



From Research to Innovation: A Challenge for Europe
2021 Euro-Case Workshop

Organization of R&I and Higher Education in Poland

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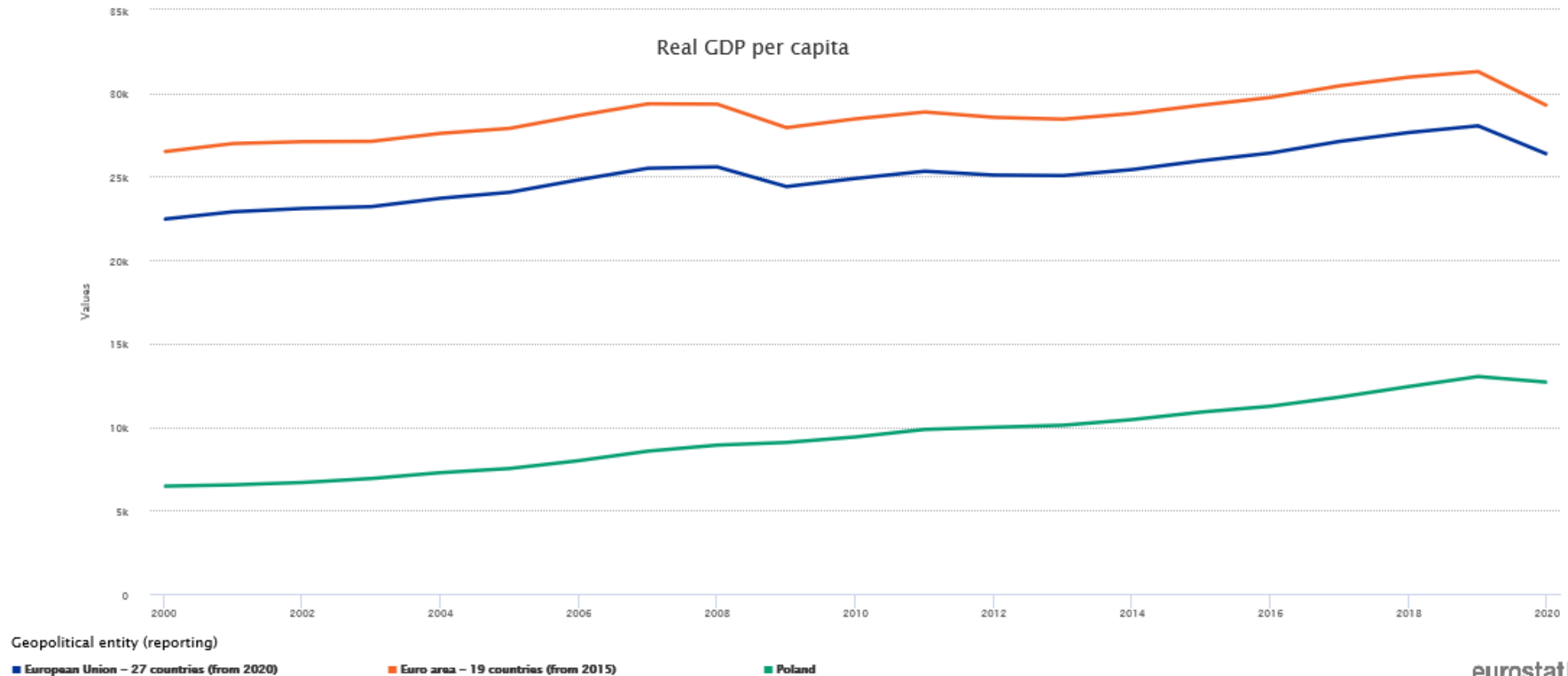
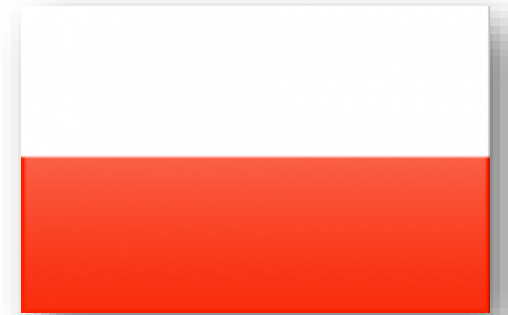
Lodz University of Technology

Polish Young Academy (Polish Academy of Sciences)

September 10, 2021,
Paris

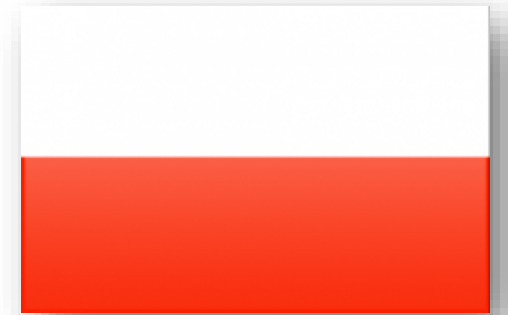
Country outline

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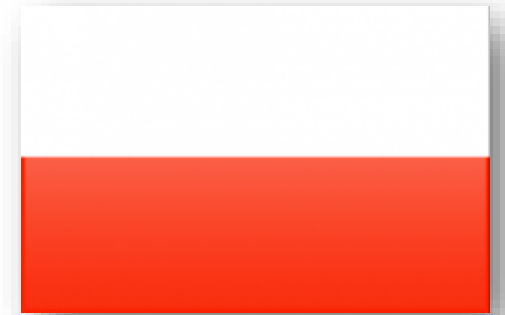
Geopolitical entity (reporting)

■ European Union – 27 countries (from 2020)

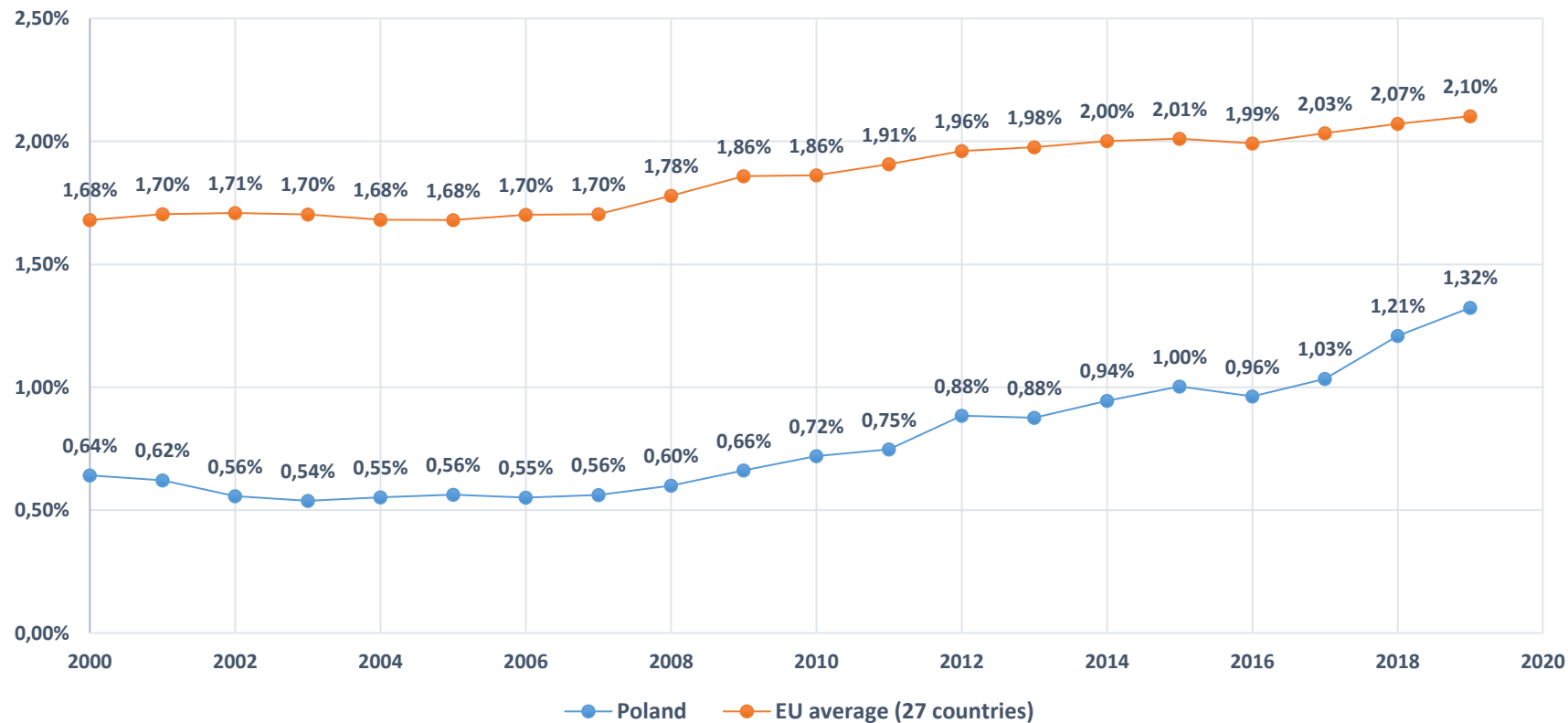
■ Euro area (EA11–1999, EA12–2001, EA13–2007, EA15...

■ Poland

Country outline



Gross domestic spending on R&D
Total % of GDP



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**

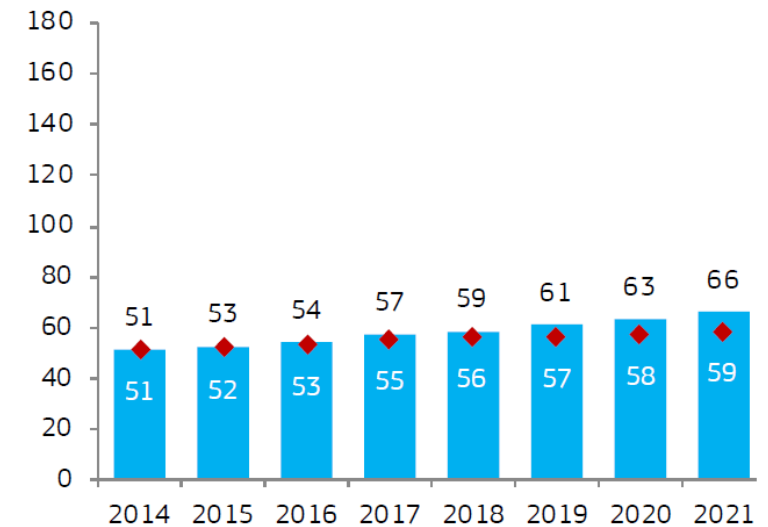
Operational Program	Years	Funding (million EUR)
Innovative Economy	2007-2013	10 186 (8 255 from EU)
Smart Growth	2014-2020	10 190 (8 614 from EU)
Modern Economy	2021-2027	7 900 (expected from EU)

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*
- **Strengths:**
 - *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*

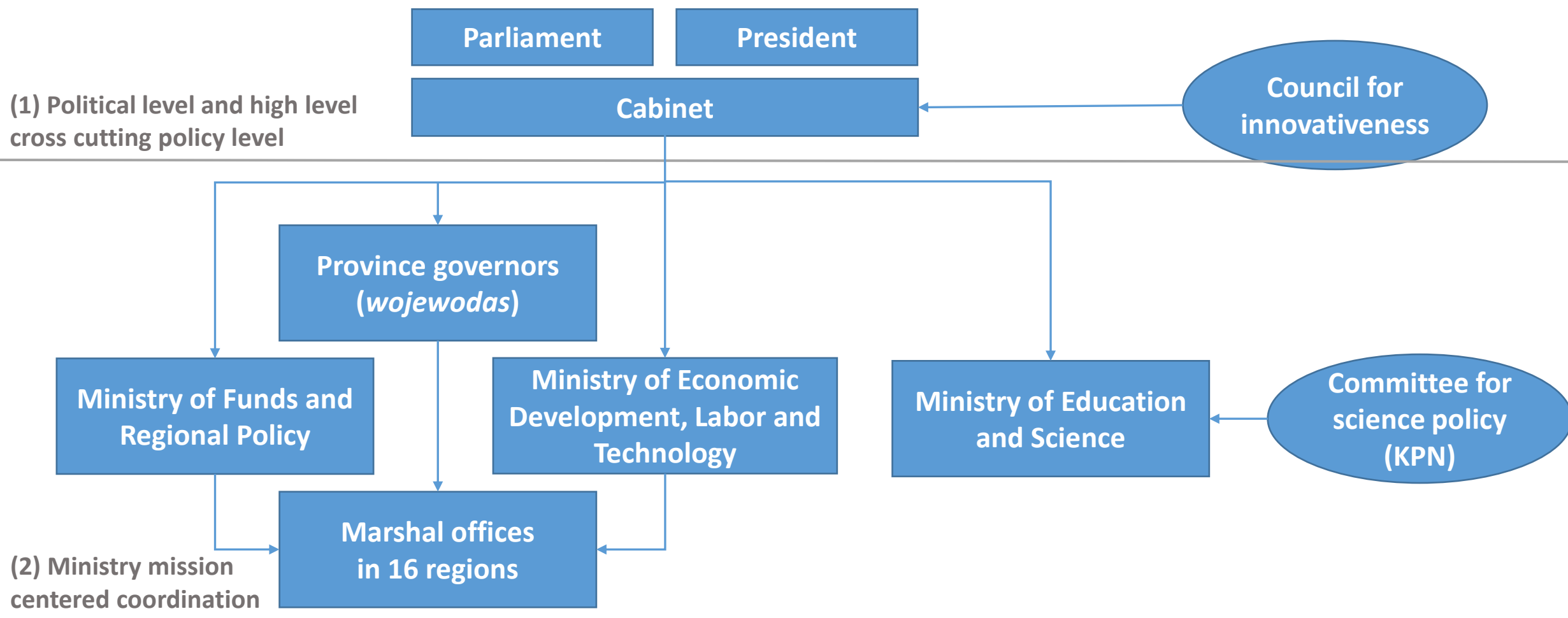


Poland is an Emerging Innovator.
Over time, performance relative to the EU has increased strongly.

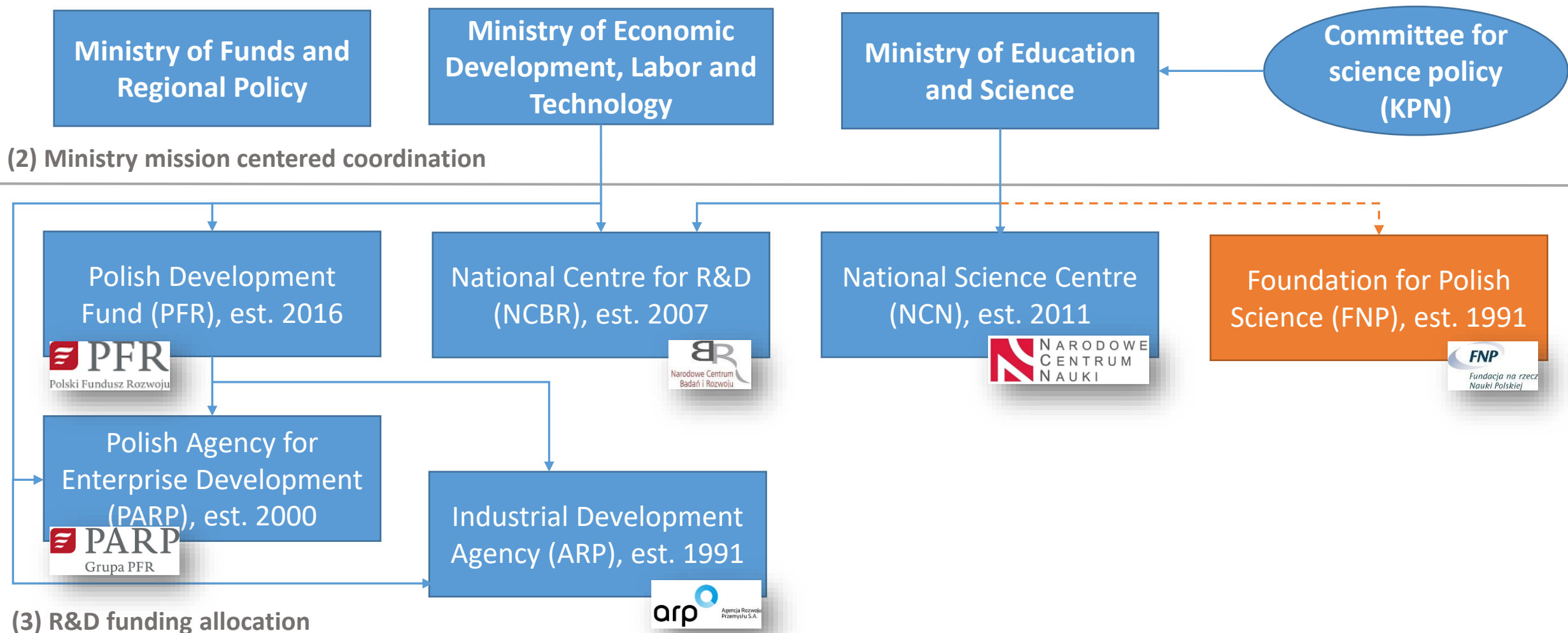


■ Relative to EU in base year ♦ Relative to EU in same year

Structure of the Polish R&I system (1)

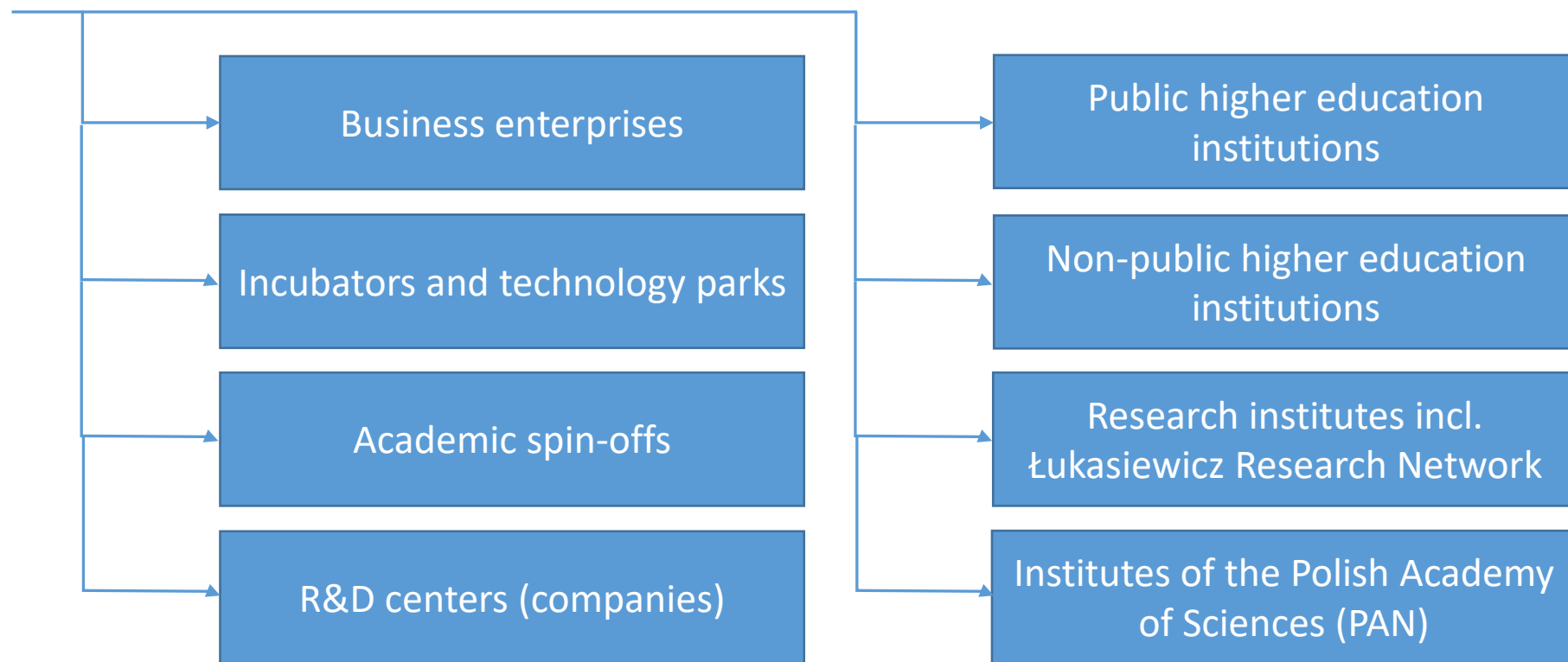


Structure of the Polish R&I system (2)



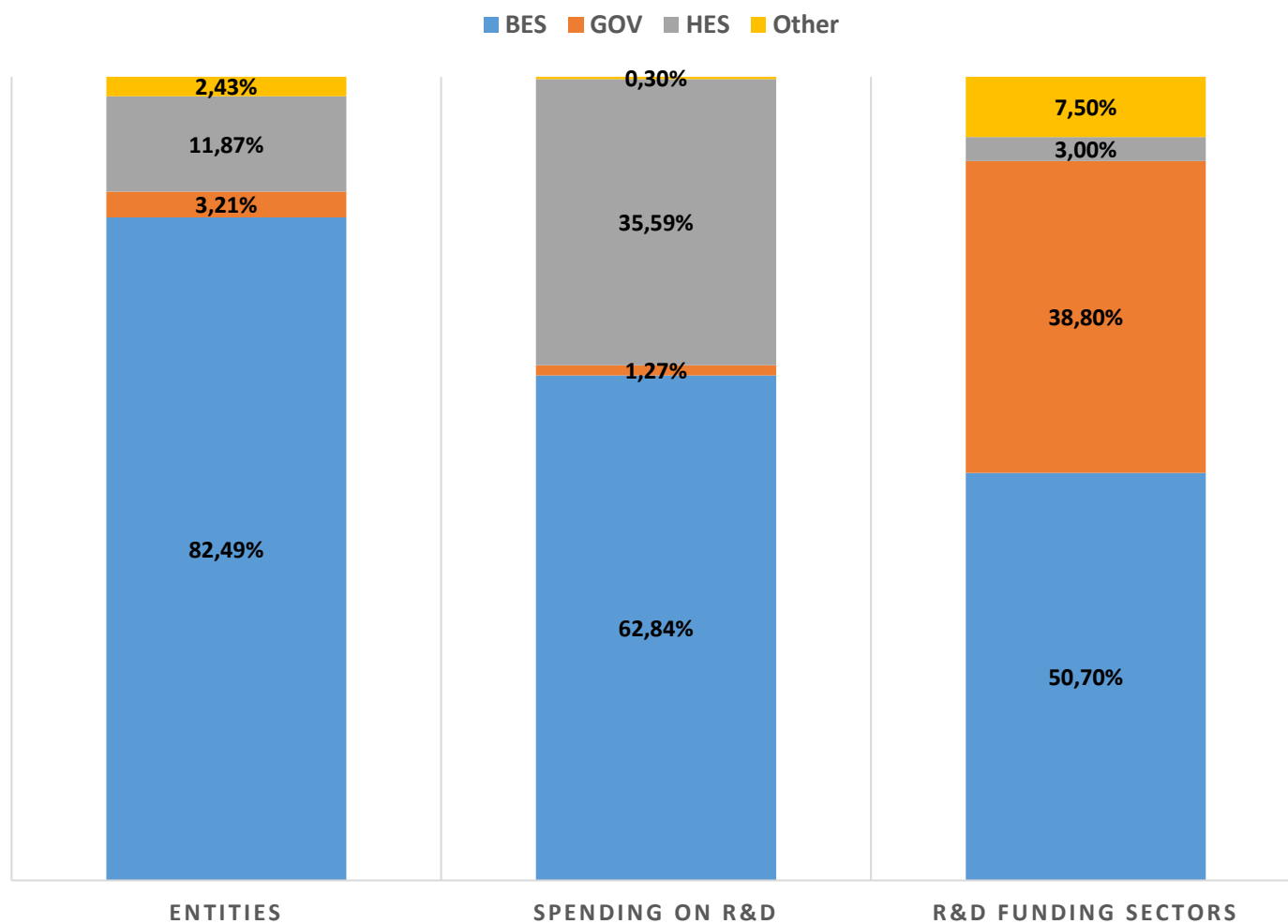
Structure of the Polish R&I system (3)

(3) R&D funding allocation



(4) R&D performers

Structure 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

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

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)

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



Research institutes

- 103 institutes
- incl. Łukasiewicz Research Network

Predominantly R&D

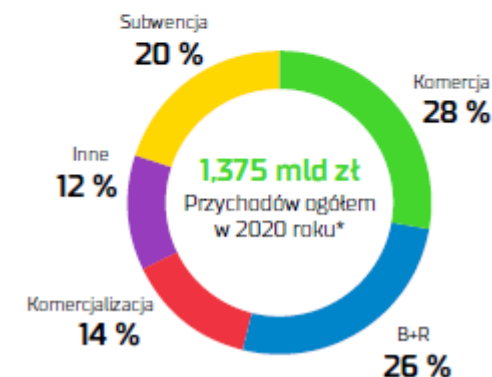
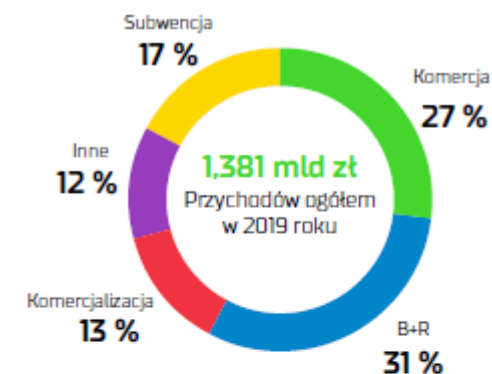
Other organizational units

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

R&D

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



Revenues structure in ŁRN

This is how we work for business

In Łukasiewicz Research Network we work through the challenge system introduced in November 2019



272

entrepreneurs used our challenge system



365

challenges received from the entrepreneurs



356

R&D solutions presented to entrepreneurs

In Łukasiewicz Research Network we work really fast. Within **15 working days** we set up a dedicated R&D team to present dedicated and free-of-charge solution for your business. See how we work.

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.
- **R&D tax incentives** - volume-based R&D tax relief and the IP Box relief (Acts on innovation 2017, 2018).
- **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