European Commission

SHE FIGURES 2024

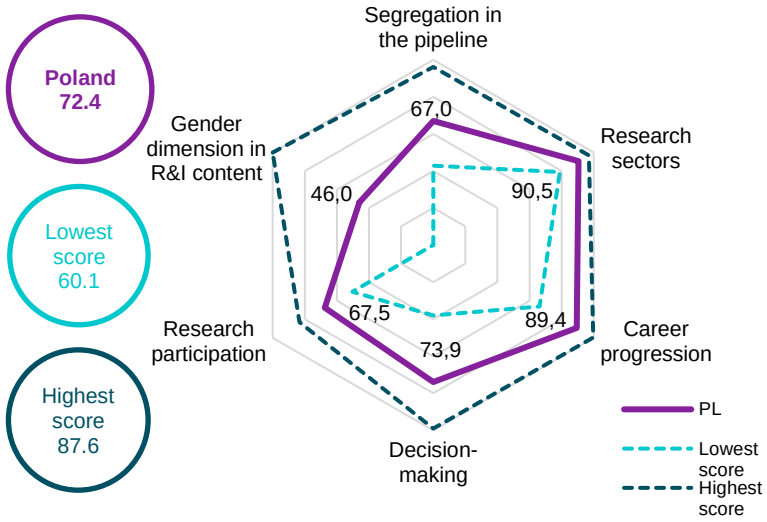
The road to gender equality in R&I

Poland

She Figures Index 2024

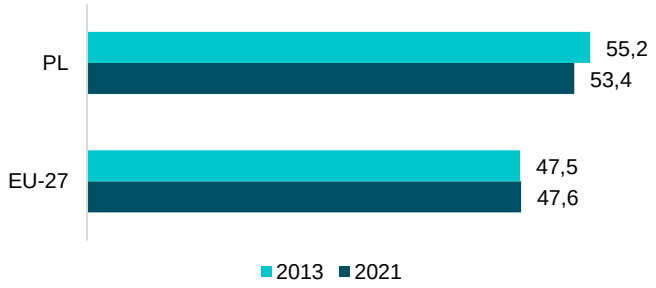
The **She Figures Index** is a tool to measure the extent to which European Union (EU) Member States have achieved gender equality in the European Research Area (ERA). It draws on She Figures indicators across six dimensions: segregation in the pipeline, research sectors, career progression, decision-making, research participation, and incorporating a gender dimension in research and innovation (R&I) content (GDRIC).

A score of between 0 and 100 is assigned to each dimension, as well as an overall score. A score of 100 denotes that gender equality has been fully achieved. Among the Member States, Poland ranks 13th overall, with a score of 72.4. The breakdown indicates a relatively high score on the dimension of GDRIC (8th), moderate scores on research sectors (15th), career progression (15th), research participation (15th) and decision-making (18th), and a lower score on segregation in the pipeline (21st).



Pool of graduate talent

Figure 1: Proportion (%) of women among Doctoral graduates (ISCED 8), 2013 and 2021



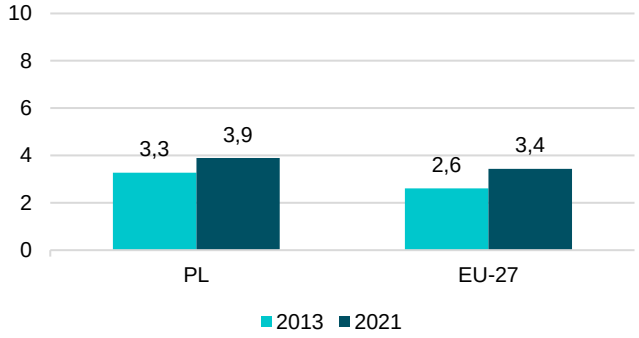
Notes: ISCED 8 = International Standard Classification of Education, Doctoral level or equivalent.
Source: Eurostat – Education Statistics (online data code: educ_uoe_grad02); Organisation for Economic Co-operation and Development (OECD) (Graduates by field).

She Figures 2024 shows that **Poland has achieved gender balance in the proportion of women among Doctoral graduates**. Between 2013 and 2021, the share of women Doctoral graduates decreased from 55 % to 53 %. Poland continues to outperform the average of the 27 European Union Member States (EU-27) (48 %, based on 2021 data). It ranks ninth among the Member States for proportion of women among Doctoral graduates, falling from fourth position in 2013.

The Perspektywy Education Foundation has launched several initiatives to encourage women in Poland to pursue higher education in science, technology, engineering and mathematics (STEM). For example, the 'Girls As Engineers!' and 'Girls Go Science!' campaigns ([i]) attract 200 000 young women, while a grant programme for women information technology (IT) students, 'New Technologies for Girls' ([ii]), is delivered jointly with Intel. In 2022, *Perspektywy Women in Tech and AlphaLab* ([iii]) jointly delivered a scholarship programme aimed at young women commencing a study programme at a technological faculty in the academic year 2022-2023. The scholarship included financial support for two years, free training, and access to the Women in Tech Camp and the Perspektywy Women in Tech Summit ([iv]).

Participation in science and technology occupations

Figure 2: Proportion (%) of women scientists and engineers among total labour force, 2013 and 2021

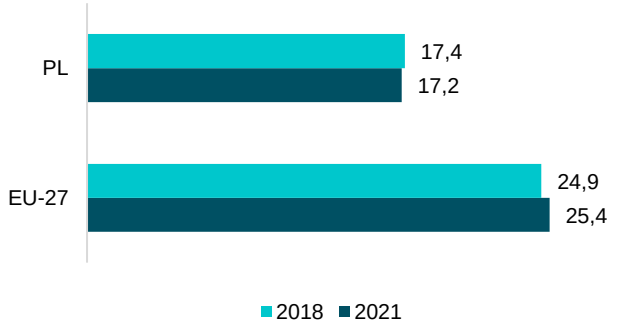


Notes: Break in time series for 2021 PL and EU-27 data. S&Es = scientists and engineers.
Source: Eurostat – Human resources in science and technology (online data code: hrst_st_ncat) and Eurostat – Labour Force Survey (EU-LFS) – Active population by sex, age and citizenship (online data code: lfsa_agan).

In Poland, women scientists and engineers (S&Es) make up 3.9 % of the total labour force. This represents a slight rise in the proportion of women S&Es, up from 3.3 % in 2013. The proportion of women S&Es in 2021 places Poland above the EU-27 average of 3.4 %.

To increase the participation of women in science and technology careers, the L'Oreal-United Nations Educational, Scientific and Cultural Organization (UNESCO) Scholarship Programme for Women and Science, together with the Polish Committee for UNESCO, the Ministry of Education and Science, the Polish Academy of Sciences, and the UN Global Compact Network Poland, provides financial support to Polish women researchers and promotes their scientific achievements through a scholarship programme. The scholarship is awarded to women researchers in life sciences at Master, PhD, or postdoctoral level to encourage them to continue their research. The scholarship's age limit can be extended for those who take maternity leave during their scientific work ([v]).

Figure 3: Proportion (%) of women among self-employed S&Es and ICT professionals, 2018 and 2021

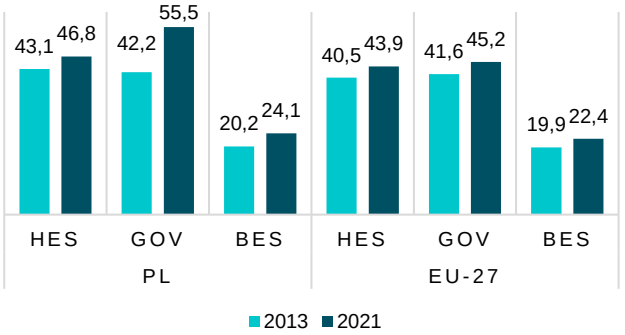


Notes: Break in time series for 2021 PL and EU-27 data. ICT = information and communications technology.
Source: EU-LFS Annual Average Quarterly data.

Women account for 17 % of self-employed S&Es and information and communication technology (ICT) professionals, based on 2021 data. This figure has remained consistent since 2018. The share of women among self-employed S&E and ICT professionals is below the EU-27 average of 25 %, based on the latest data, with Poland ranking lowest of the 22 Member States for which data are available for this indicator.

Labour market participation as researchers

Figure 4: Proportion (%) of women among researchers, by sector of the economy, 2013 and 2021

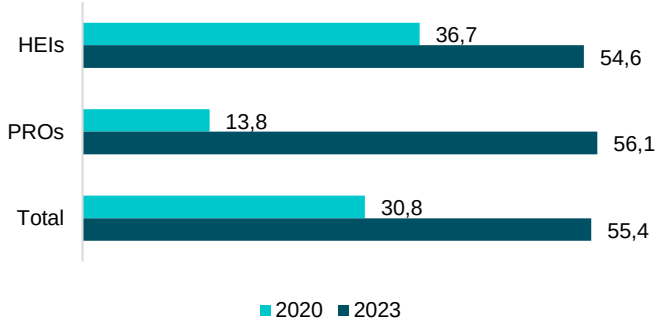


Notes: HES = higher education sector; GOV = government sector; BES = business enterprise sector. EU-27 data for 2021 are estimated.
Source: Eurostat – Research and development statistics (online data code: rd_p_persocc) and OECD-R&D personnel by sector and function.

In the higher education sector (HES) and government sector (GOV), Poland has maintained gender balance among researchers, where women represent 47 % and 56 %, respectively, based on 2021 data. However, women comprised less than one-quarter of researchers in BES in 2013 (20 %) and in 2021 (24 %). Nevertheless, in all sectors, Poland surpasses the EU-27 averages in both years.

Working conditions of researchers

Figure 5: Proportion (%) of research organisations taking actions or measures towards gender equality, by type of organisation, 2020 and 2023



Notes: HEI = higher education institutions; PRO = public research organisations.
Source: Web-scraping of institutional websites of higher education institutes and other public research organisations using SerpAPI, informed by ETER, Cordis and input from the national Statistical Correspondents of EU MS and countries associated to Horizon Europe.

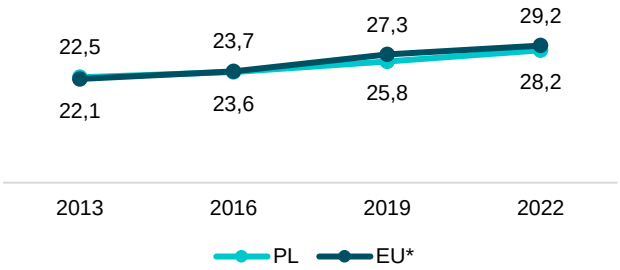
Between 2020 and 2023, the proportion of public research organisations (PROs) and higher education institutions (HEIs) whose websites show information about their gender equality actions increased from 31 % to 55 %. More than half (56 %) of PROs presented this information in 2023, compared to only 14 % in 2020. Similarly, 55 % of HEIs describe actions to advance gender equality on their websites, compared to 37 % in 2020.

To meet the requirements for funding under Horizon Europe, all Polish PROs and HEIs must develop and implement gender equality plans (GEPs). Applicants can be supported to prepare GEPs by the National Centre for Research and Innovation, which published a guide in 2023 ([vi]).

In 2023, the conference 'Scientific Excellence has no Gender' was organised by the Polish Young Academy, in partnership with L'Oréal-UNESCO For Women and Science. This conference raised awareness of gender disparities in the sciences, the challenges faced by institutions and initiatives in combating unconscious bias, and gender inequalities in research and innovation (R&I) ([vii]).

Career advancement and participation in decision-making

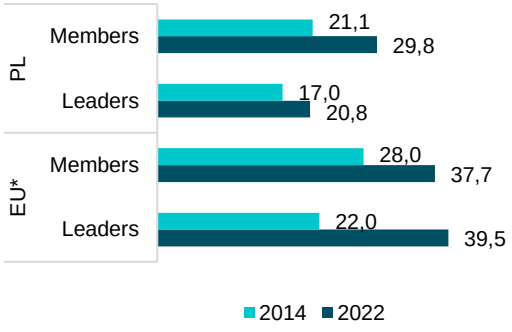
Figure 6: Proportion (%) of women among Grade A positions, 2013, 2016, 2019 and 2022



*Notes: *EU-level data for 2013 refer to the EU-28 (EU-27 plus the United Kingdom (UK)), while EU-level data for 2019 and 2022 refer to the EU-27. The data for PL in 2013 and 2016 refer to Grade A academic staff, while the data for PL in 2019 and 2022 refer to Grade A researchers. The EU data refer to Grade A researchers and academic staff; Grade A is the single highest grade/post at which research is normally conducted within the institutional or corporate system.*
Source: Women in Science database (WiS), Directorate-General (DG) Research and Innovation - T1_questionnaires.

Career advancement opportunities for women researchers have improved slightly in Poland. Between 2013 and 2022, the share of Grade A positions held by women increased from 22 % to 28 %. This trend places Poland slightly below the EU-27 average for this indicator in 2022 (29 %).

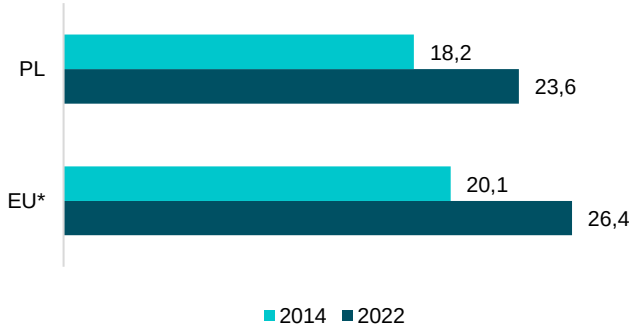
Figure 7: Proportion (%) of women on boards of research organisations (members and leaders), 2014 and 2022



*Notes: *EU-level data for 2014 refer to the EU-28, while EU-level data for 2022 refer to the EU-27.*
Source: WiS database, DG Research and Innovation - T5 & T6_questionnaires.

Despite an increase in the proportion of women in both membership and leadership positions on research institution boards between 2014 to 2022, the progress in Poland was below the EU-27 average. The latest data from 2022 show that **women hold about one-fifth (21 %) of board leader positions in research institutions and less than one-third (30 %) of board member positions**.

Figure 8: Proportion (%) of women among heads of institutions in HES, 2014 and 2022

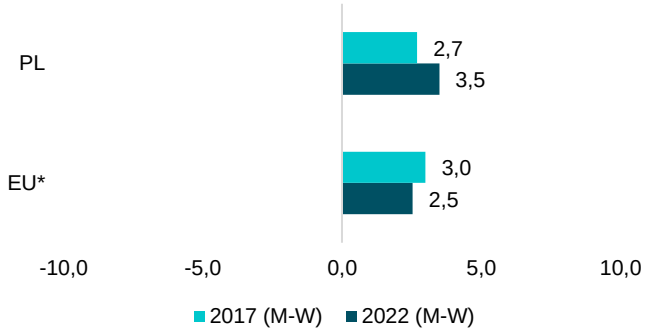


*Notes: *EU-level data for 2014 refer to the EU-28, while EU-level data for 2022 refer to the EU-27.*
Source: WiS database, DG Research and Innovation – T7_questionnaires.

The proportion of women among heads of institutions in the HES in Poland was lower than the EU-27 average in 2014 and 2022. However, an increase is evident in the share of women heads of institutions in the HES, from 18 % in 2014 to 24 % in 2022. Despite this increase, further efforts are needed to advance leadership opportunities for women in the HES in Poland to achieve gender balance.

R&I output

Figure 9: Research funding success rate differences (pp) between women and men, 2017 and 2022



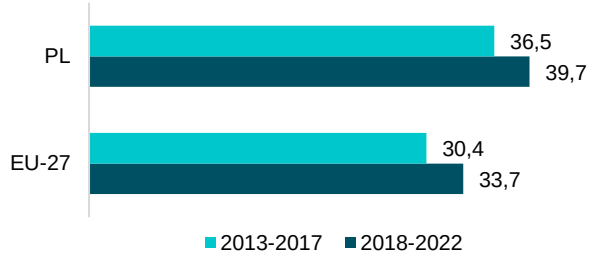
*Notes: A positive difference means that men have a higher success rate. *EU-level data for 2017 refer to the EU-28, while EU-level data for 2022 refer to the EU-27. PP = percentage points.*
Source: WiS database, DG Research and Innovation – T3_questionnaires.

Between 2017 and 2022, the difference in research funding success rates between women and men increased from 2.7 percentage points (pp) to 3.5 pp in favour of men, reflecting the trend at EU level.

Between 2014 and 2021, the Polish National Centre for Research and Development implemented the Small Grant Scheme (SGS), which aimed to strengthen the scientific career prospects of women researchers in the fields of engineering and technology by offering grants and career development opportunities within projects ([viii]).

In 2021, the Polish National Centre for Research and Development conducted a study to explore issues related to gender equality in research. The study focused partly on equal access to research funds in relation to gender. Nearly 6 000 people responded to the survey underpinning the study, with women comprising 64 % of respondents. The findings were published in 2022 and were intended to inform future amendments to the Centre's grant system ([ix]).

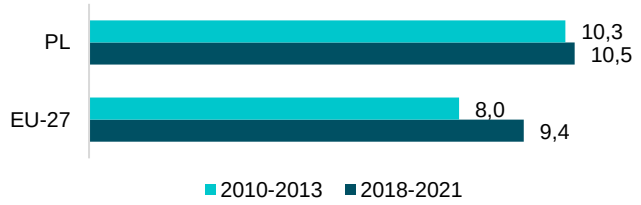
Figure 10: Average proportion (%) of women among authors on publications in all fields of R&D, 2013-2017 and 2018-2022



Notes: R&D = research and development.
Source: Scopus.

The average share of women among authors of publications in all fields of research and development (R&D) between 2018 and 2022 is 40 %. This figure has increased since 2013-2017, when women represented 37 % of authors on publications in these fields. According to the latest data, Poland performs above the EU-27 average for this indicator and ranks seventh among the Member States for the proportion of women among authors on publications in R&D fields.

Figure 11: Proportion (%) of women among inventors, 2010-2013 and 2018-2021



Source: Computed using European patent applications (kind codes A1 and A2) in PATSTAT.

Women remain underrepresented among inventors (based on patent applications), in line with broader EU-level trends. The proportion of applications submitted by women between 2018 and 2021 is 11 %, slightly higher than the EU-27 average of 9.4 %. Overall, the latest data place Poland 14th among the Member States for the proportion of women among inventors.

Since 2013, the Women in Science foundation has organised the 'Innovation is a Woman' competition to promote the achievements of women inventors in science. Inventors have the opportunity to present their work at international fairs and events, such as the International Salon of Inventions and Innovative Technologies (Archimedes) ([x]).

Overall, findings from She Figures 2024 show improvements in the career advancement of women researchers (Figure 6). More research organisations showcase their actions towards gender equality on their websites (Figure 5). Poland performs above the EU-27 average for the participation of women researchers in employment in the higher education, government, and business enterprise sectors (Figure 4). Poland also outperforms the EU-27 average for the proportion of women among Doctoral graduates (Figure 1), women authors on publications (Figure 10), and inventors (Figure 11). However, increasing women's access to leadership and decision-making positions remains an area for further improvement (Figure 7). Further efforts are also needed to advance equal opportunities for women in science and engineering (Figure 2).

About She Figures 2024

Gender equality – in all areas of life, and specifically within R&I – is a priority for the EU. She Figures is one of the flagship publications of DG Research and Innovation. Produced every three years, it presents comparable statistics on the state of gender equality in R&I across Europe. The publication provides data for more than 100 indicators to support the European Commission's policy initiatives promoting gender equality in R&I and the ERA. The chapters follow the 'chronological journey' of women and men, from graduating from Doctoral education to participation in the labour market and in decision-making roles. The publication also considers women's and men's relative working conditions and R&I outputs.

Gender Equality in Research and Innovation

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