The European Innovation Scoreboards

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European Innovation Scoreboard & Regional Innovation Scoreboard

- 2017 measurement framework
- Selected results
- Complementary resources and policy use
- The road ahead
European Innovation Scoreboard

- Comparative assessment of EU innovation performance
- Member States, regional neighbours, global benchmarks
- Published annually since 2001, refined in 2017:
  - Investments, skills, digital readiness, entrepreneurship, public-private coop.
  - Contextual indicators (structural differences between territories)
- Reference for European Semester and national policies
Joint effort

- contractor
- GROW
- RTD
- JRC
- Member States
- external experts
- ESTAT
Indicator selection criteria

- **Relevance for policy-making**
  Rapidly changing innovation megatrends, practices, and framework conditions

- **Quality**
  - Analytical soundness
  - Reliability
  - Transparency
  - Comparability
    - Between countries
    - Over time
  - Timeliness
## EIS 2017: performance indicators

### FRAMEWORK CONDITIONS

**Human resources**
- 1.1.1 New doctorate graduates
- 1.1.2 Population completed tertiary education
- 1.1.3 Lifelong learning

**Attractive research systems**
- 1.2.1 International scientific co-publications
- 1.2.2 Scientific publications among top 10% most cited
- 1.2.3 Foreign doctorate students

**Innovation-friendly environment**
- 1.3.1 Broadband penetration
- 1.3.2 Opportunity-driven entrepreneurship

### INVESTMENTS

**Finance and support**
- 2.1.1 R&D expenditure in the public sector
- 2.1.2 Venture capital investments

**Firm investments**
- 2.2.1 R&D expenditure in the business sector
- 2.2.2 Non-R&D innovation expenditure
- 2.2.3 Enterprises providing ICT training

### INNOVATION ACTIVITIES

**Innovators**
- 3.1.1 SMEs with product or process innovations
- 3.1.2 SMEs with marketing or organisational innovations
- 3.1.3 SMEs innovating in-house

**Linkages**
- 3.2.1 Innovative SMEs collaborating with others
- 3.2.2 Public-private co-publications
- 3.2.3 Private co-funding of public R&D expenditures

**Intellectual assets**
- 3.3.1 PCT patent applications
- 3.3.2 Trademark applications
- 3.3.3 Design applications

### IMPACTS

**Employment impacts**
- 4.1.1 Employment in knowledge-intensive activities
- 4.1.2 Employment fast-growing firms innovative sectors

**Economic effects**
- 4.2.1 Medium & high tech product exports
- 4.2.2 Knowledge-intensive services exports
- 4.2.3 Sales of new-to-market/new-to-firm innovations
# CIS-based indicators

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EIS 2017: contextual indicators

23 indicators for comparison of European and neighbouring countries

Structure of the economy

Composition of employment, average 2011-15
- Agriculture & Mining (NACE A-B) (%) 5.1
- Manufacturing (NACE C) (%) 15.6
  - of which High and Medium high-tech (%) 36.4
- Utilities and Construction (NACE D-F) (%) 8.6
- Services (NACE G-N) (%) 63.6
  - of which Knowledge-intensive services (%) 58.0
- Public administration, etc. (NACE O-U) (%) 7.1

Business indicators

Composition of turnover, average 2011-2014
- Micro enterprises (0-9 employees) (%) 17.3
- SMEs (10-249 employees) (%) 38.0
- Large enterprises (250+ employees) (%) 44.1
Share of foreign controlled enterprises, 2014 (%) 1.18
Top 1000 R&D spending enterprises
- average number per 10 mln population, 2011-15 29.9
- average R&D spending, mln Euros, 2011-15 165.8
Enterprise births (10+ empl.) (%), avg 2012-14 1.5
Buyer sophistication 1-7 (best), 2013-14 3.6
Ease of starting a business, DB2017 76.5

Socio-demographic indicators

GDP per capita, PPS, avg 2011-13 25400
Change in GDP between 2010 and 2015, (%) 5.4
Population size, avg 2011-15 (millions) 505.5
Change in population between 2010 and 2015 (%) 1.1
Population aged 15-64, avg 2011-2015 (%) 66.1
Population density, average 2011-15 116.4
Degree of urbanisation, average 2011-15 (%) 74.4
EIS 2017 country ranking (Summary Innovation Index)

Since 2010: EU +2.0% (15 MS ↑, 13 MS ↓)
LT +21.0%, MT +12.2%, UK +11.7%, NL +10.4%, AT +8.9%, LV +8.5%, SK +8.0%
RO -14.1%, CY -12.7%, FI -5.1%, DE -3.7%, EE -3.6%, CZ -3.5%, HU -3.5%
EU performance change 2010-16
Performance analysis by dimension

- HUMAN RESOURCES
- ATTRACTIVE RESEARCH SYSTEMS
- INNOVATION-FRIENDLY ENVIRONMENT
- FINANCE AND SUPPORT
- FIRM INVESTMENTS
- INNOVATORS
- LINKAGES
- INTELLECTUAL ASSETS
- EMPLOYMENT IMPACT
- SALES IMPACT

Legend:
- INNOVATION LEADERS
- STRONG INNOVATORS
- MODERATE INNOVATORS
- MODEST INNOVATORS
Performance analysis by dimension

Innovators

Employment impacts
Forward-looking analysis

- Linear regression
- Trend extrapolation
- More recent data
European Innovation Scoreboard Interactive Tool

The European Innovation Scoreboard (EIS) Interactive Tool allows for custom comparisons of performance scores. Visualise country profiles comparisons, as well as correlations between scores.

https://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en
Regional Innovation Scoreboard

18 of 27 EIS indicators

220 regions in 22 MS + NO, RS, CH

Most innovative EU regions:
Stockholm (SE), Hovedstaden (DK), South East (UK)

Since 2011:
128 regions ↑, 88 regions ↓
Regional differences within countries

<table>
<thead>
<tr>
<th>NUTS</th>
<th>Region</th>
<th>RII 2017</th>
<th>Rank</th>
<th>Group</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITC1</td>
<td>Piemonte</td>
<td>79.8</td>
<td>125</td>
<td>Moderate +</td>
<td>0.6</td>
</tr>
<tr>
<td>ITC2</td>
<td>Valle d’Aosta/ Vallée d’Aoste</td>
<td>59.0</td>
<td>168</td>
<td>Moderate -</td>
<td>-1.3</td>
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<tr>
<td>ITC3</td>
<td>Liguria</td>
<td>69.6</td>
<td>145</td>
<td>Moderate +</td>
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<tr>
<td>ITC4</td>
<td>Lombardia</td>
<td>79.6</td>
<td>127</td>
<td>Moderate +</td>
<td>-0.8</td>
</tr>
<tr>
<td>ITH1</td>
<td>Provincia Autonoma Bolzano/ Bozen</td>
<td>69.4</td>
<td>147</td>
<td>Moderate</td>
<td>2.6</td>
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<tr>
<td>ITH2</td>
<td>Provincia Autonoma Trento</td>
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<td>129</td>
<td>Moderate +</td>
<td>1.3</td>
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<tr>
<td>ITH3</td>
<td>Veneto</td>
<td>79.4</td>
<td>128</td>
<td>Moderate +</td>
<td>0.2</td>
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<tr>
<td>ITH4</td>
<td>Friuli-Venezia Giulia</td>
<td>87.8</td>
<td>117</td>
<td>Moderate +</td>
<td>3.6</td>
</tr>
<tr>
<td>ITH5</td>
<td>Emilia-Romagna</td>
<td>79.9</td>
<td>124</td>
<td>Moderate +</td>
<td>-1.6</td>
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<tr>
<td>ITI1</td>
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<td>75.5</td>
<td>133</td>
<td>Moderate +</td>
<td>6.6</td>
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<tr>
<td>ITI2</td>
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<td>137</td>
<td>Moderate +</td>
<td>5.7</td>
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<tr>
<td>ITI3</td>
<td>Marche</td>
<td>69.4</td>
<td>148</td>
<td>Moderate</td>
<td>0.8</td>
</tr>
<tr>
<td>ITI4</td>
<td>Lazio</td>
<td>73.6</td>
<td>138</td>
<td>Moderate +</td>
<td>-2.9</td>
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<tr>
<td>ITF1</td>
<td>Abruzzo</td>
<td>64.5</td>
<td>158</td>
<td>Moderate</td>
<td>3.2</td>
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<tr>
<td>ITF2</td>
<td>Molise</td>
<td>61.0</td>
<td>164</td>
<td>Moderate</td>
<td>4.9</td>
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<tr>
<td>ITF3</td>
<td>Campania</td>
<td>57.8</td>
<td>173</td>
<td>Moderate -</td>
<td>-1.5</td>
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<tr>
<td>ITF4</td>
<td>Puglia</td>
<td>58.5</td>
<td>170</td>
<td>Moderate -</td>
<td>-0.6</td>
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<tr>
<td>ITF5</td>
<td>Basilicata</td>
<td>57.9</td>
<td>172</td>
<td>Moderate</td>
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<tr>
<td>ITF6</td>
<td>Calabria</td>
<td>57.8</td>
<td>174</td>
<td>Moderate</td>
<td>7.7</td>
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<tr>
<td>ITG1</td>
<td>Sicilia</td>
<td>51.3</td>
<td>194</td>
<td>Moderate -</td>
<td>-1.9</td>
</tr>
<tr>
<td>ITG2</td>
<td>Sardegna</td>
<td>52.4</td>
<td>190</td>
<td>Moderate -</td>
<td>-1.1</td>
</tr>
</tbody>
</table>

RII 2017 shows performance in 2017 relative to that of the EU in 2011. Rank shows the rank performance in 2017 across all regions. Group shows the respective performance group. Change shows the performance change over time calculated as the difference between the performance in 2017 (RII 2017) relative to that of the EU in 2011 and performance in 2011 (RII 2011) relative to that of the EU in 2011.
European Semester

+ complementary resources, e.g. Research and Innovation Observatory (RIO) country reports

→ Country reports
→ Country-specific recommendations
Policy use of EIS/RIS results

- **EU**: performance benchmarking, progress tracking, country-specific recommendations

- **Austria**: STI Strategy 'Innovation Leader' (2011)

- **Lithuania**: FDI promotion (Invest Lithuania)

- **Malta**: key source for the country

- **Sweden**: relating inputs to outputs

- **Saxony (DE)**: using RIS to promote region

- **China**: inspiration for developing own scoreboard
The road ahead

- New service contract (September 2017-2019)

- Consortium:
  - MERIT Maastricht University
  - Deloitte Belgium
  - European Future Innovation System Centre
  - NESTA
  - Sociedade Portuguesa da Inovacao

- Continuity, fresh ideas, and further improvement
The road ahead

- **EIS 2018, EIS 2019, RIS 2019:**
  - Performance indicators: no replacement but fine-tuning
  - Contextualisation: review of indicators + qualitative data
  - Forward-looking EIS section: exploration of Big data
  - Improved Interactive Online Tool

- **EIS 2020:** complete review of measurement framework
  - New policy priorities of 2019-24 Commission
  - Results of methodological work, possibly including Big data-based indicators
  - Community Innovation Survey 2018 data

- **RIS 2021:** regionalisation of EIS 2020 methodology
Thank you for your attention!

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