Organization of R&I and Higher Education in Poland

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Country outline

• GDP: 479,895 mil. euros
• GDP per capita: 12,680 euros (Eurostat 2020)
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According to the Central Statistical Office, gross domestic expenditure on R&D in Poland almost tripled in 2010-2019 - from PLN 10.4 billion to PLN 30.3 billion.

### Country outline

- The important instruments that address research and innovation in Poland are operational programs funded by the **European Regional Development Fund**

<table>
<thead>
<tr>
<th>Operational Program</th>
<th>Years</th>
<th>Funding (milion EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative Economy</td>
<td>2007-2013</td>
<td>10 186 (8 255 from EU)</td>
</tr>
<tr>
<td>Smart Growth</td>
<td>2014-2020</td>
<td>10 190 (8 614 from EU)</td>
</tr>
<tr>
<td>Modern Economy</td>
<td>2021-2027</td>
<td>7 900 (expected from EU)</td>
</tr>
</tbody>
</table>
European Innovation Scoreboard 2021

• Poland ranks 24
• Between 2014 and 2021 Poland’s innovation performance improved 14.6%-points (above the EU’s average of 12.5% points).
• Poland observed a close to 5%-point annual increase in performance since 2019. The performance increase in the last two years is mostly due to strong improvements in:
  • Product and Business process innovators
  • Broadband penetration
  • Employment in innovative enterprises
  • Public R&D expenditures

• Strenghts:
  • Use of information technologies
  • Intellectual Assets
  • Digitalisation

• The top-3 indicators:
  • Design applications
  • Population with tertiary education
  • Environment related technologies

• Weaknesses:
  • Non-innovators without disposition to innovate
  • Climate change related indicators
Structure of the Polish R&I system (1)

Parliament → President → Cabinet

Province governors (wojewodas)

Ministry of Funds and Regional Policy

Ministry of Economic Development, Labor and Technology

Ministry of Education and Science

Council for innovativeness

Committee for science policy (KPN)

Province governors (wojewodas) → Ministry of Funds and Regional Policy → Marshal offices in 16 regions

Ministry of Education and Science → Committee for science policy (KPN)

Structure of the Polish R&I system (2)

Ministry of Funds and Regional Policy

Ministry of Economic Development, Labor and Technology

Ministry of Education and Science

Committee for science policy (KPN)

(2) Ministry mission centered coordination

Polish Development Fund (PFR), est. 2016

National Centre for R&D (NCBR), est. 2007

National Science Centre (NCN), est. 2011

Foundation for Polish Science (FNP), est. 1991

Polish Agency for Enterprise Development (PARP), est. 2000

Industrial Development Agency (ARP), est. 1991

(3) R&D funding allocation

Structure of the Polish R&I system (3)

(3) R&D funding allocation

- Business enterprises
- Incubators and technology parks
- Academic spin-offs
- R&D centers (companies)
- Public higher education institutions
- Non-public higher education institutions
- Research institutes incl. Łukasiewicz Research Network
- Institutes of the Polish Academy of Sciences (PAN)

(4) R&D performers

Stucture of R&D performers in Poland 2019

- by entities
- by sectors of performance
- by funding sectors

BES – the business enterprise sector
GOV – the government sector
HES – the higher education sector
Other – the private non-profit sector + rest of the World

Source: Statistics Poland (2020), Research and experimental development in Poland in 2019
Main public and private R&I actors

Min. of Education & Science + other relevant

The Higher Education Institutions
- 134 public universities
- 220 private universities

Basic research and R&D

Min. of Economic Development, Labor & Technology + other relevant

Research institutes
- 103 institutes
- incl. Łukasiewicz Research Network

Predominantly R&D

Other organizational units
- 38 enterprises having the status of R&D centers
- 79 industrial & technology parks

R&D

Prime Minister

Polish Academy of Sciences
- 69 institutes
- 5 faculties
  I - Humanities and Social Sciences, II - Biological and Agricultural Sciences, III - Natural Sciences and Earth Sciences, IV - Technical Sciences, V - Medical Sciences

Predominantly basic research (+ R&D to some extent)
Łukasiewicz Research Network

• Established on 1 April 2019 to link science and business
• The third largest research network in Europe
• Constitutes of:
  • 32 research institutes in twelve cities
  • more than 8000 employees (incl. 4500 researchers and engineers)
  • 440 B+R labs with 500 pieces of unique research equipment

Four strategic areas:
• Digital transformation
• Intelligent mobility
• Sustainable economy and energy
• Health
Main R&I policy developments in Poland (1)

Increase the intensity of private R&I

• Instruments promoting privately co-funded industrial research (eg. Fast Track,).
• Targeting specific sectors or types of technologies (sectoral programmes).
• Support for investments in R&D infrastructures of enterprises.
• **Industrial** (implementation) **doctorates** (since 2017).

Priority setting in the R&I governance system

• 13 National Smart Specialisations
• Regional Smart Specialisations for 16 regions
• Focus on R&I in National and Regional Smart Specialisation Strategies
• sectoral programmes - Regional Scientific Agendas

Main R&I policy developments in Poland (2)

Increase the quality of the public research base and the level of its internationalization

- **Reform of Higher Education System**
  - differentiation between research-intensive and teaching universities
  - change in the institutional assessment of scientific organizations (promotion of interdisciplinary, interuniversity, and international research)
  - funding and rights to grant scientific degrees linked with University „scientific quality.”
  - Excellence initiative - a research university (10 best universities with additional funding)

- **Modification of the models of doctoral studies and scientific careers**
  - NCN new funding instruments for younger researchers and scientists (MINIATURA, SONATINA), NCBR promoting the internationalization of science and the introduction of innovative doctoral programs

- **Establishment of NAWA** (National Agency for Academic Exchange)
  - Launch of dedicated calls to establish centers of excellence or expand the group of scientists

Main R&I policy developments in Poland (3)

Strengthen the science and industry cooperation

- Establishment of the Łukasiewicz Research Network mandated to offer R&D services to industrial clients
- Reform of Higher Education System (the Higher Education Act, vel „Constitution for Science”, 2018) - universities are incentivized for industrial engagement
- Industrial doctorates
- Tax incentives

Thank you