

R&D and innovation strategies - their effects in less-favoured regions. The experience of Castilla y León.

Regional Innovation Strategy
of the Zlín Region.

Zlín, 2nd November 2005.



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SUMMARY

- 1. Presentation.**
- 2. The Regional Technology Plan (1997-2000).**
- 3. The Regional R&D&I Strategy (2002-2006).**
- 4. Evolution of the Regional Science-Technology-Business System.**
- 5. Expected contributions from participation in Zlín's RIS.**



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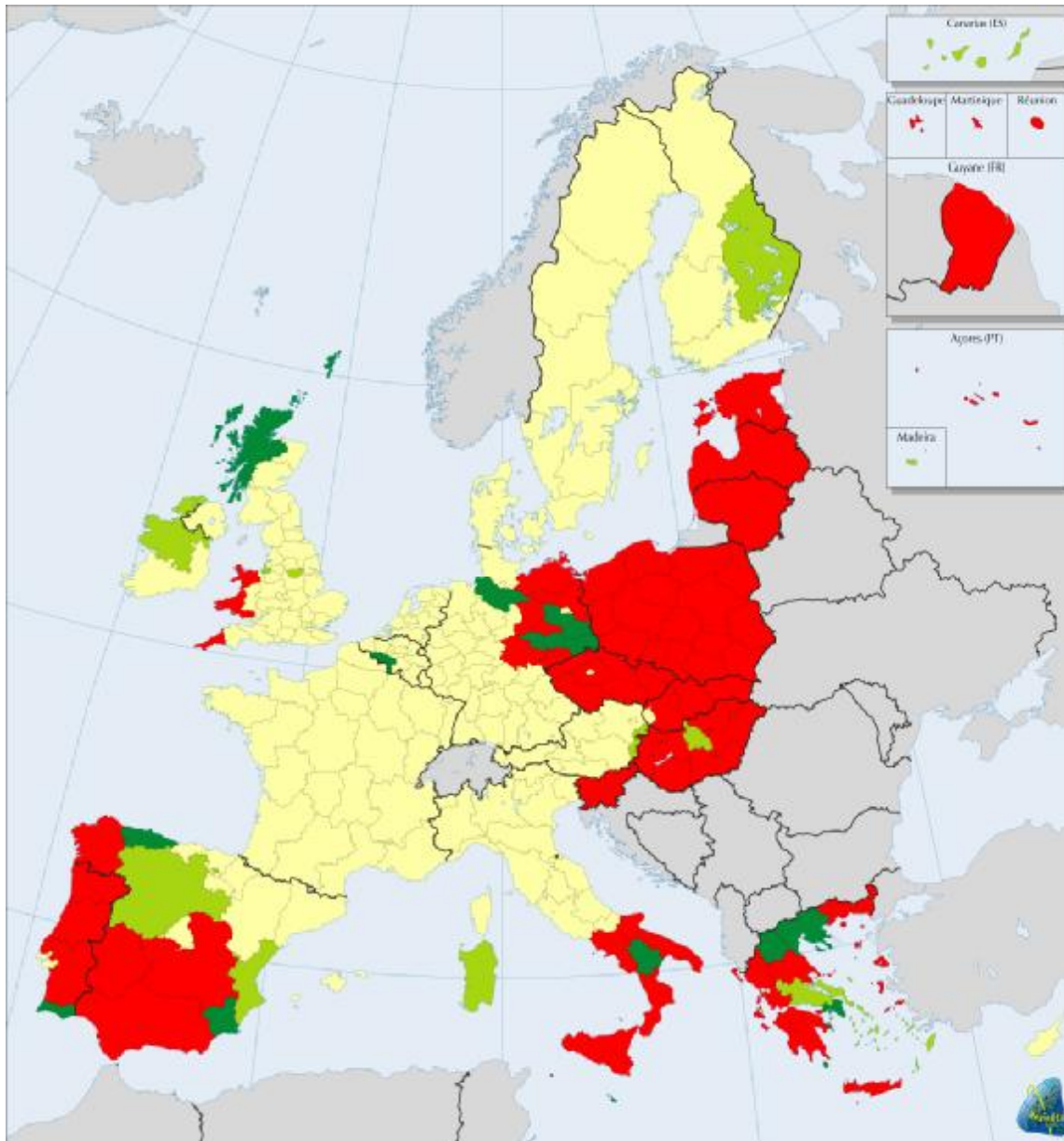
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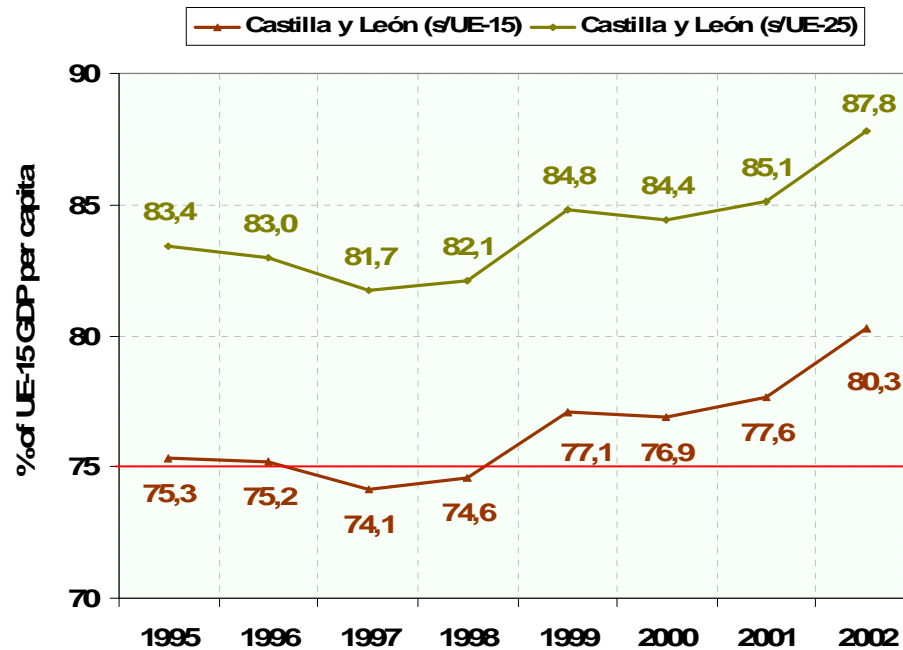
- 95,000 km². (the second-largest region in Europe). 2% of the EU-25 land area
- 2.5 million inhabitants (Density: 27 inh/km²)
- Still Objective 1. Soon Phasing-in

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1. Presentation. Convergence.

Evolution of GDP per capita in Castilla y León.
Comparison with EU-15 and EU-25 averages.

Regional disparities: convergence of
provinces (NUTS III) with EU-25 (2002)

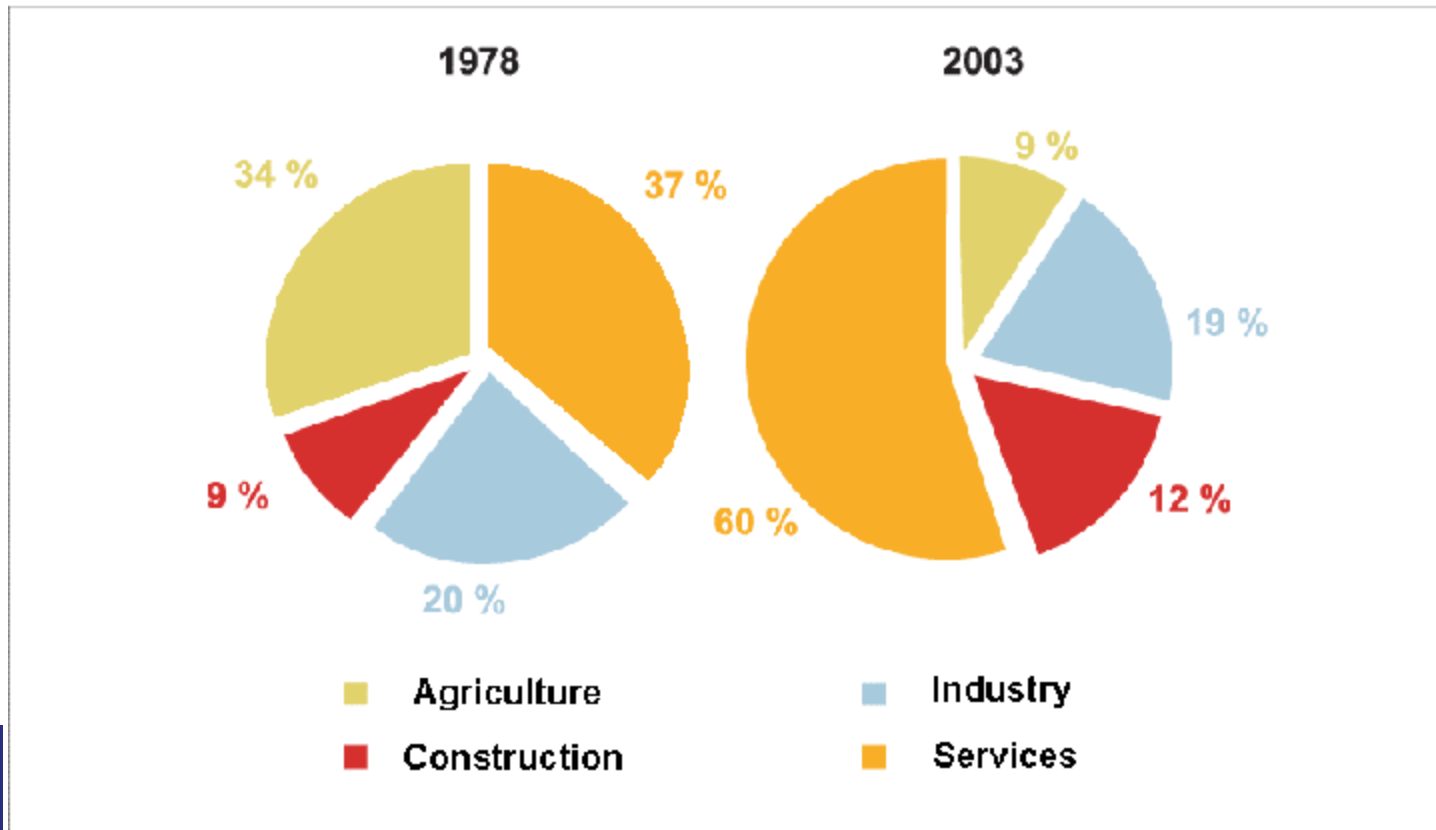


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1. Presentation. Economic structure.

Economic transformation of Castilla y León over the last 25 years

Distribution of the employed population in Castilla y León by production sectors:



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1. Presentation. SWOT Analysis.

WEAKNESSES

- **Large, depopulated area. Big differences amongst territories.**
- **Traditional businesses and sectors, not very innovative.**
- **Low level of internationalisation.**
- **Ageing population.**
- **Small services to business sector.**

STRENGTHS

- **Qualified personnel. Excellent Universities and Centres in some areas.**
- **High environmental and cultural attractiveness. Quality of life.**
- **Strategic situation in the peninsula and good communication infrastructures.**
- **Proximity to Madrid.**
- **Strong involvement of regional government.**



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1. Presentation. Actors in the regional S&T system.

- Ä **8 Universities**: 4 public (Burgos, León, Salamanca and Valladolid) and 4 private.
- Ä **9 research institutes** of the National Research Council (CSIC).
- Ä **Laboratories and technological centres**, both public and private.
- Ä **Companies** with R&D departments and activities. Dual system: the biggest 50 companies (out of 159.000 in the region) count for over 40% of BERD.
- Ä **Intermediary** bodies: R&D liaison offices, chambers of commerce, etc.
- Ä **Financial entities**: risk capital, financial guarantee, etc.
- Ä **Innovation premises**: science parks at the Universities; 3 business and innovation centres; 3 technology parks.
- Ä **Public Administration**: Regional Development Agency, Commission of Coordination on Science and Technology, Directorate Generals.



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1. Presentation.

RTD Policy. Some significant milestones

1990: Boecillo Technology Park (operational in 1992)

1990: Regional grants for RTD in companies

1992: Technology Centres network

1995: Economic Development Agency of Castilla y León (ADE).

1997 - 2001: Regional Technology Plan (RTP).

2001: Commission for Coordination on Science and Technology

2002: Act of Promotion and General Coordination of R&D&I

2002 - 2006: Regional R&D&I Strategy



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2. The Regional Technology Plan (1997-2000).

- Ø European Union pilot project with 7 more European regions: Lorraine (F); Leipzig-Halle-Dassau (D); Central Macedonia (EL); Abruzzo (I); Limburg (NL); Norte (P); Wales (UK).
- Ø Period of validity: 1997-2000
- Ø Milestone for the innovation support policy in Castilla y León
- Ø Qualitative change in the way of “making” policies on innovation (bottom-up approach, collaboration, consensus...)
- Ø A very important mobilising effort
- Ø Change of regional mentality on innovation
- Ø Strategy to optimise regional performances in RTD



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2. The Regional Technology Plan (RTP).

2.1. How to involve key actors?

- ü **Ultimate goal: To develop a regional innovation partnership through a bottom-up approach**
- ü **All social and economic agents (and all economic sectors) were invited to express their opinion, which led to an enriching debate on the real situation and perspective of the region's innovative capacity: 1000 participants (of which 800 were companies). 100 technology diagnoses and 500 surveys were made.**
- ü **Steering committee and technological forum: Active participation and decision-making**



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2. The Regional Technology Plan (RTP).

2.1. How to involve key actors?

- ü **Sectoral meetings (10, involving 120 companies):** Reduced number of key actors (15 in each meeting: SMEs, research centres, intermediate agents, regional government, ...) in each sector to validate the analysis of the first stage and discuss the regional innovation strategy
- ü **Accept critical viewpoints and be open minded**
- ü **All decisions must be based on consensus.** Consensus makes possible: firstly, the validation of the situation's diagnosis; and secondly, the establishment of priorities and the identification of the most adequate actions.
- ü **Strong support from the regional government:** Initial budget = 400.000 euros, Total final cost = 600.000 euros. High-level political implication.
- ü **Pull-effect of big companies on the rest of the tissue.**



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2. The Regional Technology Plan (RTP).

2.2. Outcome: programmes of the RTP.

- Ø **INFRASTRUCTURES PROGRAMME:** Development of technological centres, liaison units, etc.
- Ø **INNOVATION PROGRAMME:** Promotion of technological development and the use and adoption of technologies.
- Ø **RAINING PROGRAMME:** Improvement of R&D and TT capacities of companies.
- Ø **PUBLIC AWARENESS PROGRAMME:** Oriented to the business sector; included access to relevant information related to innovation and RTD.
- Ø **STRUCTURING OF THE BUSINESS DEMAND PROGRAMME:** Support to business integration and co-operation activities.



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2. The Regional Technology Plan (RTP).

2.3. The added value of the exercise

- Ä During the elaboration process a consensus was built among all the agents of the innovation system in Castilla y León.
- Ä Companies, and especially the SMEs, became aware of the concept of innovation during the elaboration (when they were reluctant to participate in the beginning).
- Ä With the implementation of the flagship instruments, more co-operation among the different agents of the innovation system was achieved.
- Ä A better co-ordination among the different departments of the regional government in innovation and technological development matters was established. As a result, a formal Commission for Coordination on Science and Technology was created.
- Ä Innovation and technology policy was accepted as a key element for social and economic development in the region, starting a process which continues with a second generation of RIS.



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2.3. The added value of the exercise

Some objectives and results (1997-2001)

- GERD: increase from 0,8% to 1%. Reality: increase from 0,52% to 0,80%.
- Percentage of BERD: increase from 41% to 50%. Reality: increase from 32,7% to 53,7%.
- Percentage of private R&D personnel (FTE): from 30% to 40%. Reality: from 16,9% to 26,6%.

Resources mobilized by the Regional Technology Plan	1997-2000		
	Foreseen (M€)	Executed (M€)	Ratio executed / foreseen
Public Resources	245,09	350,87	143,16%
<i>Junta de Castilla y León</i>	<i>147,25</i>	<i>232,74</i>	<i>158,06%</i>
<i>Other public administrations</i>	<i>97,84</i>	<i>118,13</i>	<i>120,74%</i>
Private resources	198,33	887,29	447,38%
TOTAL	443,42	1.238,16	279,23%



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3. The Regional R&D&I Strategy (2002-2006).

- ü 2nd generation of RIS in Castilla y León. Financed exclusively with regional resources, from the successful experience of the Regional Technology Plan 1997-2000, and in close relationship with European experts.
- ü Coordinated by the new Regional Commission of Coordination on Science and Technology.
- ü Now extended to basic research. That means R&D&I integrated planning.
- ü Defined by means of consensus and addressed to business demand and strategic sectors.
- ü Following RTP successful methodologies:
 - ü Stage 1: Supply analysis
 - ü Stage 2: Demand analysis
 - ü Stage 3: Synthesis and results. Regional R&D+i Strategy final document



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3.1. Strategy's Programmes

A) AREA OF RESEARCH AND SCIENCE

Programme 1: Improving the connection with the environment

Programme 2: Research Projects

Programme 3: Intellectual capital

Programme 4: Results' exploitation

Programme 5: Research supporting tools

B) AREA OF INNOVATION

Programme 6: Innovative businesses

Programme 7: Scientific - technological competitive supply

Programme 8: New sectors

Programme 9: People's training to generate and transform new knowledge



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3.2. Resources foreseen

Resources foreseen (Million €)	2002	2003	2004	2005	2006	TOTAL
Public Resources	162,0	194,6	223,0	253,8	282,5	1.115,9
- Junta de Castilla y León	99,3	120,4	137,0	153,0	165,0	674,7
- Other Public Resources (Spain, UE)	62,7	74,2	86,0	100,8	117,5	441,2
Private Resources	172,6	210,5	252,3	282,7	321,5	1.239,6
TOTAL	334,6	405,1	475,3	536,5	604,0	2.355,5

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3.3. Indirect indicators

INDIRECT INDICATORS	2000	OBJ. 2006	CURRENTLY
R&D&I effort (% of GDP)	1,76	2,4	1,64 (2003)
R&D effort (GERD) as % of GDP	0,64	1,2	0,88 (2003)
% of R&D expenditure by companies and private non-profit bodies	41,7	50	52,9 (2003)
% of R&D expenditure by Universities	49,8	43	38,1 (2003)
% of R&D expenditure by public Administration	8,5	7	9 (2003)
R&D effort (GERD) as % of non-agricultural GDP	0,8	1,2	1,34 (2003)
R&D personnel (FTE) / Active population (‰)	5	6	7,2 (2003)
R&D personnel (FTE) in companies (% of total R&D personnel)	23,8	28	34,9 (2003)
Patent applications	14	18	46 ⁽¹⁾ (2003)
Participation of Castilla y León in the Spanish return from R&D European programs (%)	2,2	5	2,09 (2003)
Additional contribution of public resources (National Plan, Framework Programme, etc.) (M€)	39,4	117,5	55,3 (2002)
Private mobilized resources (M€)	83,5	321,5	509,7 ⁽²⁾ (2003)

NOTES:

(1) Number of awarded national patents, as published by the National Patent Office. The same value in 2000 was 29.

(2) Private R&D&I expenditure. The value in 2000 was 483,7 M€.



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3.4. Direct indicators

DIRECT INDICATORS	2000	OBJ. 2006	CURRENTLY
Size of Technological Centers - Turnover (M€)	21,5	40	48,6 (2004)
No. of innovative companies	1395	2500	Not available
No. of collaborative R&D&I projects	–	100	Not available
No. of new technology-based companies	–	60 new companies (10 per year)	30 (2004)
Companies involved annually in training actions	125	250	151 ⁽¹⁾ (2004)
Public investment in S&T (% of Regional Administration's budget)	1,2	2,4	2,53 (2005)

NOTE:

(1) 209 applicants.



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3.5. Specific activities to support business R&D&I

Ä Consolidation of technological infrastructures:

- Technology Centres.
- Technology Parks (Boecillo, León, Burgos).
- Innovation areas.

Ä Increase of support to projects of industrial research and pre-competitive development in companies, specially SMEs, giving priority to the cooperation between companies and with regional Technological Centres and Universities.

Ä SMEs access to the Information Society.

Ä Promotion of the companies' participation, fundamentally SMEs, in European FP6 projects.



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3.5. Specific activities to support business R&D&I

- Ä Awareness of fiscal incentives for R&D+I activities in SMEs.
- Ä Generalization of innovative processes in the whole regional territory: LEGITE project and Network of Innovation Agents (AIR).
- Ä Human resources: Insertion of researchers and technologists in companies; training, grants.
- Ä Creation of technology-based and innovative business start-ups.
- Ä Reinforcement of the biotechnology sector.
- Ä Application of competitive intelligence techniques to traditional sectors.
- Ä Trans-national technology transfer: Innovation Relay Centre



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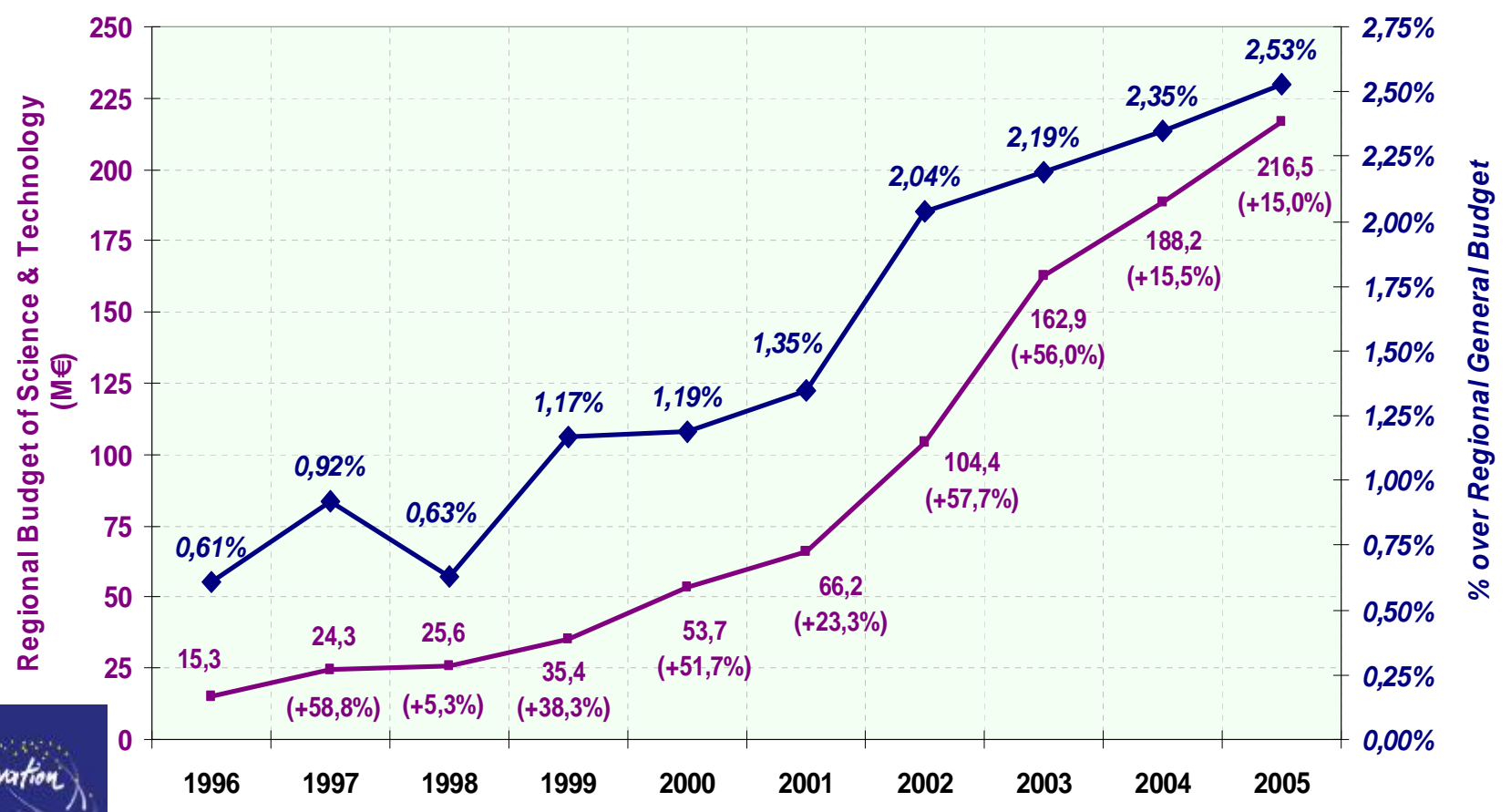
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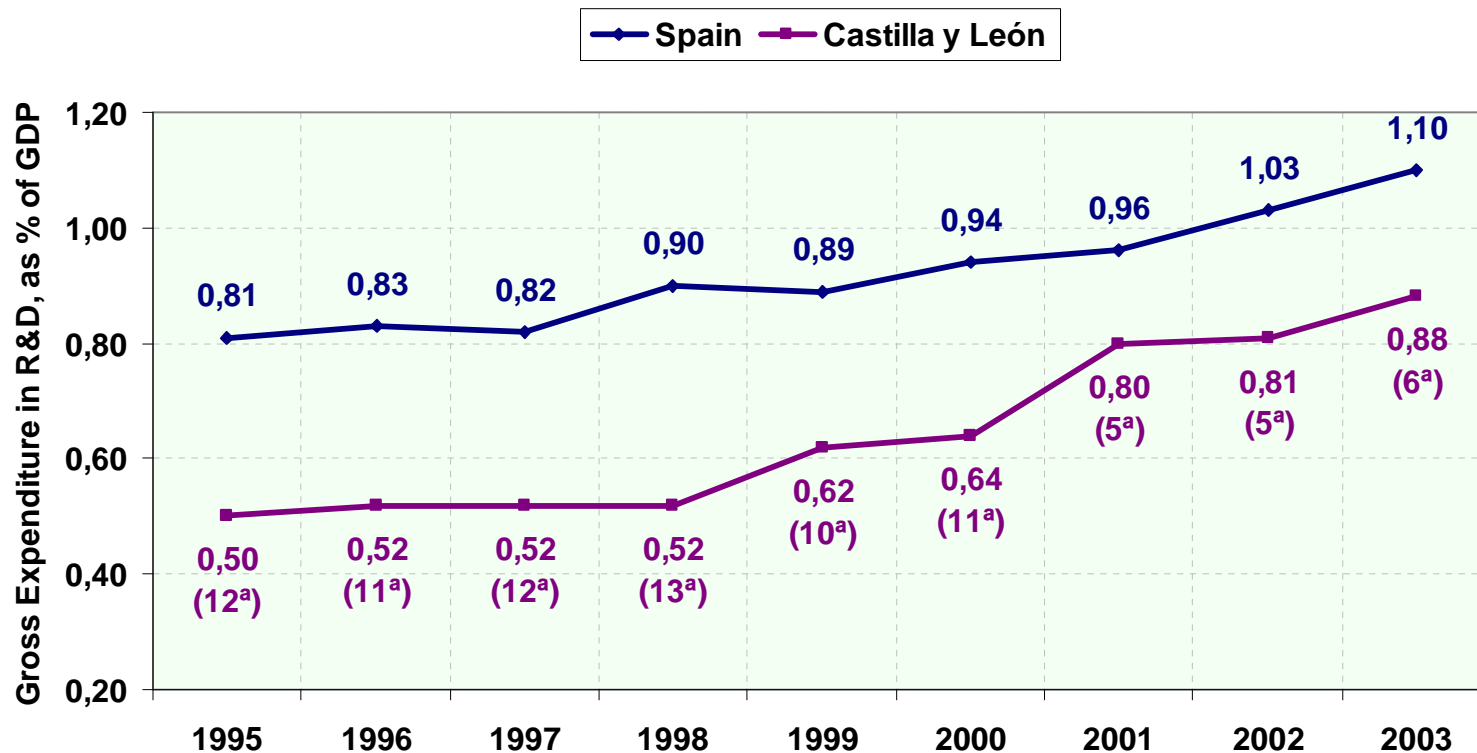
4.1. Evolution of Science and Technology Expenditure in the Regional Government Annual Budget (1996-2005)



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4. Evolution of the Regional Science-Technology-Business System.

4.2. Evolution of the Technological Effort in Castilla y León



NOTE:

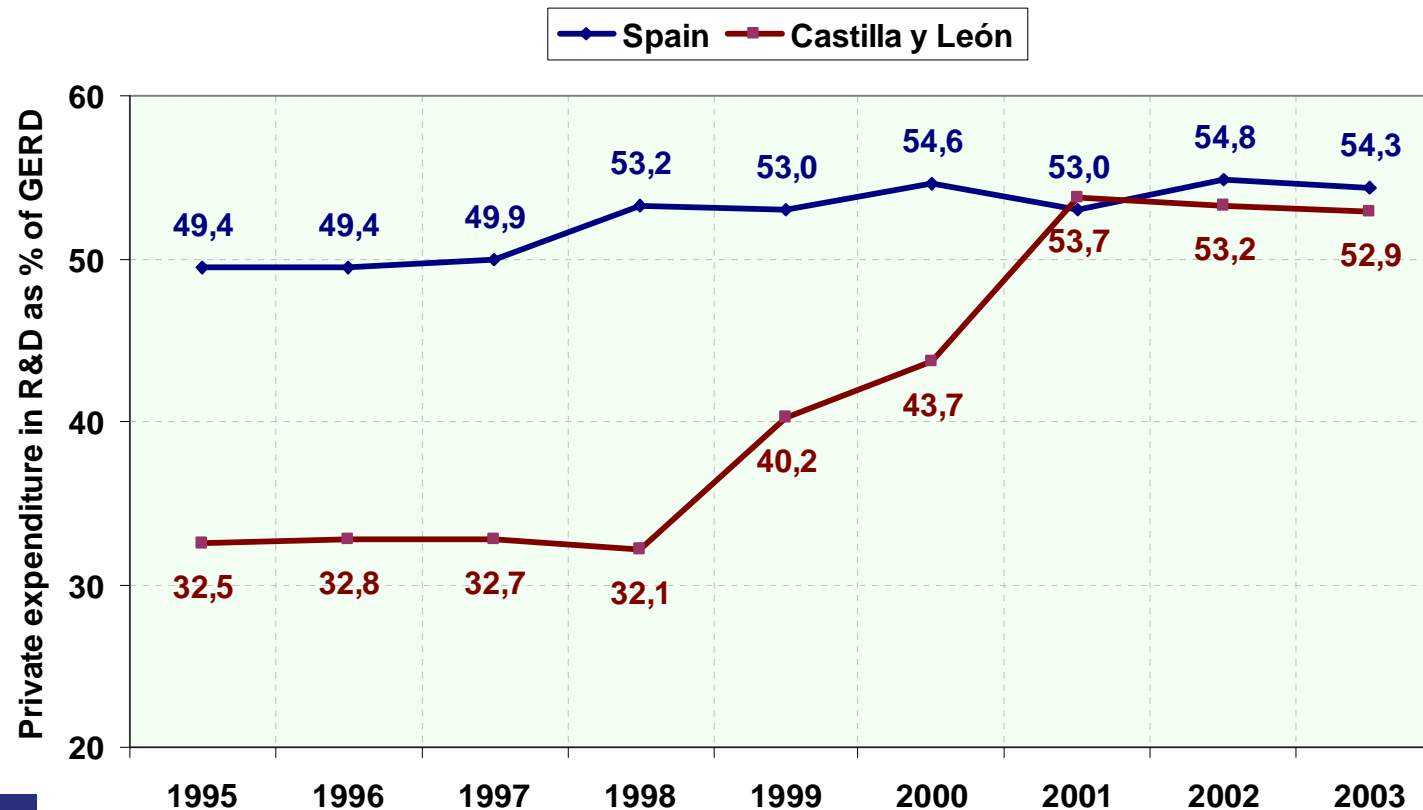
1) In brackets, the relative position of Castilla y León among the rest of Spanish regions.



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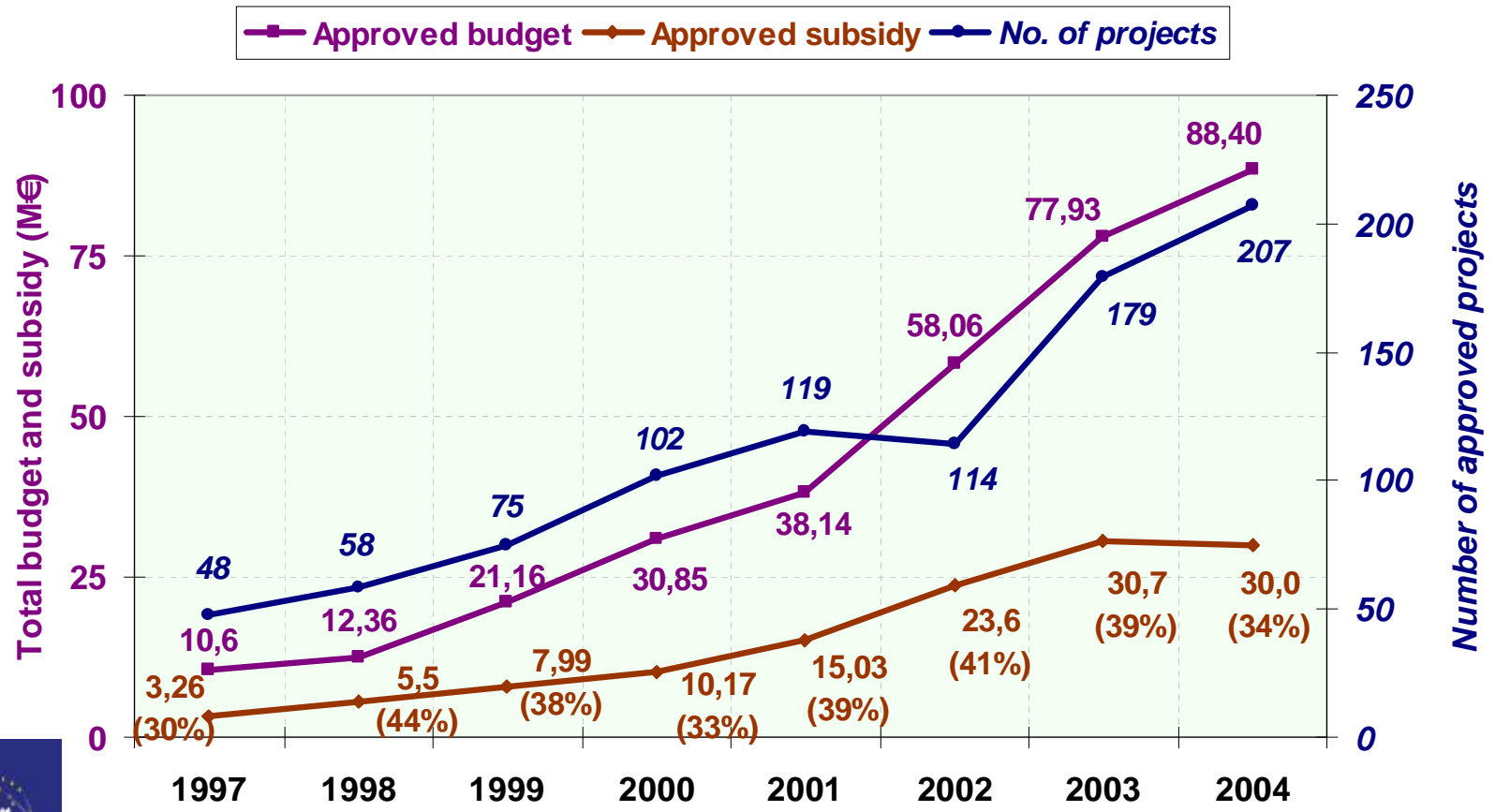
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4.3. Business Expenditure on R&D (% of Total Expenditure)



4. Evolution of the Regional Science-Technology-Business System.

4.4. Regional Subsidies for RTD projects in private companies



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5. Expected outcomes from participation in Zlín's RIS.

- Ä Set up conditions for inter-regional co-operation and transfer of know-how and innovation techniques.
- Ä Networking innovative regional key players.
- Ä Exchange of experiences with all the project partners – learning new methodologies and techniques.
- Ä Identification of co-operation possibilities between companies, technology centres and universities of both regions.

