari (Italy)
- Lombardy (Italy)
- Scotland (United Kingdom)
- Ardeal (United Kingdom)
- Lower Austria (Austria)
- Upper Austria (Austria)
- Scotland
- Bretagne (France)
- Pays de la Loire (France)

Other technologies of interest for Castilla y León
- Functional foods
- Life Cycle analysis
- Ecolabelling
- e-Commerce
- Mycological Production technology
- 3D printing

There is a very high level of correlation in this macro-activity with scientific and technological specialisation patterns and it is therefore very interesting for Castilla y León's smart specialisation.

https://fuescyl.com/images/03innovacion_conocimiento/Comisionado/RIS3_Castilla_y_Leon_2014-2020_(eng).pdf

RIS3 CASTILLA Y LEÓN 2014-2020

Junta de Castilla y León

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Relations between strategic objectives

Sustainable economic growth and employment

Social and territorial cohesion

Better quality of life

Business innovation
- Growth of innovative companies: number & size
- Innovative effort
- Knowledge-based economy
- Training in innovation

Excellent science
- Leadership in specific S&T areas
- Attractiveness to talent
- Quality in science
- Socio-economic impact

Internationalisation
- Participation in international projects
- Outward looking
- Networking & value chains

Cooperation
- Knowledge transfer
- Collaborative research
- Open innovation
- Convergence innovation– HE

Innovative and creative culture
- Social awareness
- Innovation & entrepreneurship at school

RIS3 CASTILLA Y LEÓN 2014-2020

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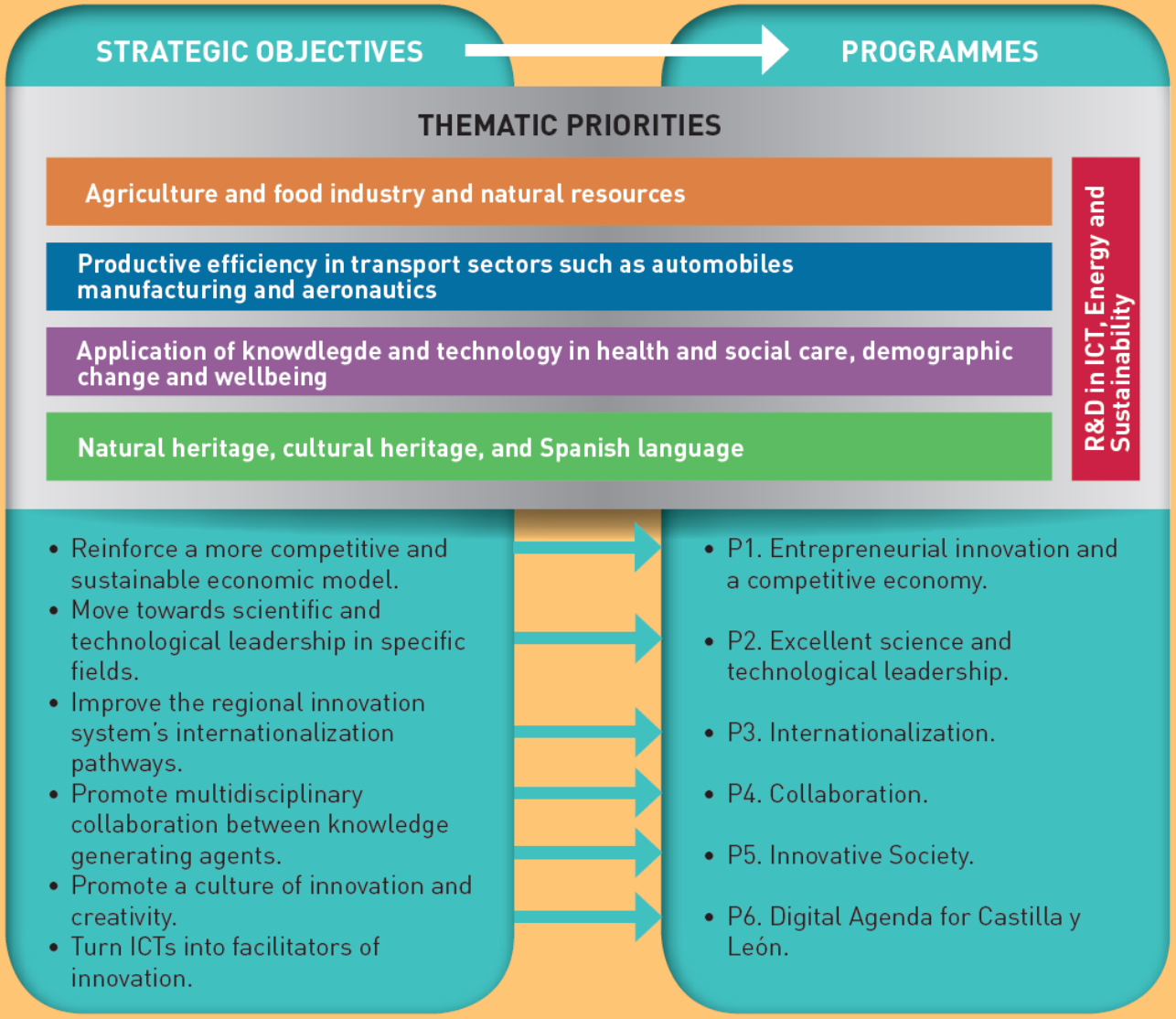
Policy mix en Castilla y León



Objectives and implementing programmes

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RIS3 CASTILLA Y LEÓN 2014-2020

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Policy mix en Castilla y León

		THEMATIC PRIORITIES				
	TOOLS	Agriculture, Food, and Natural Resources	Automobile & Aeronautics	Health, Social Care, Demographic Change & Wellbeing	Natural & Cultural Heritage (incl. Spanish language)	ICT, 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.

Policy mix

Junta de Castilla y León

RIS3 CASTILLAYLEÓN 2014-2020

http://www.jcyl.es/junta/cp/Memoria_RIS3_20140630.pdf

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Budget

2014-2020 Budget (millions of Euros)								
	2014	2015	2016	2017	2018	2019	2020	TOTAL
Public Resources	457	469	487	509	535	567	603	**3,626**
Castilla y León Regional Government	308	315	324	336	349	365	381	**2,377**
Other public resources	149	154	163	173	186	202	222	**1,249**
Private Resources	716	731	752	780	812	848	886	**5,525**
TOTAL	**1,173**	**1,200**	**1,239**	**1,289**	**1,347**	**1,415**	**1,489**	**9,151**

Junta de Castilla y León

http://www.jcyl.es/junta/cp/Memoria_RIS3_20140630.pdf

RIS3 CASTILLA Y LEÓN 2014-2020

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Example from Galicia region

Policy mix: a set of instruments designed to address the challenges

2014 — ris3 galicia — 2020

XUNTA DE GALICIA

	N°	Instrumento	CHALLENGE 1					CHALLENGE 2			CHALLENGE 3	
			Enhancement-Sea	Aquaculture	Biomass and Marine Energies	Modernisation of Primary Sectors	Tourism-ICT	Diversification Driving Sectors	Industrial Sector Competitiveness	Boost Knowledge-based Economy	Active Ageing	Nutrition and Food
SME INNOVA	1	Sectorial Innov.	●			●		●	●			●
	2	Open Innov.	●	●	●	●	●	●	●	●	●	●
	3	Technological Vouchers				●	●	●	●	●		●
	4	Funding Vouchers	●	●	●	●	●	●	●	●	●	●
	5	Homologation/Certification	●	●	●	●	●	●	●	●	●	●
	6	Absorption Capacity Prom.	●	●	●	●	●	●	●	●	●	●
INNOVA IN GALICIA	7	Attraction Fund Centers	●	●	●			●		●	●	●
	8	Early Procurement			●						●	
	9	Demonstration Projects	●		●		●		●			●
	10	Mixed Units			●						●	
	11	H2020 complement	●	●	●			●	●	●	●	●
	12	Capital Mobilization	●	●	●	●	●	●	●	●	●	●
GALICIA TRANSFERS	13	Sc. & Tech. Contract Program	●	●	●	●	●	●	●	●	●	●
	14	Sc. & Tech. Investments	●	●	●	●	●	●	●	●	●	●
	15	Test concept				●	●	●	●	●		●
	16	Innov. Publ. Procurement									●	
	17	Industrial property				●	●	●	●	●		●
I E	18	Accelerator		●	●			●		●	●	
	19	Talent	●	●	●	●	●	●	●	●	●	●
	20	Technical Assistance	●	●	●	●	●	●	●	●	●	●

https://s3platform-legacy.jrc.ec.europa.eu/documents/20182/224535/ES_Galicia_RIS3_2014_Final.pdf/3ffb9af3-96ea-4a9b-8de5-0358ea0c2bc1

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Example from Galicia region

Policy mix: Budget

BUDGET	TOTAL PER YEAR						TOTAL
	2014	2015	2016	2017	2018	2019	(2014-2020)
	M€	M€	M€	M€	M€	M€	M€
ERDF/ESF/EAFRD/EMFF (Regional Management and by Member State)	113	113	113	113	113	113	678
PUBLIC EQUITY (Regional co-financing and by the Member State)	28	28	28	28	28	28	168
PUBLIC EQUITY (Additional regional funds)	15	15	15	15	15	15	90
TOTAL	156	156	156	156	156	156	936

INSTRUMENTS WITH CAPACITY FOR PRIVATE CAPITAL MOBILISATION	Nº	%
Instruments with very high capacity for mobilisation	1	5%
Instruments with high capacity for mobilisation	10	53%
Instruments with moderate capacity for mobilisation	8	42%
Instruments with modest capacity for mobilisation	0	0%

2014 ris3 galicia 2020

XUNTA DE GALICIA

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Example from Galicia region

Policy mix: beneficiaries

2014 ris3 galicia 2020

XUNTA DE GALICIA

	Nº	Instrument	Startups	SMEs/Entreprises	Scientific and Technological Centres
SME INNOVA	1	Sectorial Innov.	●	●	●
	2	Open Innov.		●	●
	3	Technological Vouchers		●	
	4	Funding Vouchers		●	
	5	Homologation/Certification		●	●
	6	Absorption Capacity Prom.		●	
INNOVA IN GALICIA	7	Attraction Fund Centers		●	●
	8	Early Procurement		●	
	9	Demonstration Projects		●	
	10	Mixed Units		●	●
	11	H2020 Complement	●	●	●
	12	Capital Mobilization	●	●	
GALICIA TRANSFERS	13	Sc. & Tech. Contract Program			●
	14	Sc. & Tech. Investments			●
	15	Test concept		●	●
	16	Innov. Publ. Procurement		●	
	17	Industrial property			●
I E	18	Accelerator	●		●
	19	Talent	●	●	●
	20	Technical Assistance			

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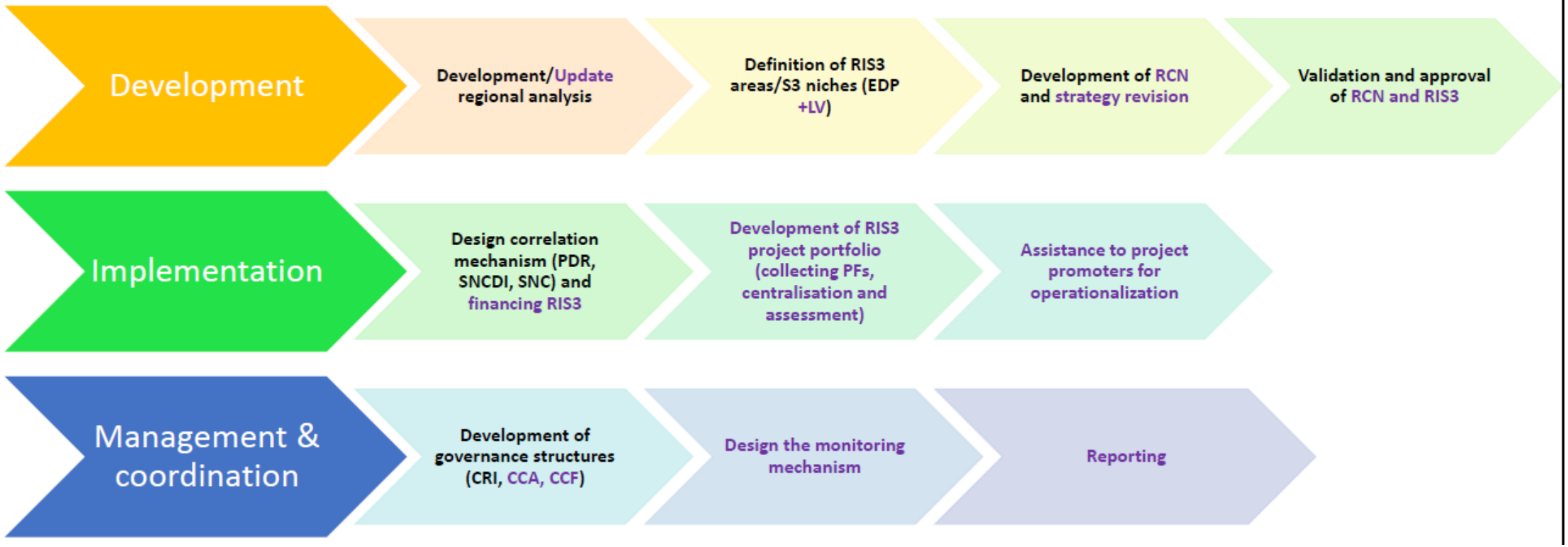
Identification of projects in a less-developed region

The strategic process in North-East Romania (2013-2017)



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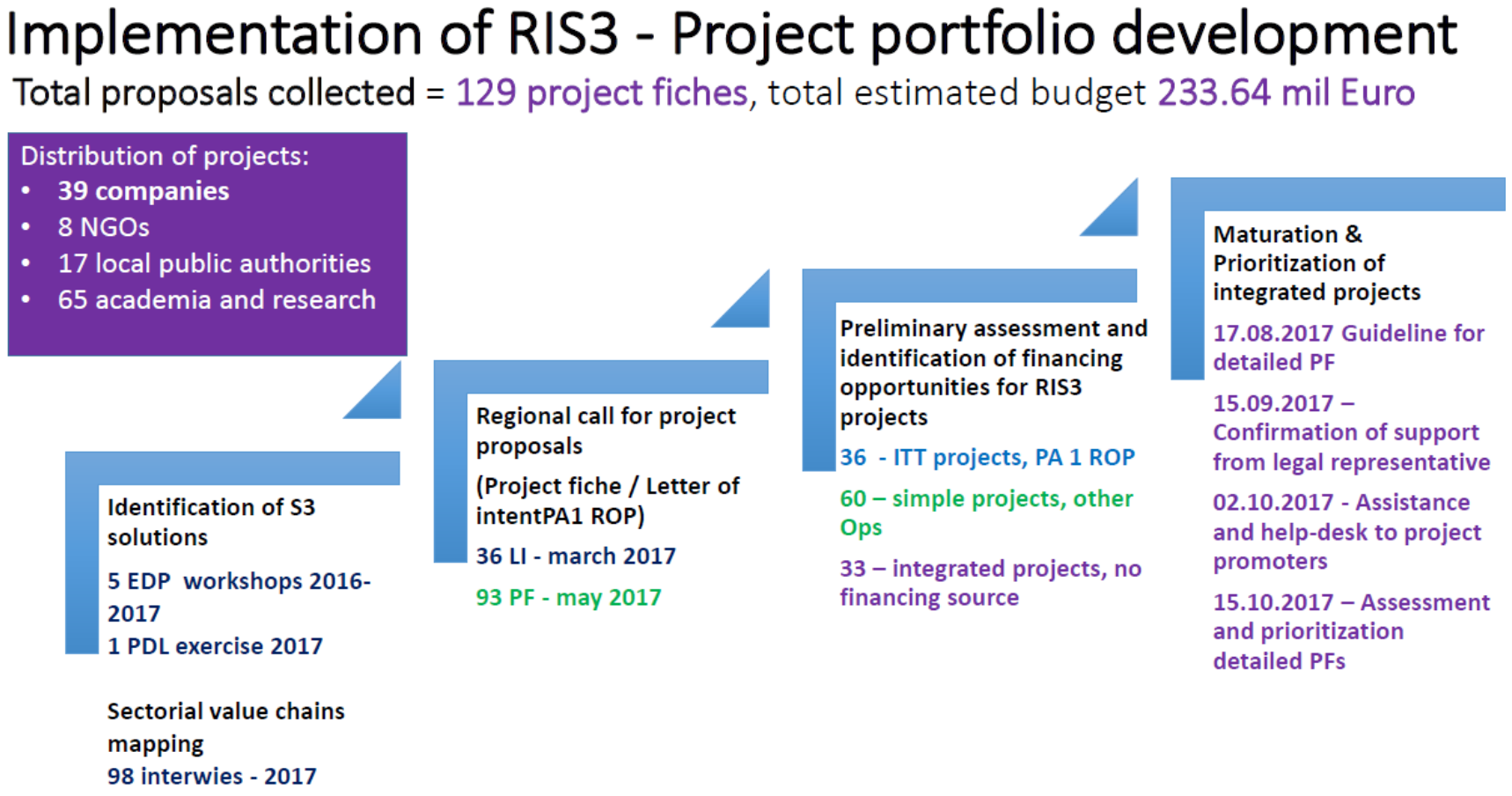
Identification of projects in a less-developed region

Project portfolio in North-East Romania



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Conclusions

- A policy instrument is not sufficient to drive change: we need to have a **coherent vision of what we want to achieve, how to achieve it and where we can have a real impact**
- This requires **cooperation and dialogue**, especially in the case of SDGs
- The first time is never perfect, we need to **monitor the results and learn**.
- And finally… **keep talking with business, researchers and NGOs**: the government never knows it all

Thank you

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European Commission