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Session E: Contributing to Research and Innovation Smart Specialisation Strategies

Universities as key actors fostering regional competitiveness

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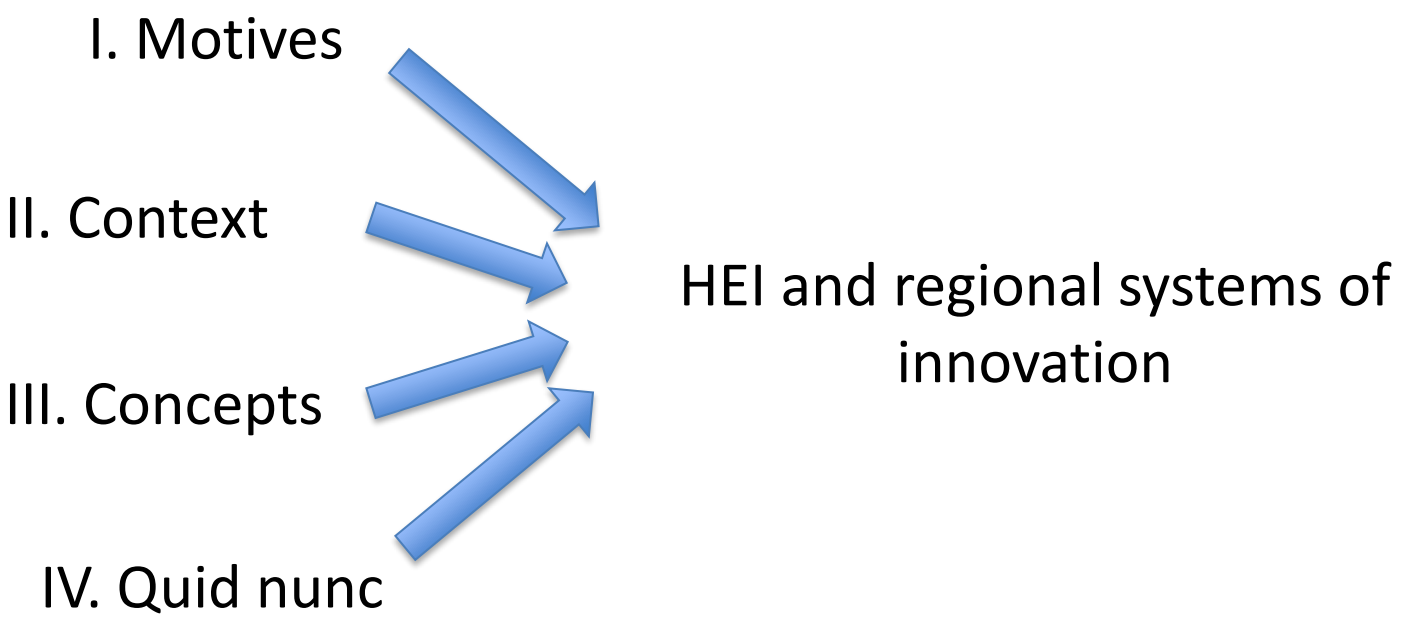
I. Motives
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HEI and regional systems of innovation

The Challenge

By Karen Ward

… emerging economies will increase x5
… 19 of the 30 largest economies will be from the emerging world.
… marked decline in the economic and political might of many small population, ageing, rich economies in Europe

Innovation capabilities slowing down

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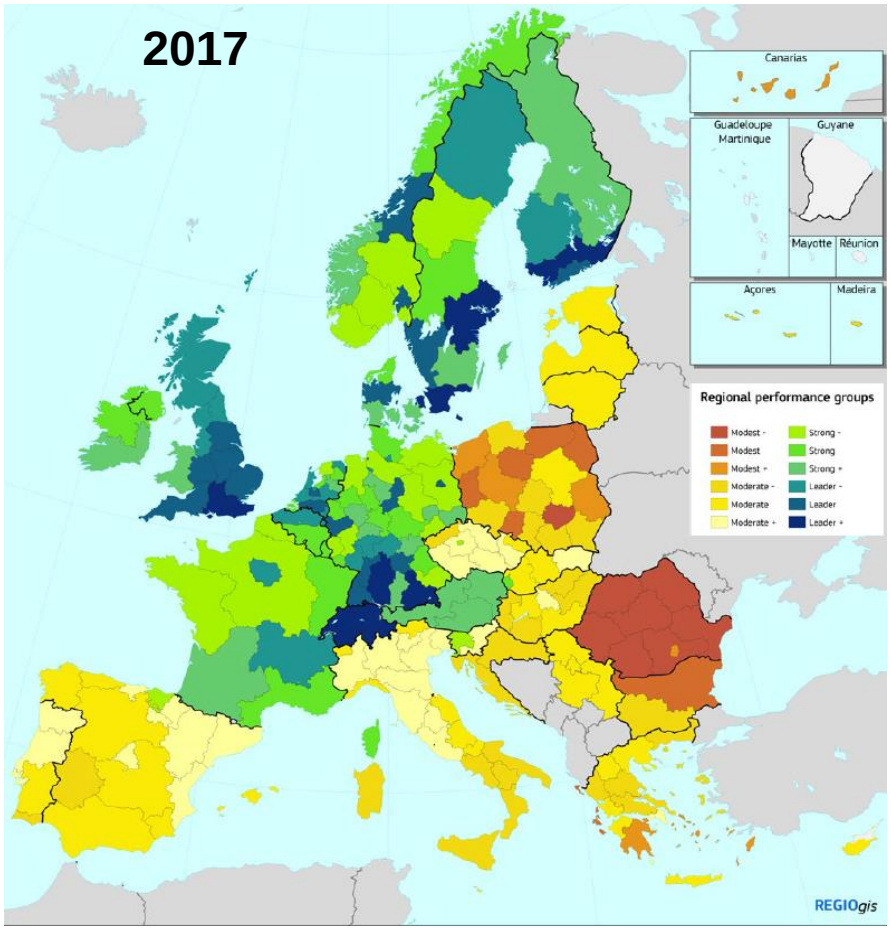
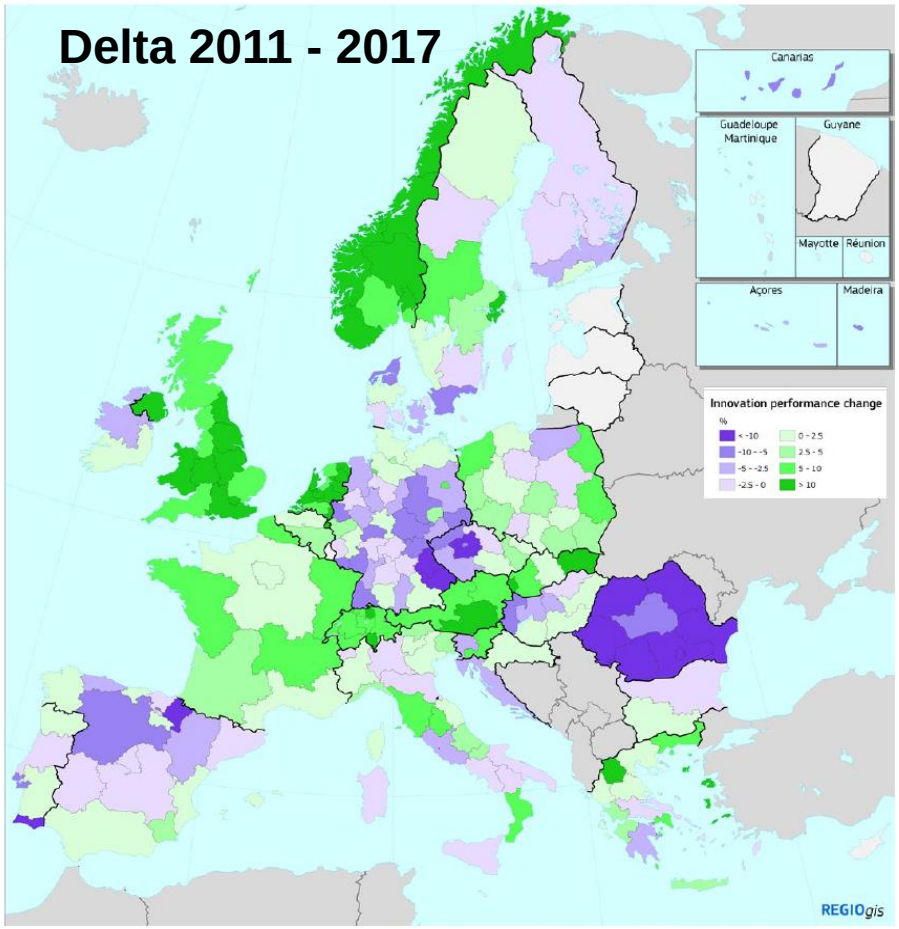
Regional Innovation Scoreboard indicates strong differences throughout Europe

Figure 3: Innovation performance change 2011-2017





„Where Europe is most and least innovative", in 6 maps (Washington Post); Regional Innovation Scoreboard 2017 (LINK).

ESIF harshly critizised – gap is increasing!

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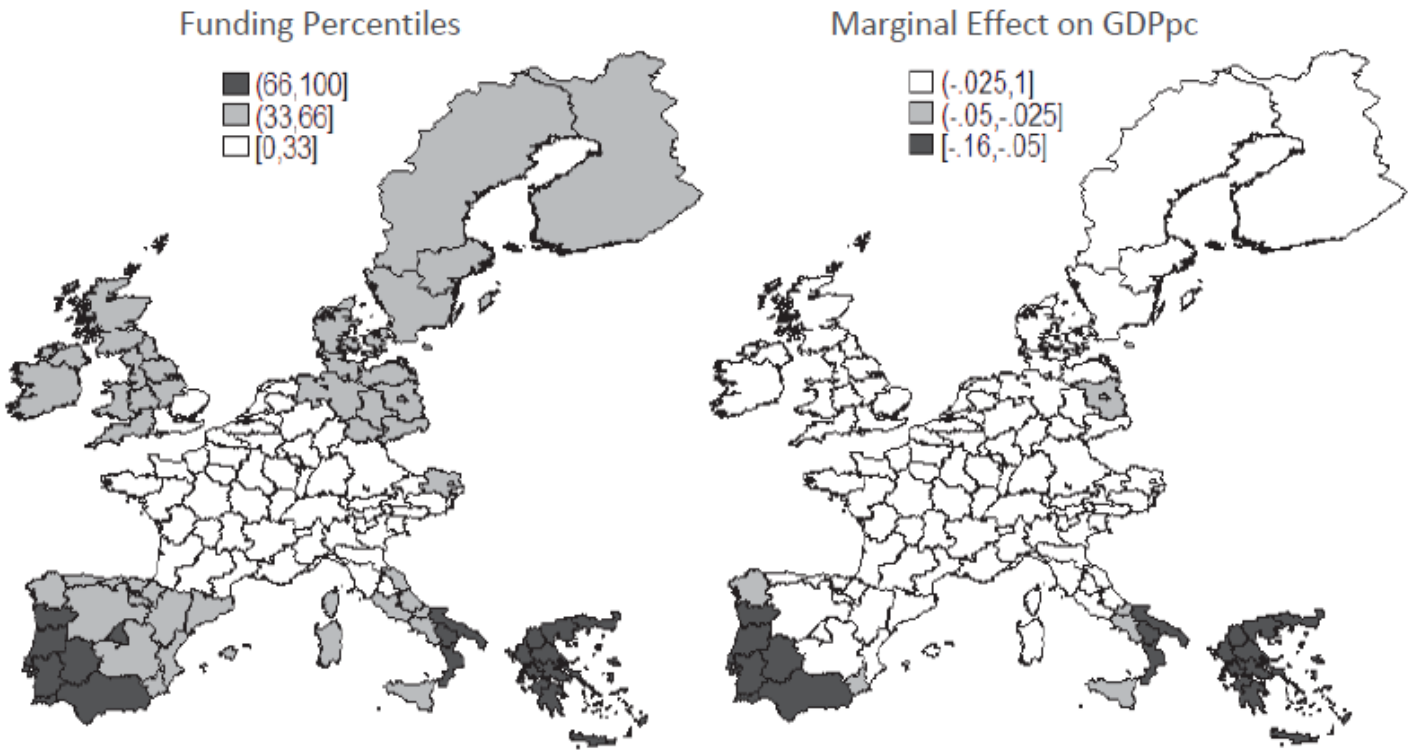
- Study indicates that larger ESIF invest correlates with **slower** development!

Figure 5: Neighborhood Funding intensity (left) and Overall Funding Effect (right)



Note: Results based on spatial interaction model results from Table A.3. The darker colors indicate more negative effects of direct and indirect funding. *Source:* Eurostat (2010), DG Budget unit A.2.

Breidenbach et al., „EU Structural Funds and Regional Income Convergence – A sobering experience“, (RUHR, 2016).

Degradation of R&D expenditure

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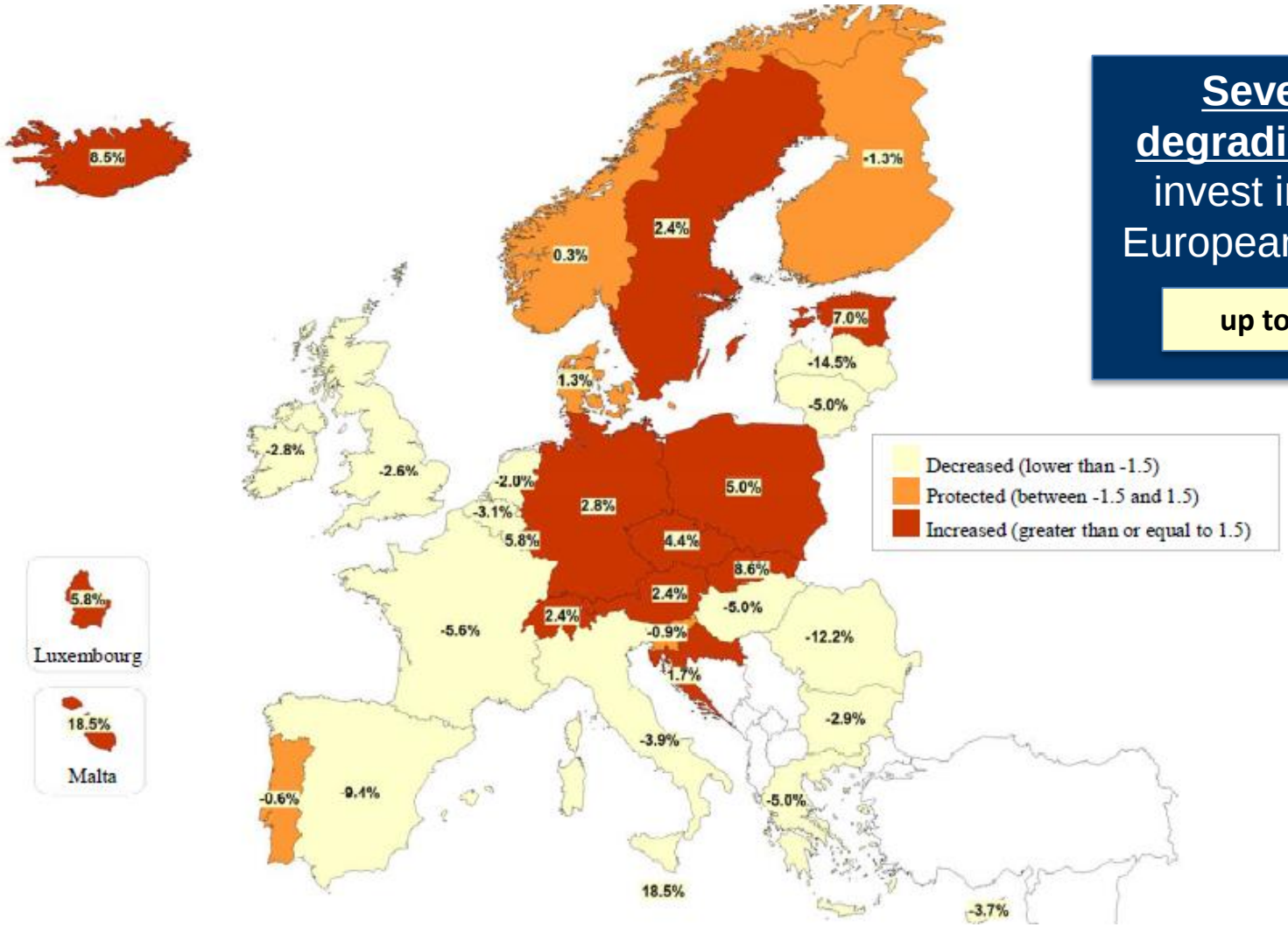
Changes in R&D as a share of total government expenditure (2008-2012)



Severely degrading R&D invest in many European regions

up to -15%

Source: DG Research and Innovation – Unit for the Analysis and Monitoring of National Research Policies

- Europe is in danger of loosing relevance
- Delivery of **tangible innovation impact**
- As RTDI investment is restricted innovation **efficiency** is key

Systems of Innovation

Systems of Innovation

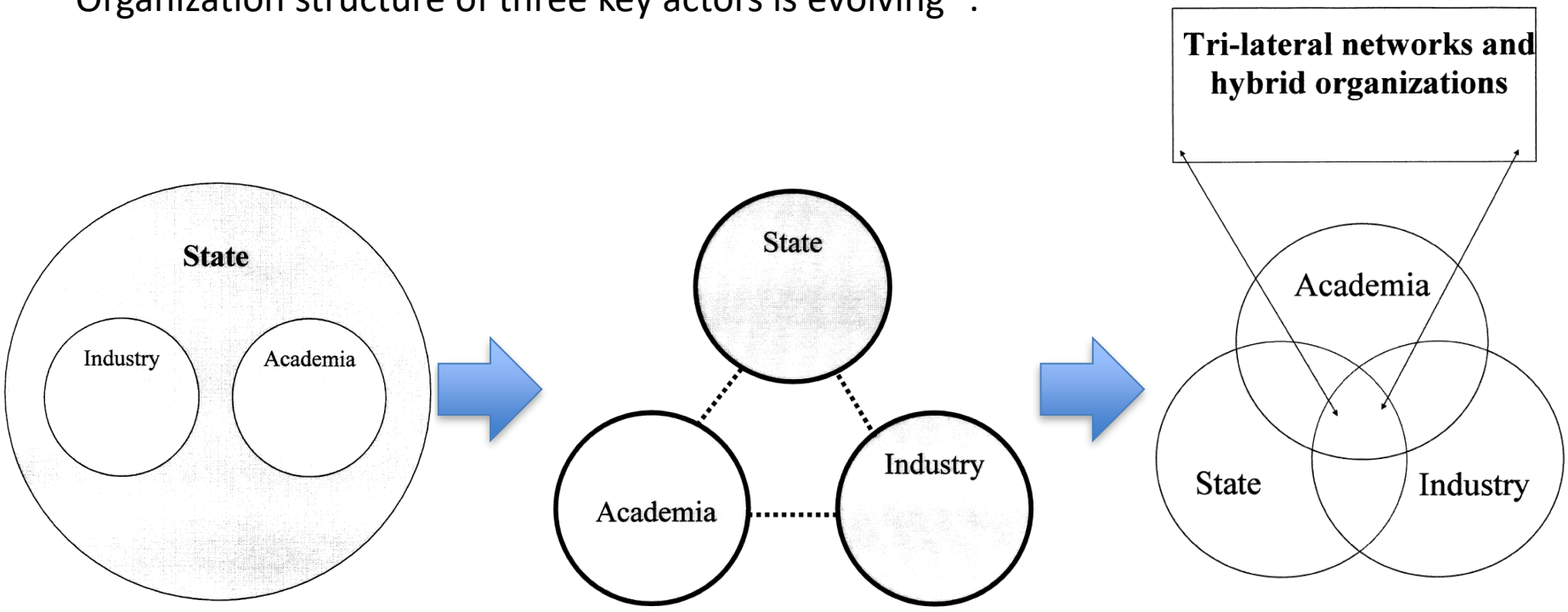
- General concept dates back to “The National System of Political Economy” **conceived 1841** by Georg Friedrich List a 19th, whose ideas were the basis for the European Economic Community.
- System of innovation are more recently defined as “all important economic, social, political, organizational, and other factors that influence the development, diffusion, and use of innovations.”[1-3]
- Multifacetted functions required for innovation:
  - Knowledge Development
  - Knowledge Diffusion
  - Entrepreneurial Activities
  - Guidance of the Search
  - Market Formation
  - Resource Mobilization
  - Support from Advocacy Coalitions
  - …

Georg Friedrich List (1789 – 1846)

[1] Bengt-Åke Lundvall (1985) ‘Product innovation and user-producer interaction, industrial development’, Aalborg University Press.
[2] Christopher Freeman (1995) The ”National System of Innovation” in Historical Perspective. Cambridge Journal of Economics
[3] Charles Edquist (1997) ‘Systems of innovation approaches - their emergence and characteristics’, London: Pinter/Cassell .

Triple Helix as a basis for S3

Organization structure of three key actors is evolving [1]:



„etatistic“ model

„laissez-faire“ model

„Inclusive“ model

S3 is frequently politically drafted

How it optimally is defined & implemented

[1] Henry Etzkowitz & Loet Leydesdorff, The dynamics of innovation: from National Systems and “Mode 2” to a Triple Helix of university–industry–government relations, Research Policy **29** 109–123 (2000).

Efficient innovation requires enduring INVOLVEMENT of all stakeholders, COMPETITION for the best ideas and constant REVISION of programmes.

Relevance of HEI

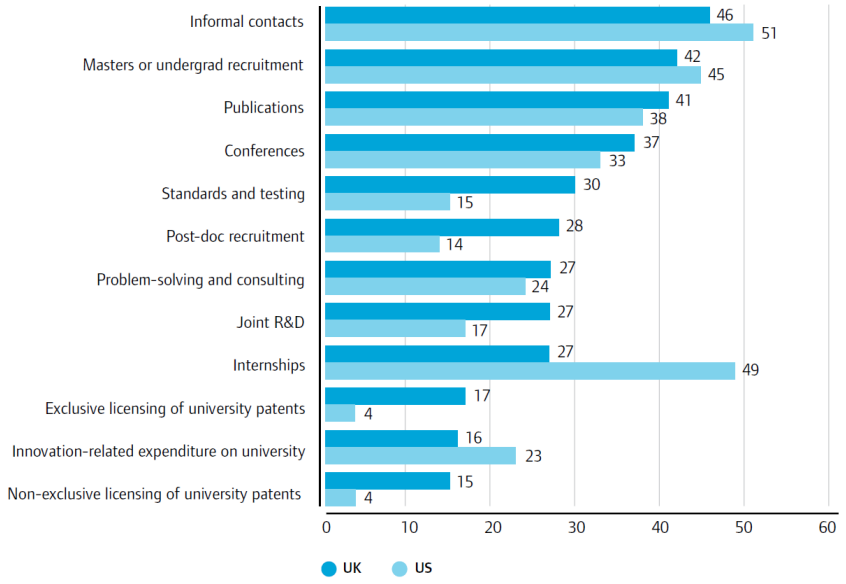
- Recognition of **universities as a key partner** in regional development
- Need to build on the **specific profile** and opportunities of European **regions**,
- Active promotion, **publication and evaluation of RIS3** to motivate stakeholder participation
- **Coordinate innovation programmes**, reducing cross-programme complexity
- **alignment** of activity portfolios and stakeholder timelines to RIS3
- Use funding synergetically for **R&D infrastructure, human resources, cooperation and deployment plattforms**
- Develop **incentives** relating to regional priorities; R&D careers outside academia; heterogeneous collaboration plattforms
- Ensure the **sustainability** of Smart Specialisation Strategies beyond structural funding timeframe

Multiple HEI contributions

Higher education institutions (HEI) are a key actor ensuring global competitiveness :

- Developing the **human capital** to address the future knowledge economy,
- Promote **regional attractivity**, both for people and industrial investment,
- **Knowledge creation** and its equitable distribution, access and sharing,
- **Poles of knowledge**, bringing global knowledge to regional use
- Active promoters of a **innovation culture**, increasing synergy among education, research and innovation.
- HEI are **powerful network builders**, bridging the gap between political decision, governance and industries.

but most **contacts are informal**[1], i.e. they will only be fruitfull if they are in the interest of all partners



[1] M. Kitson, J. Howells, R. Braham and S. Westlake „The Connected University Driving Recovery and Growth in the UK Economy" NESTA Research report: April 2009

Local dependencies and motivational factors

Efficient innovation and cooperation can succeed only on a **local framework**:

- Face-to-face and **enduring contact** is required to overcome uncertainties and cultural differences
- „Implicit“ knowledge is bound to specific **persons and locations**, making it necessary to have a close collaboration to this local instances
- A **close interaction** between knowledge providers and users is required to minimize transactional costs

- Motivation for HEI and personell to support regional development is very seldomly not sufficiently addressed.

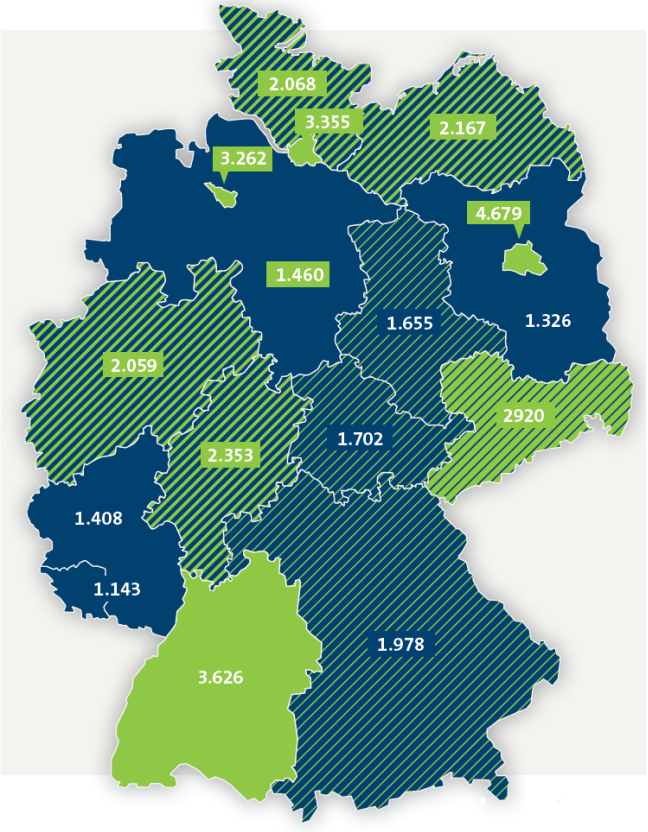
[1] S. Kuhlmann, U. Schmich, T. Heinze (2003): Governance der Kooperation heterogener Partner im deutschen Innovationssystem, Karlsruhe, Faunhofer ISI

HEI make measurable difference!

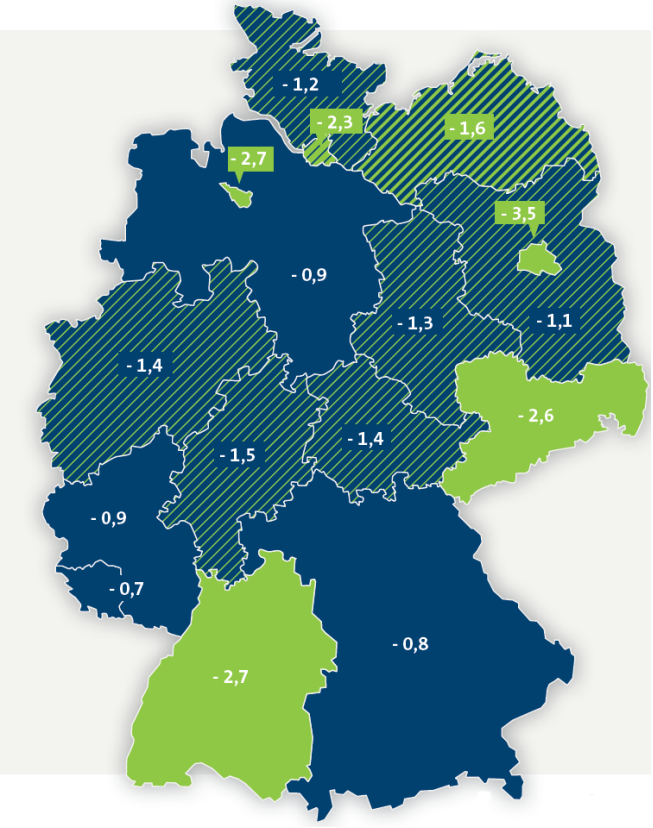
Measurable economic impact

- Direct economic impact of HEI **demonstrated**, e.g in Germany direct positive economic impact of HEI estimated at 190 B€ HEI, creating jobs and increasing GDP.

Per capita GDP increase
by 1100 – 3000 €



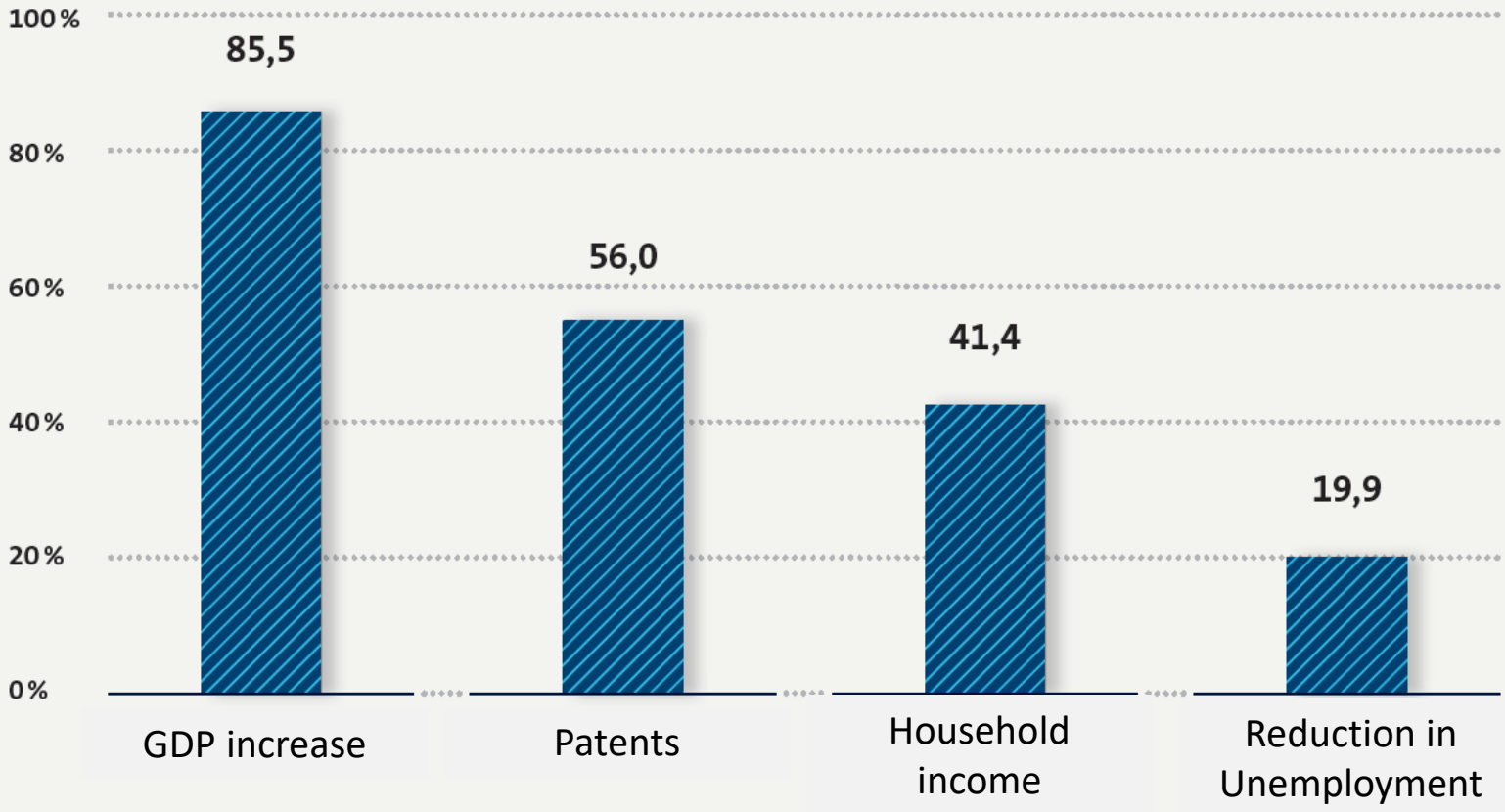
Reduction of unemployment
rate by 0,7% - 3,5 %



Source: Schubert, T./Kroll, H. (2013): Hochschulen als regionaler Wirtschaftsfaktor (Study on behalf of „Stifterverband“)

Most impact is local

Regional share of HEI competiveness impact



Source: Schubert, T./Kroll, H. (2013): Hochschulen als regionaler Wirtschaftsfaktor (Study on behalf of „Stifterverband“)

- **Enduring** interaction networks are key to regional growth
- HEI are a **proven** stakeholder for regional innovation in many perspectives
- It can be quantified and **most impact is local**
- How to act?

Approaches

General recomendations?

beware on adapting other's concepts ….

each situation is absolutely unique

Context dependency

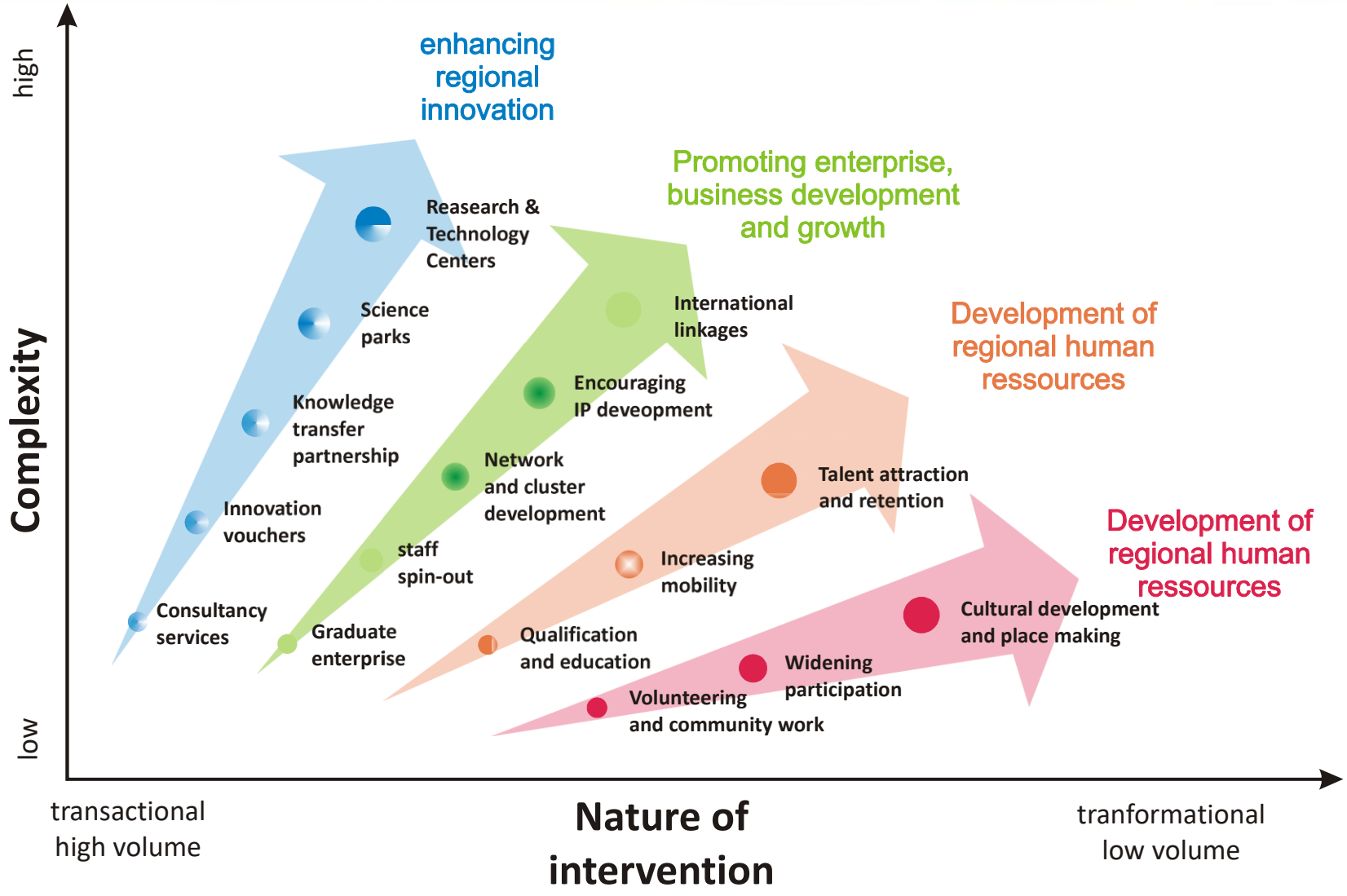
HEI contributions to regional innovation vary, according to the nature and capacities of the local economy[1]:

- **New industry formation**: developing entirely new sectors, often based on novel technologies and university research.
- **Industry transplantation:** bringing existing (but often higher value) industries to a region.
- **Diversification into technologically-related industries:** for example, in helping 'phoenix industries' to develop from declining firms.
- **Upgrading of existing industries:** providing technical problem-solving advice and skills development for existing businesses.

Environment is crucial in strategy formulation for HEI related activities!

[1] Richard K. Lester (2005) Universities, Innovation, and the Competitiveness of Local Economies, MIT Industrial Performance Center

Multitudinous possibilities



cf. more details on: Connecting Universities to Regional Growth: A Practical Guide, EC REGIO, RIS3 group (2011)

Summary

Significant future **challenges** require **efficient** innovation systems

Triple helix has long been identified as most efficient innovation plattform for S3

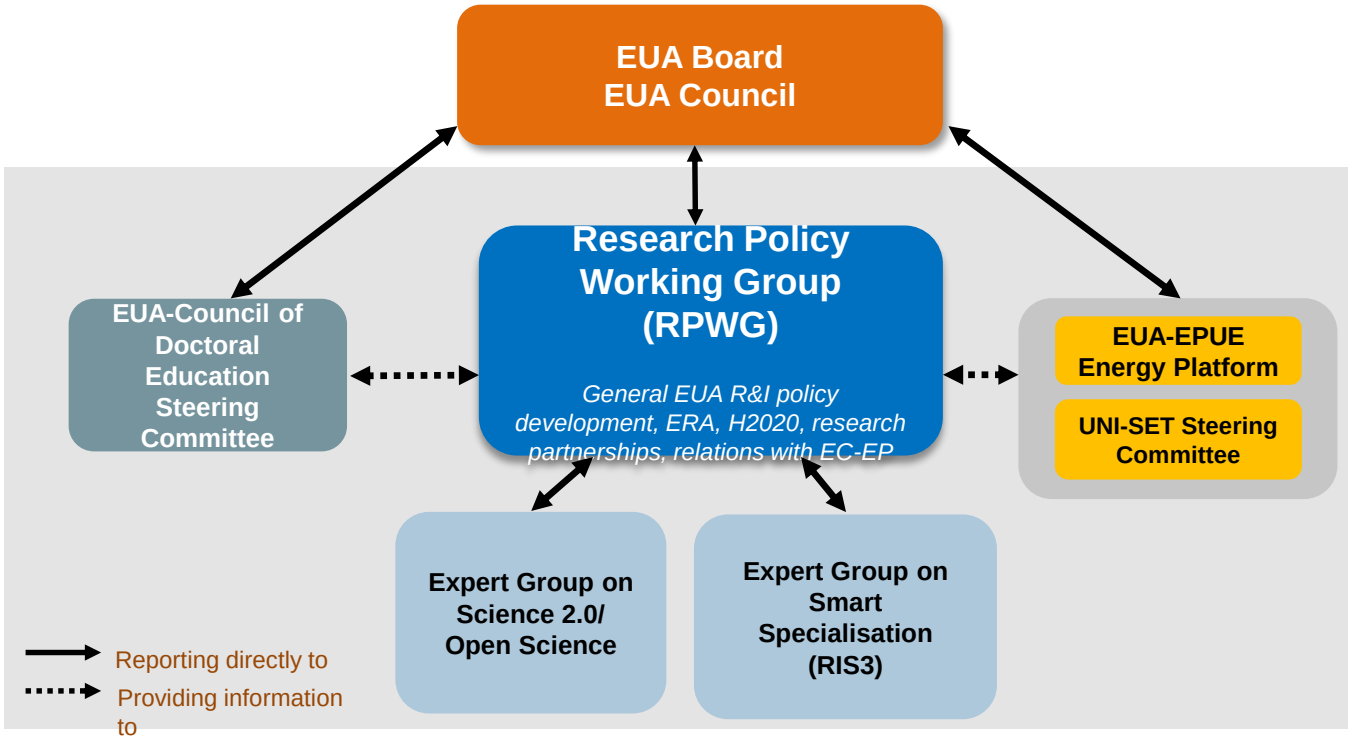
Inclusion of HEI is not a demand, but a **sensible prerequisite** for innovation.

Impact depends on local industrial base and effective interaction networks

Commitment of all, and therefore integration into agenda setting is key

Quid nunc

EUA R&I Overall Consultative Committees – Organisation 2018



Mobilise 91 high-level representatives of universities from 68 universities in 25 countries

EUA RIS3 expert group activities

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- February 2013: EUA-JRC Workshop on the Role of Universities in Smart Specialisation
- June 2014: EUA-JRC High-level conference “Mobilising Europe’s universities for Smart Specialisation”
- October 2014: Report on joint EUA-JRC Smart Specialisation Platform expert workshop: The role of universities in RIS3 strategies
- November 2015: Establisment of the Expert Group on Research and Innovation Strategies for Smart Specialisation (RIS3)
- November 2015: First EUA RIS3 Workshop in Madrid, Spain
- April 2016: Report “Universities promoting regional innovation across Europe”
- October 2016: Second EUA RIS3 Workshop in Warsaw, Poland
- March 2017: Response to EC Consultation on Smart Specialisation: a fresh approach to European growth and jobs through regional innovation strategies
- October 2017: Third EUA RIS3 Workshop in Tartu, Estonia
- **February 2018: EUA policy position on RIS3 “Coherent policies ”**
- March 2018: EUA response to the EC Consultation on EU Funds in cohesion policy
- **13-14. Nov 2018: Fourth EUA RIS3 Workshop in Graz, Austria**

Position papers

Key messages:

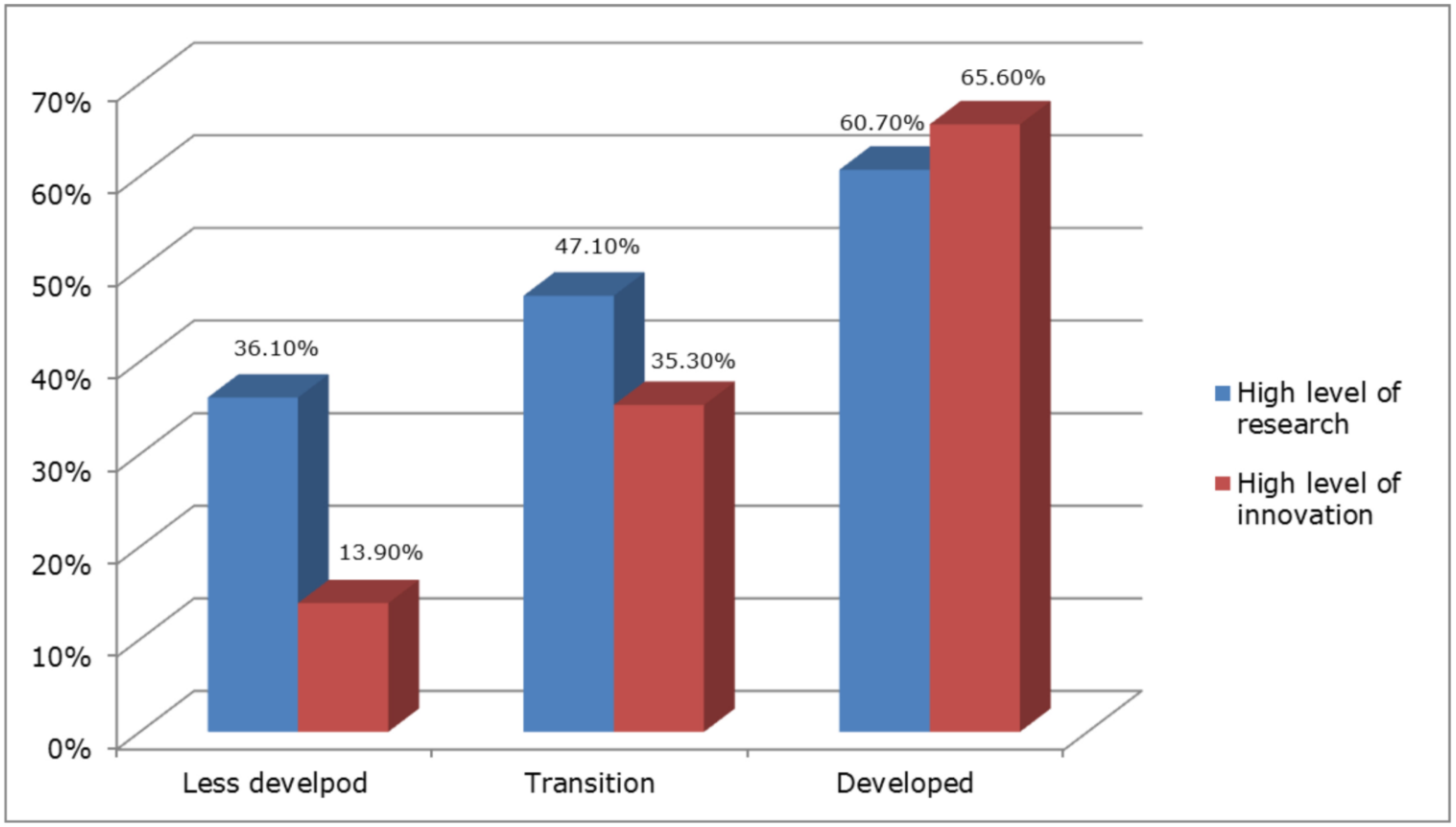
1) investing in human talent and skills to ensure enduring innovation
2) enhancing the strategic involvement of universities in regional innovation ecosystems
3) promoting the engagement of all EU regions without compromising excellence
4) strengthening collaboration to induce innovation at the regional level
5) reinforcing synergies and multi-level governance (local/regional/national/European levels)

Increasing acceptance by EC

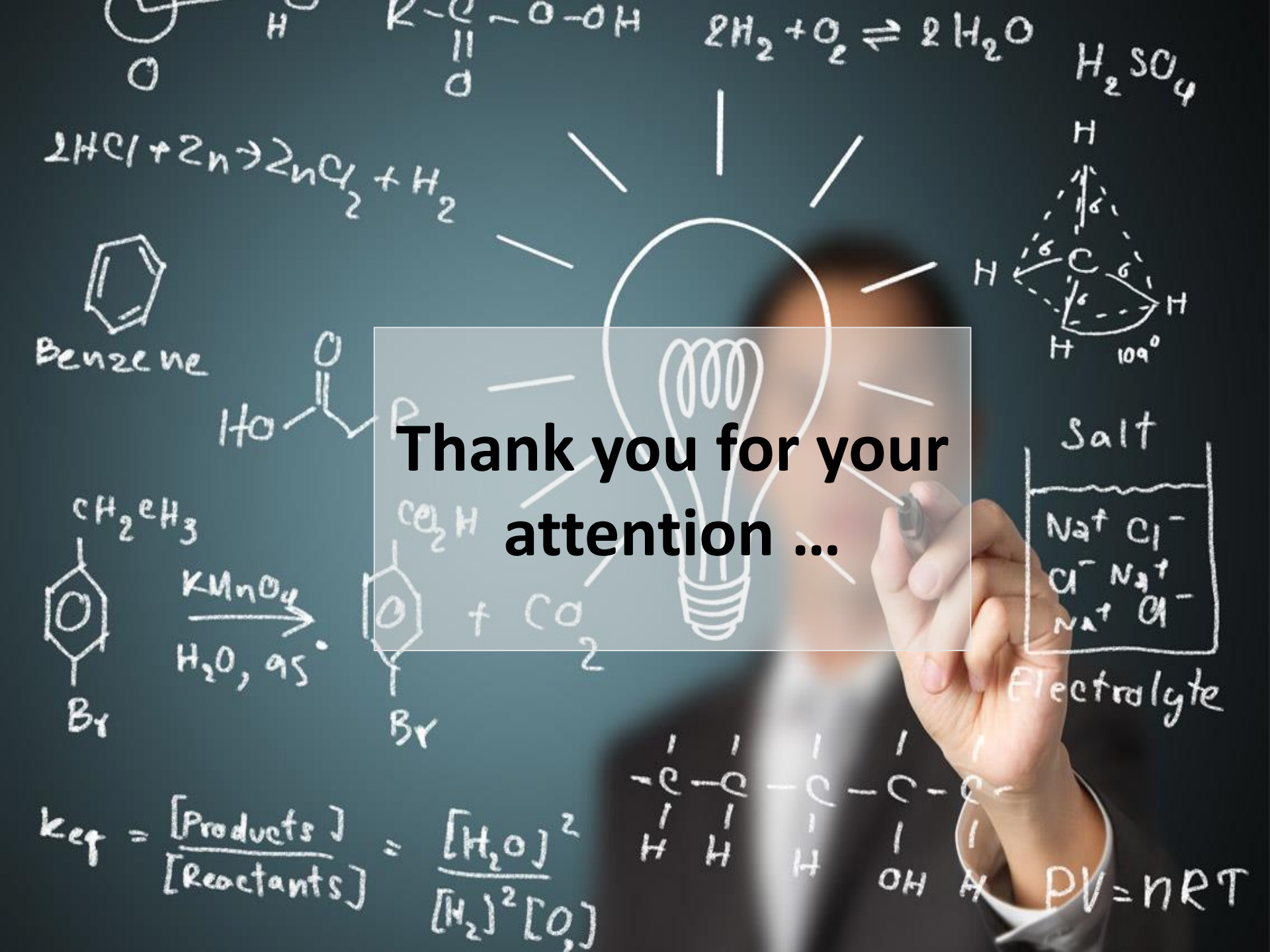
Interesting messages:

1) Clear demand for wider partnerships
2) Motivation to invest ESIF (ERDF + ESF) in human talents
3) Extremely uneven distribution of invest in education + research (particularly ESF)
4) Correlation of research and innovation
5) Addresses problems of missing industrial partnerships, particularity in less-developed regions

Research and innovation correlate



Source: S3 Platform Survey on Institutions and Smart Specialisation


Thank you for your attention …

Questions for later discussion:

- how to convince regionals of HEI role in RIS3 as a strategic and active partner?
- how to induce better programatic coherence in multi-governance structure?