

# REGIONAL PATTERNS OF KIS (KNOWLEDGE INTENSIVE SERVICES) ACTIVITIES: A EUROPEAN PERSPECTIVE



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**evoREG-Workshop**

„Rethinking regional innovation policies and tools“

Session

„Knowledge, creativity and regions“

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# Focus of the presentation

## Point of departure

- Knowledge-intensive services (KIS) and in particular knowledge-intensive business services (KIBS) are considered as drivers of future growth in Europe
- KI(B)S activities rely to a high extent on knowledge creation, processing and application, and creativity
- KI(B)S not only support innovation in their client companies, but are also highly innovative themselves
- The measurement of innovative KIBS activities still faces difficulties, even more on the regional level
- Policy recommendations about how to support KI(B)S are needed

## We want to give an overview on

- Spatial patterns of KIS and KIBS in Europe
- Focus of the following investigations:
  - KI(B)S relation to employment
  - their spatial specialisation and growth dynamics
  - territorial patterns of KI(B)S activities

## Statistical classification

- KIS (Knowledge intensive services): NACE 61, 62, 64-67, 70-74
- KIBS: NACE 72, 73, 74.1-4

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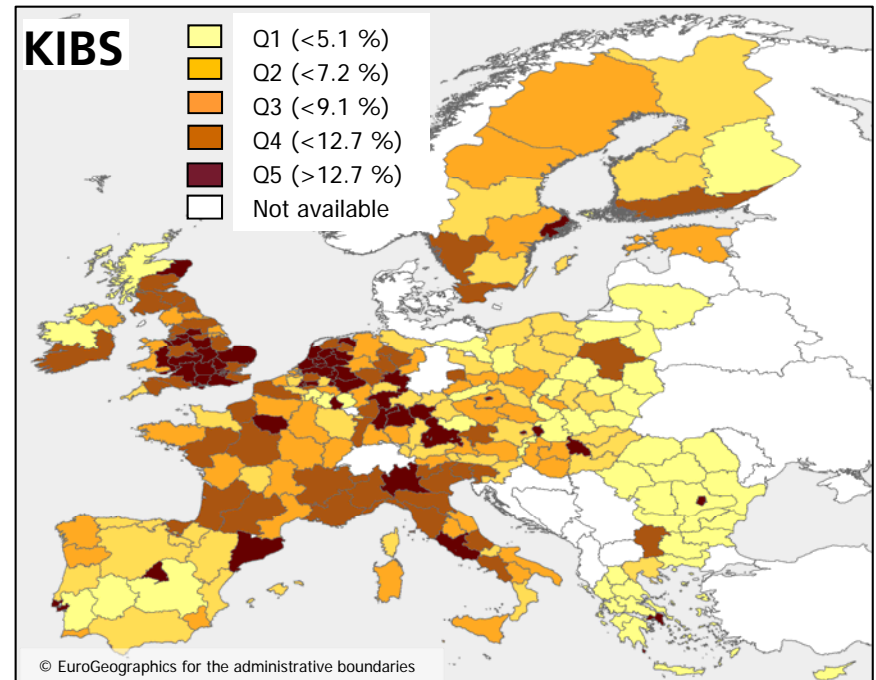
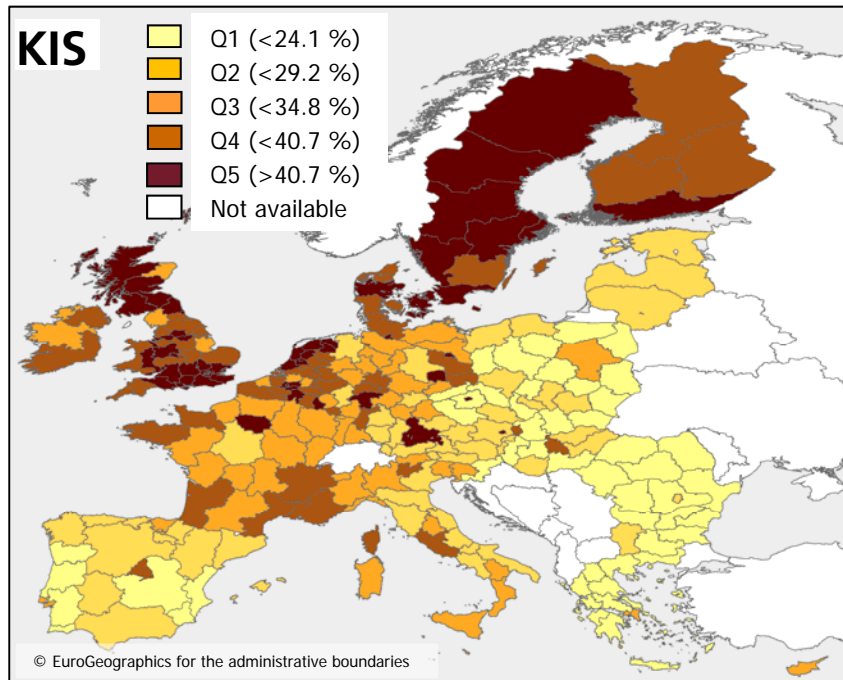
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# Regional Patterns of KIS and KIBS activities in Europe

## - FINDINGS -

# Spatial pattern of KIS and KIBS employment

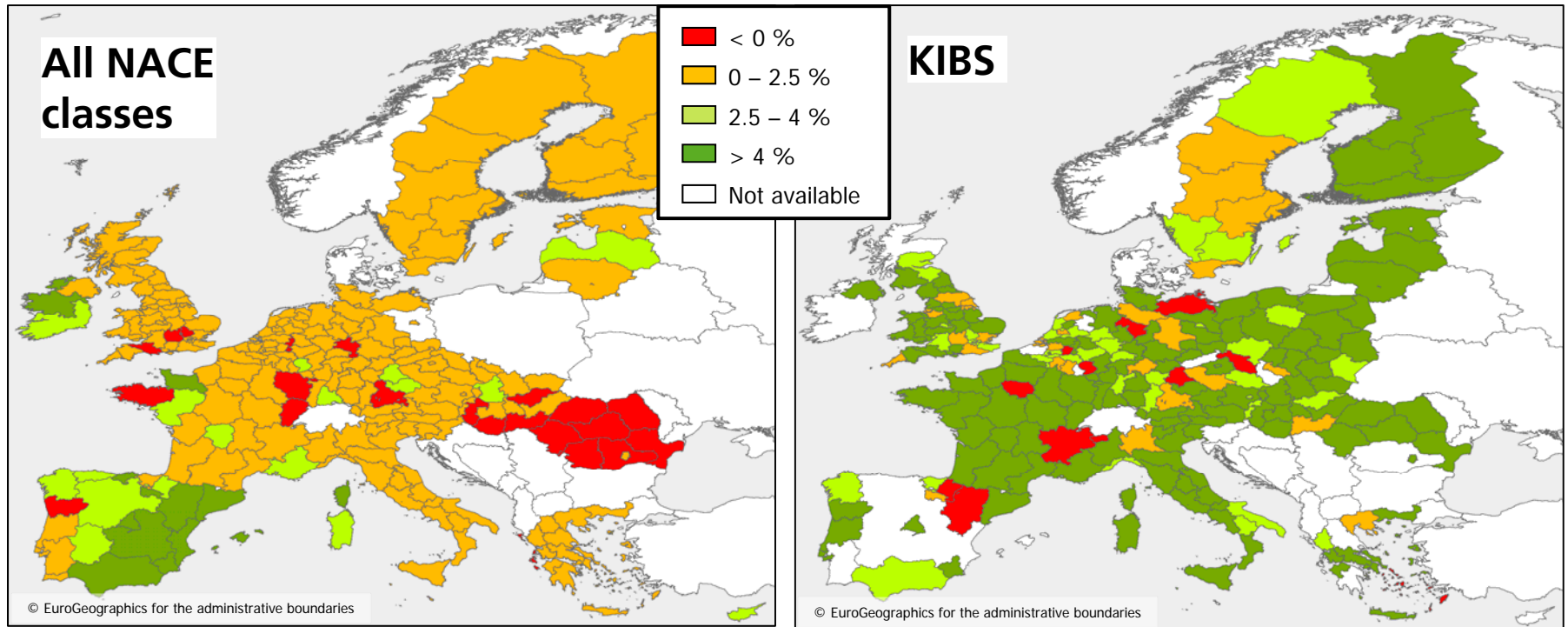
Share of KI(B)S on total employment (Quintiles, 2007)



Presentation: Fraunhofer ISI. Data source: Eurostat

- Concentration of KIS employment in core regions and northern countries
- Strong focus on capital and core regions, also in NMS (ex.: Prague, Bucharest, Bratislava, Budapest)

# Compound annual growth rates (CAGR) of all industries and KIBS 2002-2007

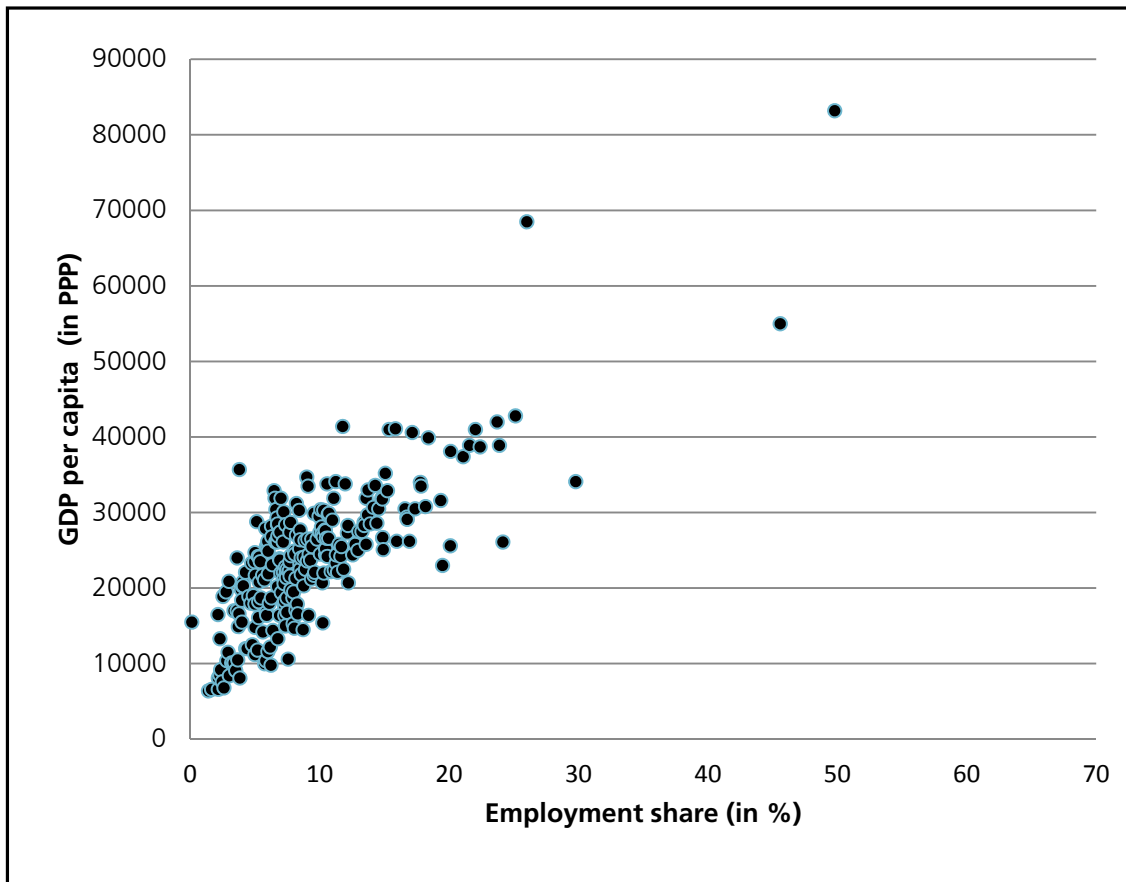


Presentation: Fraunhofer ISI. Data source: Eurostat

- KIBS as growth drivers, not only in core regions
- Strong growth in France, South and East Germany, Austria, UK, Greece, Italy, Romania, Poland, Baltic States, Finland

# Relation of KIBS employment and GDP

GDP per capita (in PPP) and employment share of KIBS (2007)

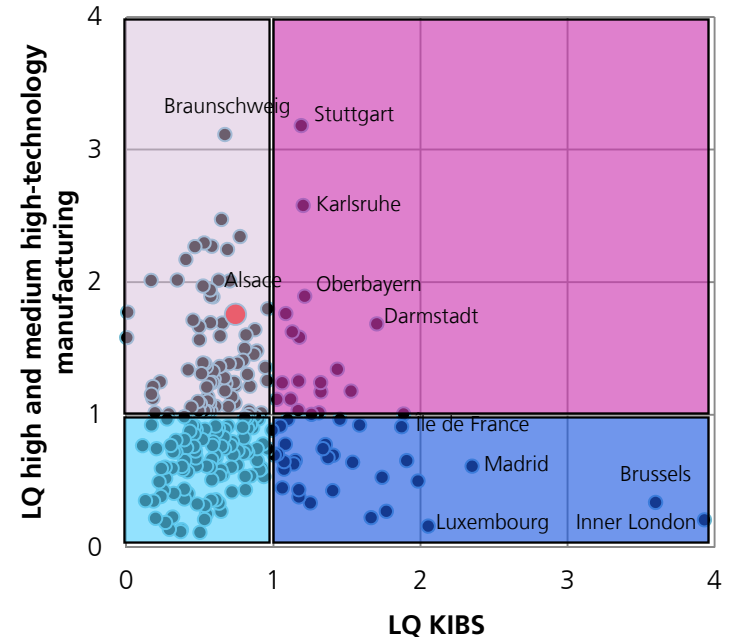
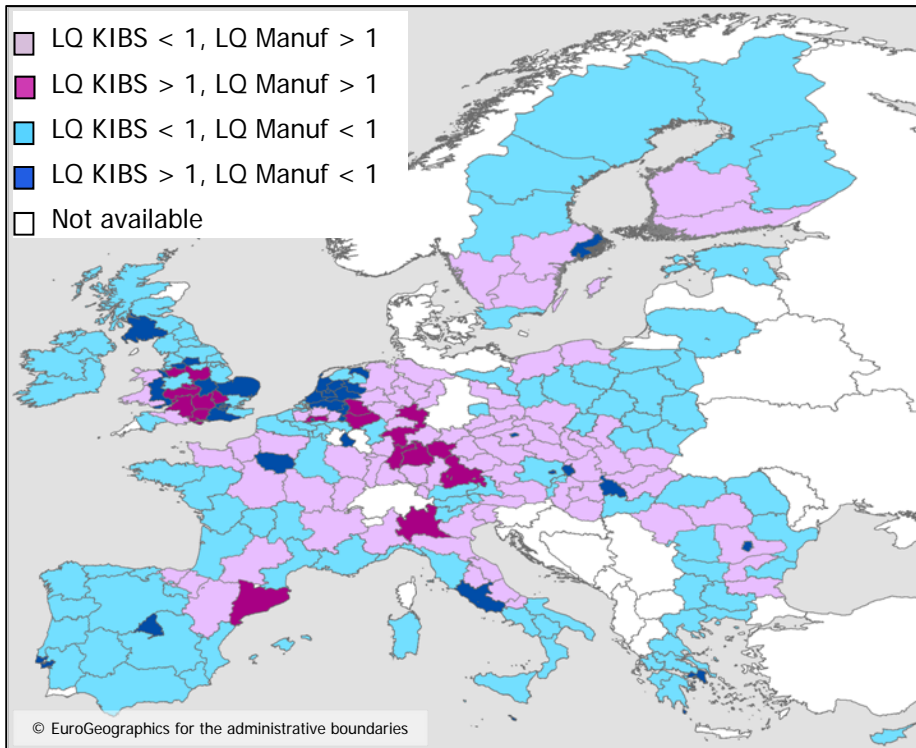


High shares of KIBS employment are linked to high GDP per capita figures

Presentation: Fraunhofer ISI. Data source: Eurostat

# Regional specialisation (manufacturing/ KIBS)

Location quotients of KIBS und high- und medium high-technology manufacturing 2007



Presentation: Fraunhofer ISI. Data source: Eurostat

- Different specialisation patterns of European regions
- Some regions are specialised both in KIBS and high-tech manufacturing

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# Typology of European regions

Description of aim, methodology and procedure

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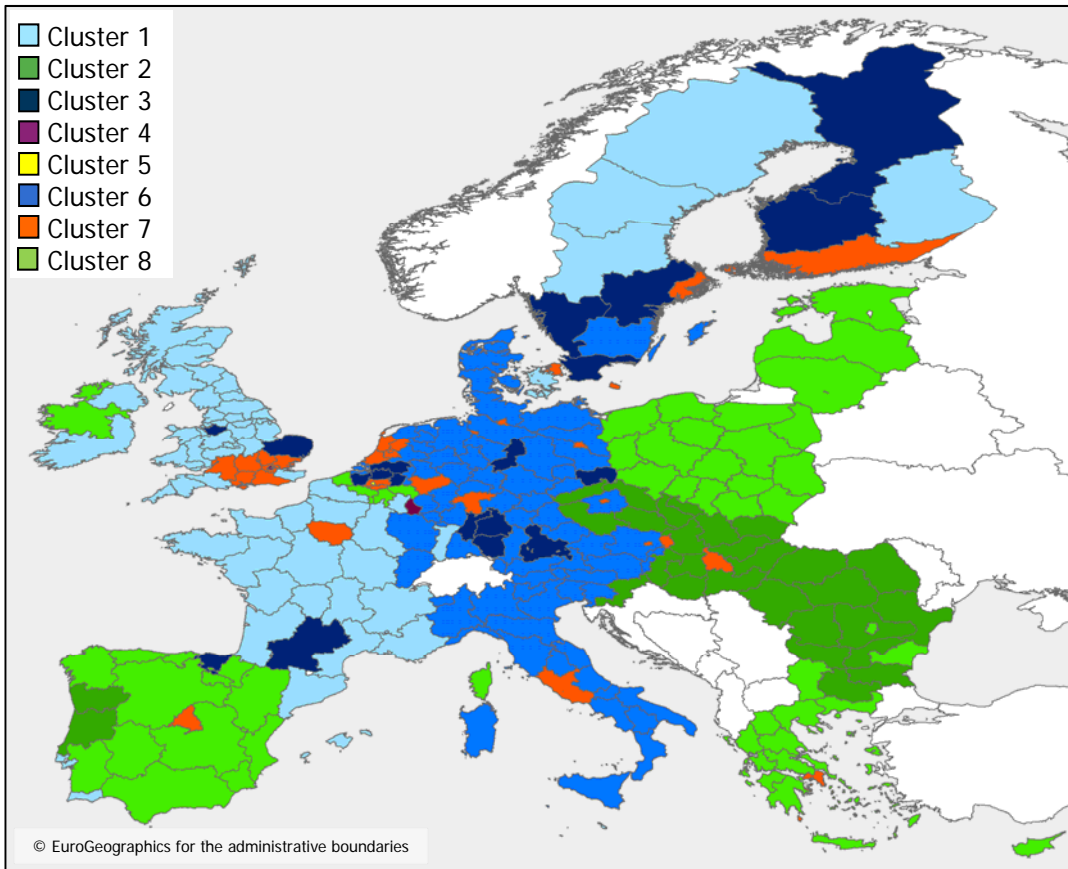
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- **Aim:** Comprehensive picture of European regions with respect to industrial characteristics, particularly their service sector leading to regional types across Europe
- **Methodology:** Cluster analysis / NUTS 2 regions
- **Selection of indicators:** Typology is based on basic regional characteristics (e.g. GDP, GDP growth, population density), industrial characteristics (e.g. share of employment in different sectors), regional KIS characteristics (employment shares, specialisation of personnel, regional specialisation in terms of localisation quotients)
- **Time frame:** Data for 2007 and 2002 to 2007 in case of growth indicators
- **Procedure:** 2-step-analysis
  - 1. hierarchical cluster analysis (aim: to determine number of clusters)
  - 2. k-means cluster analysis (to also include regions with missing values)



# Typology of European regions

## Results of the analysis



- Cluster 1: **59 “average regions”**
- Cluster 2: **shaped by agriculture and industry (29 regions)**
- Cluster 3: **technology and business research-oriented regions (19 regions)**
- Cluster 4: **London, Luxembourg (financial and service centres)**
- Cluster 5: **Brussels**
- Cluster 6: **technical followers (71 regions)**
- Cluster 7: **7 capital and city regions**
- Cluster 8: **service catching-up regions (55 regions)**

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# The empirical analysis reveals crucial insights on spatial patterns of KI(B)S activities

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- KIS employment particularly high in central and northern Europe, and a **core-periphery gradient** is observable
- **Capital regions in New Member States** are **almost equally specialized** in KI(B)S activities as those in other Member States
- **KIBS significantly contributed to employment growth** between 2002 and 2007, negative growth figures only in a few regions
- A **positive relationship** between **KIBS employment** shares and **GDP per capita** observable
- **Some regions are specialized in KIBS activities and high-tech manufacturing**, while others show no specialization at all or are specialized only in one of these activities
- Further, including data on structural and industrial activities as well as wealth and density indicators in the analysis reveals **quite different spatial patterns**