Regional Smart Specialization Event- Region of Eastern Macedonia and Thrace

2nd PROJECT DEVELOPMENT LAB

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in ALEXANDROUPOLIS

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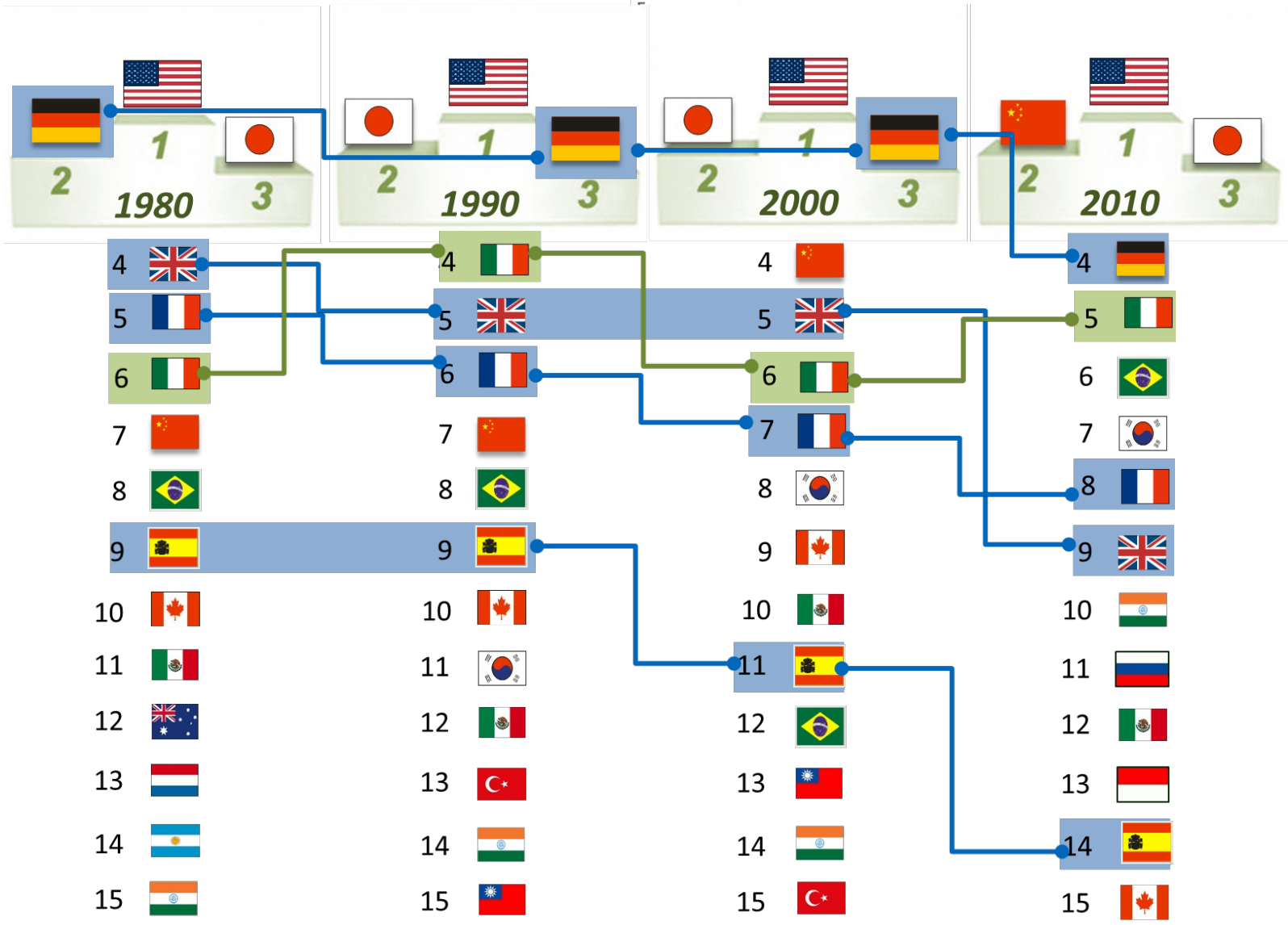
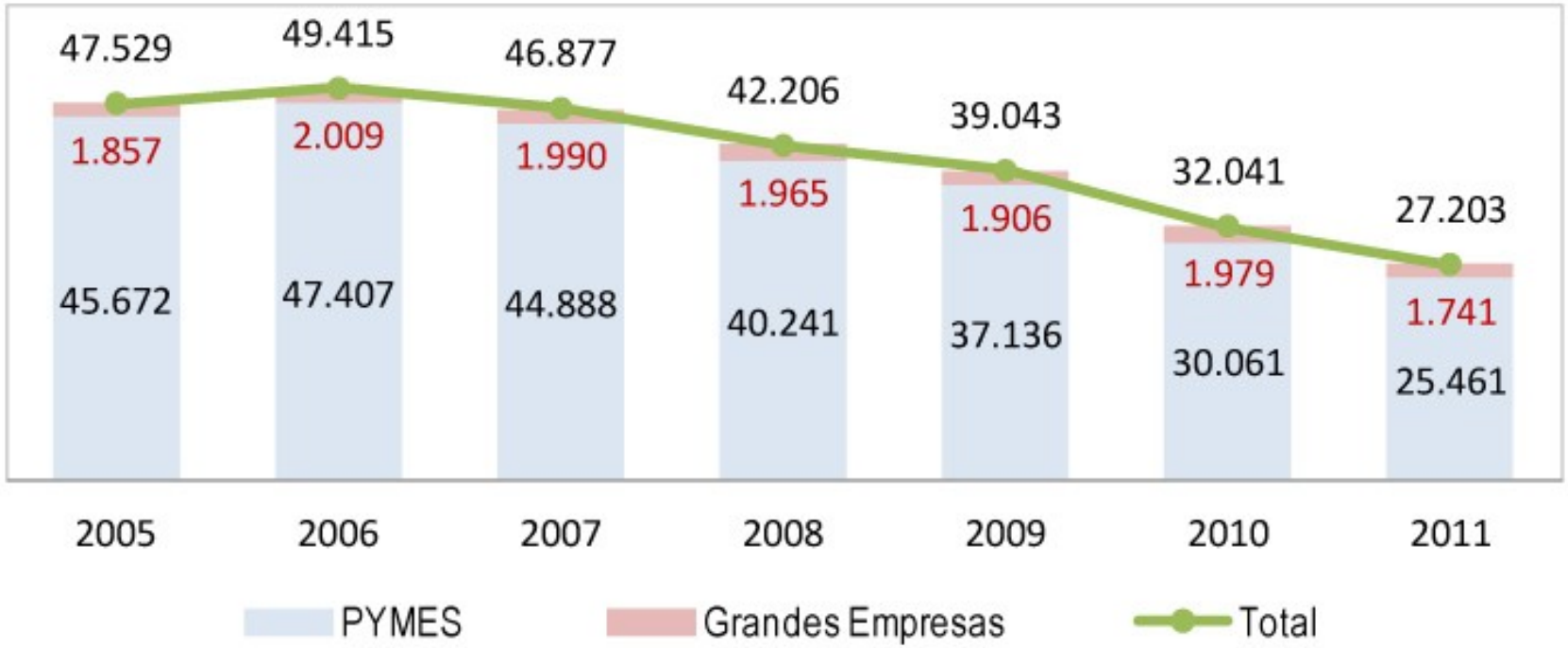
Unit G5 – Greece & Cyprus

European competition in global manufacturing is declining

Top 15 Manufacturers by share of global manufacturing nominal gross value added

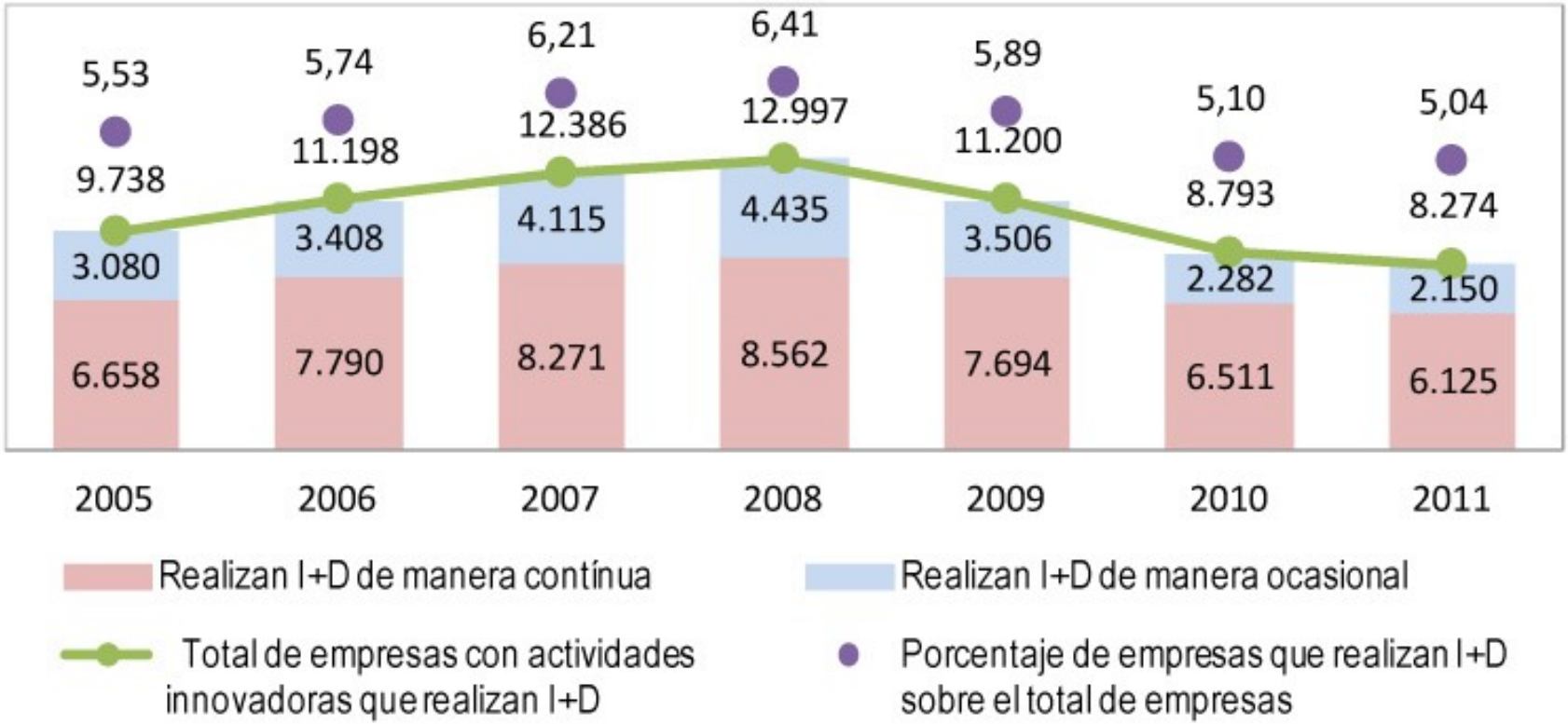


Empresas innovadoras tecnológicamente según el tamaño de las empresas. 2005-2011



Fuente: INE. Elaborado por FECYT.

Empresas con actividades de innovación tecnológica que realizan I+D (nº y porcentaje sobre el total). 2005 – 2011.



Fuente: INE. Elaborado por FECYT.

What is innovation?

An **innovation** is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations (OECD, Oslo Manual).

A **product innovation** is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.

A **process innovation** is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.

An **organisational innovation** is the implementation of a new organisational method in the firm's business practices, workplace organisation or external relations.

A **marketing innovation** is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.

Innovation and Economic Development

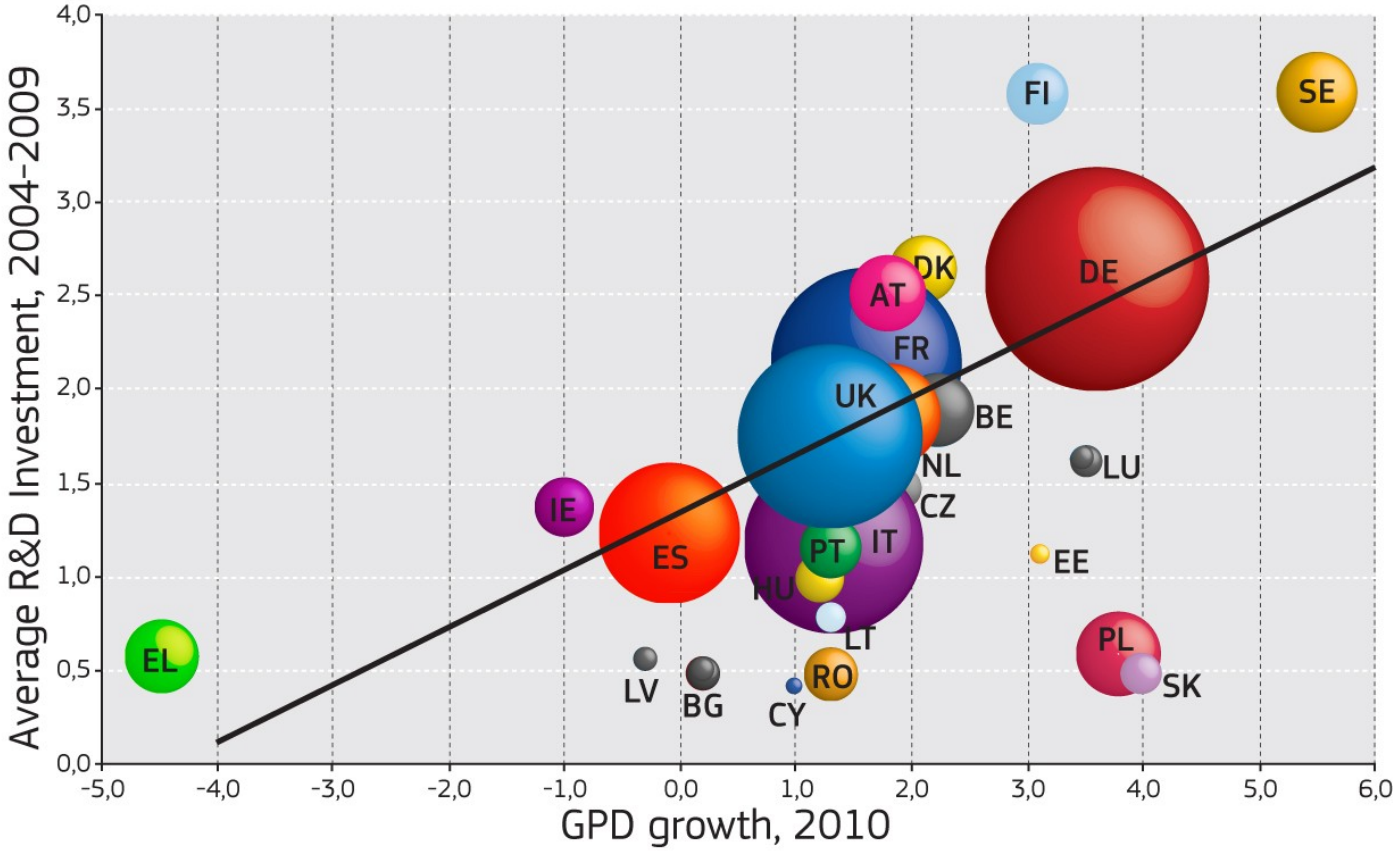
"...in the last 50 years innovation has been responsible for at least half the economic growth of our nation..."

(Neal Lane, Director National Science Foundation - NSF, February 1997, Seattle, U.S.A)

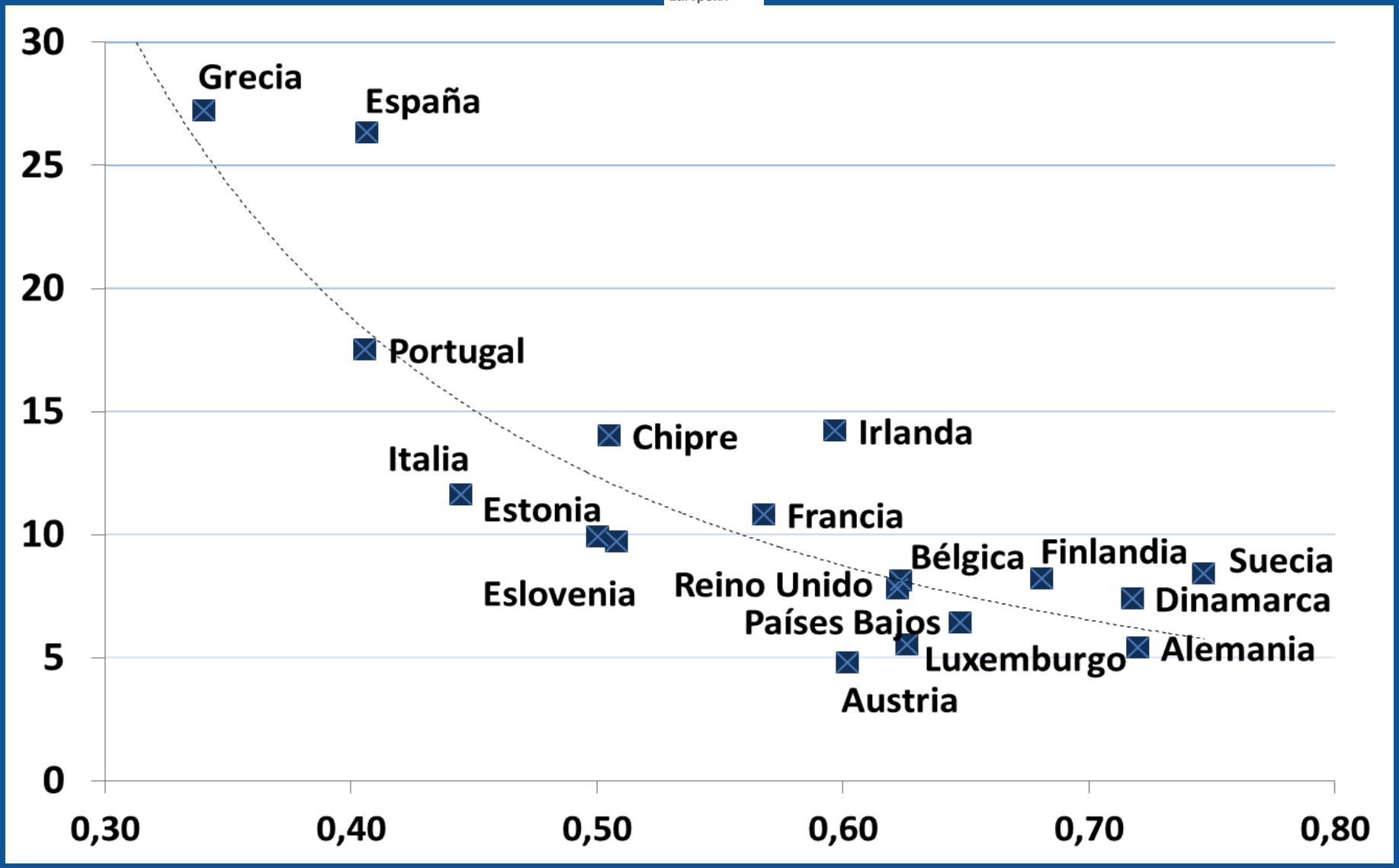
- *i) increases in growth rates (Solow 1957, Rothwell and Zegveld 1981: 29, Quintanilla 1992: 46),*
- *ii) higher rates of exports and trade (OCDE 1982, 1986),*
- *iii) gains in productivity (Mansfield 1965, Amable and Boyer 1992: 45),*
- *iv) growth in income and output (Freeman 1982: 198),*
- *v) bigger business profits and lower inflation rates (Goddard et al 1987: 10) ,*
- *vi) increased firms international competitiveness (Nelson 1993:509)*
- *vii) appearance of new or improved products and services (Mansfield 1988, Pavitt 1994), etc.*

"Until the 1980s, technology and innovation were under recognised influences in the explanation of differences in the rates of economic growth between regions in advanced industrial nations..." (Townroe)

Is there a link between innovation and (exit from) the crisis?



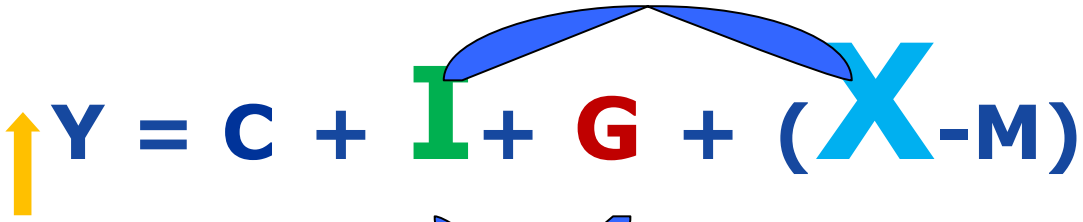
Unemployment March 2013 (Eurostat)



Fuente: Guillermo Dorronsoro (Decano Deusto Bussiness School)

Innovation Policy as an Crisis exit strategy

How to increase aggregate demand for long term growth in the liquidity trap … Innovation Policy?



A virtuous (Crisis exit) cycle: by increasing targeted government expenditure **G** (in innovation eco-systems and human capital skills) that leverages private co-funding **I** (on innovation: often intangible, long-term, risky investments) which enhances their capacity to compete in global markets (raising exports **X**), output grows driven by sustainable jobs, …thus public sector is only "advancing" money that could be (partially) clawed back later through increased tax revenue and savings on unemployment benefits, without burdening further public deficit in the long term… if this innovation policy works!

"I have argued against short term stimulus packages…believing that instead we need a consistent, planned, decade long boost in public investments in people, technology and infrastructure…it requires careful government programs, working alongside the private sector, and good coordination with state and local government… J. Sachs, 3/9/13' in "Professor Krugman and crude keynesianism" HUFF Post"

How enterprises see innovation?

95% of respondents believe innovation is the main lever for a more competitive national economy

88% of respondents believe innovation is the best way to create jobs in their country

This faith is Global; these results are quite consistent from one country to another

See: GE Global Innnovation Barometer 2011: Interview of 1000 senior executives in 12 countries (December 2010 - January 2011)

The rationale for public intervention to promote innovation

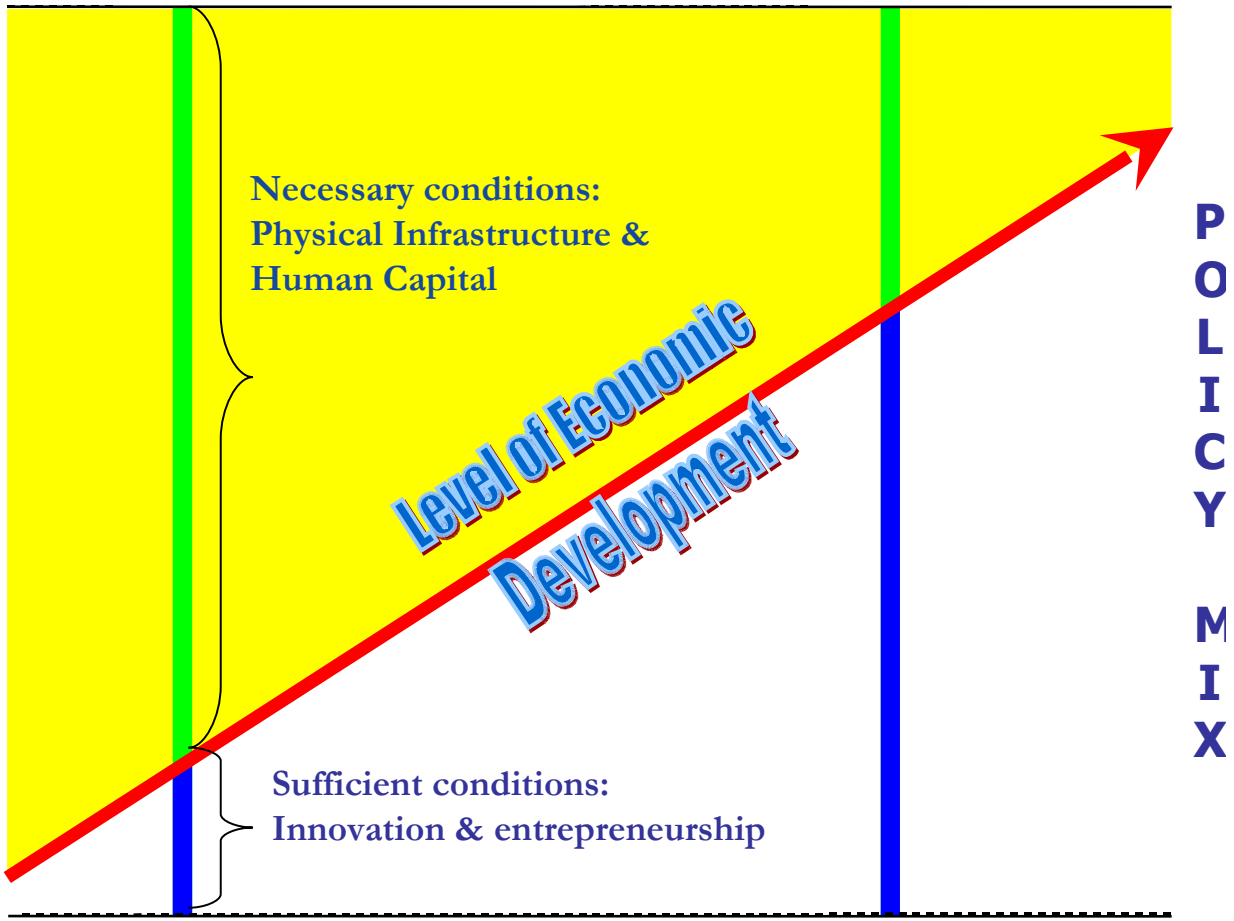
"… the most important job for economic policy is to create an institutional environment that supports technological change. " *Paul Romer 1994*

"Innovation is a critical factor for growth but a well-functioning market economy cannot generate by itself the optimal levels of R&D" (World Bank , 2011), because of two main market failures:

- *Partial appropriability (owing to knowledge spillovers - employee mobility and FDI - and positive externalities) and "public good" nature of R&TD+i: innovators cannot capture the full benefits of their investment and social returns from innovation may be far larger than private returns (Jaffe 1998)*

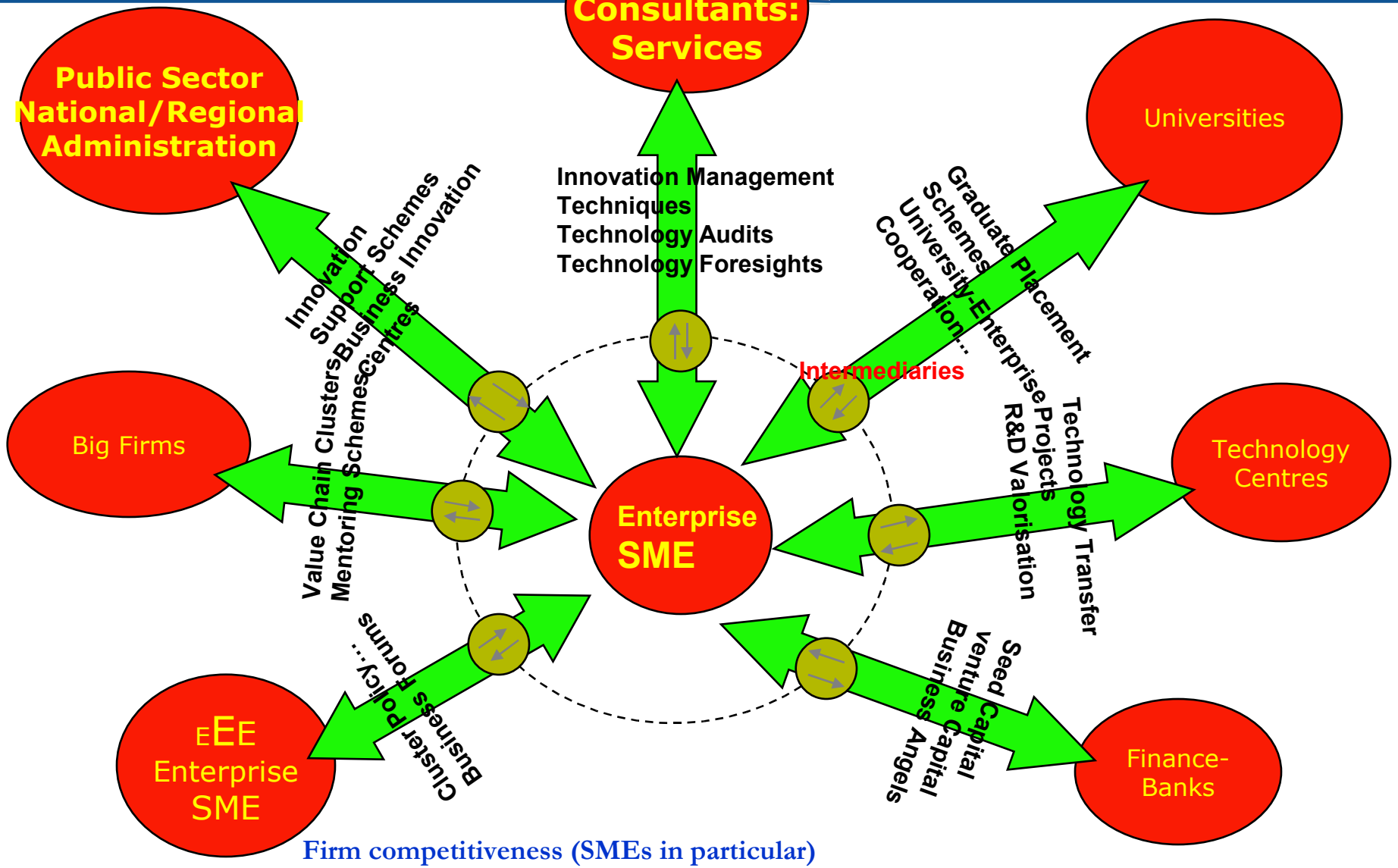
- *Information asymmetries and "funding gap": in the absence of demonstrated cash flows or collateral there are barriers to traditional sources of finance – there is a significant gap between what an innovator knows and what an external agent can gauge – Importance of F³: fools, friends and family*

Climbing the development ladder calls for more innovation in the policy mix



P mix = f (NC, SF) adapted to each regional context: business culture, institutional setting, sectoral/technology specialisation, firm size, inward investments, etc …

The strategic importance of public policy in creating efficient Innovation Eco-Systems



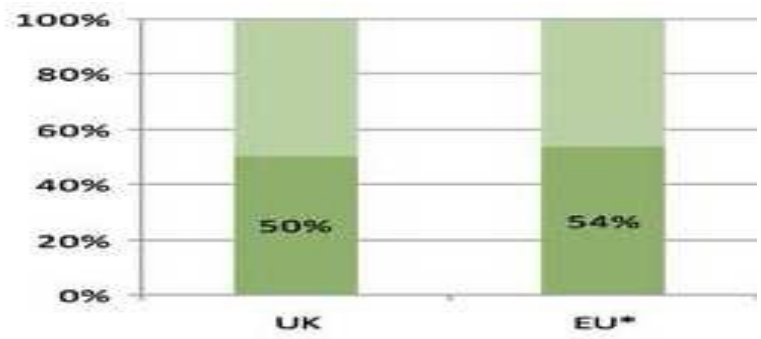
Firm competitiveness (SMEs in particular) (also) depends on the quality of their innovation environment!!!

Steve would not have made it everywhere…

Innovation-friendly business environments vs promoting R&D excellence

Innovation is not just R&D. For most companies and the majority of regions their competitiveness are not mainly or primarily dependent on R&D efforts but on knowledge absorption (education and training, advanced business services) and diffusion (technology transfer, ICT, entrepreneurship) largely dependent on internal and external connectivity

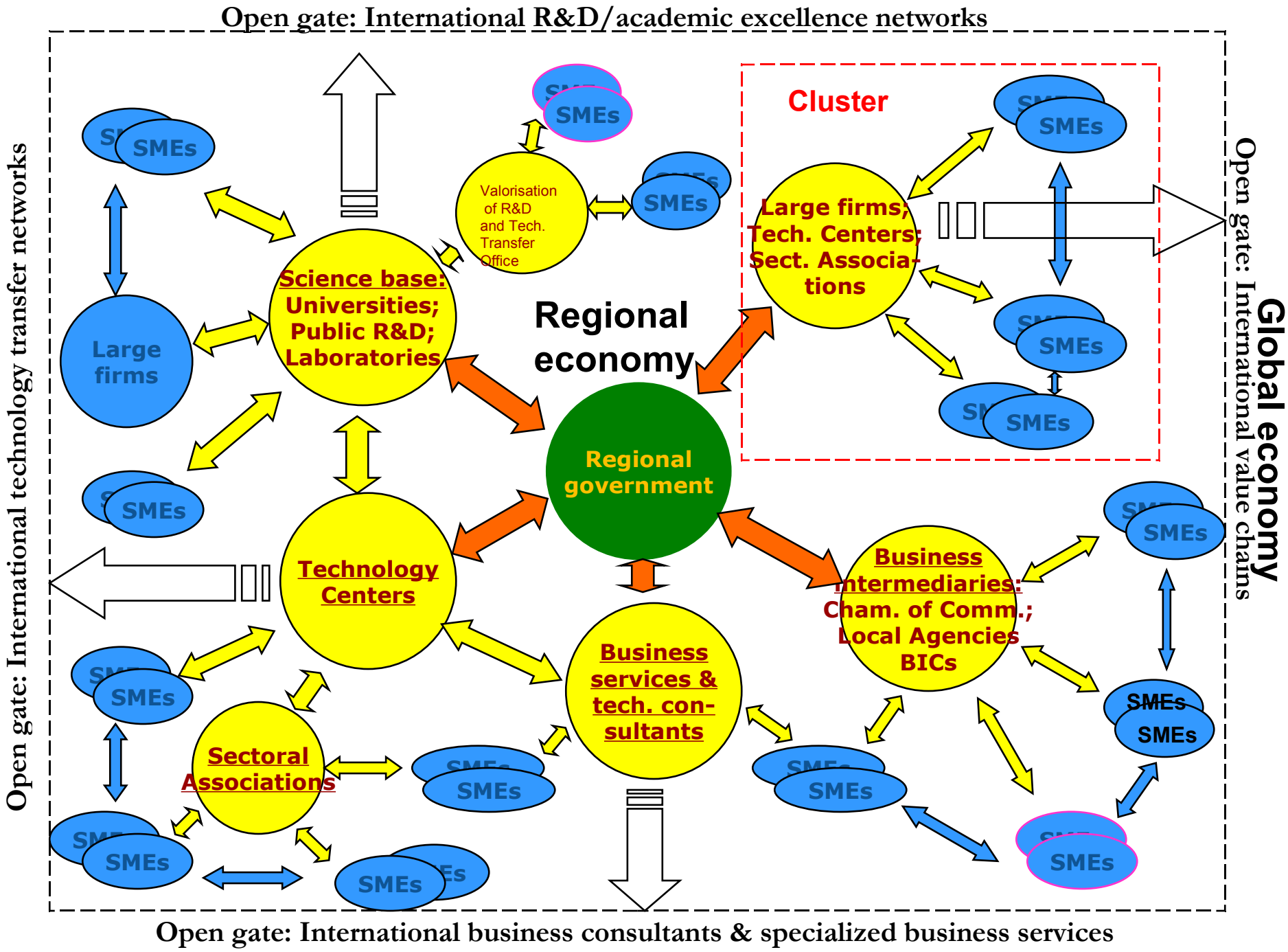
•**Proportion of innovation active enterprises with no R&D, 2006-2008**



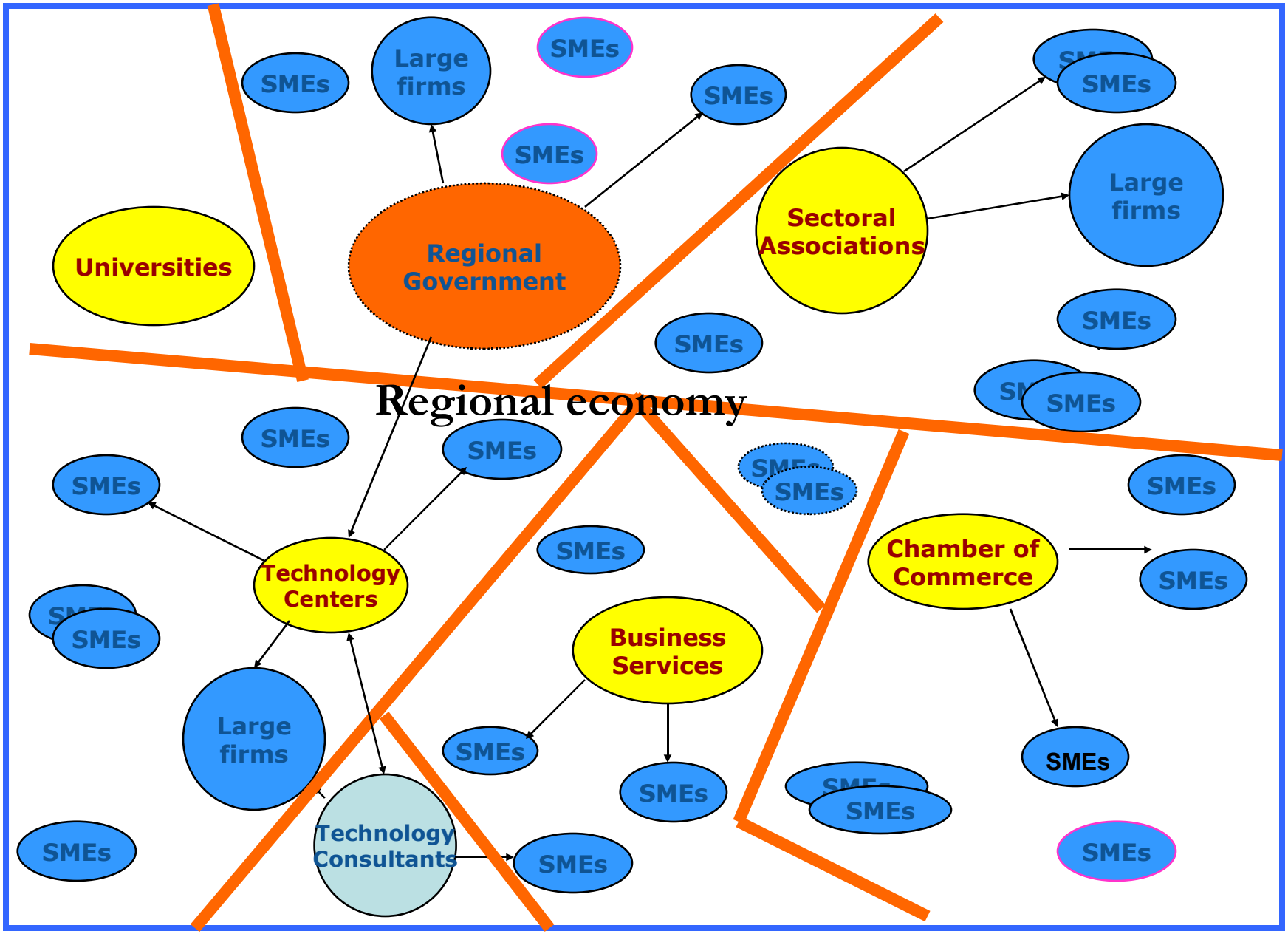
Sources: Eurostat CIS6; R.J. Adams, 'The distribution of innovation activity across UK industry', BIS (2010) from a presentation by Michael Kitson Judge Business School, University of Cambridge and UK-Innovation Research Centre

"Innovation is not just science and technology; it is also the creation of a multitude of new products and services in all sectors of the economy, new marketing methods and changes in the ways of organising businesses, in their business practices, workplace organisation and external relations" (OECD 2010).

"Innovations are not just the results of scientific work in a laboratory-like environment…this is the exception rather than the rule…the causality between science and innovation has proven weaker than expected…innovation emerge increasingly in practice-based processes based on the ability to interact and build networks with other innovation agents" (V. Haarmaakopi et al 2008)


Open gate: International R&D/academic excellence networks
Open gate: International technology transfer networks
Global economy
Open gate: International value chains
Open gate: International business consultants & specialized business services
Cluster
Regional economy
Science base: Universities; Public R&D; Laboratories
Valorisation of R&D and Tech. Transfer Office
Large firms; Tech. Centers; Sect. Associa-tions
Large firms
Regional government
Technology Centers
Business intermediaries: Cham. of Comm.; Local Agencies BICs
Business services & tech. con-sultants
Sectoral Associations
SMEs

A fragmented and inefficient regional economy opposing institutional change:



What enterprises think of public innovation support …

Only 1/3 of enterprises are satisfied with public support. The type of measures do not correspond to their needs.

What do they need?

- Money, but not only grants, also credits, guarantees, venture capital, etc..
- Clients, markets (domestic, global)
- Partners (development, value chains ...)
- Support for new forms of innovation (user-centred, combinations with services, ...)
- Quicker support and more tailor-made measures

See: DG ENTR (2009)
http://ec.europa.eu/enterprise/policies/innovation/files/

Europe 2020: 3 interlinked priorities

1.) Smart growth: *developing an economy based on knowledge and innovation*

- *75 % **employment** rate (% of population aged 20-64 years)*
- *3% investment in **R&D** (% of EU's GDP)*

2.) Sustainable growth: *promoting a more efficient, greener and more competitive economy*

- *"20/20/20" **climate/energy** targets met (incl. 30% emissions reduction if conditions are right)*

3.) Inclusive growth: *fostering a high-employment economy delivering social and territorial cohesion*

- *< 10% **early school leavers** & min. 40% hold **tertiary degree***
- *20 million less people should be at **risk of poverty***

« With the right vision for EU in 2020, we can harness Europe's talents and assets, and reinvigorate the inclusive social market economy that is the hallmark of the European way of life » (J. Barroso 2010 « Political Guidelines for the next Commission »)

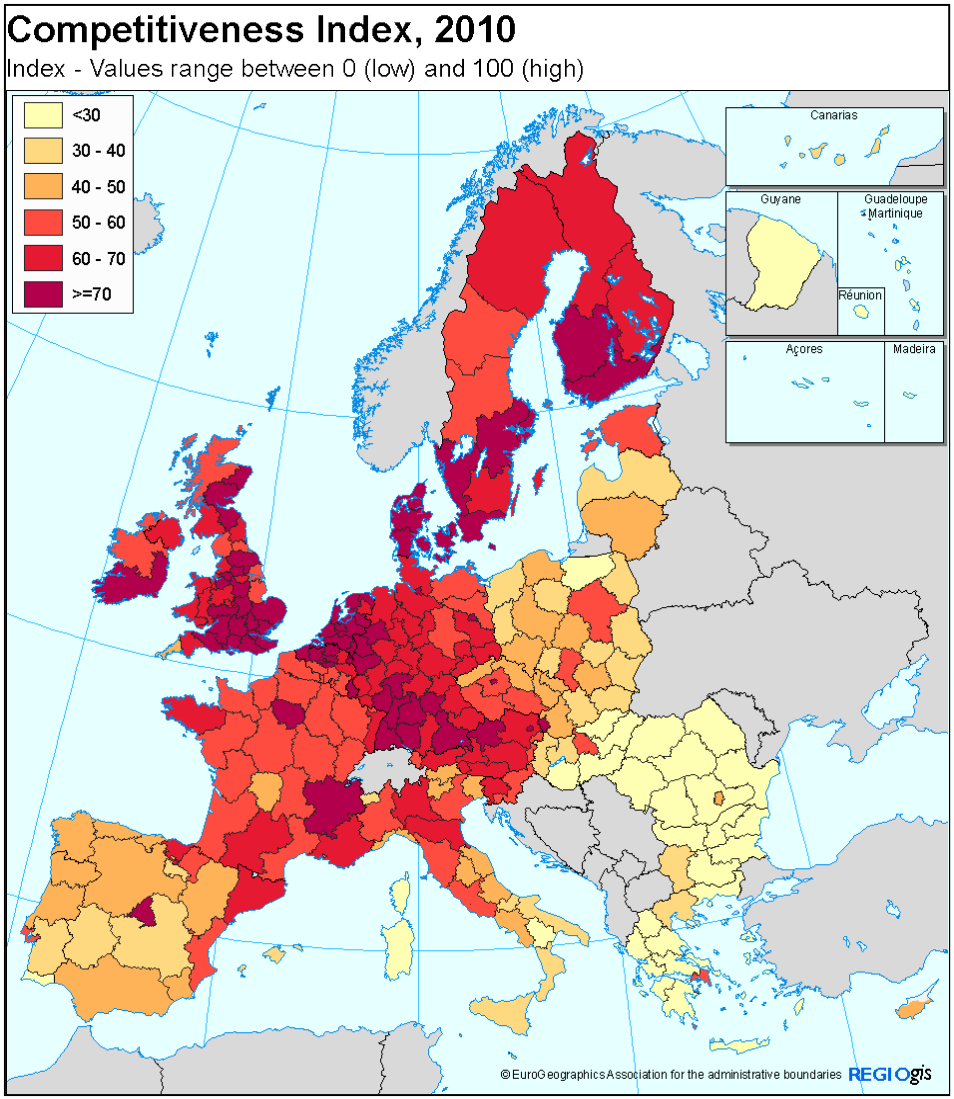
EU 2020

7 flagship initiatives

Smart Growth	Sustainable Growth	Inclusive Growth
Innovation *« Innovation Union »*	**Climate, energy and mobility** *« Resource efficient Europe »*	**Employment and skills** *« An agenda for new skills and jobs »*
Education *« Youth on the move »*	**Competitiveness** *« An industrial policy for the globalisation era »*	**Fighting poverty** *« European platform against poverty »*
Digital society *« A digital agenda for Europe »*		

« Europe's political leaders and economic analysts must move from « why » to « how », from explaining why reforms are necessary, to showing how they can be implemented » Anne Mettler – The Lisbon Council 2008

Smart Growth

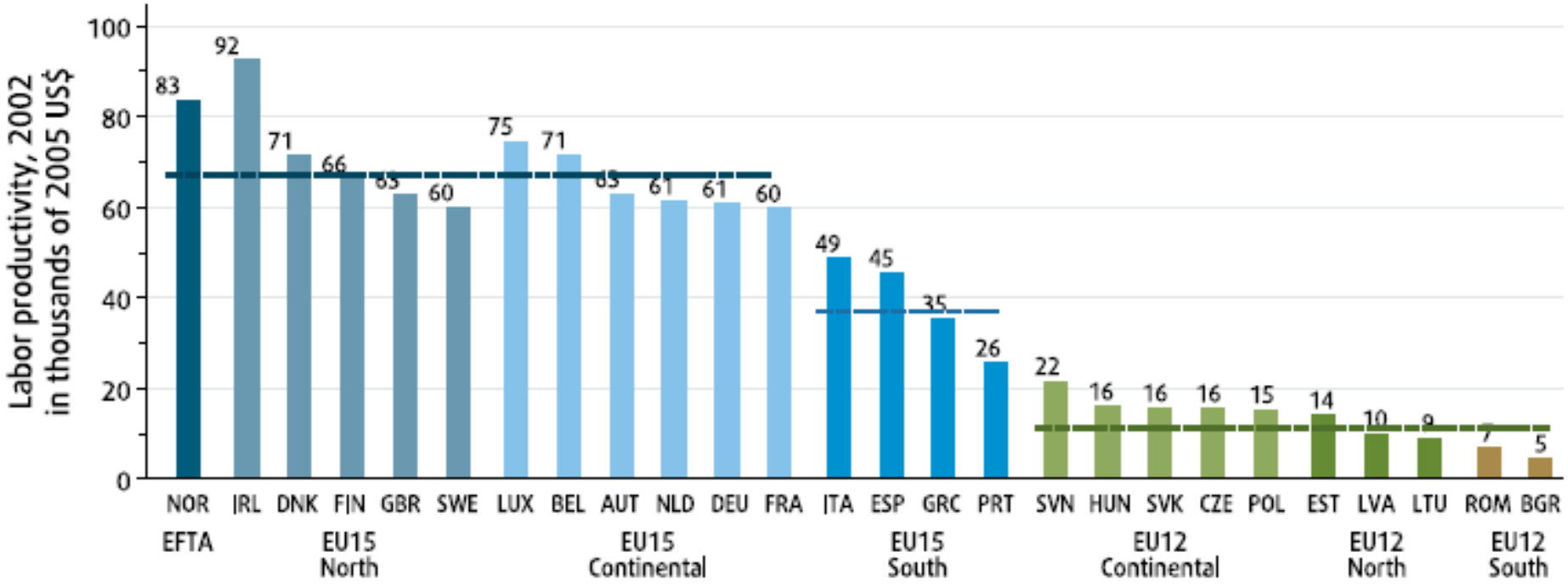


NL31	Utrecht	100
DK01	Hovedstaden	95.9
NL32	Noord-Holland	95.4
UKI	London	94.3
SE11	Stockholm	94.3
FI18	Etelä Suomi	92.6
NL33	Zuid-Holland	92.4
FR10	Île de France	92.1
NL41	Noord-Brabant	91.4
UKJ1	Berkshire, Buckinghamshire and Oxfordshire	90.1
RO41	Sud-Vest Oltenia	12.7
GR42	Notio Aigaio	12.5
RO22	Sud-Est	12.2
BG31	Severozapaden	12.1
GR22	Ionia Nisia	9.5
ES63	Ciudad Autónoma de Ceuta	8.9
PT20	Região Autónoma dos Açores	8.8
GR41	Voreio Aigaio	8.0
ES64	Ciudad Autónoma de Melilla	5.1
FR93	Guyane	0.0

Productivity levels differ in Europe—as expected

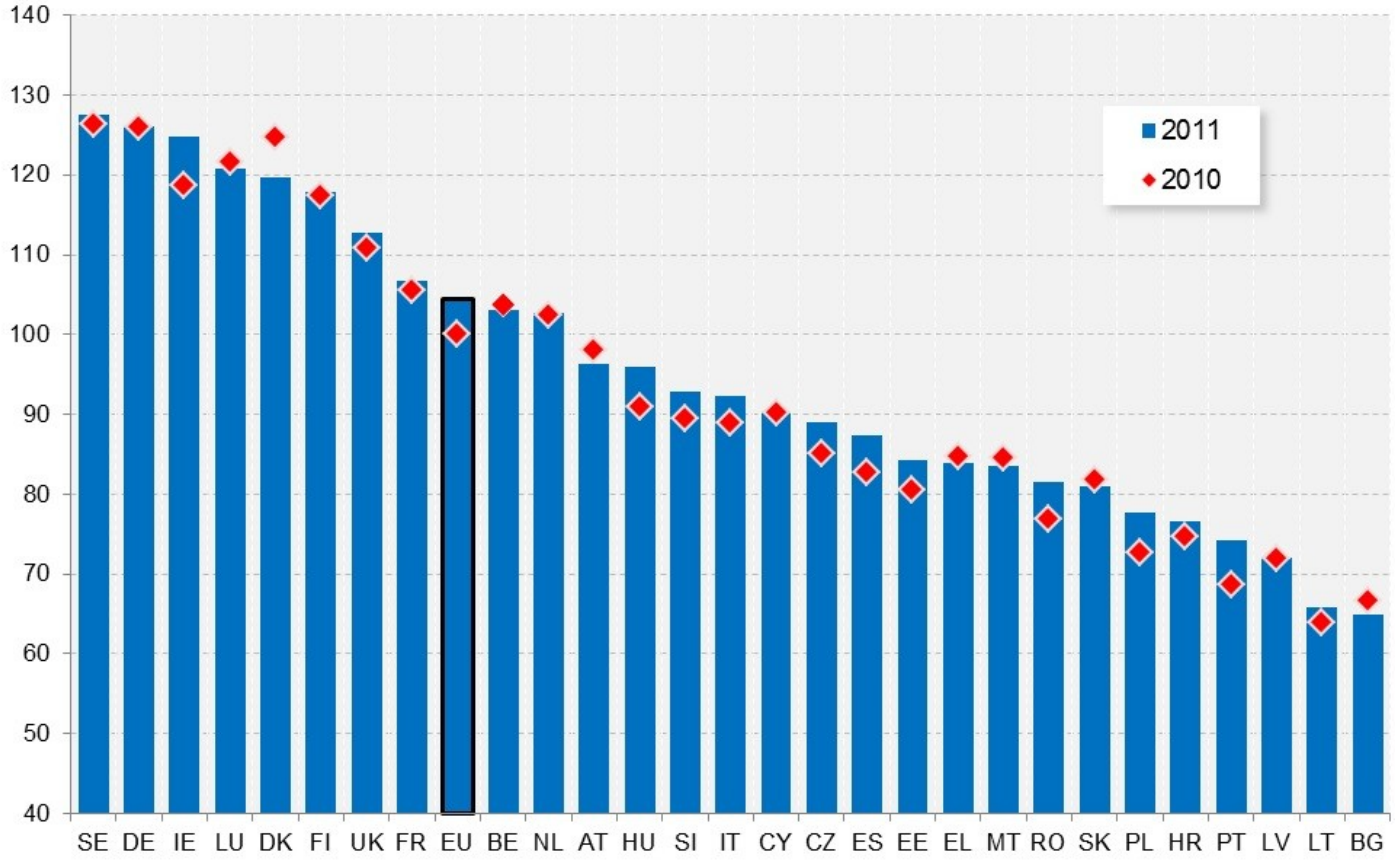
Figure 6a: Productivity levels were lower in the south, lower still in the east

(productivity levels in 2002, thousands of 2005 US$)



Innovation Union Scoreboard

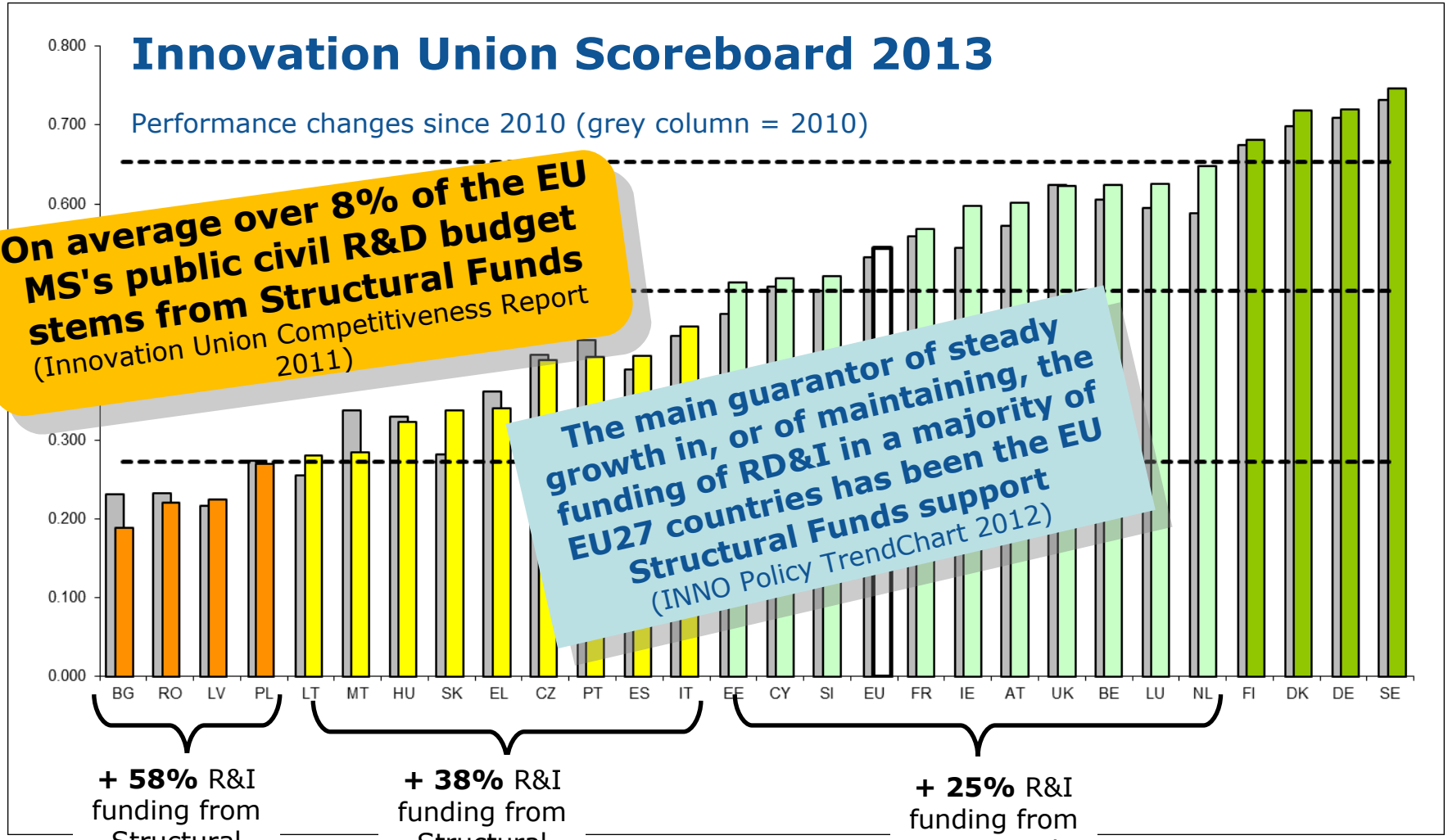
New innovation output indicator:



Indicator combines:

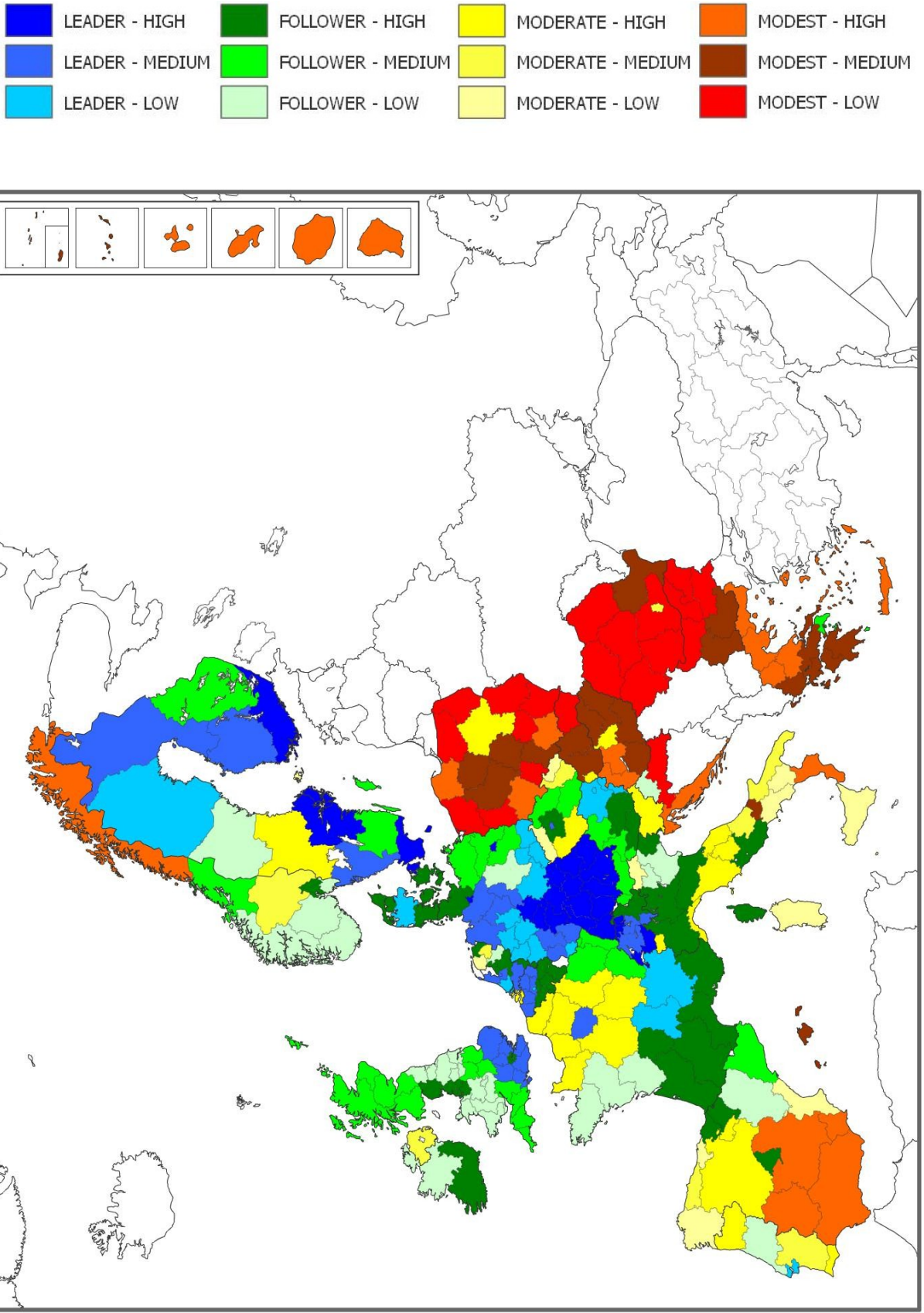
- **Technological innovation** as measured by patents.
- **Employment in knowledge-intensive activities** as a percentage of total employment.
- **Competitiveness of knowledge-intensive goods and services**. This is based on both the *contribution of the trade balance of high-tech and medium-tech products to the total trade balance*, and *knowledge-intensive services as a share of the total services exports*.
- **Employment in fast-growing firms of innovative sectors**.

Impact of the MFF decisions … importance of ESIF



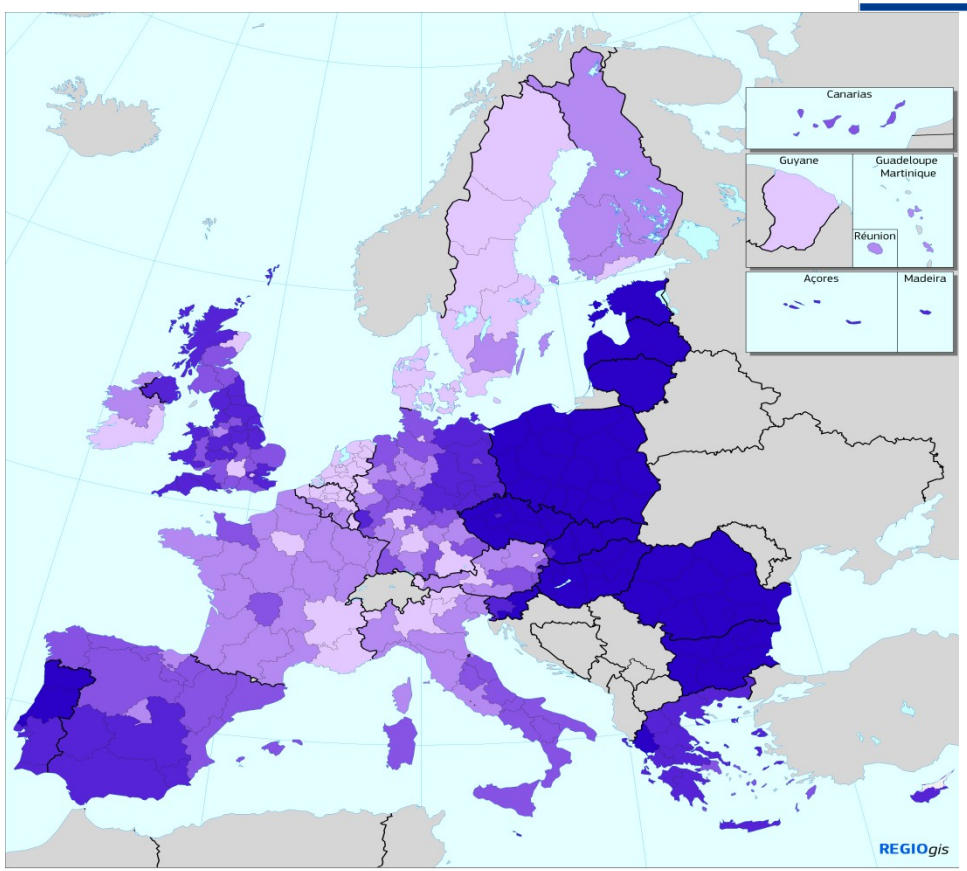
Regional Innovation Scoreboard 2012

http://ec.europa.eu/enterprise/policies/innovation/policy/regional-innovation/index_en.htm



"One-size-fits-all" impossible!

Productivity



GDP per person employed (EUR), 2010

Index, EU-27 = 100

- < 78.7
- 78.7 - 119.8
- 119.8 - 137.5
- 137.5 - 154.9
- >= 154.9

EU-27 = 55,017 eur/worker

Source: Eurostat, DG REGIO

0 500 Km

GDP per person employed (EUR), 2010

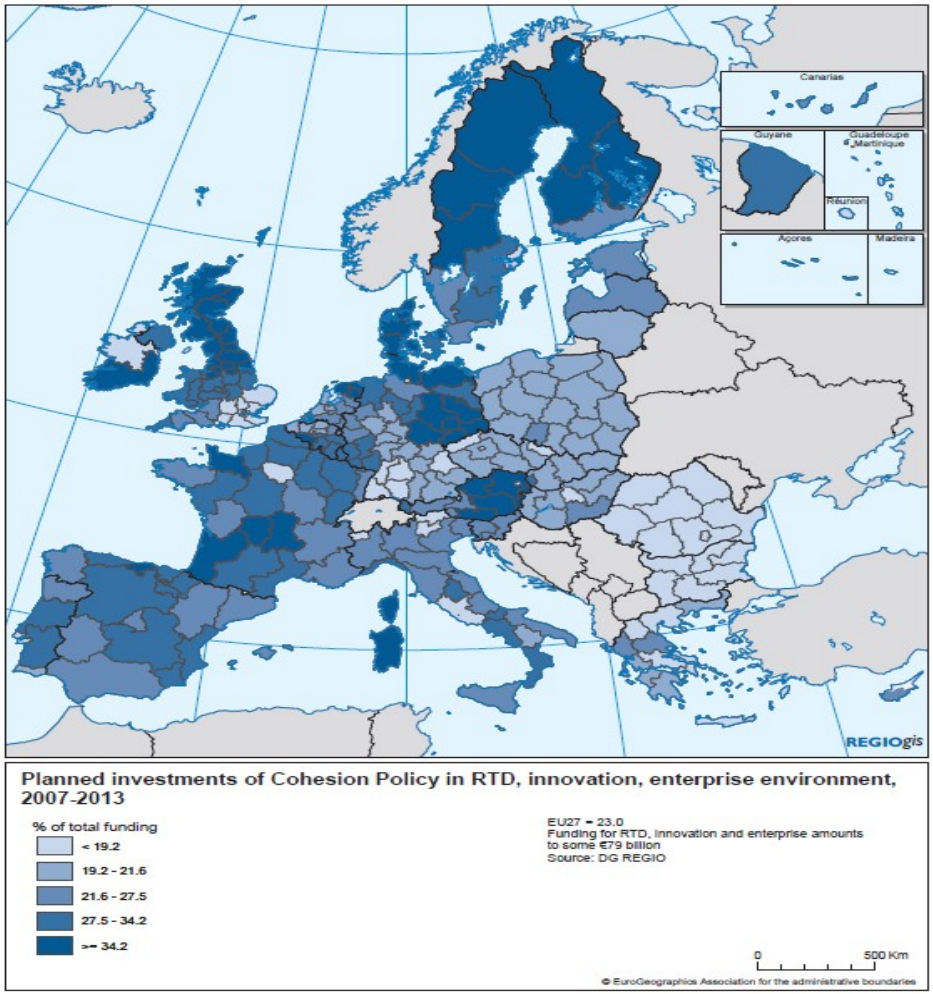
UKI1	Inner London	387
NL11	Groningen	315
LU00	Luxembourg	255
BE10	Région de Bruxelles-Capitale	228
FR10	Île de France	226
NL34	Zeeland	213
BE31	Prov. Brabant Wallon	213
DK01	Hovedstaden	212
IE02	Southern and Eastern	211
NL31	Utrecht	209
RO11	Nord-Vest	28
RO22	Sud-Est	27
RO31	Sud - Muntenia	27
RO41	Sud-Vest Oltenia	23
BG34	Yugoiztochen	21
BG33	Severoiztochen	20
BG31	Severozapaden	19
RO21	Nord-Est	18
BG32	Severen tsentralen	17
BG42	Yuzhen tsentralen	17

Cohesion Policy funding for R&I 2007-2013

European Commission

Cohesion Policy innovation support over total aid:

- 4% in 89'-93'
- 7% in 94'-99'
- 11% in 00'-06'
- 25% in 07'-13'



The Promotion of Innovation in European Regional Policy: a silent (r)evolution

1989 -1993: approximately 4% for innovation (2 billion out of 50)

(L. Tsipouri, IPTS Report N° 40, 2004)

- Community initiatives: Science and Technology for Regional Development - STRIDE, TELEMATIQUE, ENVIREG, VALOREN…

1994-1999: approximately 7% for innovation (7,6 billion out of 110)

(L. Tsipouri, IPTS Report N° 40, 2004)

- Pilot Projects: RIS, RIS+, RTTs, RISI, RISI2, IRISI, EBN, BICs

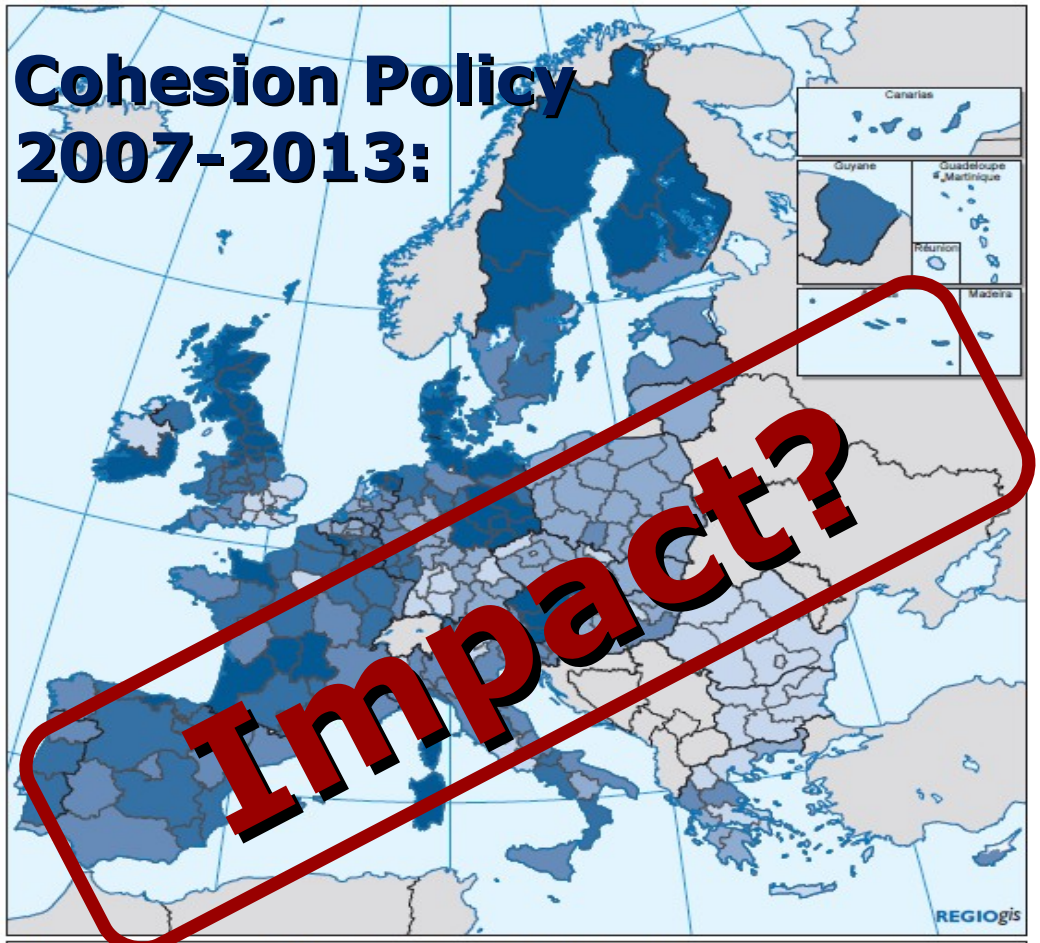
2000-2006: approximately 11% for innovation out of 195 billion

- "Regions in the new Economy": PRAIS – Regional Programs of Innovative Actions 400 million

2007-2013: approximately 25% for innovation (86 billion out of 345)

- Article 5 of the ERDF: innovation as a priority for the "Competitiveness" objective -31.000 R&TD projects identified in only 95 ERDF Programs (40% of total budget) *(Nordregio 2009)*
- Regions for Economic Change

Problems:



Planned investments of Cohesion Policy in RTD, innovation, enterprise environment, 2007-2013

% of total funding
< 19.2
19.2 - 21.6
21.6 - 27.5
27.5 - 34.2
>= 34.2

€86 billion for innovation:
-RTD incl infrastructures
-Entrepreneurship
-ICT development & up-take
-human capital

ovation and enterprise amounts

© EuroGeographics Association for the

Cohesion Policy

- **Lack of institutional coordination** between levels of government and across departments
- Strategies without **external perspective** – duplication
- Lack of **critical mass**
- Measures mainly for R&I and capacity building, but not for **new forms of innovation**
- Focus on fashionable themes / **prestige projects**
- Focus on existing industries and not on **emerging sectors and services**

See: Regional Innovation Monitor www.rim-europa.eu

Lessons from regional innovation strategies 1993-2000

"Inward looking" (parochial) without taking into account the global economy and European Research Area.

Driven by external consultants: ownership by regional stakeholders?.

Excessive focus on "technological" supply and R&D emphasis.

A lack of understanding of the regional innovation system as an interaction of interdependent players, policies and institutions.

"Study-oriented" approach vs. "applied-oriented" approach: credibility for businessmen?.

National/Regional governments might feel threatened by:

- a transparent and inclusive bottom-up process.
- analysis showing regional R&TD+i supply does not correspond to business demand;
- new ideas, which cut across traditional power boundaries between Ministries;
- project ideas which are not already in the "drawer" of a given Ministry

Thematic objectives

1. **Research and innovation**
2. **Information and Communication Technologies**
3. **Competitiveness of Small and Medium-Sized Enterprises (SME)**
4. Shift to a low-carbon economy
5. Climate change adaptation and risk management and prevention
6. Environmental protection and resource efficiency
7. Sustainable transport and disposal of congestion on major network infrastructure
8. Employment and support for labour mobility
9. Social inclusion and poverty reduction
10. Education, skills and lifelong learning
11. Increased institutional capacity and effectiveness of public administration

Investment Priority R&I (EP proposal)

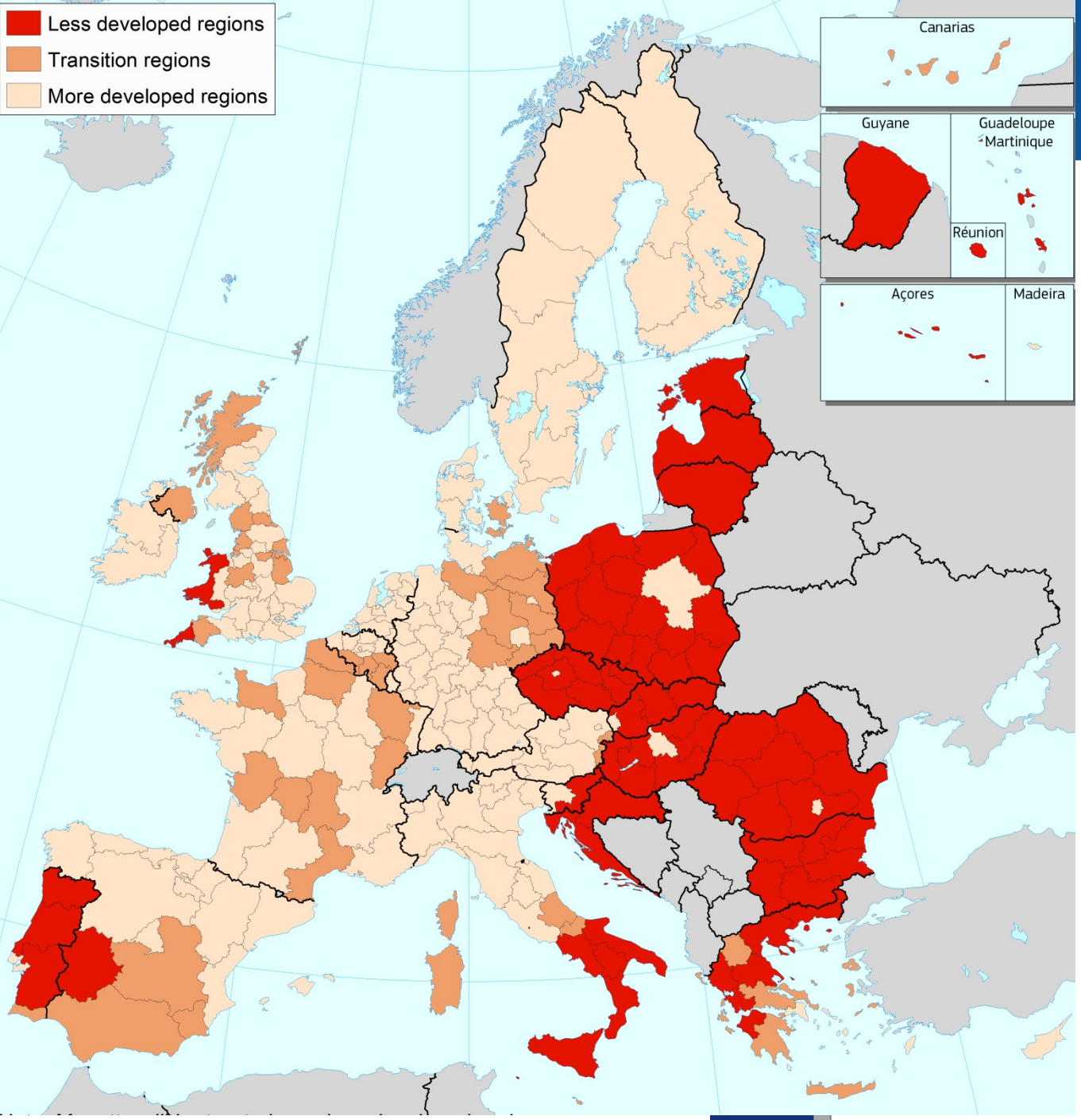
(a) enhancing research and innovation infrastructure (R&I), technology and innovation services and capacities to develop R&I excellence and promoting centres of competence, in particular those of European interest and if there are potential synergies with other European programmes such as the establishment of centres of excellence competition under Horizon 2020;

(b) promoting private and public business R&I investment, product and service development, technology transfer, social innovation, eco-innovation, cultural and creative industries, public service applications, demand stimulation, networking, clusters, science and technology parks, and open innovation through smart specialisation;

(ba) developing links and synergies between enterprises, enhancing R&D centres and higher education, including through business incubators;

(c) supporting research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production in particular in Key Enabling Technologies and diffusion of general purpose technologies;

(ca) developing appropriate links and synergies with Horizon 2020;



Structural Funds 2014-20

eligible NUTS2 regions

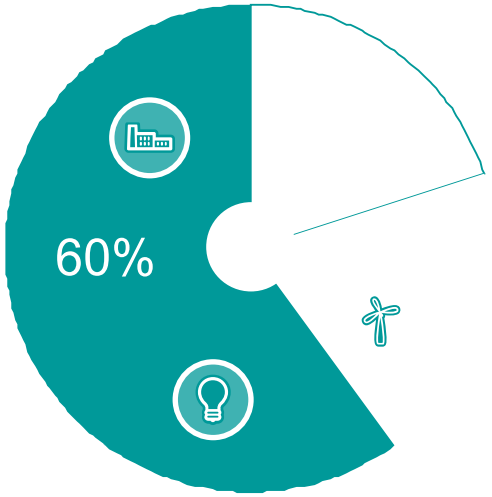
1. Impact of the MFF decisions

… and evermore need to concentrate on investments on themes that enable smart & sustainable growth

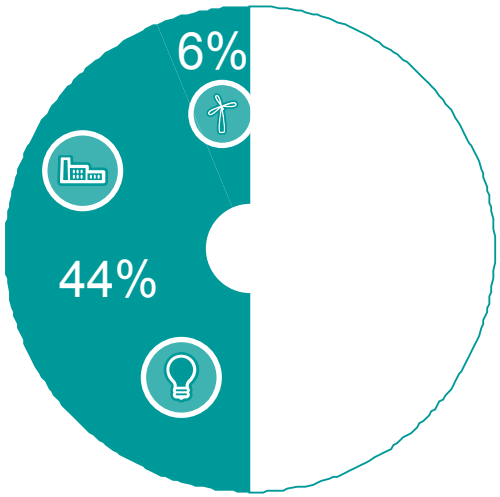
Research and Innovation

Energy efficiency and renewable energy

SMEs competitiveness



Developed regions and transition regions



Less developed regions

Flexibility (different regions present different needs)
Special arrangements for the previously convergence regions

Thematic ex-ante conditionalities (1)

Thematic objectives	Ex ante conditionality	Criteria for fulfilment
1. Strengthening research, technological development and innovation (R&D target) (referred to in Article 9(1))	1.1. Research and innovation: The existence of a national or regional research and innovation strategy for smart specialisation in line with the National Reform Program, to leverage private research and innovation expenditure, which complies with the features of well-performing national or regional research and innovation systems.	A national or regional research and innovation strategy for smart specialisation is in place that: – is based on a SWOT analysis to concentrate resources on a limited set of research and innovation priorities; – outlines measures to stimulate private RTD investment; – contains a monitoring and review system. – A Member State has adopted a framework outlining available budgetary resources for research and innovation; – A Member State has adopted a multi-annual plan for budgeting and prioritization of investments linked to EU priorities (European Strategy Forum on Research Infrastructures -ESFRI).

Common indicators for ERDF support for R&I to control progress … performance reserve …

- Number of enterprises cooperating with assisted research institutions
- Number of posts for R&D personnel created in assisted entities
- Private investment matching public support in innovation or R&D projects
- Number of enterprises that introduced new or significantly improved products, new to the market as a result of supported innovation or R&D projects
- Number of enterprises that introduced new or significantly improved products, new to the firm as a result of supported innovation or R&D projects
- …

Innovation Strategies for Smart Specialisation

Innovation driven growth for economic diversification, modernisation or exploitation of (radically new) emerging areas

An economic transformation agenda based on 4Cs +C:

- 1. ***(Tough) Choices:*** limited number of priorities on the basis of own strengths and international specialisation – avoid duplication and fragmentation in European R&D Area
- 2. ***Competitive Advantage:*** mobilize talent by matching RTD + I capacities and business needs through an entrepreneurial discovery process
- 3. ***(Critical Mass) Clusters and Connectivity***: develop world class clusters and provide arenas for related variety/cross-sectorial links internally in the region and externally, which drive specialised technological diversification
- 4. ***Collaborative Leadership:*** efficient innovation systems as a collective endeavour based on public-private partnership (quadruple helix) – experimental platform to give voice to un-usual suspects

+… 5. ***Common sense***

«Innovation can not be dictated but it can be cultivated »
(The Federal Government and the growth of Regional Innovation Clusters, J. Sallet et Al, 2009)

An explanation by Professor D. Foray

- It is not a planning doctrine that would require a region to specialize in a particular set of industries.
- It is an approach to policy that considers whether those activities already strong or showing promise for a region can benefit from R&D and innovation
- Regions need to focus on certain domains but being focussed is not enough they need to focus by developing distinctive and original areas of specialisation (not by imitating each other)
- Smart specialisation is largely about the policy process to select and prioritize fields or areas where a cluster of activities should be developed: let entrepreneurs discovering the right domains of future specialisations

Collège du Management de la Technologie – CDM
Chaire en Economie et Management de l'Innovation – CEMI

What does "specialisation" actually mean?

Not about specialisation in a narrow sense ("lock-in")

- It means **avoiding duplication and fragmentation** of effort with scarce public resources within the Union, thus helping in deepening the single market through "open" RIS³ and inter-regional connections across the EU.
- It means **being selective** and support the R&I activities that are **relevant** in view of existing conditions and assets (e.g. evidence based policy evaluation, sound SWOT,…) and breaking away from established lobbies and rent-seekers.
  - **Relevant in the sense of assessing how R&I can help transform the existing economic structure in order to face globalisation**
  - **Relevant in the sense of selecting that R&I activities with the highest potential for knowledge spill-overs to irrigate large sections of the economy (related-variety)**
- It is **neither "coffee for all" nor "picking winners from above"**. It is not about selecting firms or sectors but the R& (broad) I activities and/or generic technology(ies) that can help a regional economy diversify into higher value added markets, modernise/rejuvenate or exploit new/emerging economic activites.

What is Smart Specialisation ?

= evidence-based: all assets

= no top-down decision, but dynamic/entrepreneurial discovery process inv. key stakeholders

= global perspective on potential competitive advantage & potential for cooperation

= source-in knowledge, & technologies etc. rather than re-inventing the wheel

= priority setting in times of scarce resources

= getting better / excel with something specific

= focus investments on regional comparative advantage

= accumulation of critical mass

= not necessarily focus on a single sector, but cross-fertilisations

"…The elements of economic productivity – strong infrastructure, a skilled workforce, and interrelated networks of firms – come together with smart economic strategy on the regional level to drive prosperity".

(Guidance on developing place-based policies for the USA FY 2012 Budget)

Steps to RIS3

Step 1: Analysis of regional potential for innovation-driven differentiation

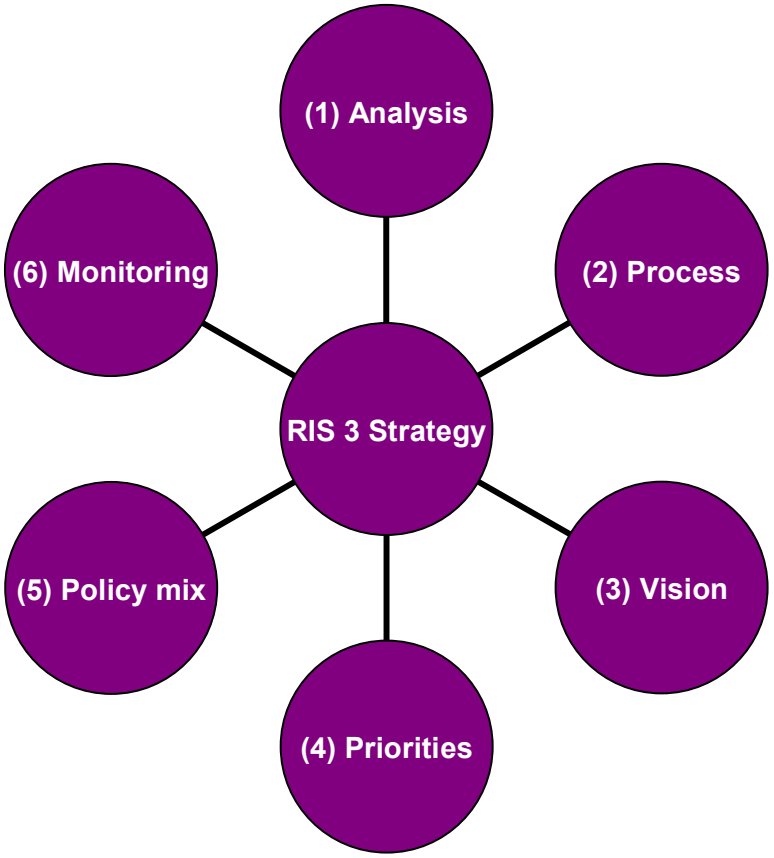
Step 2: RIS 3 design and governance – ensuring participation & ownership

Step 3: Elaboration of an overall vision for the future of the region

Step 4: Selection of priorities for RIS3 + definition of objectives

Step 5: Definition of coherent policy mix, roadmaps and action plan

Step 6: Integration of monitoring and evaluation mechanisms



Conclusions on policy design

1) Innovation is not just R&D…and just R&D is not Innovation: promoting innovation-led regional development is not primarily about increasing R&D excellence and R&TD infrastructures (supply push) but first and foremost about a change of culture where efficient innovation systems (demand pull) mobilize the intellectual and entrepreneurial capacities to create an innovation friendly business environments, for SMEs in particular, in all regions and in all sectors (not just high-tech)

thus

The linear model (from R&D to the market) is much less relevant for policy design than the systemic or interactive model: not just patents but economic exploitation of talent and new ideas – not just industry and big firms with R&D but also services, competitive research and open innovation

because

Regional innovation capacities are much more about personal engagements, institutions, networks, cooperation (social capital) than it is about narrowly focused science and technology efforts: reinforcing triple helix – knowledge triangle, clusters and university-enterprise is key

Why?

Regional innovation for most regions in the EU is basically about knowledge absorption (education and training, advanced business services) and diffusion (technology transfer, ICT, entrepreneurship) than about knowledge generation (science efforts)

Conclusions on policy design

1. Innovation has a strong territorial dimension (tacit knowledge-networked economy) and there is no "one size fits all" innovation policy: regional diversity is an asset that advocates for different routes to growth through innovation – smart specialization
2. Regional Innovation Paradox: big need, big money and no capacity
3. It is no longer about what or why but about how and who?

   Opening minds is more difficult than opening roads – need for much strengthen strategic planning capacities of regional/national governments (from design to ongoing learning evaluation) and facilitate a culture of risk taking
5. R&D excellence and Regional innovation are complementary and we need both: exploiting agglomeration and economies of scale is important (ERA) but also diffusion and absorption mechanisms based on regional potential
6. Beyond R&D expenditure and patents: we still do not have the required indicators for properly characterizing regional innovation potential or measure policy impact
7. Matching business demand (as a starting point) with RTD supply is vital

Microeconomic competitiveness problems can not be efficiently tackled by overdoses of macroeconomic or sector based policies but by integrated, place-based regional policies

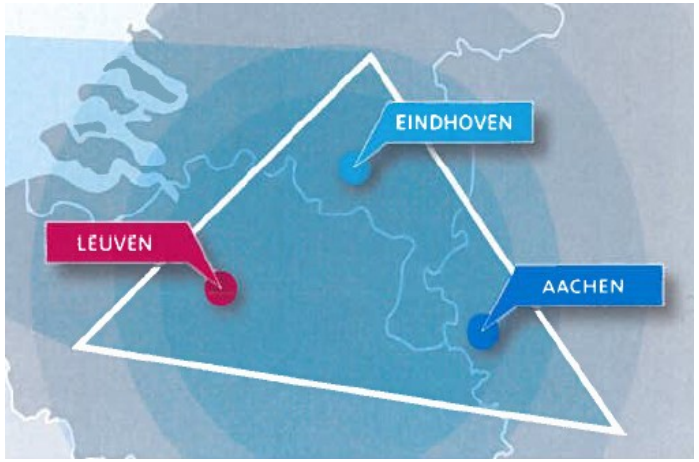
Conclusions on the role of the public sector: an honest broker

2. Public sector should provide leadership and vision, rather than control, and catalyze economic development by promoting new ideas and partnerships with the private sector: not "for them but without them"
3. Support schemes must be long lasting, understandable and readily accessible by SMEs
4. Place-based regional innovation strategies and action plans integrating multilevel governance (national-regional) and horizontal (inter-ministerial) cooperation are a necessary first step
5. Grassroots ownership of innovation strategies are required: consultants are useful but not in the driving seat
6. Listen to Regional Development Agencies, Technology Centres, Technology Parks and Incubator managers, Technology Transfer Offices…they are soldiers in the front line
7. Venture capital, business angels, soft loans, guarantees…financial engineering better than grants and tax incentives although need for combination and a wide menu
8. Public procurement (green and innovation driven) is an important tool to consider
9. Innovation policies require risk taking, trial and error and sound evaluation on top of deep pockets and long lead times (political consensus a plus): a new form of Public entrepreneurship?

(1) Analysis

- Involves analysis, experimentation, debate and decision-making
- SWOT: focus on potential for knowledge-based transformation
- Wide view of innovation: embrace social as well as ecological innovation
- Identify econ. differentiation potential, avenues for specialised techn. diversification
- Support positioning of companies within international value chains and (niche) markets
- 'Entrepreneurial discovery' = tap existing entrepr. knowledge to identify priority domains
- Use field knowledge of Universities and Tech Centres, incl. through practical exp.
- Combine methods: foresight, surveys (delta), working groups, consultation within clusters, dedicated experts, studies, pilot experimentation, structured interviews, evaluations, scenario making, etc.

TOP TECHNOLOGY REGION (TTR) - Eindhoven Leuven Aachen (ELAt): The Swiss research firm BAK Basel was asked to benchmark and map the economic strengths of this cross-border region. The study identified and confirmed a number of the TTR's strengths, shown in the BAK Technology Competitive Index. The Index reveals the technological strength of a region based on the scale and growth of the relevant sector, the number of publications and the number of patents. 3 key sectors scoring consistently above average were identified. The aim is now to enhance collaboration and clustering between these sectors.



(2) Process and governance

- Process needs to be interactive, regionally driven and consensus-based: ensure inclusive, open prioritisation and avoid capture by vested interests
- Set up a dedicated Steering Group/Knowledge Leadership Group, a Management Team, Working groups…and flagship projects, collaborative leadership: know what, know who and know how.
- New demand-side perspectives given prominence: not just usual public suspects but businesses in the driving seat
- Involve boundary spanners brokering new connections across sectors, disciplines and institutions in order to explore « related-variety »
- Link national, regional and EU funds: involve stakeholders operating both outside and in the region

Navarra: Navarra's modernisation strategy aims to lead the regional structural transition from an industry-based economy to a knowledge-based economy. It was developed through an in-depth SWOT analysis and vision-building process led by 33 high-level international experts. A concrete action plan was developed in consultation with stakeholders, which was subsequently discussed and approved by the Regional Parliament. All in all, more than 5000 persons were involved in the strategy process.

(3) Vision

- A shared, ambitious and realistic long-term vision: galvanise attention, facilitate priority-setting and communication, motivate stakeholders and generates buy-in
- Regional image linked to an economic transformation agenda: This is what we stand for! This is where we have potential! This is where we want to go!
- Linked to evidence-based analysis and focused on setting goals that are within reach: underpinned with real substance, having the fundamentals in place.

Flanders: By 2020 Flanders wants to rank among the top five knowledge-intensive regions in Europe. To reach this target, the region has taken steps towards a transformational policy approach. This focuses on value chains, economic clusters, open innovation and 'grand projects', which are selective investments in future-oriented domains with a high innovation and growth potential and large societal impact. To reach this target 'Vlaanderen in Actie' was setup, a broadly-based initiative consisting of several breakthroughs in the socio-economic domain. ViA is an action plan that entails more than a moderated improvement or some growth percentage points. Namely, it points to an evolution that fundamentally alters the landscape and society of Flanders.

(4) Priorities

- Defines a limited number of innovation and knowledge-based development priorities in line with existing/potential niches for smart specialisation
- Needs to be based on present and future competitive advantage and potential for excellence: defines concrete, achievable objectives/goals
- In addition to technological, sectoral or cross-sectoral priority areas, horizontal priorities need to be defined, e.g. (KETs and their difussion/application), social innovation, etc.

Berlin/Brandenburg: In 1998/99 a RITTS study laid the foundation for an active innovation policy in Berlin. In 2007 it was decided to bundle forces with the surrounding Brandenburg region. Five joint future Fields of Excellence were identified: Biotechnologies and Medical technologies and pharmacy; Energy technologies; ICT and new Media; Optical technologies; Transport system technologies. These are underpinned by 4 cross-sectoral priorities: New materials, Production and automation technology, Cleantech, Security. These fields present the regional strength in regional publicly funded R&D and industrial activity. Innovation support measures concentrate on strengthening private sector R&D and knowledge transfer, especially for SMEs.

(5) Policy-mix/Action Plan

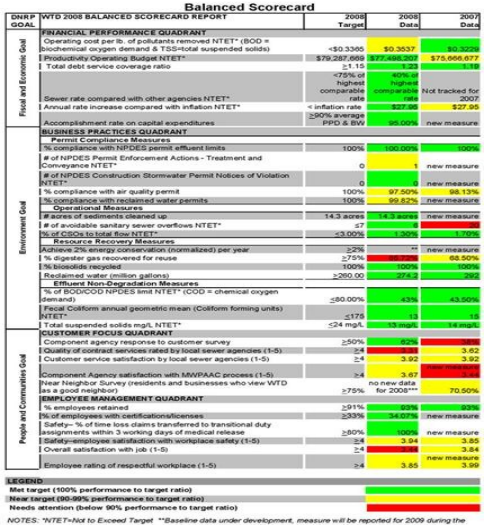
- Defines roadmaps and programme architecture, i.e. instruments, projects (incl. project selection criteria) or pilots feeding priority areas and objectives.
- Defines target groups, objectives/measurable targets, realistic timeframes, results and outcome indicators, etc.
- Identifies sources of funding and presents indicative budget allocations for actions.
- Trend towards holistic policy packages integrating support to knowledge generation, diffusion and exploitation in single packages targetting a variety of regional actors

OECD/European Commission guidance: Publications such as the joint 2011 OECD/European Commission book on "Regions and Innovation Policy" or the 2011 EC Communication "Regional Policy for smart growth in Europe 2020" identify taxonomies of policy instrumetns and/or offer a catalogue of possible innovation instruments and example from regions that have successfully used them, which should act as an inspiration to regions to design smart and efficient policy mixes.

(6) Monitoring & Evaluation

- Establishes monitoring and (on-going) evaluation process at level of strategy and at level of Action Plan/Programme: assesses direct and indirect impact
- Measurable targets and qualitative and quantitative indicators (outputs and results)
- No standard menu: evaluations to be tailored to specific content and context of RIS³
- Measure progress and establish system of regular reporting, evaluation as learning process leading to economic transformation towards higher value added activities and internationally competitive firms
- To be combined with peer-reviews for impartial, external advise (ex-ante and ongoing)

Lower Austria: The Innovation Assessment Methodology Lower Austria is a comprehensive system of different monitoring and evaluation tools for Lower Austria's innovation policy. Its aim is to gain insight into results and impact of innovation support services with the aim to improve policy instruments, justify budgets spent and promote its success. One of the tools used is the BSC Balanced Scorecard Methodology, a strategic performance management tool, developed and heavily used in the private sector. In LA it is used to define the objectives and target figures for the 6 pillars of Lower Austria's economic strategy (including innovation) and to break them down on intermediary level as well as on program level.



Balanced Scorecard

DNRP GOAL	WTD 2008 BALANCED SCORECARD REPORT	2008 Target	2008 Data	2007 Data
Fiscal and Economic Goal	**FINANCIAL PERFORMANCE QUADRANT**			
	Operating cost per lb. of pollutants removed NTET* (BOD = biochemical oxygen demand & TSS=total suspended solids)	<$0.3386	$0.3537	$0.3284
	Productivity Operating Budget NTET*	$79,287,969	$77,488,207	$75,866,677
	Total debt service coverage ratio	≥1.15	1.23	1.18
	Sewer rate compared with other agencies NTET*	<75% of highest comparable rate	40% of highest comparable rate	Not tracked for 2007
	Annual rate increase compared with inflation NTET*	< inflation rate	$27.96	$27.95
	Accomplishment rate on capital expenditures	≥90% average PPD & BW	95.00%	new measure
Environment Goal	**BUSINESS PRACTICES QUADRANT**			
	Permit Compliance Measures			
	% compliance with NPDES permit effluent limits	100%	100.00%	100%
	# of NPDES Permit Enforcement Actions - Treatment and Conveyance NTET*	0	1	new measure
	# of NPDES Construction Stormwater Permit Notices of Violation NTET*	0	0	new measure
	% compliance with air quality permit	100%	97.50%	98.13%
	% compliance with reclaimed water permits	100%	99.82%	new measure
	Operational Measures			
	# acres of sediments cleaned up	14.3 acres	14.3 acres	new measure
	# of avoidable sanitary sewer overflows NTET*	≤7	8	5
	% of CSOs to total flow NTET*	≤3.00%	1.30%	1.70%
	Resource Recovery Measures			
	Achieve 2% energy conservation (normalized) per year	≥2%	**	new measure
	% digester gas recovered for reuse	≥75%	68.50%	68.50%
	% biosolids recycled	100%	100%	100%
	Reclaimed water (million gallons)	≥260.00	274.3	262
	Effluent Non-Degradation Measures			
	% of BOD/COD NPDES limit NTET* (COD = chemical oxygen demand)	≤80.00%	43%	43.50%
	Fecal Coliform annual geometric mean (Coliform forming units) NTET*	≤176	15	15
	Total suspended solids mg/L NTET*	≤24 mg/L	13 mg/L	14 mg/L
People and Communities Goal	**CUSTOMER FOCUS QUADRANT**			
	Component agency response to customer survey	≥50%	62%	76%
	Quality of contract services rated by local sewer agencies (1-5)	≥4	3.7	3.62
	Customer service satisfaction by local sewer agencies (1-5)	≥4	3.92	3.92
	Component Agency satisfaction with NWPAAC process (1-5)	≥4	3.67	new measure
	Near Neighbor Survey (residents and businesses who view WTD as a good neighbor)	≥75%	no new data for 2008***	70.50%
	EMPLOYEE MANAGEMENT QUADRANT			
	% employees retained	≥91%	93%	93%
	% of employees with certifications/licenses	≥33%	34.07%	new measure
	Safety– % of time loss claims transferred to transitional duty assignments within 3 working days of medical release	≥80%	100%	new measure
	Safety–employee satisfaction with workplace safety (1-5)	≥4	3.94	3.85
	Overall satisfaction with job (1-5)	≥4	3.88	3.84
	Employee rating of respectful workplace (1-5)	≥4	3.85	new measure 3.99

LEGEND:
Met target (100% performance to target ratio)
Near target (90-99% performance to target ratio)
Needs attention (below 90% performance to target ratio)

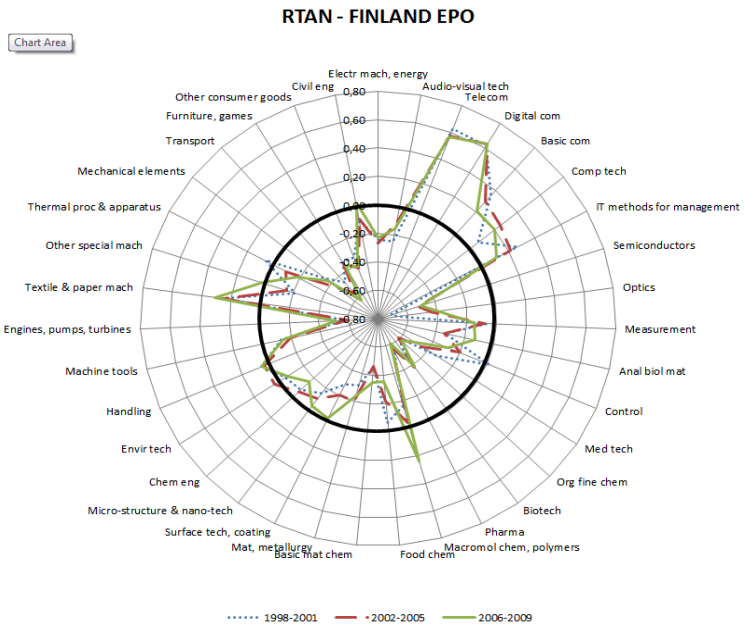
NOTES: *NTET=Not to Exceed Target **Baseline data under development, measure will be reported for 2009 during the

EU /OECD project:

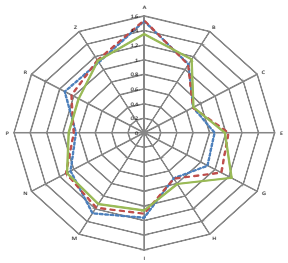
Designing smart specialisation strategies for cluster development in global value chains

OECD (TIP group) and (Australia, AT – Lower and Upper Austria, BE -Flanders, FI -Lahti, DE - Brandenburg, NL - Brainport, PL -Makopolska, ES – Andalucia, Basque Country and Murcia, UK – West Midlands, Turkey, South Korea, CZ, EE, SW - Västra and South Africa): aims at identifying good practices in policy development, methodologies and selection criteria for designing and assessing smart specialisation strategies

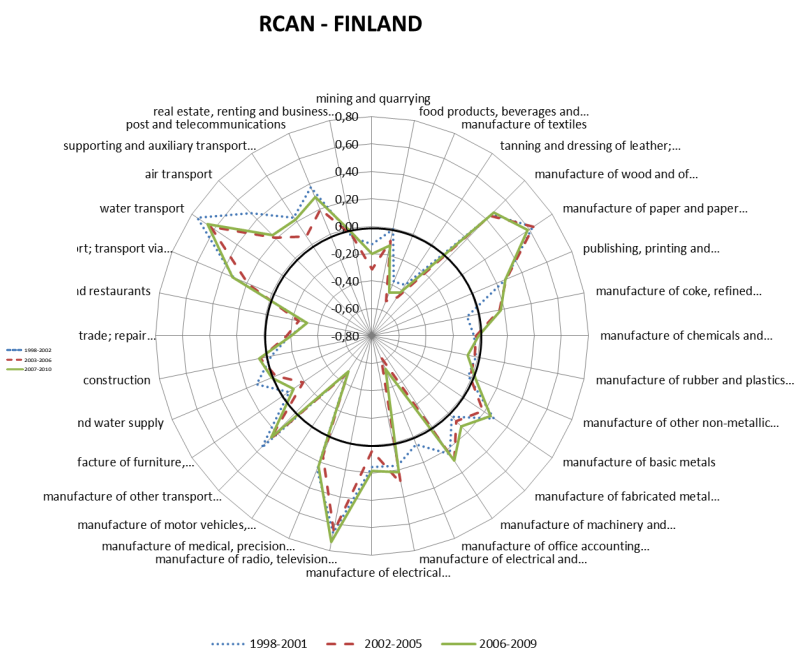
Patents



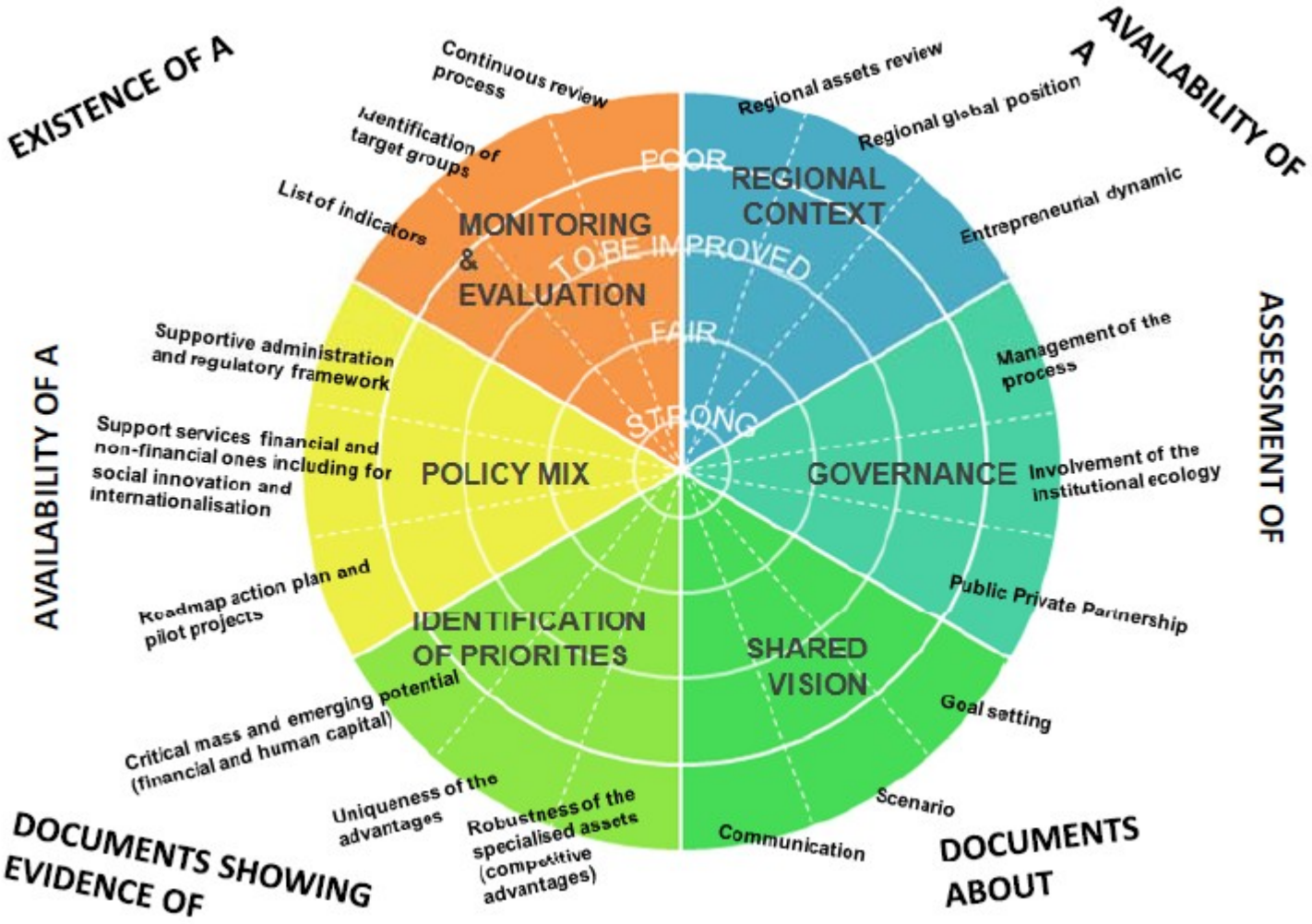
Scientific Publications



Employment

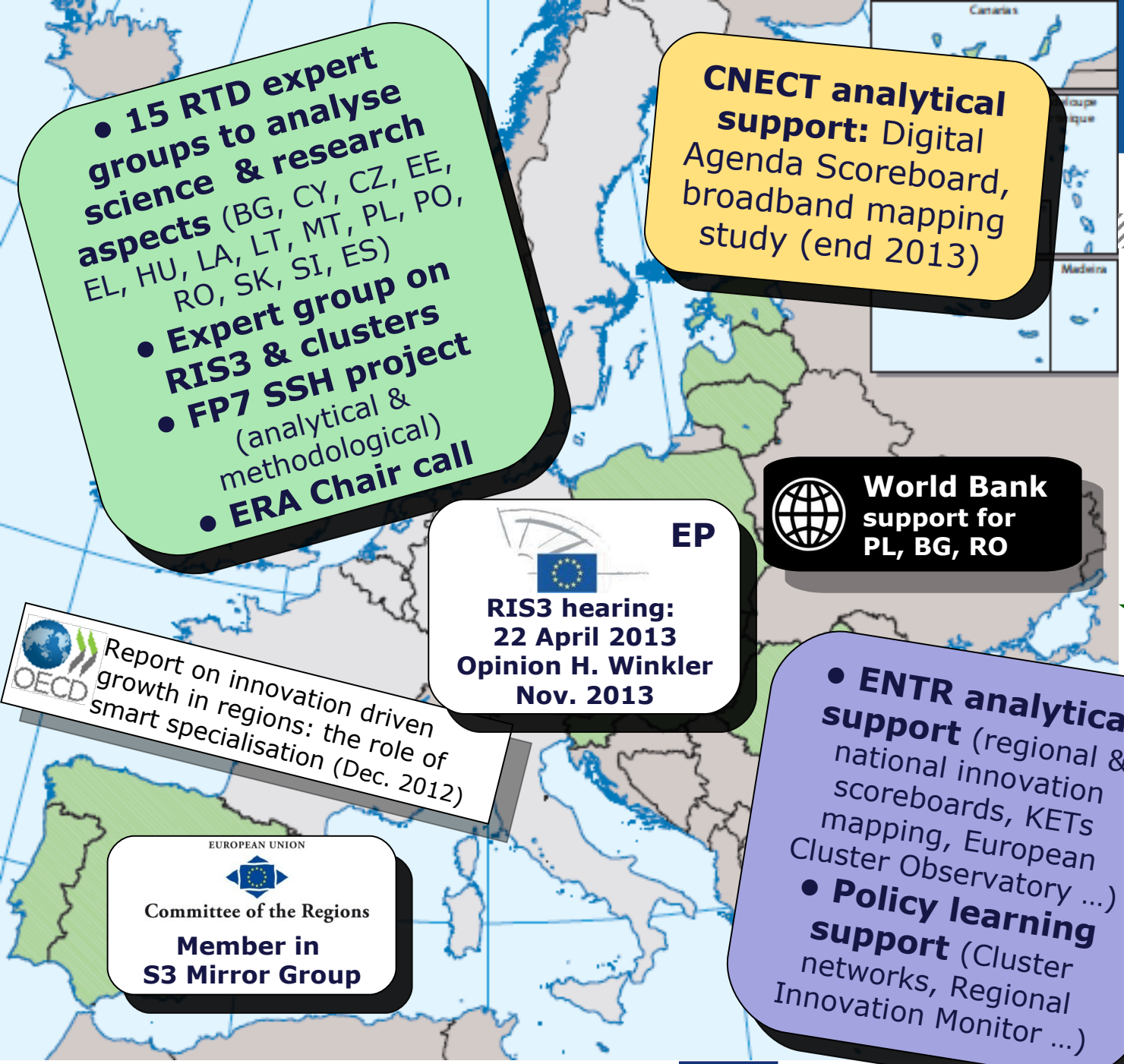


Dimensions of expert analysis



Cohesion Policy

Source: Eurada



Commission support for RIS3:

- **15 RTD expert groups to analyse science & research aspects** (BG, CY, CZ, EE, EL, HU, LA, LT, MT, PL, PO, RO, SK, SI, ES)
- **Expert group on RIS3 & clusters**
- **FP7 SSH project** (analytical & methodological)
- **ERA Chair call**

CNECT analytical support: Digital Agenda Scoreboard, broadband mapping study (end 2013)

World Bank support for PL, BG, RO

EP

RIS3 hearing: 22 April 2013
Opinion H. Winkler Nov. 2013

OECD Report on innovation driven growth in regions: the role of smart specialisation (Dec. 2012)

EUROPEAN UNION
Committee of the Regions
Member in S3 Mirror Group

- **ENTR analytical support** (regional & national innovation scoreboards, KETs mapping, European Cluster Observatory …)
- **Policy learning support** (Cluster networks, Regional Innovation Monitor …)

S3Platform:

- 139 EU regions + 13 countries (SK, LT, MT, SI, HU, CY, HR, CZ, LV, PT, PL, IE, RO)
- 41 regions + 4 MS peer-reviewed
- analysis & data
- training
- communication

★ RIS3 policy events:

- 5 national
- trans-national

pert analysis d support

- 4 national
- 9 regional
- thematic
- process

RIS3 initiative – the driving forces

Intermediary organisations & networks

Mirror Group

Academics

Expert groups of other DGs (KETs, Cluster Alliance …)

World Bank

OECD

DG REGIO

JRC-IPTS

SMART SPECIALISATION PLATFORM

Steering Team

EUROPEAN UNION
Committee of the Regions

European Parliament

DG ENTR

DG RTD

DG CNECT

DG AGRI

DG EMPL

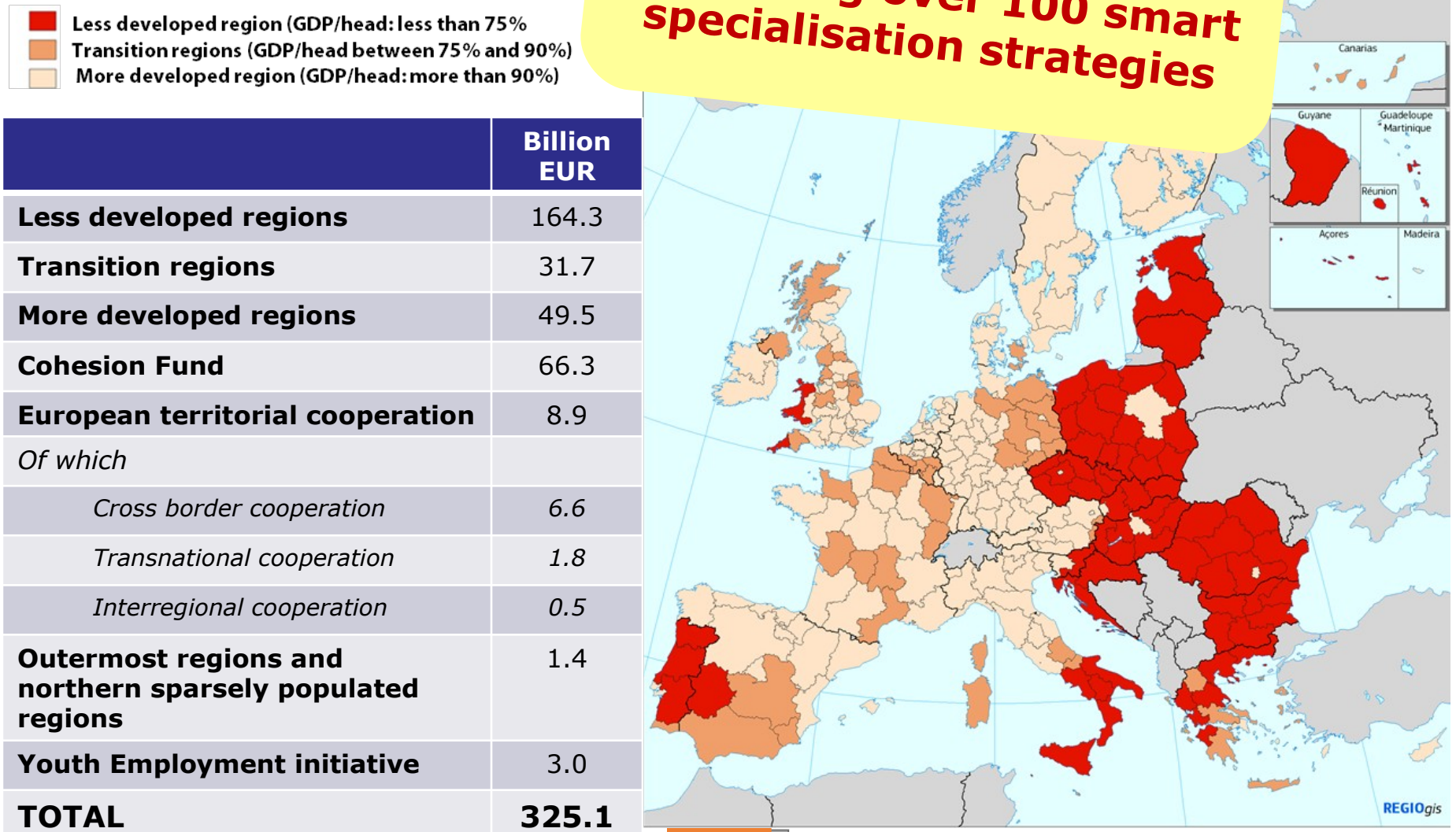
DG MARE

DG EAC

Regional Policy

Up to €100 billion for innovation investments bolstering over 100 smart specialisation strategies

Eligibility map 2014-20



	Billion EUR
Less developed regions	164.3
Transition regions	31.7
More developed regions	49.5
Cohesion Fund	66.3
European territorial cooperation	8.9
Of which	
Cross border cooperation	*6.6*
Transnational cooperation	*1.8*
Interregional cooperation	*0.5*
Outermost regions and northern sparsely populated regions	1.4
Youth Employment initiative	3.0
TOTAL	**325.1**

A few messages for the RIS3 in Greece

Congratulations for the works achieved so far

The specialisation achieved is the basis for the specialisation of the ROP, and for Articulating Regional and National RIS3

It corresponds to the **vision** of the Region to shift the development paradigm from development based to internal consumption to a model promoting entrepreneurship, innovation and export orientation.

Entrepreneurial Discover Process should continue. Take advantage of the Pilot Project running in the Region of Eastern Macedonia and Thrace. There are plenty of lessons to be learnt.

Work on **synergies and collaboration between Administration-Academia-Businesses**

Built on the Action Plan to set the objectives of the operations in the Region

Use the calls for **Pilot Projects as a test bed of the RIS3**

A few messages for the RIS3 in Greece

Use the adequate form of financing: not everything subsidies; private contribution is a warrant of making the right choices

MONITORING: Set the right targets for the output indicators ; use a range of values for the result indicators

Use a separate administrative structure for the Management of the Regional RIS3

Use the TA (including the Commission's one)

PROUD to what we have achieved so far, to the change of mindset performed

PROUD to continue working with you for the benefit of the regional economy and of the citizen of the Region

THANK YOU