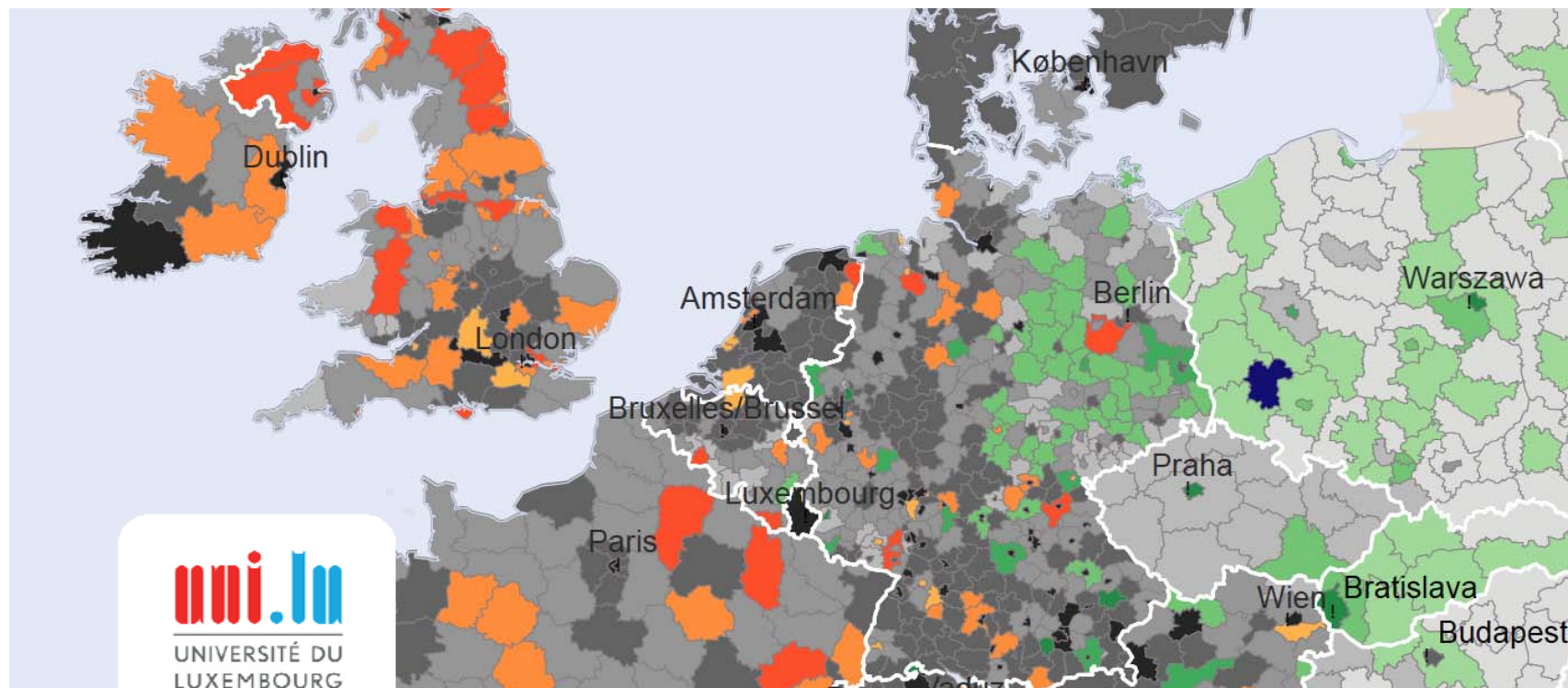


□ FACULTÉ DES LETTRES, DES SCIENCES HUMAINES, DES ARTS ET DES SCIENCES DE L'ÉDUCATION

Territoriale Evidenzen aus ESPON für die Strukturfonds nutzen

25. Oktober 2013, 09h00-12h30 MDDI, Luxembourg-Kirchberg



□ FACULTÉ DES LETTRES, DES SCIENCES HUMAINES, DES ARTS ET DES SCIENCES DE L'ÉDUCATION

Smart growth

Les derniers résultats ESPON

Estelle Evrard, ECP.lu

Le point de vue des praticiens

Romain Weisen, Ministère de l'Economie et du Commerce

Thomas Stumm EureConsult SA

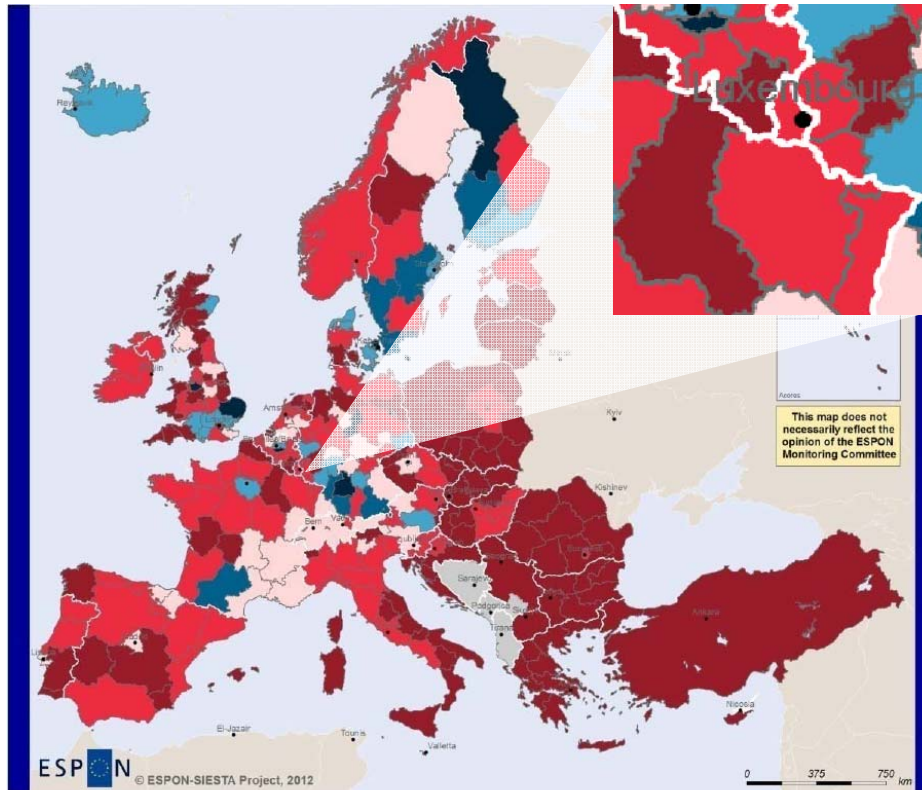
Discussion

« Smart growth »: objective of the EU 2020 strategy

Targets for the EU	Targets for Luxembourg
Invest 3% of EU's GDP in R&D	2010: 1.6% of GDP for R&D Target 2020: 2.5% of GDP for R&D

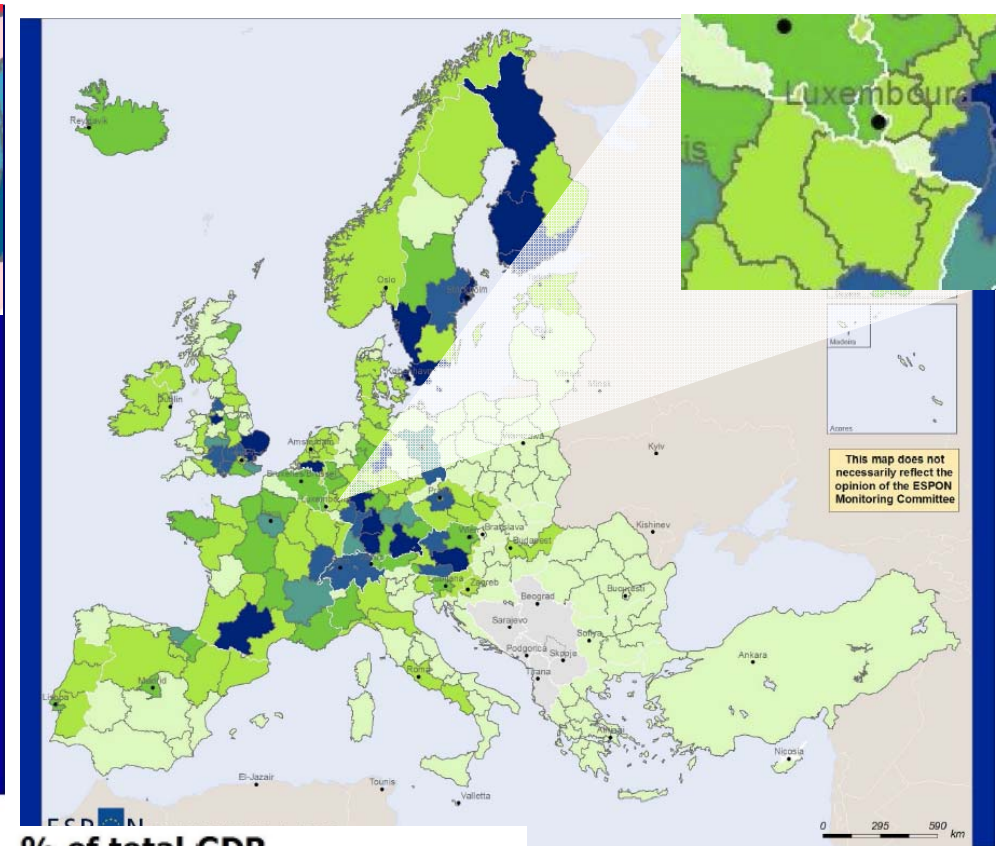
General expenditures in R&D, 2009 (in %)

Business expenditure in R&D



R&D in Regional GDP (%) 2009.
 EU 2020 Target = 3%

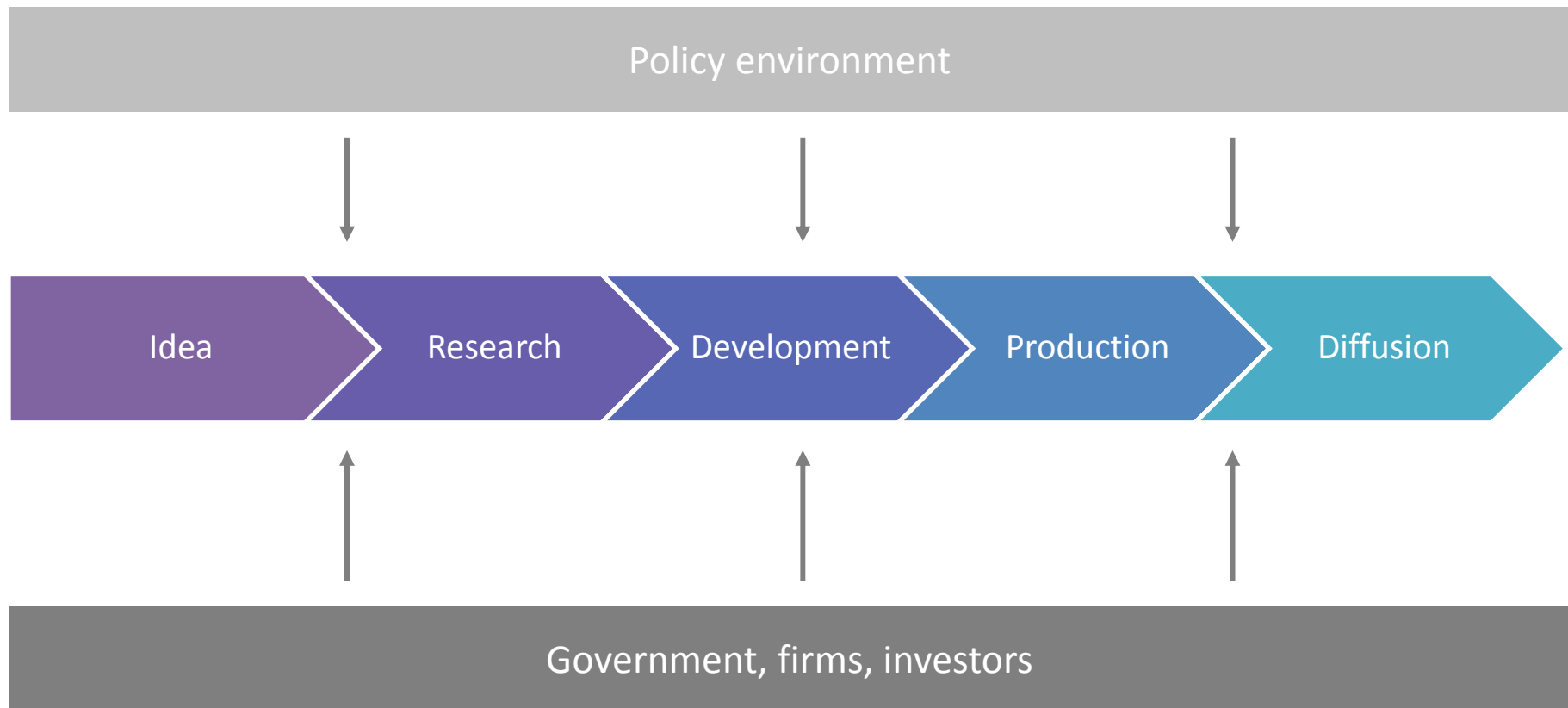
Below EU 2020 Target		Above EU 2020 Target	
Dark Red	0% - 1%	Light Blue	3% - 4%
Red	1% - 2%	Dark Blue	4% - 5%
Light Red	2% - 3%	Very Dark Blue	> 5%



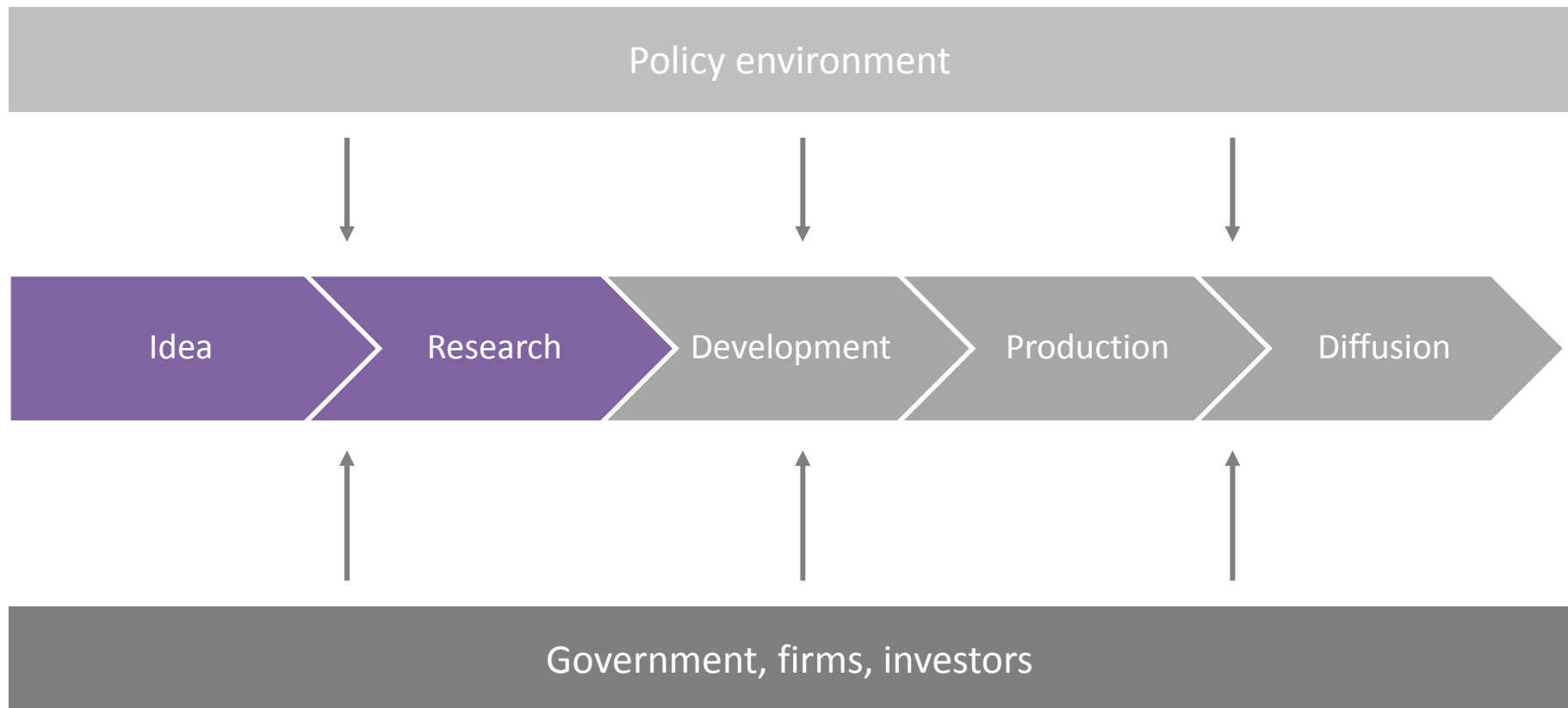
% of total GDP

Light Green	< 0,5	Dark Green	1,5 - 2,0
Light Green	0,5 - 1,0	Dark Blue	2,0 - 2,5
Light Green	1,0 - 1,5	Very Dark Blue	> 2,5
Grey	No data		

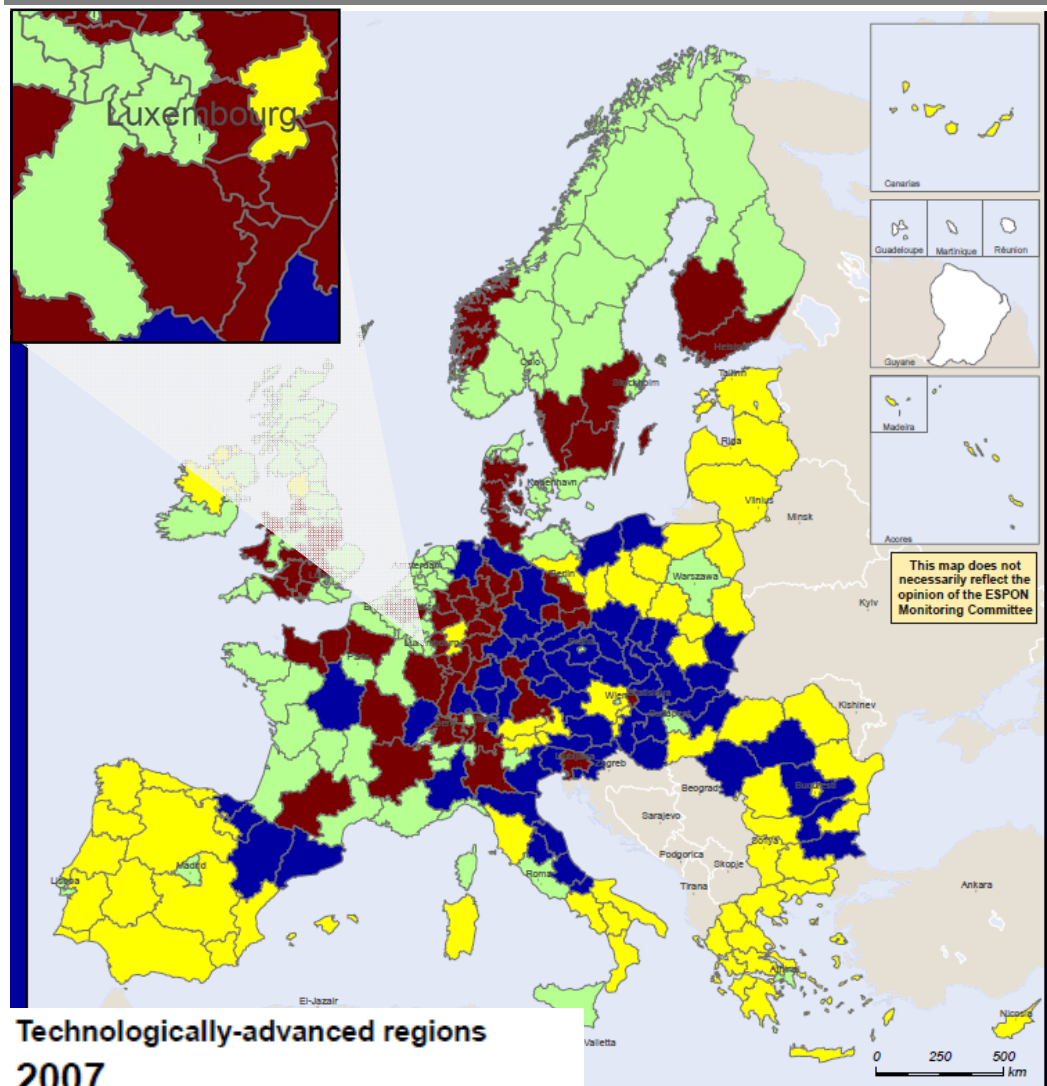
Context: innovation chain & current policy discourses



1. Knowledge economy



Technologically-advanced regions in Europe (2007)



**Technologically-advanced regions
2007**

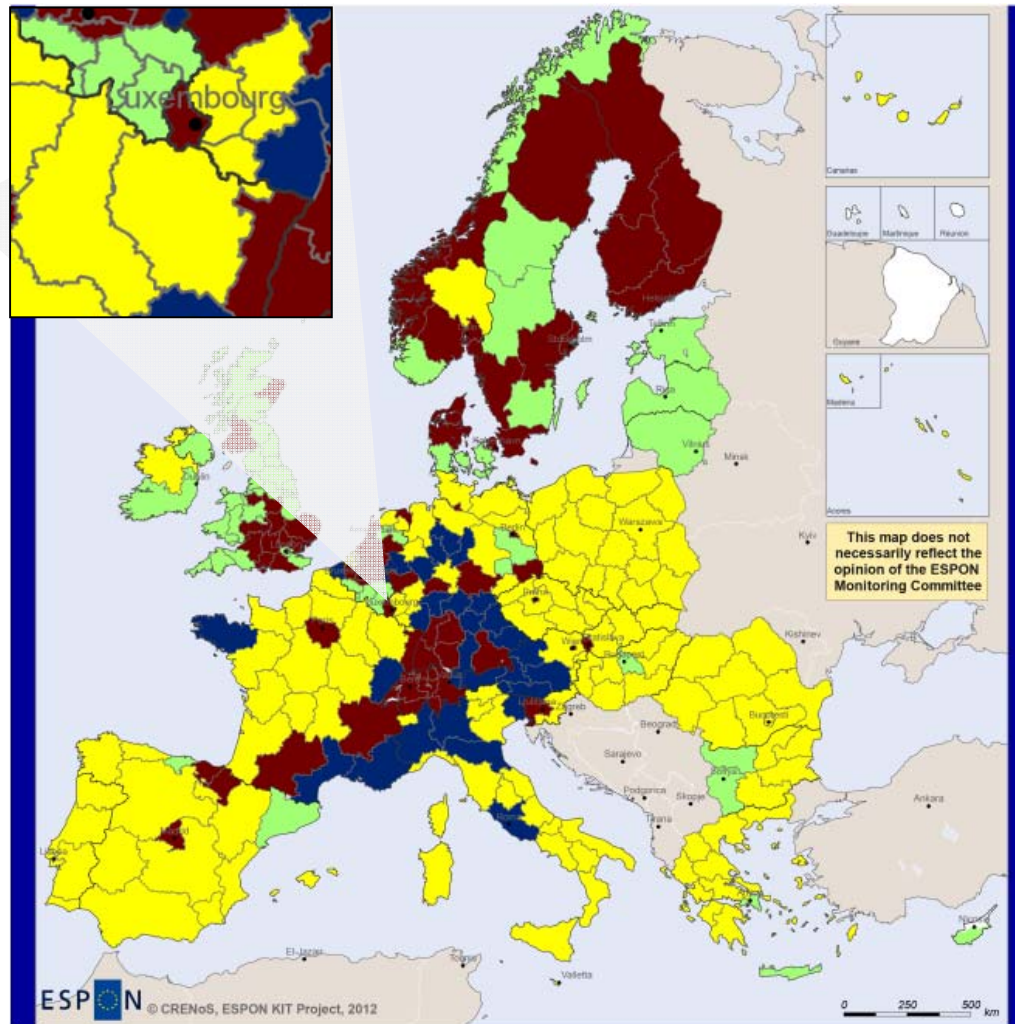
- NA
- Low tech regions
- Advanced manufacturing regions
- Advanced services regions
- Technologically-advanced regions






Regional level: NUTS2
 Source: Politecnico di Milano, 2011
 Origin of data: EUROSTAT employment in high-tech sectors
 © EuroGeographics Association for administrative boundaries

- Remarkable concentration of the advanced manufacturing or services activities in Europe (most of the regions in yellow are at the periphery)
- The Greater Region faces a mixed profile:
 - Luxembourg appears as a oriented towards the services (54,98% of working force works in advanced services). Its medium and high level manufacturing industry is less developed. Wallonia is in a comparable situation.
 - Lorraine, Saarland and most of RP prove to have both advanced services and medium or high tech manufacturing industries.

Source: KIT, FR, p. 4

Scientific regions in Europe

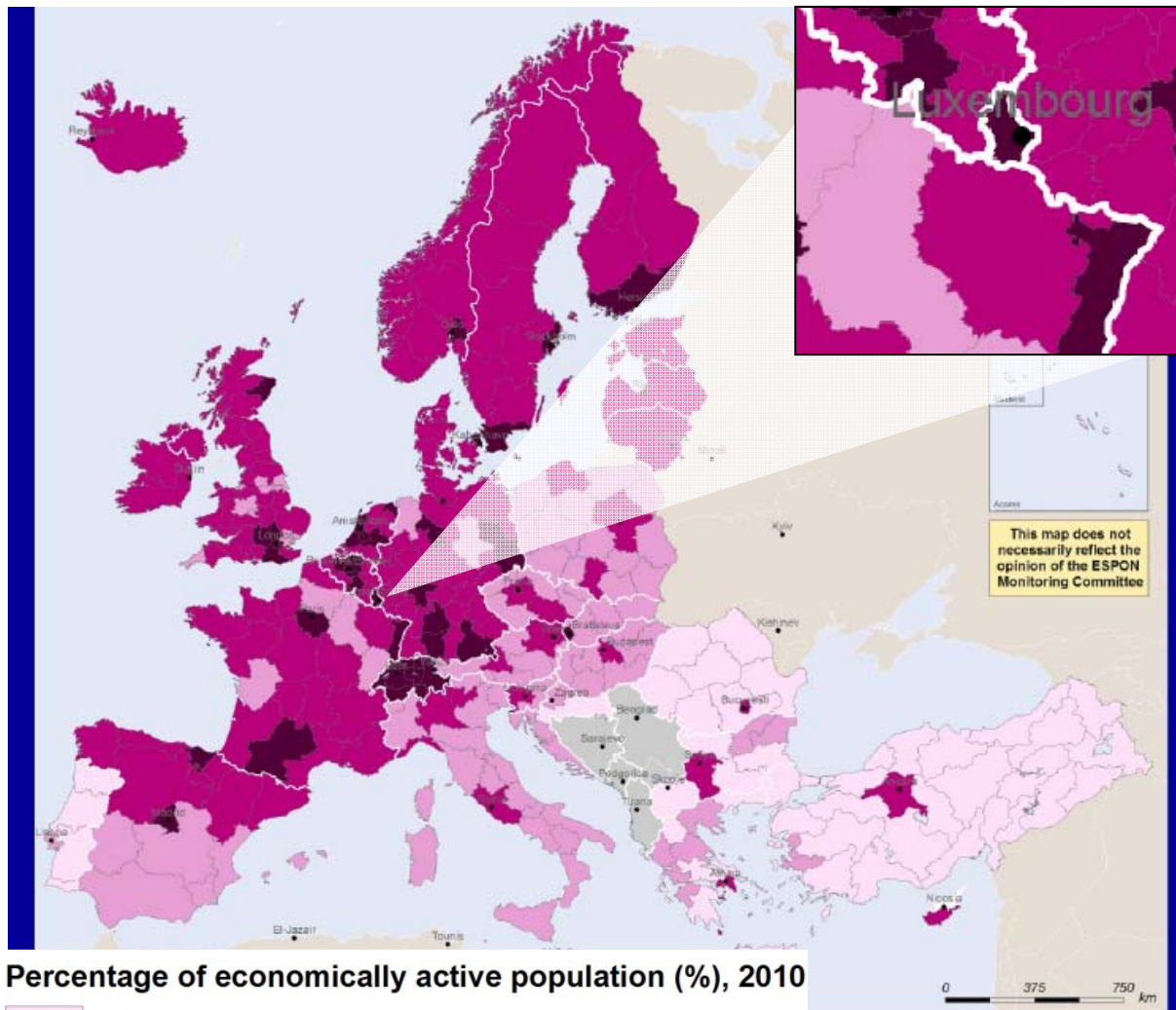


-  Scientific regions
-  Research intensive regions
-  Regions with no specialisation in knowledge activities
-  Human capital intensive regions
-  No data

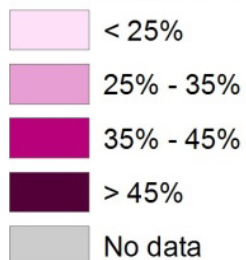
- Remarkable concentration of high-qualified human capital and research intensive region in the core of Europe (incl. Scandinavian countries). In yellow regions have no specialisation.
- The Greater Region faces an heterogenous profile:
 - Most parts of Lorraine and RP have no specialisation
 - Most of Wallonia is classified as a human capital intensive region
 - Luxembourg and Brabant wallon are considered as scientific regions (research + human capital intensive regions)
 - RB Rheinhessen-Pfalz appear as being more research intensive

Source: KIT, FR, p. 4

Human resources in science and technology (% of population, 2009)



Percentage of economically active population (%), 2010



Regional level: NUTS2
Source: EUROSTAT
Origin of date: EUROSTAT, 2012
© EuroGeographics Association for administrative boundaries

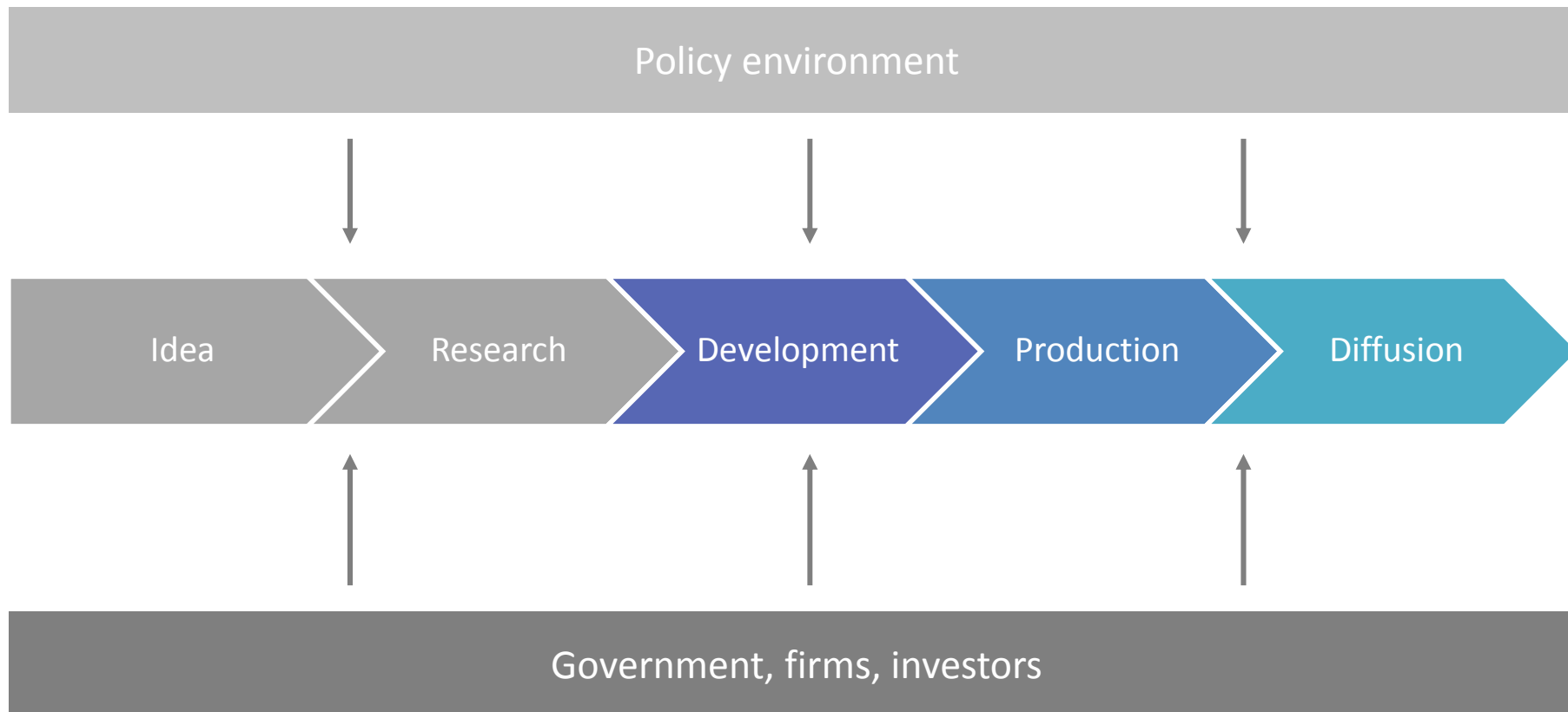
- « Brain power » is fundamental for innovation Europe. The map illustrates the distribution of the total workforce aged between 15 and 74, working in science and technology
- Concentration of scientists and techologists in NWE and scandinavian countries and in urban areas (ex. London, Copenhagen, Zurich, Utrecht)
- En Grande Région, la situation est contrastée: Luxembourg (54,3% en 2010 contre 36,2% en 2000), le Brabant wallon (61,0%) et la province de Namur ressortent avec des taux particulièrement élevés (> 45%). Pour le Luxembourg, l'économie financière joue un rôle essentiel dans l'emploi de ces personnes.

Source: SIESTA, FR, p. 47

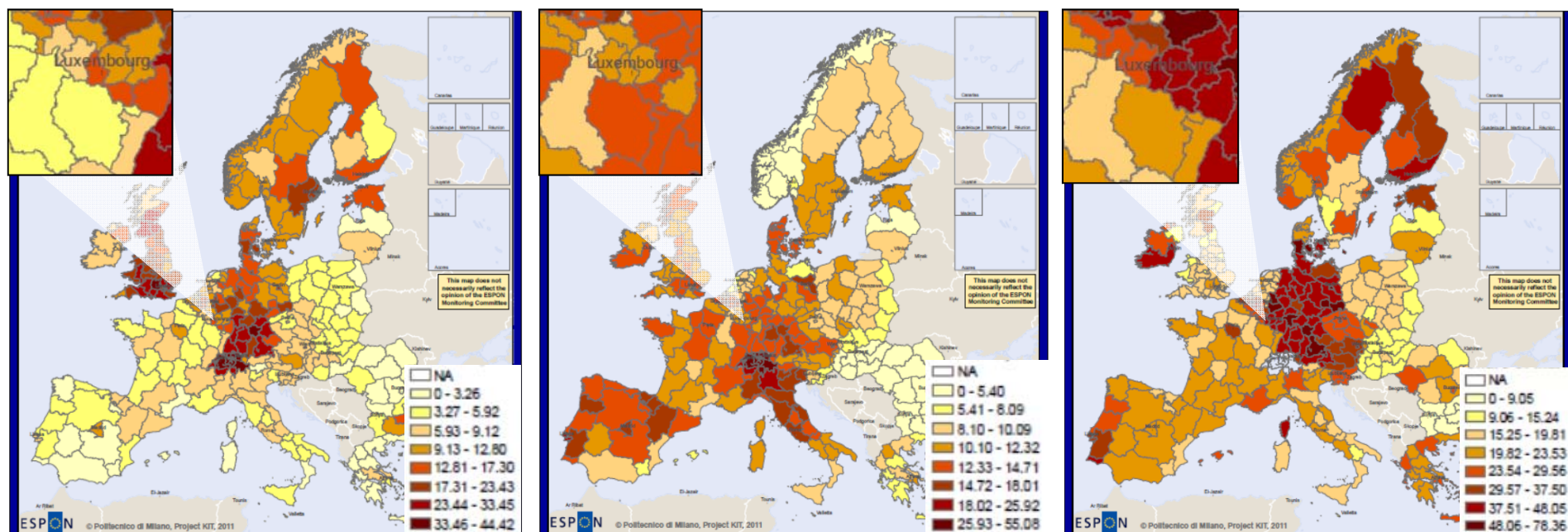
Preliminary conclusion: knowledge economy

	SECTOR (high-tech + science)	FUNCTION (research capacity + human capital)	NETWORKING (formal + informal linkages)
Lor.	✓		
Lux.		✓	✓
RB Koblenz			✓
RB Speyer	✓		✓
RB Trier	✓		✓
Saare	✓		
Wall. (Brabant wallon)	✓	✓	✓ ✓

2. Innovation



Product, process and marketing innovation



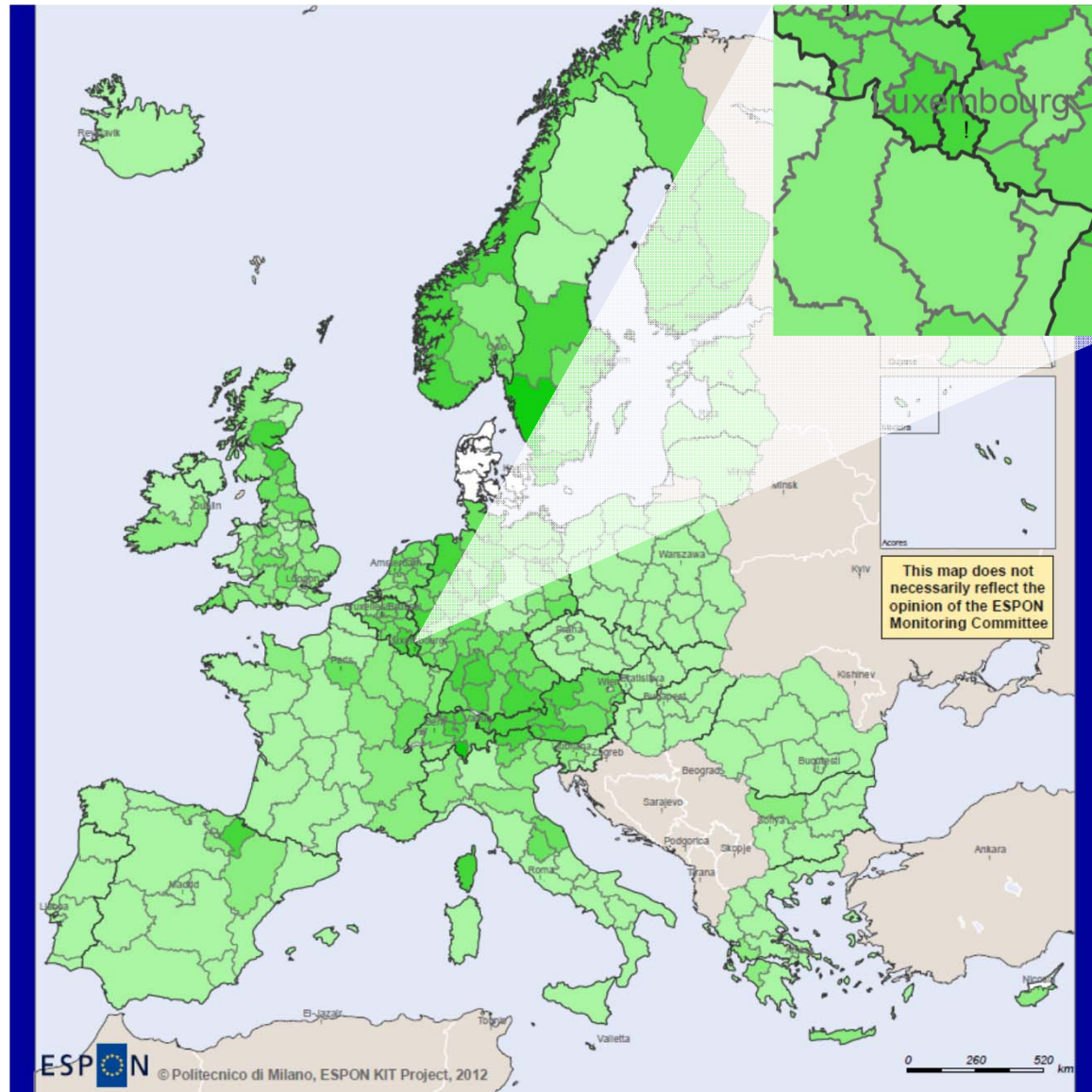
Product innovation

Process innovation

Marketing and/or organisational innovation

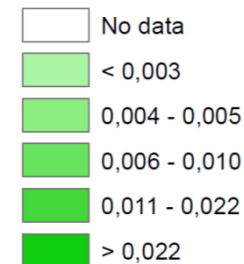
- Le Luxembourg présente des valeurs moyennes pour l'innovation de produits et de processus, mais un niveau élevé concernant l'innovation de commercialisation et d'organisation. L'image est similaire pour la Sarre et la Rhénanie-Palatinat, alors que la Lorraine ne présente des valeurs élevées dans aucun domaine d'innovation

Environmental innovation: green patents per 1,000 pop.



- The environmental innovation is measured as the number of patent applications to the EPO standardized by 1000 inhabitants in technologies like: water and air pollution control, solid waste management, renewable energy)
- Eastern/Western pattern in Europe
- In the GR, Luxembourg and the Belgian Province of Luxembourg stand out

Legend



Innovation chain: introducing the ESPON/KIT typology

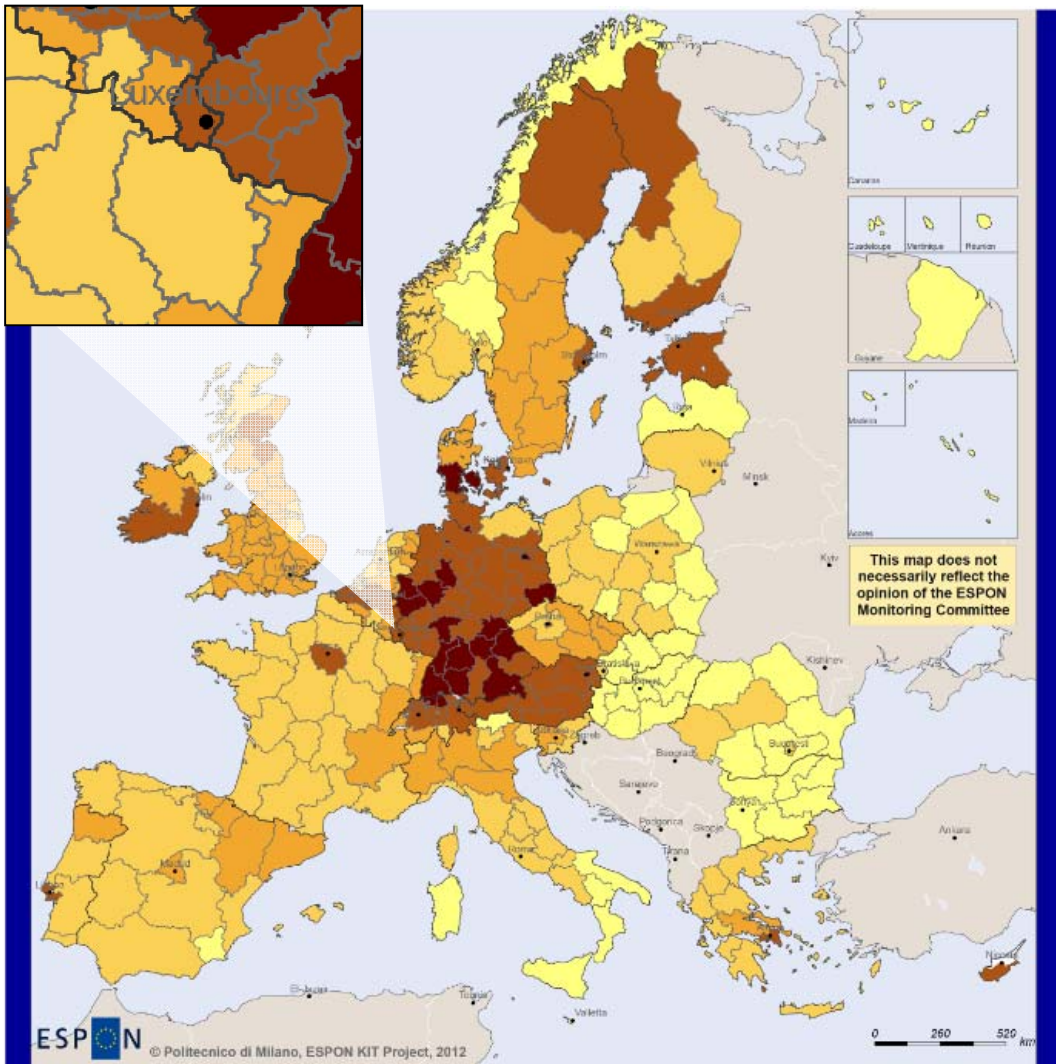


← Endogenous innovation pattern →

← Creative application pattern →

← Imitative innovation pattern →

Territorial patterns of innovation in Europe



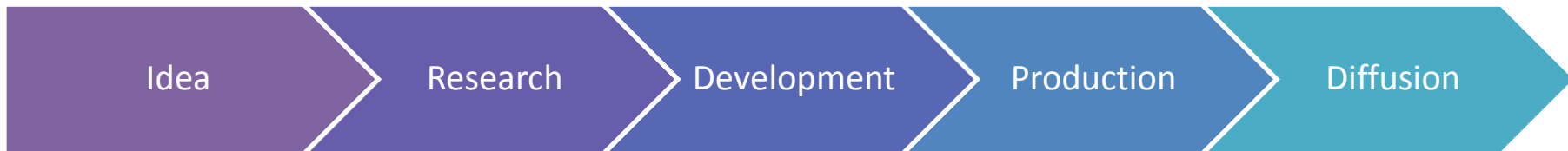
- Imitative innovation area
- Smart and creative diversification area
- Smart technological application area
- Applied science area
- European science-based area
- No data

The KIT project developed 5 empirically-based regional innovation patterns. These represent different combinations of innovation process phases. The typology is based on an extensive range of indicators (e.g. R&D spending, share of inventors, entrepreneurship).

These pathways to innovation are regionally diverse and of different efficiencies. **R&D requires a critical mass to be efficiently used.** These different patterns question «one-size-fits-it-all» innovation policies and the strong R&D focus of the EU2020 strategy.

Source: KIT, DFR, p. 15





Endogenous innovation pattern

*Science based area: able to go through the whole innovation chain
(Bade-Wurtemberg, Brussels, South of Denmark, Vienna)*

Applied science area (Lux, Saarland, Rhineland Palatinate, Prov. Liège & Brabant Wallon)

- Highly educated human capital
- Accessibility
- Participate in knowledge flow

⇒ Challenges: transform research knowledge into innovation, entrepreneurship, participation in innovation flow

Creative application pattern

Smart technological application area (Prov. Lux & Hainaut)

- Highly educated human capital
- Ability to turn research into innovation
- Participate in knowledge and innovation flow

Smart and creative diversification area (Lorraine & Prov. Namur)

- Entrepreneurship
- Ability to turn research into local innovation
- Ability to apply external innovation to local needs
- Participate in innovation flow

⇒ Challenge: strong dependence on external knowledge, participation in knowledge flow and accessibility

Imitative innovation pattern

*Acquisition of external innovation
(Bulgaria, Hungary, Latvia)*

EU & LU targets

Reflections outstanding from ESPON results

- Invest 3% of EU's GDP in R&D
 - CONTEXT:
 - Luxembourg is emerging on the European map of research. Relatively new policy (no path dependency)
 - Service and knowledge-intensive industry is well developed (with a focus on finance sector)
 - The development of high-tech industries is in its beginning
 - Thematic specialisation: biotech, greentech, material sciences & ICT
 - CHALLENGES:
 - Remain attractive for high-qualified human resources
 - Ensure that research results are transferred into innovation
 - Develop a "critical mass"
 - POSSIBLE MEASURES:
 - INTERREG: support measures facilitating the transfer of knowledge to innovation (e.g. clusters) / Joint innovation strategies at interregional level
 - FEDER: help SMEs to absorb and progress research results, find new applications, market introduction for SMEs
 - FSE: development of human capital, including formal education