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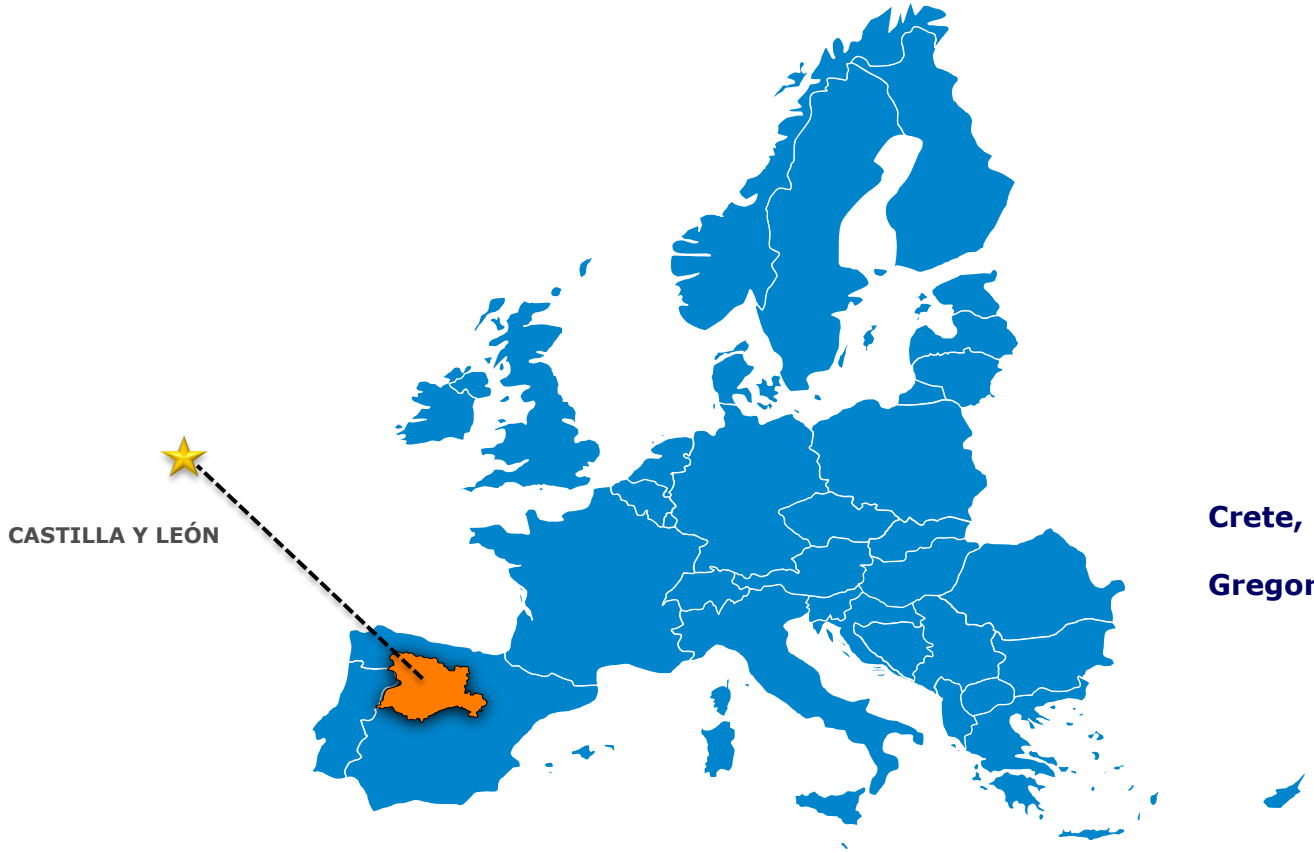
Castilla y León: Towards a RIS3 strategy



Crete, 26-27 September 2013

Gregorio Muñoz Abad

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Expectations from the Peer Review Workshop

Sharing with others the region's experiences, and **learning** about some **new S3 aspects**, such as:

- New planning issues:
  - Further **policy integration**: Digital Knowledge Society, Education…
  - Definition of Plans, more specific than the Strategy.
  - **Reduction of priorities**, and resources' concentration.
  - Evaluation and **monitoring of programmes**, not only the whole strategy.
- Wider governance: Mobilise the **whole society**, beyond the business sector.
- The S3 as a **revulsive face the crisis**: Stop the fall of private and public investment in R&D.
- **International approach**:
  - ✓ Co-operation with other regions ("institutional").
  - ✓ Increase participation in international programmes.

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Questions we would like peers discussion

We have three main issues to discuss:

- Integration of horizontal priorities with vertical priorities
  - How to link the horizontal instruments: programs and plans with prioritized areas: economic, scientific and technologic.
- Indicators
  - How to define indicators, specially those related with the results.
  - How to quantify the indicators in a realistic way (previous contrast with key actors, past experiences...)
- Policy Integration: Digital Knowledge Society with R+DI
  - How to link objectives and programs
  - How to coordinate measures to promote the use of ICT with innovation support for companies.

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Introduction of Castilla y León's work on research and innovation (I)

Previous experience with RIS or innovation and research policy. Significant milestones

MILESTONES ACHIEVED

1983 First call of research projects.

1985 Decree supporting Technological Innovation.

1990 Boecillo Technology Park.

1992 Technology Centres Law.

1995 Regional Development Agency.

1997-2000 Regional Technology Plan.

1999 Regional Law for Research and Science.

2002-2006 Regional R&D&I Strategy.

2006-2009 Framework Agreement for Industrial Competitiveness and Innovation.

RUNNING INITIATIVES

2001 Commission for Coordination on Science and Technology.

2002 Law of Promotion and General Coordination of R&D&I.

2003 Universities Law (modified in 2010).

2007-2013 Regional R&D&I Strategy 2007-2013.

2007 Commissioner for Science and Technology.

2008-2013 University-Business Strategy 2008-2013.

2010-2013 II Framework Agreement for Industrial Competitiveness and Innovation.

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Introduction of Castilla y León's work on research and innovation (II)

The past experience feeds into the new RIS3:

- Progressive integration of policies
- The University-Business Strategy, TCUE program, the support to business start-ups
- Consensus building with regional actors.
- Definition of priority sectors (Strategic Competitiveness Framework).
- Monitoring and evaluation systems: statistical indicators – transparency.

Regional and National Coordination:

- There are national and regional RIS3 in Spain.
- Formal coordination through the Council of S&T and Innovation Policy.
- Still room for technical (in-depth, detailed) cooperation between both levels.

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Introduction of Castilla y León's work on research and innovation (III)

Strategic vision for the future of Castilla y León

TO ACHIEVE A COMPETITIVE POSITION IN THE GLOBAL CONTEXT TO CONTRIBUTE TO THE REGION'S GOALS:

- *Employment and sustainable economic growth*
- *Social and territorial cohesion*
- *Improved quality of life*

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Governance

Coordinator: Commissioner for Science and Technology.

Regional partnership: Identified from previous knowledge, new comers, hidden leaders, etc. Involves:

- Regional ministries.
- Universities and research centres
- Technology centres
- Companies, business associations and clusters

Roles of the actors: consultation (interviews), contrast (meetings).

Decisions about RIS3:

- Final decisions taken at high political level.
- Based on relevant, objective information provided by the participatory process.
- Proposals by regional actors.

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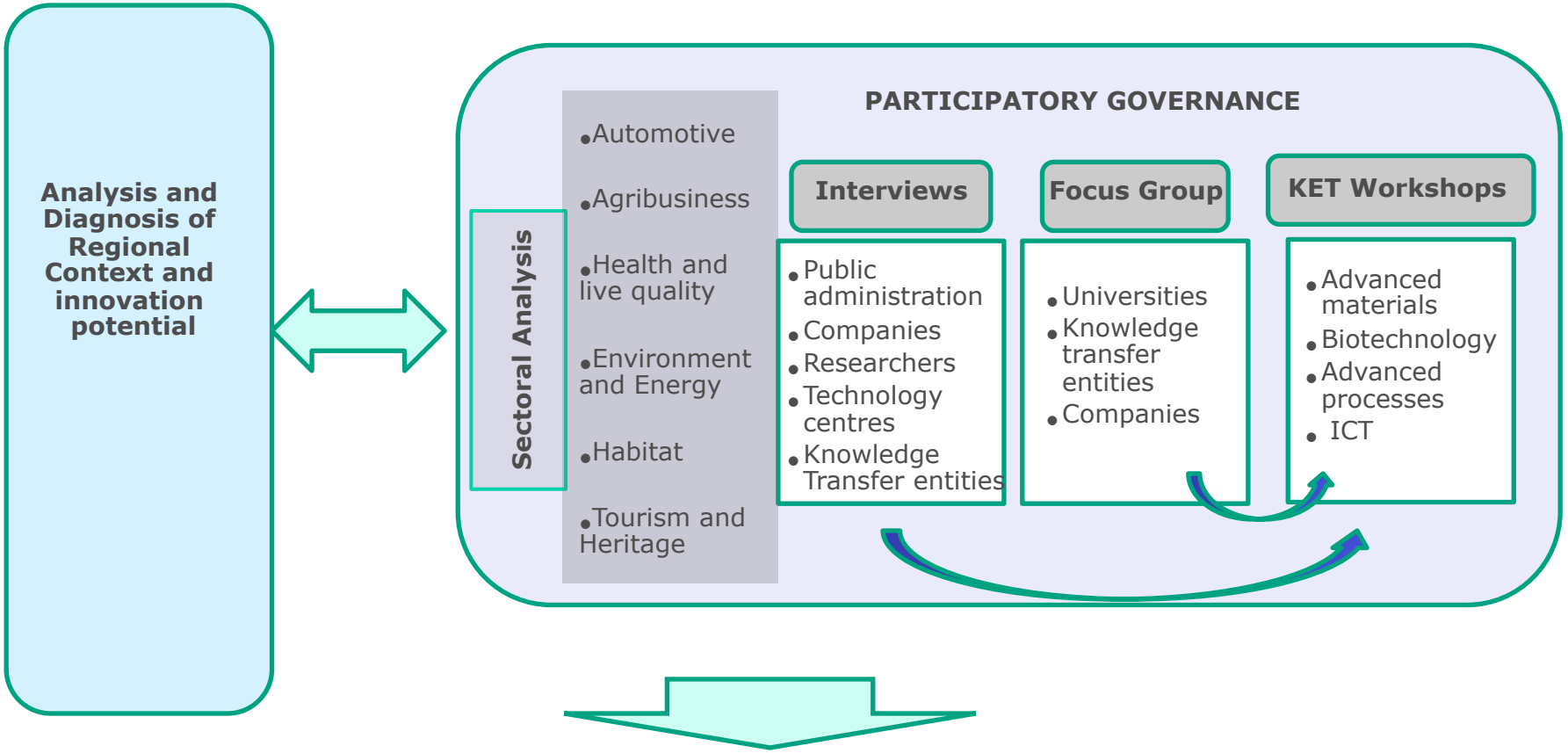
Building the evidence base for RIS3 (III) Main steps



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Building the evidence base for RIS3 (I) SWOT Analysis R&D&I

Strengths

- **Experience** in the design and implementation of R&DI policies.
- Existence of **technology infrastructures**: technology parks, science parks, ICTS, etc..
- High working population's **education level**.
- **Business expenditure on R&D** bigger than the public, and above the national average.
- **Competitiveness** (resistance to the crisis) **of some strategic activities** and sectors at global level.

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Building the evidence base for RIS3 (I) SWOT Analysis R&D&I

Weaknesses

- Strong **impact of the crisis**: loss of illusion of regional actors (reflected on R&D&I indicators).
- **Low institutional leadership** in R&D&I actions (though there is coordination).
- **Science little related to regional economic tissue**; still insufficient university-business relationship. University graduates not adapted to companies' needs.
- Universities are low in national (and international) rankings.
- **Small size of companies, and low technology level** and absorption capacity.
- **Brain drain**.
- Reduced **internationalization**.

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Building the evidence base for RIS3 (I) SWOT Analysis R&D&I

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Opportunities

- Exploitation of **trends of future in some areas**, such as agro food, health and quality of life and energy and environment.
- Development of applications in some fields, such as materials, production processes, ICT and biotechnology.
- **Interrelationship among economic sectors, and integration of value chains**: technological cross-application of ICT, energy and environment and biotechnology, etc.
- **New programming period** 2014-2020 (cohesion funds, Horizon 2020, etc.): synergies and complementarities of funds and integration of policies and instruments.
- **Redefine** financial instruments and **the role of Administration** as service provider.

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Building the evidence base for RIS3 (I) SWOT Analysis R&D&I

Threats
• **Extension of** effects of the **crisis**.
• Difficulty of **access to financial** markets.
• **Decline of private investment**., especially reduction of R&D&I investment.
• **Reduction of public budget** for R&D&I: loss of support structure to R&D&I.
• **Increasing competition** in international markets.

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Building the evidence base for RIS3 (II)
SWOT Analysis Knowledge Digital Society

SMART SPECIALISATION PLATFORM

Strengths
• Availability of **broadband coverage throughout the territory** (universal service). • Computer **equipment** and Internet **access**; **digital natives**; use of **mobile devices**. • Existence of **facilities and centers of reference** in ICT. • Extensive **use of electronic means**, especially in the relation with Public Administration, and within it (e-health, e-education…). • Qualified ICT professionals, and supply of graduates from University and vocational training. • ICT sector specialized in mobility and security.

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Building the evidence base for RIS3 (II) SWOT Analysis Knowledge Digital Society

S3 SMART SPECIALISATION PLATFORM

Weaknesses

- **Large** region with **difficult orography**: sustainability of ICT infrastructures.
- Mostly micro SMEs and traditional sectors self-employed: **low level of adoption of ICT**, especially in retail.
- **Fragmented regional ICT sector**: size-related problems.
- **Aged population** with less training and knowledge of use of ICT tools.
- In some cases, limited leadership, resistance to change and insufficient internal coordination for **implementation of ICT in public administrations**.
- Lack of rationalization / simplification of **administrative procedures** for their electronic implementation, especially in Local Government.

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Building the evidence base for RIS3 (II)
SWOT Analysis Knowledge Digital Society

S3 SMART SPECIALISATION PLATFORM

Opportunities

- Importance of ICT in the **new framework of European funding**.
- ICT applications as a major **competitiveness driver** in companies.
- Nearshore: capacity of the region to **attract ICT companies** to settle in the territory.
- **New technologies** (satellite, mobile broadband) **instead of infrastructures**.
- **New trends:** social networks, mobility and geolocation; telework; Cloud Computing, pay-per-use models; Open Data, demand for contents, more usable technologies closer to citizens, etc.
- Growing **possibilities** for use of ICT **in the public sector** (energy saving, education, health, social care…).
- New models of **public-private cooperation** that reduces costs (synergies).

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Building the evidence base for RIS3 (II)
SWOT Analysis Knowledge Digital Society

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Threats
• **Low profitability** for operators in rural areas; **sustainability** of infrastructures.
• Complexity of the **regulatory framework** on ICT.
• **Low confidence** in digital environment.
• **Low usability** of services and complexity in use of digital certification systems.
• **Fast changes** in technologies and ICT standards.
• **Lack of interoperability** and standardization of digital contents and services.

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Looking beyond region's boundaries

The external context, national/ international

- Identification of regions for potential collaborations in each macro activity of regional pattern.
- Source: European Cluster Observatory (ECO).
- One of the Strategic Objectives of RIS3 is the Internationalization of regional R&D&I system
- Identification of partners regions in VII Framework Program: complementarity or collaboration experience in R&D&I: South and Centre of Europe (P, I, GR, DE, F, UK)

Region's work on Research and Innovation vis-à-vis other regions

- Participation in mutual learning activities
- Interreg IV C Know-Hub project
- Spanish ERDF-funded policies Network

Economic Activity	Castilla y León position in EU 257
Automotive, components and equipment	60
Agribusiness.: Agribusiness products	20
Agribusiness: Food processing	29
Building Materials	12
Tourism	89

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Looking at entrepreneurial dynamics

'Entrepreneurial process of discovery': **continuous dialogue** with regional actors to explore and **identify**:

- the initial situation (diagnosis: **SWOT, specialisation pattern**)
- horizontal priorities (**strategic and specific objectives**)
- **vertical priorities** (technology trends, scientific areas, economic sectors)

Involvement of entrepreneurial actors: through:

- Individual **interviews**.
- **Focus groups**, to determine the specialisation pattern.
- Small **meetings to validate** each step (diagnosis and priority setting).

- All types of actors involved (companies, business associations, universities, research & technology centres, public administration, trade unions…)

- More difficult now (disappointment).

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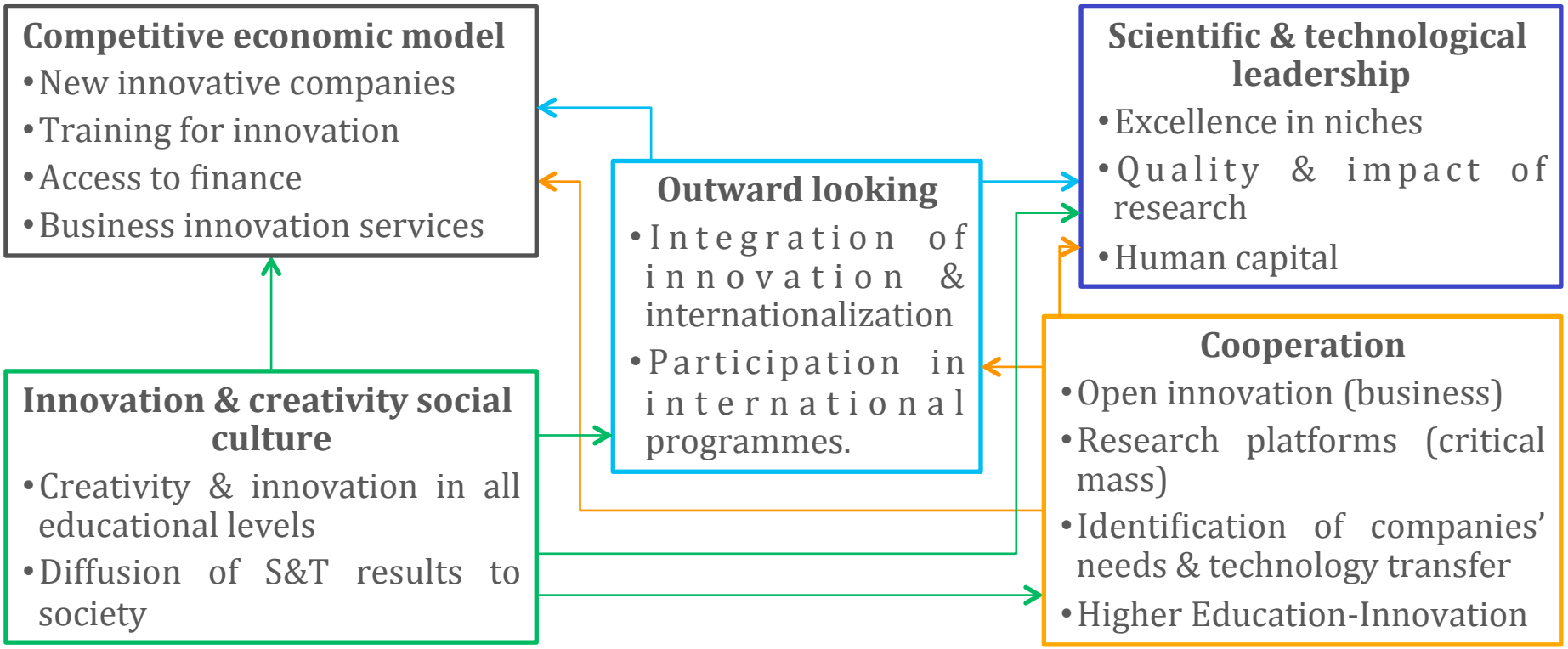
Main objectives of RIS3

Employment & sustainable economic growth | **Social & territorial cohesion** | **Quality of life**



Management system

- Coordination between regional ministries
- Monitoring and evaluation: traceability & coherence

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Priorities

SCIENTIFIC AREAS

- Medicine
- Agriculture, Biology & Veterinary
- Chemistry
- Engineering

TECHNOLOGY DOMAINS

- Advanced materials (incl. nano)
- ICT (incl. electronics & fotonics)
- Biotechnology
- Advanced manufacturing

ECONOMIC ACTIVITIES

- Automobile, Components & Equipment
- Agro-food
- Health & Quality of life
- Energy & Environment
- Habitat
- Tourism, Heritage & Spanish language

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Digital Growth priorities

1. Encourage the deployment of telecommunications networks and services to ensure digital connectivity.

2. To develop the digital economy for the growth and competitiveness of enterprises.

3. To improve the effectiveness, efficiency and quality of public services through an intensive use of ICT.

4. Promoting digital adaptation of citizenship and social innovation.

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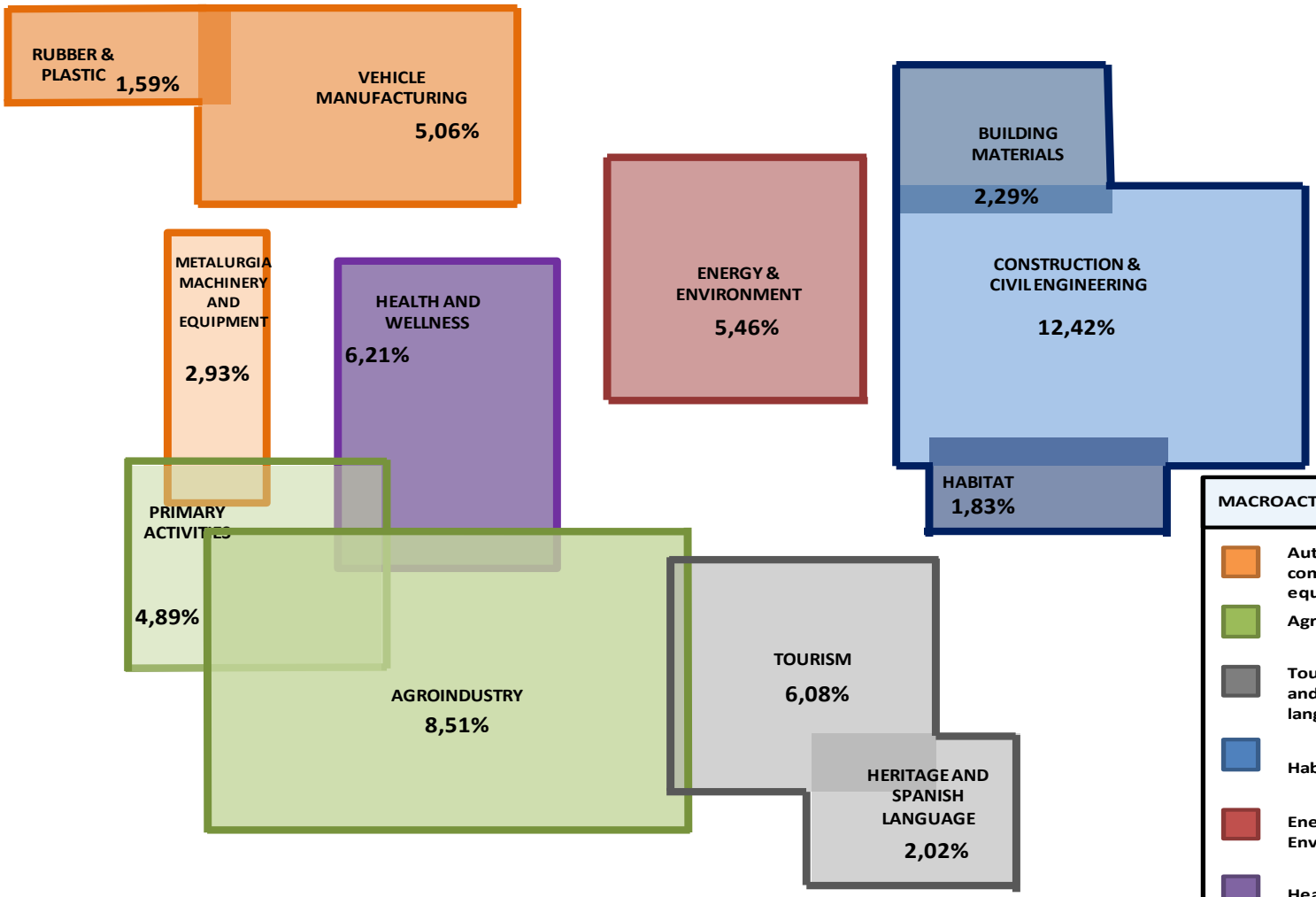
Why these priorities? Economic pattern



MACROACTIVITIES (total)*	59,29%
Automotive, components and equipment	9,58%
Agroindustry	13,4%
Tourism, heritage and Spanish language	8,1%
Habitat	16,54%
Energy & Environemnt	5,46%
Health and wellness	6,21%

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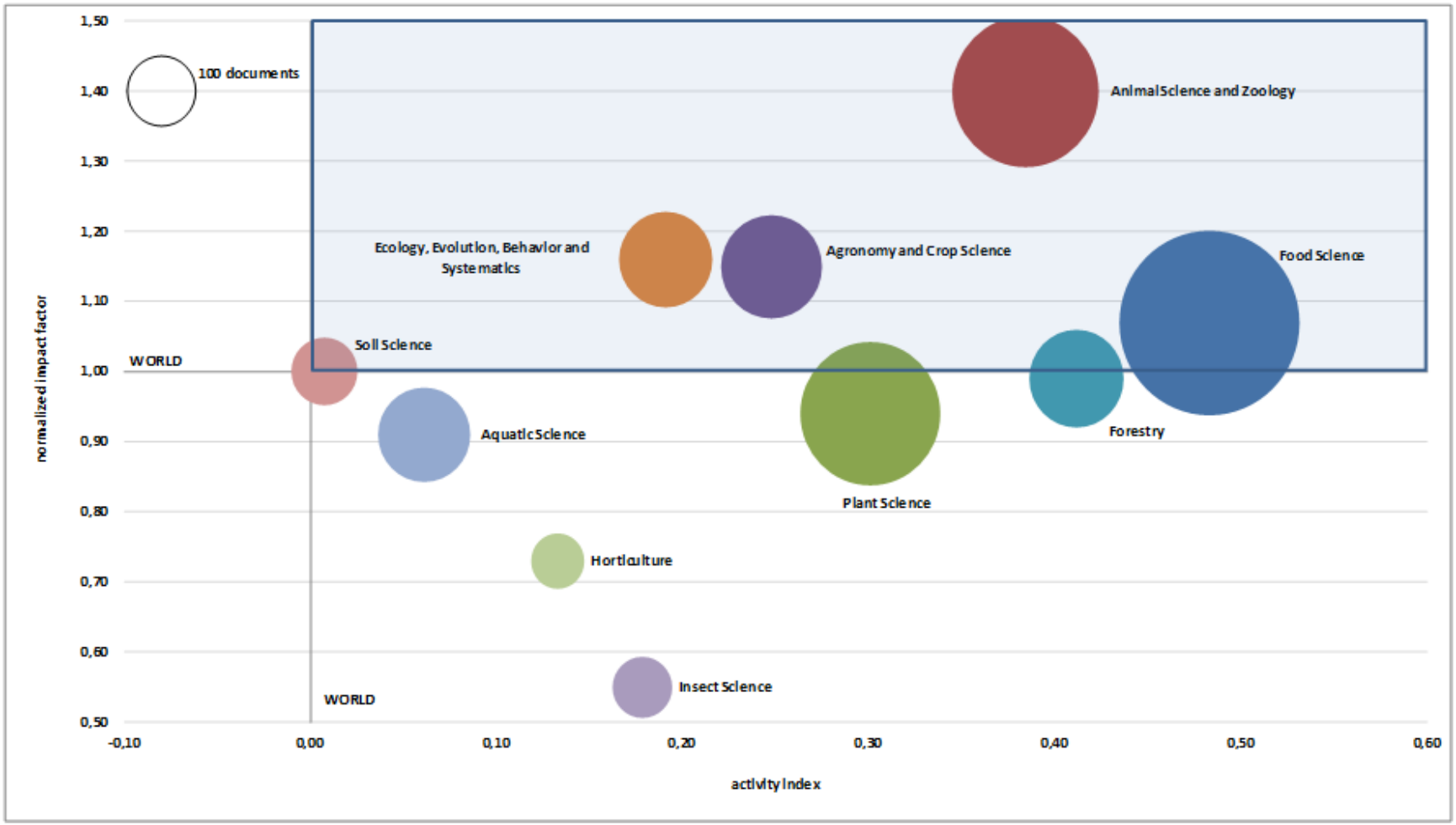
Why these priorities? Scientific pattern



Why these priorities?

Priorities: Identification of the regional specialisation pattern. **Integration of the 3 patterns**

For each one of the 6 economic macro-activity, analysis of:

- Economic specialisation
- Economic dynamism (tendency, not static picture)
- Relevant scientific domains
- Applicable technologies
- Existing R&D infrastructures
- Clusters and leading companies

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Why these priorities? Integration of patterns

ECONOMIC PATTERN	Economic activities	**AUTOMOTIVE & TRANSPORT**	
	Clusters & leading companies	• FACYL, Cluster CBECyL • Renault, Nissam, Michelin, IVECO , Grupo Antolín, Nicolas Correa, Lingotes Especiales	
	Technology centres	CIDAUT, CARTIF, ITCL, CTM	**REFERENCE REGIONS**
SCIENTIFIC PATTERN		**ENGINEERING** • Systems control & engineering • Electric and electronic engineering • Mechanical Engineering	•DE Stuttgart •DE Oberbayern •SE Vastsverige •DE Karlsruhe •DE Oberpfalz •AT Wien •DK Hovedstaden •FR Ile de France •DE Darmstadt •DE Hamburg •DE Rheinland-Pfalz •IT Torino •GR West Greece •HU Central Hungary
		MATERIALS SCIENCES • Biomaterials • Polymers & plastics	

TECHNOLOGY PATTERN	MATERIALS	ICT	BIOTECHNOLOGY	ADVANCED MANUFACTURING
	• Plastic materials • Composite fibers • Ceramic materials • Materials with optimised mechanical properties	• Artificial vision • Real-time monitoring • Machinery predictive control: sensors, embedded systems, data mining, etc. • Robotics • Intelligent infrastructures (roads, logistics): sensors, monitoring, etc).	• Bio-fuels: sunflower, bio-forest waste, etc. • Bio-polymers • Bio-catalysers	• Process modelling & discrete simulation • Intelligent control systems • Electric vehicles charging systems • Development of Diesel and petrol engines

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Implementation and budget

Action plans: to be **developed later** by each Ministry, with shorter time horizon; not included in the Strategy (long term).

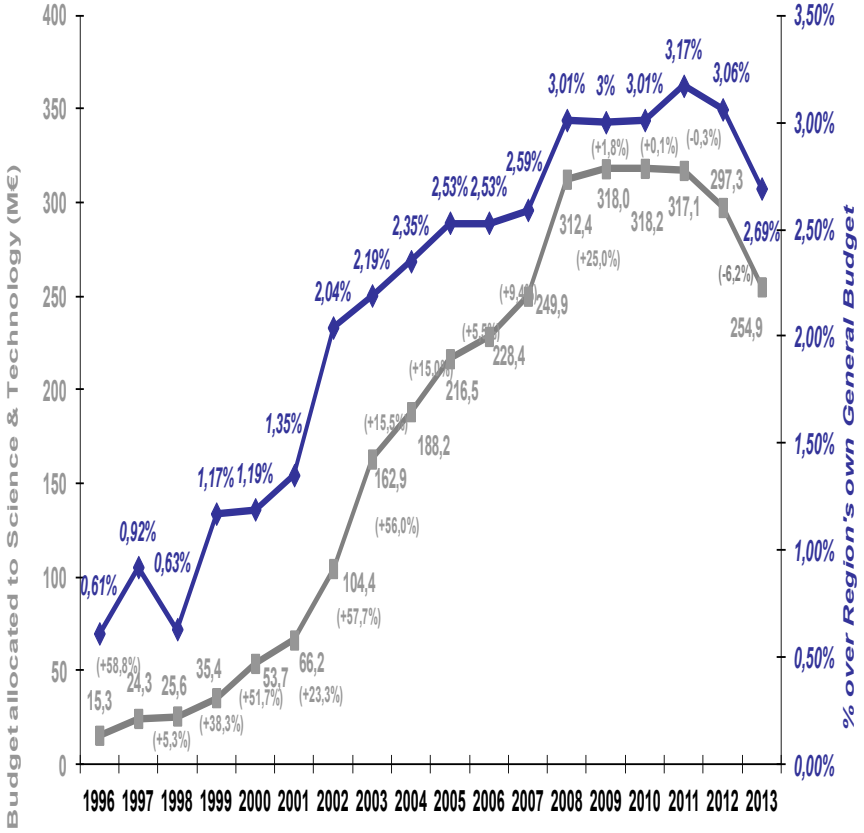
Budget not yet specified. It will be determined **according to the quantitative objectives**.

It will be composed of:

- **Regional budget** appropriations
- Funds obtained in **competitive calls** (national & European)
- **Private** R&D&I investments.

Need to be **realistic** (crisis).

Evolution of science and technology expenditure in the Regional Government annual budget (1996-2013)



Source: Annual budgets of Castilla y León.

Measuring progress

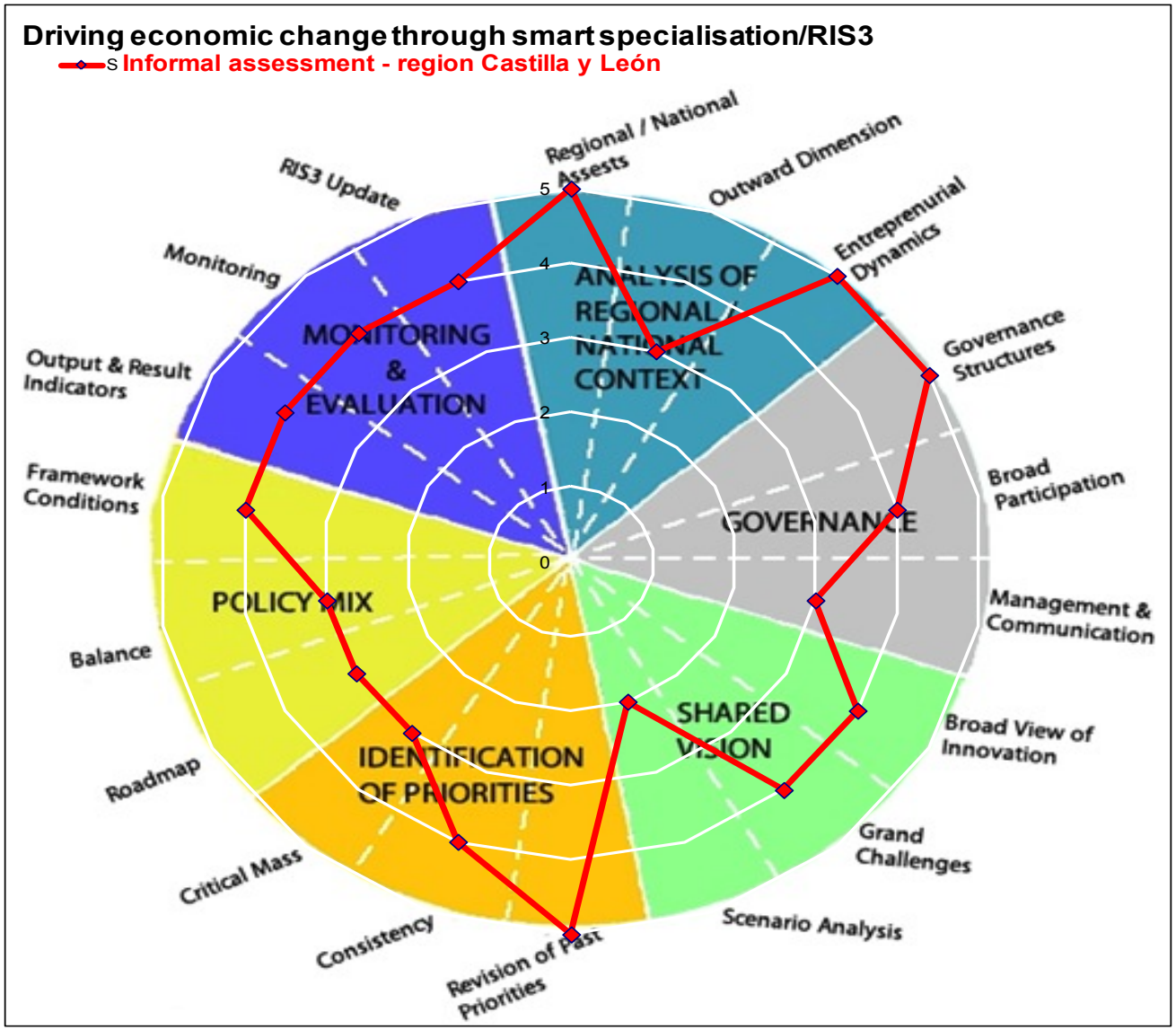
Monitoring and evaluation mechanisms:

- Annual reports.
- Mid-term review.
- Follow-up by S&T Coordination Commission

Indicators:

- Still to be defined:
  - Statistical for impact measurement.
  - Direct for measures performance.
- Must be linked between them (consistent system).
- Take into account the Operational Programme.

Self-assessment



Source: S3 Platform/EURADA

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Summary and next steps

Main challenge: to **reverse the downward trend** of indicators (crisis).

Next steps:

- Validate the vertical priorities chosen (mid October)
- Define the evaluation and monitoring system (end October)
- Elaborate the budgetary scenario (mid November)
- Writing the final complete version of the Strategy (mid December)
- Formal approval by the regional government (end December)
- Official presentation (Spring)

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Question 1: Integration of horizontal priorities with vertical priorities

- **Why**: It is complex to link each priority to horizontal priorities avoiding duplicities.
  - How to link the horizontal instruments: programs and plans with prioritized areas: economic, scientific and technologic.
  - How to establish a coordinated system for all involved public administration.
- **What has been done**: We have contrasted the horizontal priorities with regional agents and also, we have identified vertical priorities.
- **What worked**: The basis identification has worked.
- **What did not work**: The problem is to do the matrix.

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Question 2: Indicators

- **Why**: It will be very important to have a good monitoring and evaluation system because we will have less financial resources. So we must be more efficient.
  - How to link output and outcome indicators.

- **What has been done**: We have the experience from the last strategies.

- **What worked**: It included statistical impact indicators, official and public (transparent).

- **What did not work**: Limited information about specific activities; results indicators linked to single measures are missing.

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Question 3: Policy Integration: Digital Knowledge Society with R&D&I

- **Why**: The first time that both strategies are together.
  - Till now, two different regional strategies, with different approaches and structures.
- **What has been done**: The analysis of the starting point, the SWOT analysis, the regional specialisation pattern and the objectives.
- **What worked**: good communication and collaboration between regional ministry for ICT and Commissioner in charge of strategies. Common specialisation pattern.
- **What did not work**: SWOT and strategic objectives are different. Technically difficult to put together.

Thank you

Junta de
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