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The Role of European Digital Innovation Hubs in Europe's Digital Transformation

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Introduction

- **European Digital Innovation Hubs (EDIHs)** help small and medium-sized enterprises and public institutions adopt digital technologies. Their support combines technology testing, skills development, business advice and access to innovation networks. These services connect technological capabilities with practical organizational needs..

- European economies differ in their industrial structures, digital infrastructure and institutional capacities. Consequently, similar numbers of hubs may represent different service portfolios and levels of support. **Assessing the network therefore requires examining both its geographical distribution and the activities offered by its hubs.**

- This study examines the distribution and service portfolios of **EDIHs across 38 European economies. It compares four European regions and five groups of economies classified by economic specialization.** The analysis investigates how these portfolio patterns correspond to economic scale and digital government development.

- **The study combines the Sector–Service–Technology (SST) classification with the D-BEST categories** of Data, Business, Ecosystem, Skills and Technology. This integrated framework connects detailed hub activities with broader functional priorities. It helps identify differences in service provision that remain hidden when comparisons rely on hub numbers alone.

EDIH | European Digital Innovation Hubs Network

Research Methodology

Data and Coverage

- 38 European economies across four regions: North, West, South, East.
- EDIH Catalogue snapshot: mid-2025.
- Economic and digital indicators from Eurostat, IMF, WIPO and UN DESA.

Portfolio Classification

- SST: Sectors, Services and Technologies.
- D-BEST: Data, Business, Ecosystem, Skills and Technology.
- 447 hubs as the base of analysis.

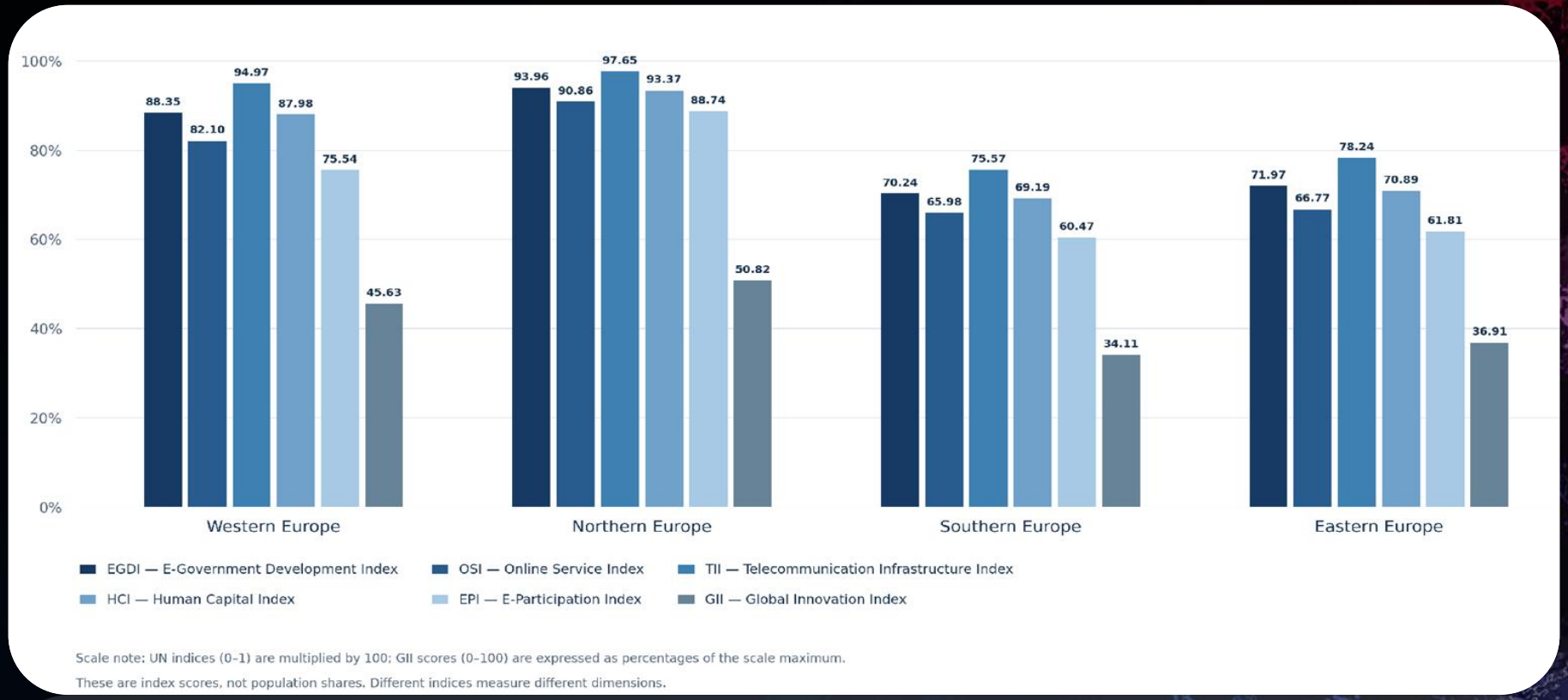
Comparative Analysis

- Regional comparison and grouping by economic specialization.
- Five groups: High-Service/Finance; Manufacturing/Industrial; Tourism/Services; Resource/Niche; Mixed/Developing.

Interpretation

- Compare declared portfolios with GDP, innovation and digital government indicators.
- Service assignments overlap.
- Associations do not establish direct causal effects.

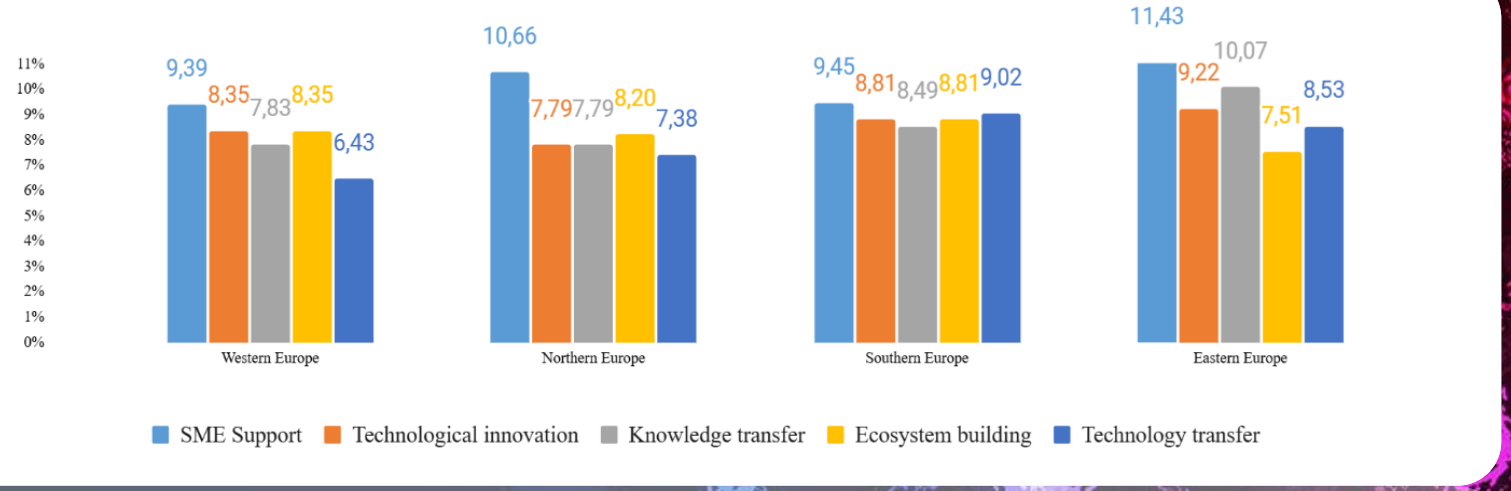
Digital Government and Innovation Profiles Across European Regions



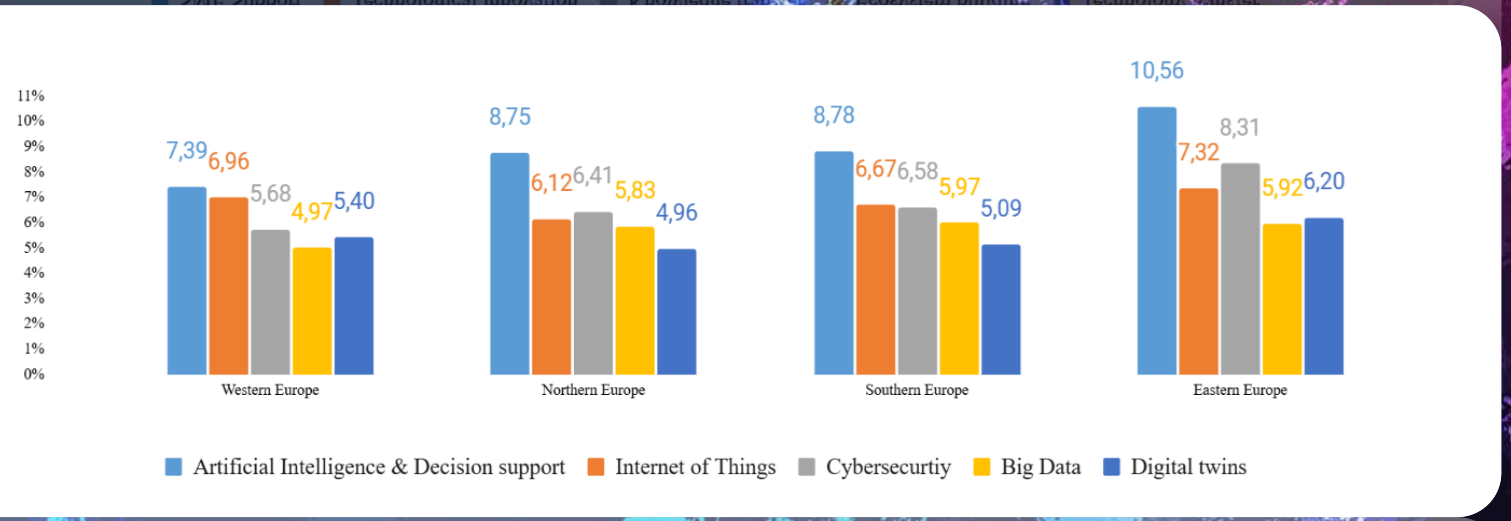
The chart compares regional average digital government indicators, expressed as percentages of their normalized 0–1 scores. EGDI combines online services, telecommunication infrastructure and human capital (which are also provided separately), while EPI separately measures opportunities for online information, consultation and participation in decision-making. The accompanying GII chart provides a broader measure of innovation performance on a 0–100 scale.

Regional EDIH Service and Technology Profiles

The chart compares the number of catalogue entries reporting **Top-5 services across Western, Northern, Southern and Eastern Europe**. These services cover SME support, knowledge transfer, ecosystem building, public-sector innovation and technology transfer. Each value counts entries listing a service; the same hub may appear in several categories.



The chart compares the number of catalogue entries reporting activities in **Top-5 technology areas across the same four regions**: AI and decision support, the Internet of Things, Cybersecurity, Big Data and Digital Twins. Each value represents entries listing that technology, with individual hubs able to report several technologies. The figures describe declared technological coverage rather than the number of projects delivered.

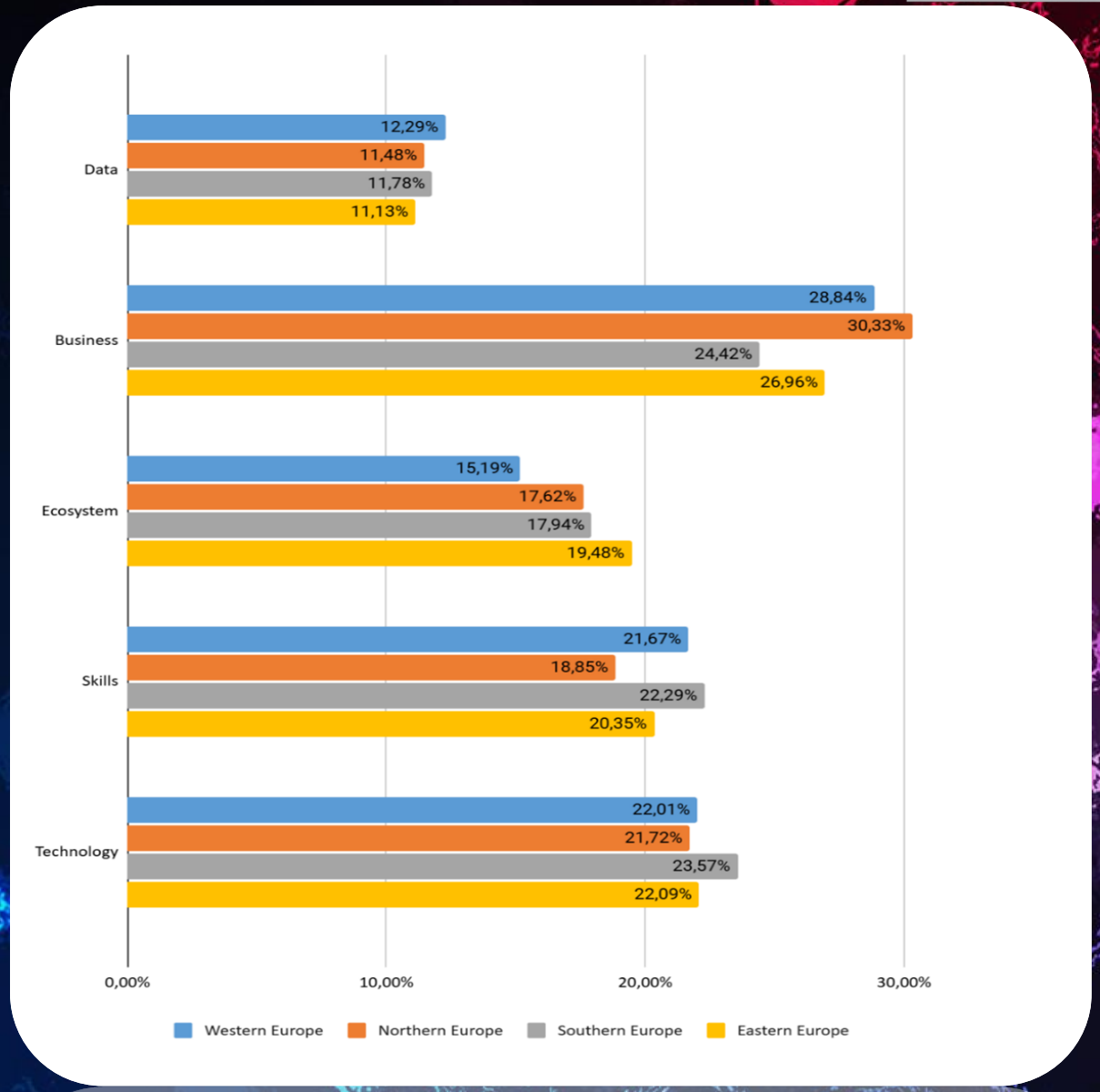


Regional composition of EDIH service portfolios by D-BEST category

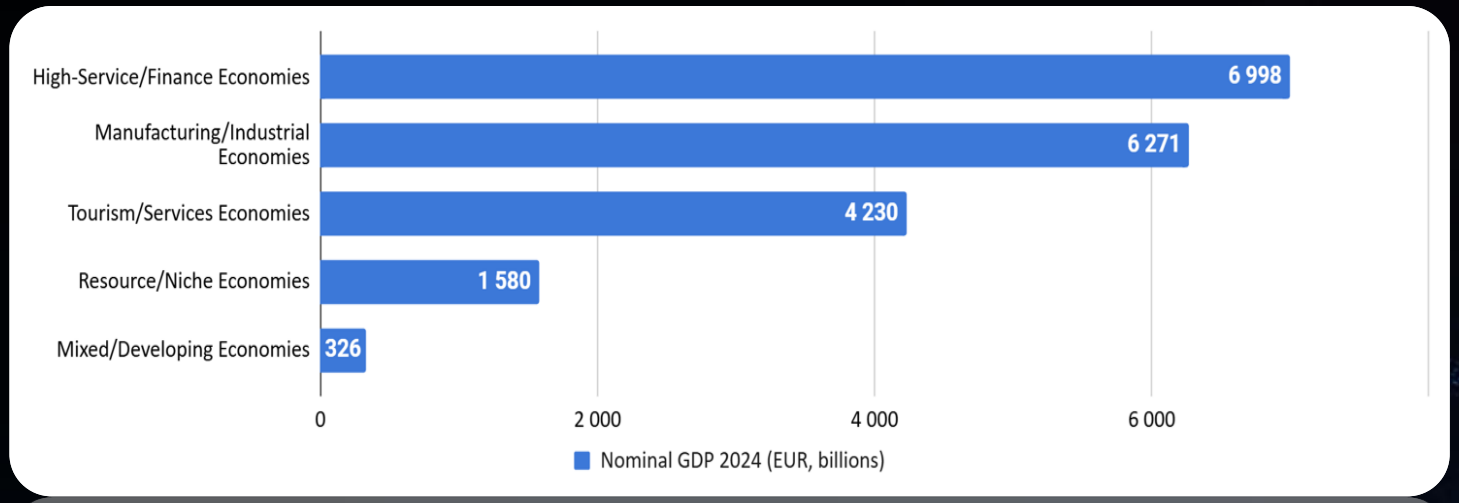
The chart shows how reported EDIH service assignments are distributed across five D-BEST categories in each European region. A hub reporting several services contributes multiple assignments, so the values represent the composition of service portfolios rather than the percentage of hubs:

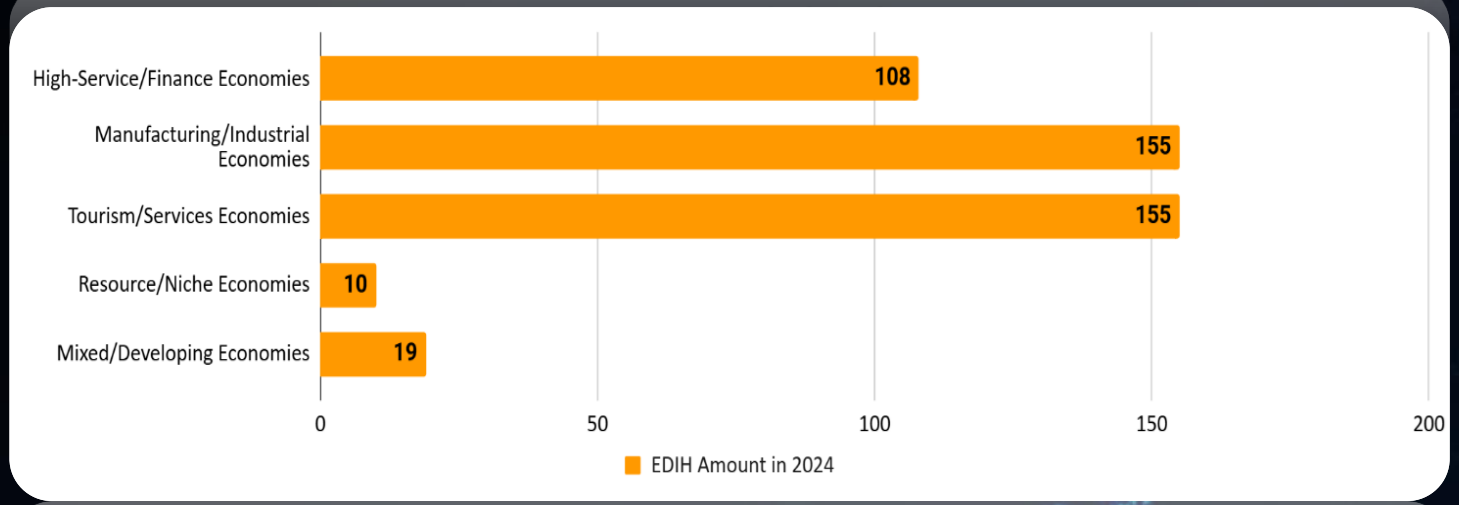
- Data - prototyping and field trials.
- Business - SME support, business development, finance and circular economy services.
- Ecosystem - network building, regional development and smart specialization strategies.
- Skills - knowledge transfer, vocational training and technology transfer.
- Technology - public-sector innovation, innovation management and technological innovation.

Western Europe records the highest Data share, Eastern Europe - the highest Ecosystem share, Southern Europe - Technology and Skills shares, while Northern Europe – Business Share.



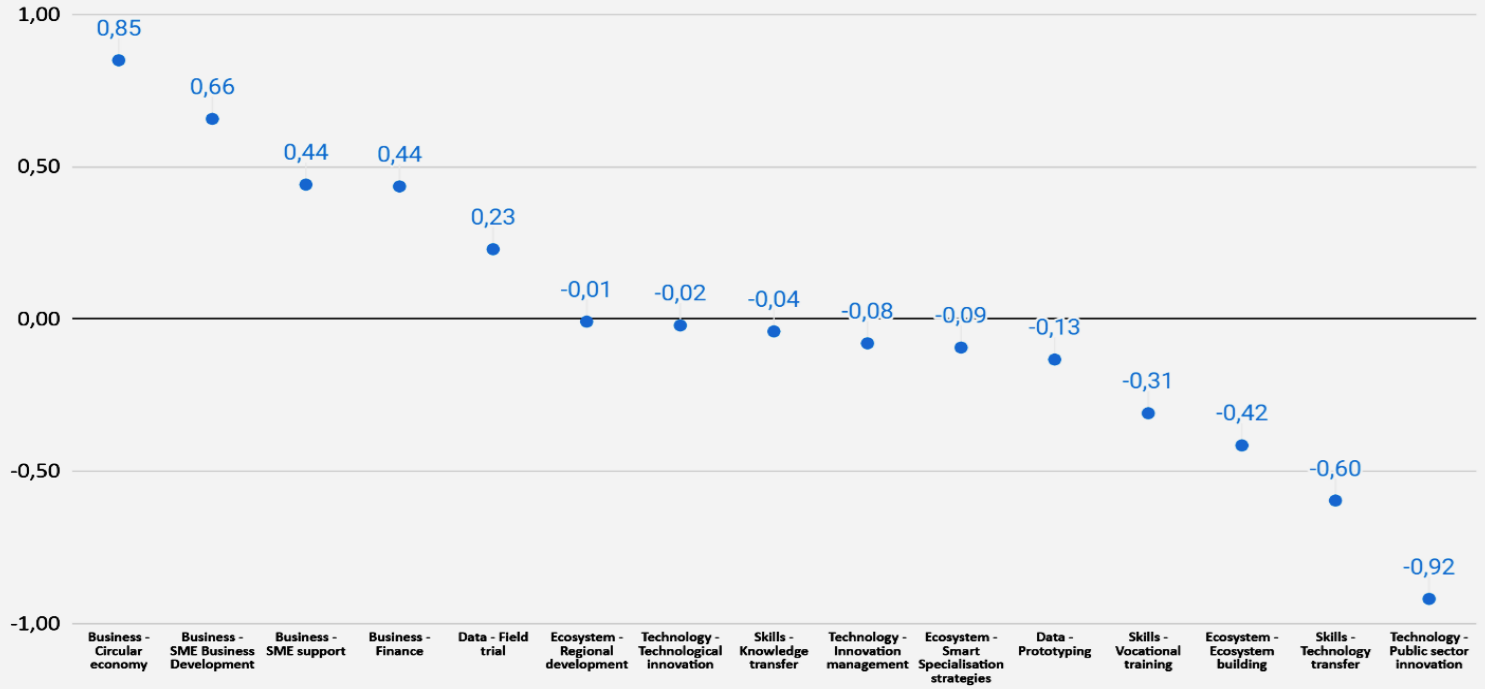
Economic Scale and EDIH Network Structure





The charts compare total nominal GDP and EDIH numbers across five groups of economies classified by economic specialization. GDP represents the combined economic output of each group, while hub counts describe its network size. Across these five groups, GDP and hub numbers are positively correlated, although the group with the largest GDP does not have the most hubs.

Economic Scale and EDIH Network Structure



The chart shows how grouped European GDP correlates with service portfolio shares at two classification levels: broad D-BEST categories and individual SST services. Positive coefficients indicate a larger service share in groups with higher GDP; negative coefficients indicate a larger share in groups with lower GDP.

- **Business orientation:** GDP correlates positively with the Business service share, particularly SME.
- **Ecosystem orientation:** The Ecosystem share is higher in groups with lower GDP; public-sector innovation shows a similar pattern at the individual-service level.
- **Knowledge transfer:** Its correlation with GDP is close to zero, indicating little linear association with economic scale across these groups.

Conclusions

- EDIH numbers do not consistently correspond to digital maturity. Northern Europe records 53 hubs and an average EGDI of 93.96%, compared with 178 hubs and 70.24% in Southern Europe. This contrast shows why network size must be assessed alongside infrastructure, human capital and institutional conditions.

- Service portfolios differ with economic specialization. Business services account for 31.00% of assignments in High-Service/Finance economies. Manufacturing/Industrial and Tourism/Services economies place greater emphasis on Technology and Skills, demonstrating the relevance of economic context when comparing hub portfolios.

- Economic scale and ecosystem service shares show an inverse association. Across the five specialization groups, GDP correlates positively with the Business share ($r = 0.58$) and negatively with the Ecosystem share ($r = -0.90$). These aggregate relationships describe different portfolio orientations. At the same time, they do not demonstrate the effectiveness of either service model.

- Ukraine belongs to the Mixed/Developing group, where Ecosystem services reach 21.76%, which is the highest share among the five groups. This provides a comparative basis for examining how Ukrainian hubs can strengthen cooperation between SMEs, universities and public authorities.

- For Ukraine, the findings suggest combining network development with targeted capacity building. Priorities include assessing local service needs, developing digital skills and establishing knowledge-transfer partnerships with European hubs. Evaluation should track completed projects, technology adoption and improvements in public services alongside the number of hubs.

Directions for future researches

- Develop a harmonized longitudinal dataset with consistent inclusion criteria, service classifications and geographical coverage.
- Collect beneficiary-level evidence on service use, delivery quality, technology adoption and organizational outcomes.
- Test whether specific service combinations improve digital skills, SME performance and public services through comparative or quasi-experimental research designs.
- Evaluate how interregional cooperation and university–industry partnerships address unmet needs in less digitally mature territories.

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Дякую!

Thank you!