# The Position of Women in Czech Science

Monitoring Report

2024

NKC – gender a věda

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# The Position of Women in Czech Science
# 2024 Monitoring Report

Centre for Gender & Science

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## INTRODUCTION

This Monitoring Report on the Position of Women in Czech Science presents an overview of current statistical indicators for the period 2005-2024. The publication aims to provide information on the representation of women and men across fields of study, scientific fields and sectors of research performance, including the position of the Czech Republic in international comparison.

An overview of the main statistics is available in the Key findings section. The second part of the publication provides an overview of all statistical indicators analysed, in both textual and graphical form. An external annex to the publication provides a summary overview of selected indicator values and time series mapping the representation of women in individual sectors and fields of research since 2005, based on data from the Czech Statistical Office (CZSO), the Ministry of Education, Youth and Sports (MEYS), and data obtained by collecting information from institutional websites or by contacting institutions directly.

The publication aims to highlight one of the many manifestations of gender culture in Czech research and innovation. At the same time, it is important to recognise that statistical data necessarily reduce the complex issue of gender equality to what is measured (available) and measurable - especially to the nominal representation of the categories of women and men. Even at this limited level, the available data have long shown marked and stable disproportions in Czech research and innovation. They can therefore be understood as a structural indicator of persistent inequalities and an empirical signal of an unfavourable situation, as supported by international comparisons. These patterns translate into unequal access to opportunities for qualified, highly educated women and into unused human potential in the research and innovation system.

## KEY FINDINGS

**1. The personnel employed in Research, Development and Innovation is growing, but the relative proportion of women is not increasing.**
In 2024, 122,683 personnel (Head Count, HC), or 86,948 full-time equivalents (FTE), worked in research and development. The share of women decreased slightly over the period monitored since 2005 and, in 2024, stood at 31.2% (HC) or 28.7% (FTE).

**2. At the core of the system – among researchers – the share of women has stagnated over the long term.**
Researchers constitute the largest occupational group in R&D&I, but the share of women in this group is the smallest, at 24.2% FTE in 2024. Although the absolute number of women researchers has increased over time, their relative representation has not changed.

**3. In comparison with other European countries, the Czech Republic is among the countries with the lowest share of women among researchers.**
In the latest available European data for 2023, the Czech Republic ranks last, with women accounting for 28.1% of researchers in HC (the EU average is 34.3%). This confirms that the low representation of women in key research positions is a structural problem in the Czech Republic.

**4. Scientific fields with the highest number of employed researchers show the lowest number of women.**
A total 80.1% of FTE are employed in engineering and technology and the natural sciences, but women researchers constitute a marked minority in these fields. In engineering and technology, women account for 14.1% FTE, and in the natural sciences for 24.9% FTE. The highest representation of women was in the social sciences (43%), where, however, only 5.1% of all researchers are employed.

**5. The largest share of research jobs is in the business enterprise sector, where women are least represented.**
With 83% of researchers in FTE, the business enterprise and higher education sectors were the largest in 2024 (53.6% in the business enterprise sector and 29.5% in the higher education sector). In the business enterprise sector, women accounted for only 14.7% of researchers, and this share has not changed since 2005.

**6. "Natural development" is not confirmed: women are lost at all transitions between stages of the educational and research career path.**
Women consistently make up the majority at the master's level (except in engineering and technology), but there is a marked drop at the transition to doctoral programmes (a 12.9 percentage-point loss in 2024). An even greater loss occurs at the transition from doctoral studies to research positions: in 2024, it amounted to 15.7 percentage points in HC.

**7. Disciplinary differences show that talent losses occur across scientific fields – but the point at which the path breaks is where the greatest differences occur.**
In the natural sciences, there is approximate parity at the master's level, and the largest drop occurs after the doctorate: an 18.8 percentage-point loss in the transition to research positions. In engineering and technology, the share of women is low across the entire ideal-typical path, and among women researchers, it reached only 15.6% in 2024. In the agricultural sciences, the largest loss occurs at the transition from master's to doctoral programmes, at 13.9 percentage points, followed by the transition from PhD to research, at 9.6 percentage points. In the social sciences, the largest loss occurs at the transition between master's and doctoral levels (16.7 percentage points). In comparison, the drop between doctoral stage and research positions is smaller (4.9 percentage points). In the humanities, substantial losses occur at both transitions: 17.5 percentage points between master's and doctoral programmes and 11.9 percentage points between the doctoral level and research positions.

**8. The academic hierarchy and decision-making remain strongly gender imbalanced.**
In the academic hierarchy, the share of women decreases towards the highest positions: in 2024, women accounted for 27.5% of associate professors and 16.2% of professors. In decision-making positions, the share of women in 2024 was 13.2% at heads of institutions and 25.7% in decision-making/strategic/control bodies.

**9. Inequalities are also reflected in remuneration, access to resources and outputs.**
Gender pay gaps in the academic sector appeared across all qualification levels in 2024: to women's disadvantage, they ranged from 6.4% (assistants) to 13.4% (lecturers). Since the analysis does not include personal bonuses or performance-related components, the actual gap may be higher.
Inequalities are also reflected in access to research funding. At the Czech Science Foundation, women accounted for 26.6% of principal investigators of submitted proposals in 2024, but only 20.3% of principal investigators of projects selected for funding. Their success rate was 13.8%, compared with 19.6% for men. At the Technology Agency of the Czech Republic, women were a minority among principal investigators on submitted projects in 2024 and accounted for 20% of funded projects.

In patent activity, the representation of women has remained low over the long term: in 2024, women accounted for 6.6% of granted patents.

## OVERVIEW OF MAIN ABBREVIATIONS USED

Table 1: Overview of main abbreviations used

| Abbreviation | Definition | Source |
|---|---|---|
| **HC** | Headcount (HC) as of 31 December of personnel fully or partially active in research and development activities, employed under a primary or secondary employment relationship in the entities monitored. | CZSO: Methodology – R&D personnel (link: CZSO: Methodology – R&D personnel (link: https://csu.gov.cz/metodika-pracovnici-ve-vyzkumu-a-vyvoji) |
| **FTE** | Average registered number of R&D personnel converted to annual full-time equivalent devoted to research and development activities (FTE). One FTE equals one year of full-time work by an employee who devotes 100% of their working time to R&D activity. | CZSO: Methodology – R&D personnel (link: CZSO: Methodology – R&D personnel (link: https://csu.gov.cz/metodika-pracovnici-ve-vyzkumu-a-vyvoji) |
| **GPG** | Gender pay gap. The relative difference between the average gross salaries of men and women (expressed in relation to men's average gross salary). | Rovnaodmena.cz (link: https://rovnaodmena.cz/rovne-odmenovani/gender-pay-gap/) |

## OVERVIEW OF R&D&I INDICATORS USED

Table 2: Overview of R&D&I indicators used

| R&D&I indicator | Method of recording persons used in the report | Reason for use |
|---|---|---|
| Persons working in research and development in the Czech Republic | HC, FTE | HC captures the number of physical persons; FTE captures the volume of work converted to full-time equivalents in R&D. |
| Persons working as researchers in the Czech Republic | HC, FTE | HC captures the number of physical persons; FTE captures the volume of work converted to full-time equivalents in R&D. |
| Persons working as researchers in European comparison | HC | For European comparisons, the report uses HC because the European Commission's comparative data are reported in HC. |
| Persons working as researchers, by scientific field in the Czech Republic | HC, FTE | The text gives the total number in both HC and FTE. The graphical presentation uses FTE because it shows the structure of research work in individual disciplines. |
| Persons working as researchers, by sector of research performance in the Czech Republic | HC, FTE | The text gives the total number in both HC and FTE. The graphical presentation uses FTE because it shows the structure of research work in individual sectors. |
| Persons working as researchers, by sector of research performance in European comparison | HC | For European comparisons, the report uses HC because the European Commission's comparative data are reported in HC. |
| Students and graduates of master's and doctoral programmes in the Czech Republic | HC | Data are recorded at the individual level. For the ideal-typical path, they are compared with researchers in HC. |
| Ideal-typical path from study to a research profession | HC | For comparability, all stages of the path are expressed in HC. This is not a tracking of real individual careers, but a structural comparison of the representation of women and men in successive stages. |
| Persons in academic staff positions at higher education institutions, by scientific field and classification | FTE | MEYS publishes the data as the average registered number of employees converted to FTE. HC is not available for this indicator in the report. |
| Salaries of academic staff | CZK, GPG (%) | The indicator uses average gross monthly salary and the gender pay gap. |
| Persons in decision-making, strategic, control and advisory bodies | HC | This is the authors' own collection of the number of persons by sex in leadership and decision-making positions for the purposes of this report. |
| Science and engineering professionals | HC | Data are recorded at the level of physical persons. |
| Wages of science and engineering professionals | CZK | The indicator uses median and average wages. |
| Patents from a gender perspective | number / share by sex | The indicator is based on source data on granted patents by sex as recorded in the source data. |
| Support for research, development and innovation | HC; CZK for financial volumes | For principal investigators and evaluators, the indicator concerns numbers of physical persons. For allocation and support, it concerns financial indicators. |

## NOTES ON DATA SELECTION AND AVAILABILITY, AND ON THE APPROACH TO DATA PROCESSING

The data used in this publication are based primarily on publicly available statistical sources from the Czech Statistical Office (CZSO) and the Ministry of Education, Youth and Sports (MEYS). Data from the CZSO are used for the chapters on research and development personnel, researchers by sector and scientific field, and science and engineering professionals. Data from MEYS are used for the chapters on higher education, academic staff and their salaries. The chapter on decision-making positions is based on the authors' own data collection from annual reports and the websites of the relevant institutions. The chapter on targeted support for research, development and innovation uses data provided by the Czech Science Foundation and publicly available data from the Technology Agency of the Czech Republic.

The aim of the publication is to monitor the position of women and men in research, development and innovation in terms of available and comparable indicators. The report therefore primarily includes indicators that make it possible to capture long-term development or a relevant structural view of the area concerned. Some data are not included in the report because they are not publicly available in the necessary breakdown, are not monitored regularly, or the methodology of their collection has changed over time in a way that limits time comparability. This applies, for example, to some data on progression through study or study failure.

The report uses two basic ways of recording personnel: headcount (HC) and full-time equivalent devoted to research and development activities (FTE). HC captures the number of individuals regardless of their working time. FTE, by contrast, better captures the volume of work converted into full-time equivalents. In the sections devoted to the Czech research and development (R&D) system, we therefore report both indicators in the text where data are available, while the graphical presentation generally uses the indicator that is analytically most appropriate for the question at hand. For European comparisons, we use HC because the underlying statistical data for comparison are reported in HC.

For data on personnel in academic staff positions at higher education institutions, we use FTEs because MEYS publishes these data as the average registered number of employees converted to FTE. Data on academic staff by scientific field are not published directly by MEYS in the classification of scientific fields. For the purposes of this report, faculties of higher education institutions were therefore manually assigned to scientific fields based on the Frascati Manual. The same approach was also used for the field classification of academic positions. Because more detailed data on the structure of academic staff by job position and scientific field are available only from 2017, the time comparison in this section is for 2017 and 2024.

In the section devoted to the ideal-typical path from study to a scientific profession, we use MEYS data on students and graduates of master's and doctoral study programmes and CZSO data on researchers. This section does not describe the actual career trajectories of individuals, but compares the representation of women and men in successive stages of the educational and research path. It therefore serves as a structural indicator of where the most significant declines in women's representation occur within the system.

Time series on students and graduates published by MEYS are generated each year across the entire available data series. Higher education institutions may revise some data retrospectively. Values in this report may, therefore, in some partial cases, differ from values published in previous monitoring reports. For CZSO data on research, development, and innovation, we primarily use the time series from 2005 for long-term comparison, although some older data are available from 2000. The reason is to maintain the highest possible degree of methodological comparability.

The chapter on science and engineering professionals is based on CZSO data from the Labour Force Survey and the Structure of Earnings Survey. The latest available data on the number of personnel in this occupational group are from 2023, while wage data are from 2024. The chapter therefore combines the latest available figures on the representation of women and men with current wage data.

The patent data are based on CZSO data using information from the Industrial Property Office of the Czech Republic. The chapter monitors the share of women among granted patents by applicant type. Given the low absolute numbers in some categories, year-on-year fluctuations should be interpreted with caution, and emphasis should be placed on the long-term trend rather than on individual annual values.

The publication uses terminology consistent with the source statistics from the CZSO and MEYS. Where statistical categories differ from ordinary language usage or where their interpretation is limited by the data collection methodology, these facts are explained directly in the text or in the Annex: Definitions of employee categories used in the Monitoring Report.

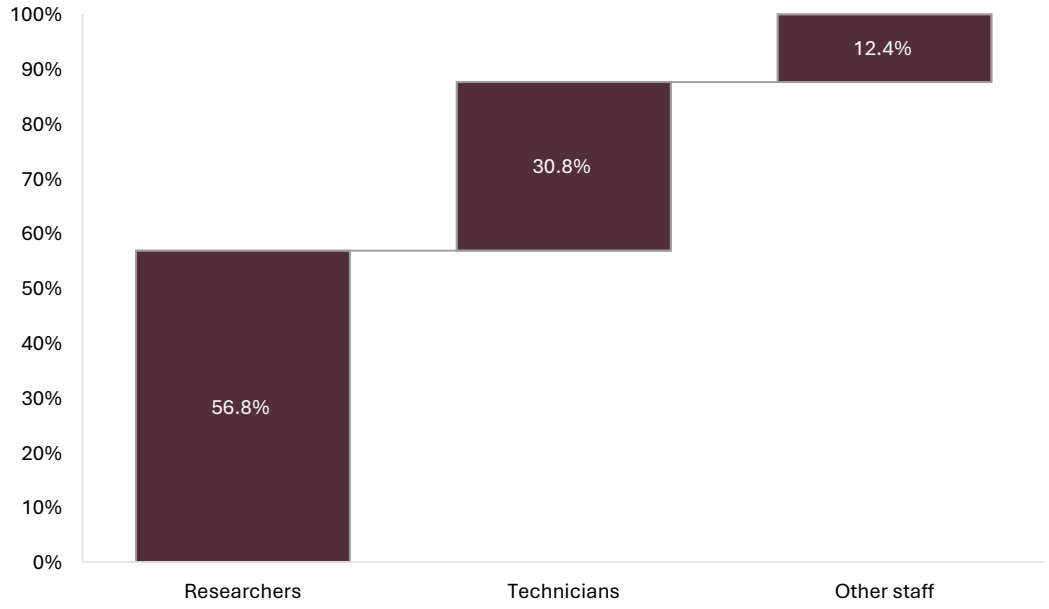
## RESEARCH AND DEVELOPMENT PERSONNEL

The number of people working in research and development has been growing over the long term, but the share of women in the system has not increased. Women are least represented in the largest and key occupational group – among researchers – while parity is reached only in the smallest support category, "other staff".

The total personnel in research and development showed an upward trend over the period 2005-2024. In 2024, a total of 122,683 personnel (HC) worked in research and development, corresponding to 86,948 full-time equivalents (FTE).

In terms of occupational structure, researchers made up the largest share of personnel in 2024 (56.8% FTE), followed by technicians (30.8% FTE) and other staff (12.4% FTE) (see Figure 1). The category "technicians" primarily includes professional and technical roles related to research support and the application of methods (skill level 3 according to CZ-ISCO); "other staff" includes supporting administrative and operational activities.

Figure 1: Overall structure of research and development personnel in 2024 (FTE, %)

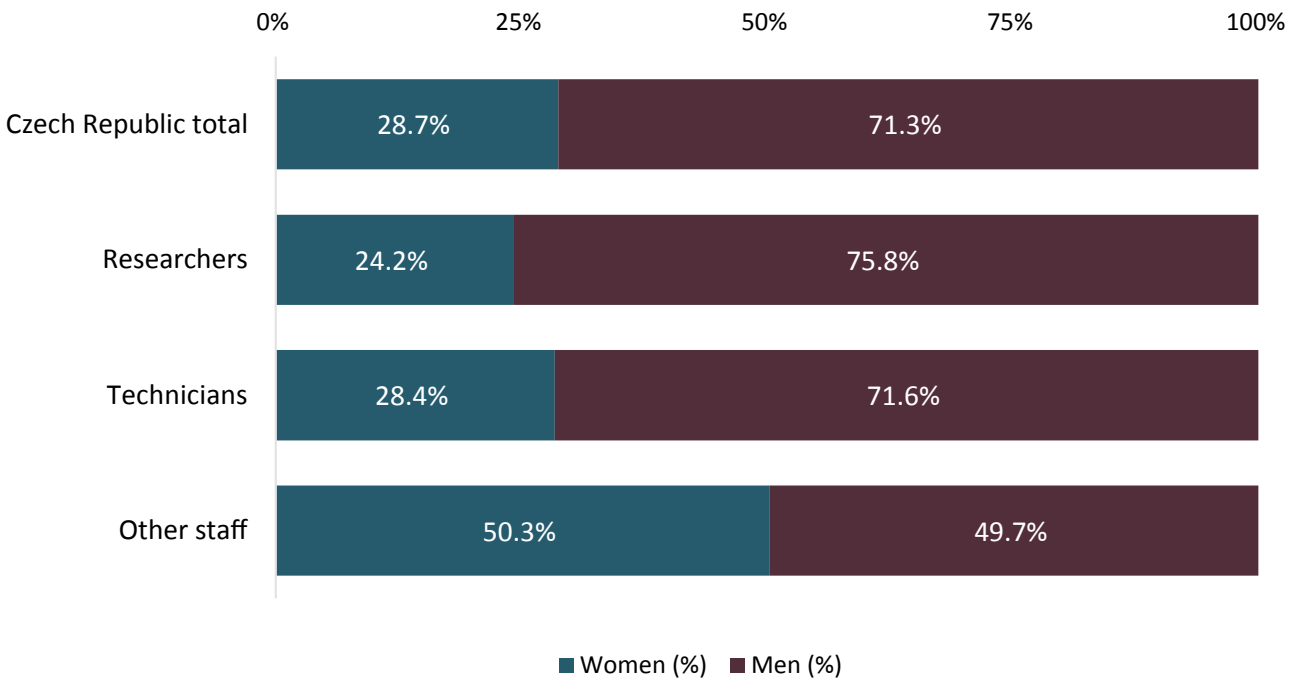



Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

From a gender perspective, the overall share of women in research and development is not increasing over time. In 2005, 43,370 persons (FTE) worked in R&D, including 14,135 women (32.6%); in 2024, the figure was 86,948 persons (FTE), including 24,985 women (28.7%). The decline in the relative share of women is therefore accompanied by long-term stagnation in their relative representation in the system, even as the absolute number of R&D personnel is growing.

Differences are also marked within occupational groups (see Figure 2). Women reach parity only in the "other staff" category (50.3% FTE), which is also the smallest category. By contrast, the largest group is researchers where the share of women is lowest (24.2% FTE). Among technicians, women make up approximately one third (28.4% FTE).

Figure 2: Structure of research and development personnel by sex in 2024 (FTE, %)



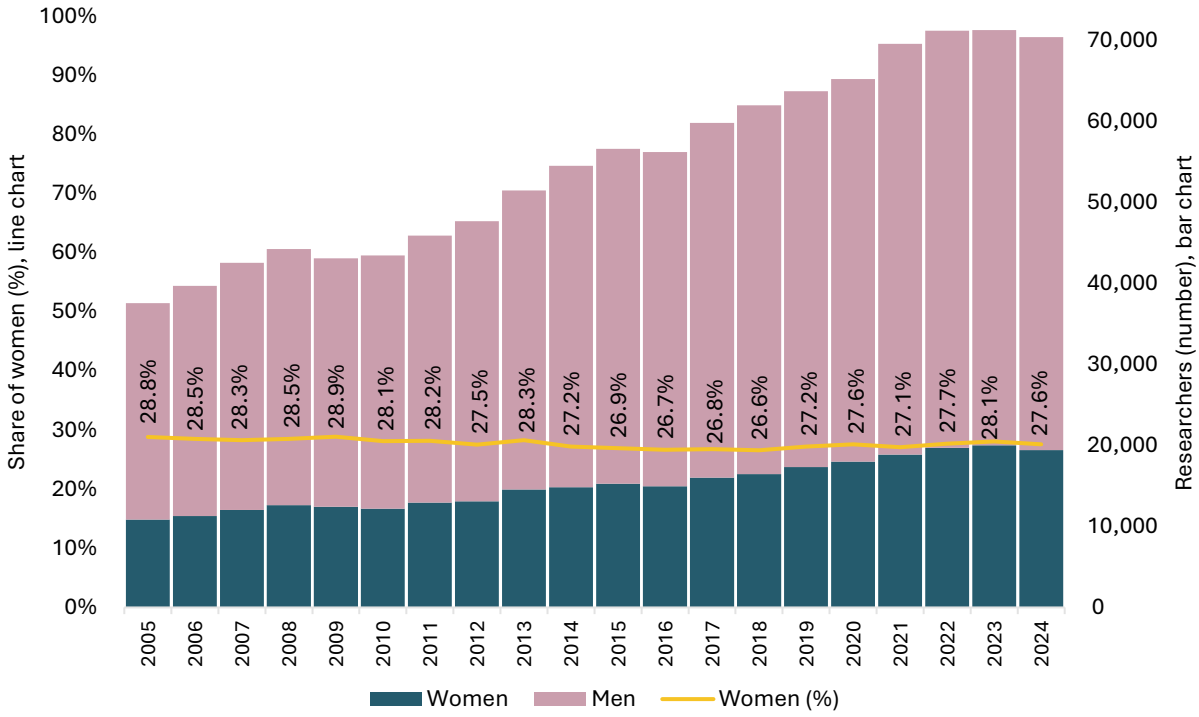

Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

## RESEARCHERS

The absolute number of researchers doubled over the period 2005-2024, but the share of women has not shifted significantly over the long term and remains at approximately one quarter (see Figure 3). In 2024, women accounted for 27.6% of researchers in HC and 24.2% in FTE.

At the same time, the absolute number of researchers increased substantially over this period. Whereas in 2005 there were 10,827 women and 26,716 men working as researchers, in 2024 there were already 19,412 women and 50,959 men HC (see Figure 3). Thus, although the number of women researchers is growing in absolute terms, their share among researchers has changed very little and the gender structure has not shifted over time.

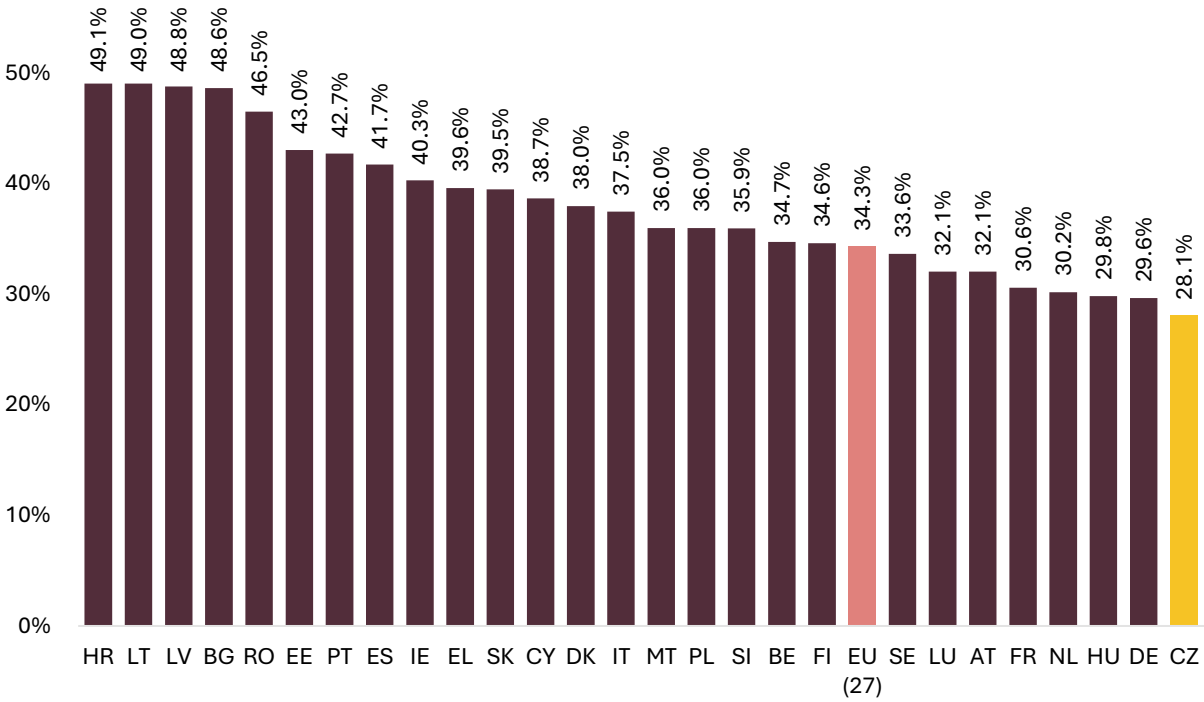
Figure 3: The number of researchers, by sex, 2005-2024 (HC)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

The low proportion of women among researchers is not only a domestic problem. Compared with other European countries (see Figure 4), however, the Czech Republic is among the countries with the lowest values. In 2020, the latest available comparative data, it ranked last among EU Member States with 28.1% women among researchers, together with Germany (29.6%) and Hungary (29.8%). The European Union average was 34.3%, and the highest shares of women were recorded in Croatia (49.1%), Lithuania (49.0%) and Latvia (48.8%).

Figure 4: Proportion of women among researchers in EU countries in 2023 (HC, %)




Source: Eurostat - Share of women researchers by sector of performance; own processing.
Note: The European Union (EU-27) average is for 2020.

## IDEAL-TYPICAL PATH FROM STUDY TO A RESEARCH PROFESSION

To understand the position of women in research in the Czech Republic comprehensively, it is important to address gender aspects across the entire career path - from higher education study through to the research profession. For the purposes of this section, all stages of the ideal-typical path are expressed in HC, so that students, graduates and researchers can be compared at the level of individuals.

Women consistently form the majority at the master's level (approximately 60%), but this entry potential diminishes markedly at the transition to doctoral programmes and subsequently at the transition to research positions. In 2024, the loss of women at the Master's → PhD transition was 12.9 percentage points, and at the PhD → research transition 15.7 percentage points.

This chapter first summarises the gender composition at the master's and doctoral levels and then shows how the representation of women changes in the transition from study to research positions. The disciplinary perspective (Figures 9 to 14) also shows that scientific fields differ in the stage at which the proportion of women declines most significantly, with the largest declines across individual stages manifesting especially in the natural and medical sciences.

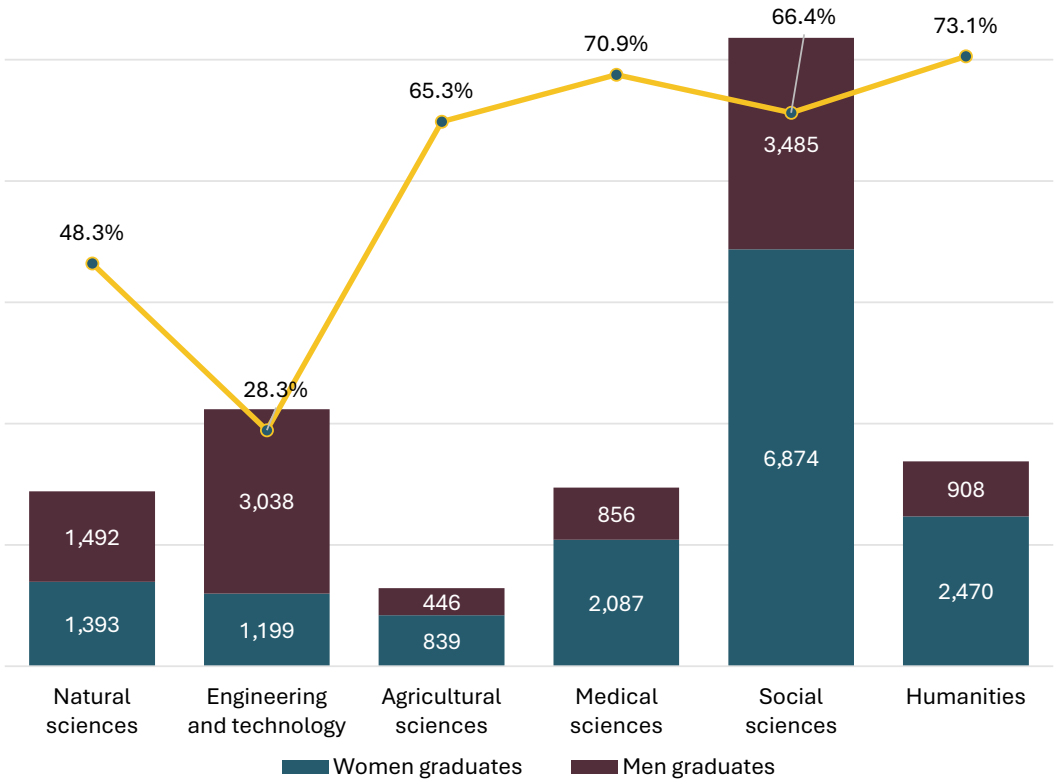
### Graduate and post-graduate education

At the master's level, women predominate in most fields, with the exception of engineering and technology, where the low representation of women is already evident among graduates.

In 2024, a total of 105,310 students were enrolled at the master's level, including 63,007 women (59.8%) and 42,303 men (40.1%). Among master's graduates in that year, women accounted for 16,218 out of 27,621 (58.7%) and men for 11,403 (41.2%).

The representation of women among graduates is high across most fields and has long exceeded the proportion of men. In 2024, women predominated among graduates in the natural, agricultural, medical, social and humanities fields. The exception is engineering and technology, where women represented approximately one-third of graduates in 2024 (29.5%).

Figure 5: Master's graduates by sex and field in 2024 (HC, %)




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; own processing
Note: The figure deliberately combines absolute numbers of persons and the percentage representation of women, so that it is immediately visible in which fields the largest number of research positions is concentrated and what the share of women in those fields is.

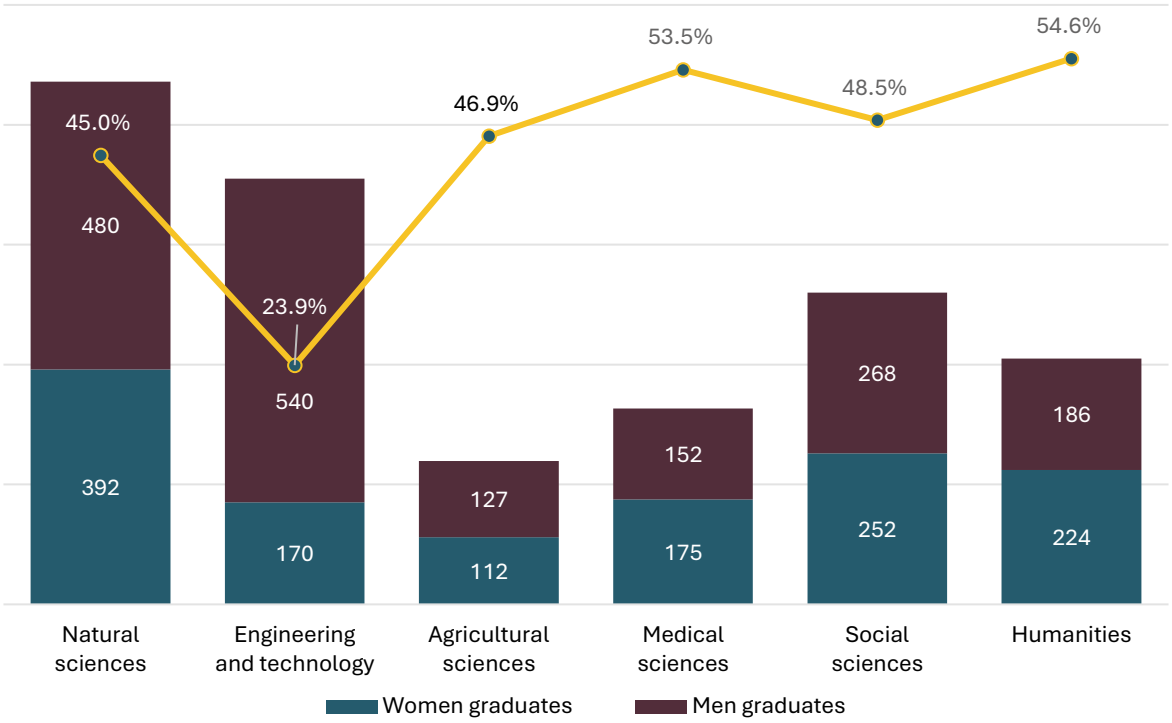
At the doctoral level, the share of women decreases compared with master's studies, and engineering and technology remains the area with the most pronounced gender imbalance.

In total, 18,267 doctoral fellows were enrolled in doctoral programmes in 2024, including 8,375 women (45.8%) and 9,892 men (54.2%). A doctoral degree was awarded to 1,362 women (43.3%) and 1,783 men (56.7%). The share of women doctoral graduates increased by 8.3 percentage points over the period 2005-2024, while the share of men decreased by 8.8 percentage points.

From a long-term perspective, we see that whereas in 2005 women represented 38.4% of doctoral students, by 2010 they represented 43.0%. After 2011, this increase stopped, and the representation of women stabilised at around 44-45%.

In terms of the field structure of doctoral graduates in 2024, we see a concentration in engineering and technology (23.9%) and the natural sciences (24.0%). These are followed by the social sciences (18.3%) and the humanities (12.5%), while the agricultural sciences show the lowest share of graduates (4.3%) (see Figure 6).

Figure 6: Doctoral graduates by sex and field in 2024 (HC, %)

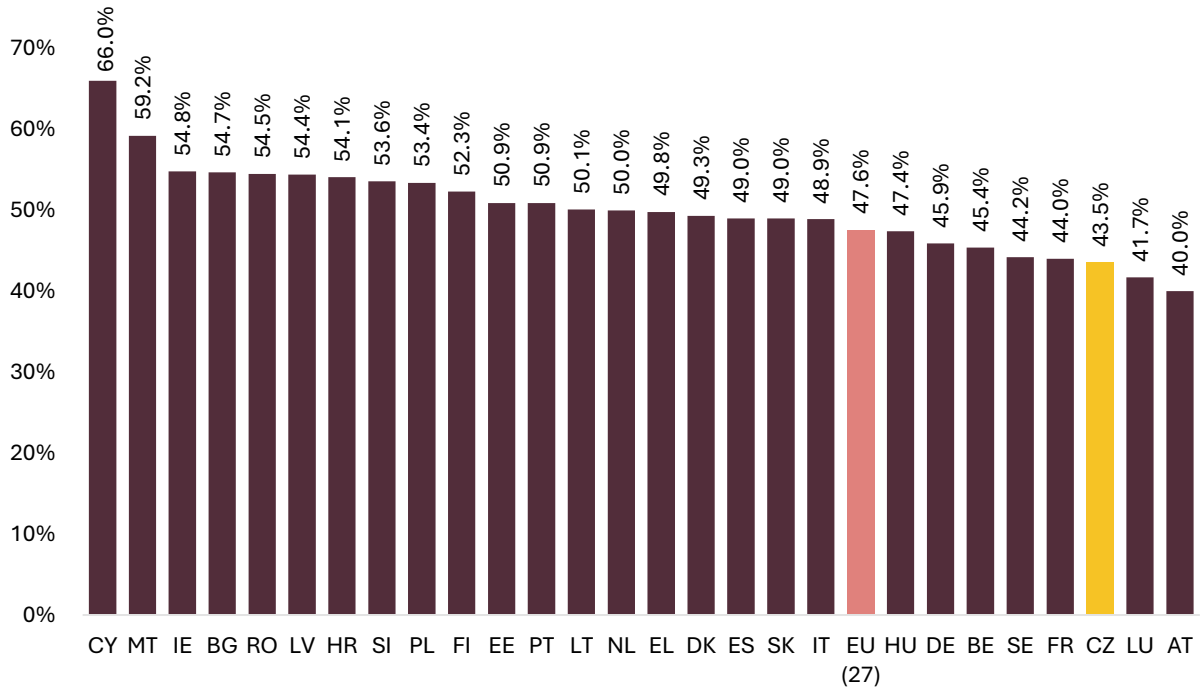



Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; own processing
Note: The figure deliberately combines absolute numbers of persons and the percentage representation of women, so that it is immediately visible in which fields the largest number of research positions is concentrated and what the share of women in those fields is.

**In fields employing the most researchers — 80.1% in the natural and technical sciences — the representation of women is also the lowest. This is a pattern seen across European countries, where women are, in general, less likely than men to be employed as researchers.**

Despite the growing share of women among doctoral students, the Czech Republic ranks third-to-last compared with other European countries, with women representing 43.5% of doctoral graduates; only Luxembourg (41.7%) and Austria (40%) are behind. Cyprus has the highest representation of women, at 66% (see Figure 7). The low share of women among doctoral graduates therefore limits the potential pool of future women researchers.

Figure 7: Representation of women among doctoral graduates in EU countries in 2021 (HC, %)




Source: She Figures 2024 - Proportion (%) of Women among Doctoral Graduates, 2013 and 2021; own processing.

**From doctorate to research**

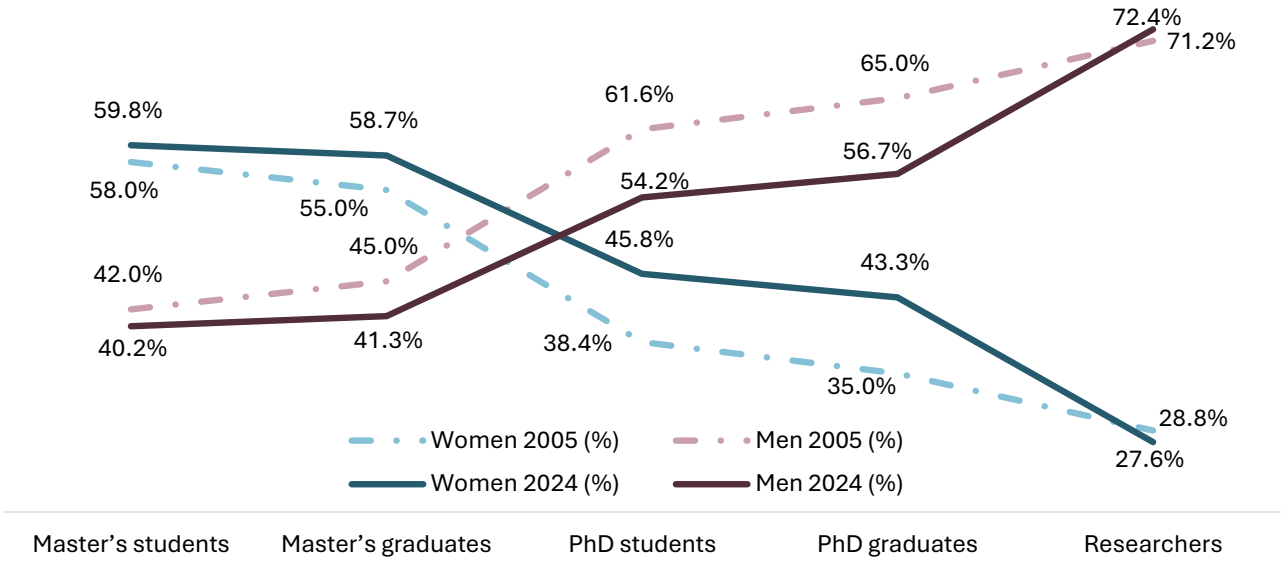
In the following section, we focus on analysing inequalities between men and women in terms of the ideal-typical path from study to research positions. The figures present a comparison between 2005 and 2024, first overall and then separately by field.

Figure 8 summarises the ideal-typical path at three key points:

- Entry: in 2024, women predominated among both master's students and master's graduates (approximately 60%).
- Master's → PhD transition: despite the growing share of women in doctoral programmes, marked losses occur at entry to the PhD – in 2024, it amounted to 12.9 percentage points (compared to 16.5 percentage points in 2005).
- PhD → research transition: an even greater loss appears at the transition to research positions - 15.7 percentage points in 2023 (compared to 6.2 percentage points in 2005).

These figures show that the higher proportion of women in higher education does not automatically translate into a higher proportion in the research profession, and that the greatest losses occur at the transition to the PhD and then to research.

Figure 8: From study to a research profession: women and men at individual stages of the typical path (%), all fields and scientific areas combined (HC), 2005 and 2024




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; CZSO, Research and development indicators; own processing

**The assumption of a „natural development" – that the representation of women in science would gradually even out over time as their share among higher-education graduates grows – has long proven false. The rising share of women among master's and doctoral graduates across all fields is not reflected in the representation of women among researchers.**

The following Figures 9 to 14 focus in more detail on individual scientific fields between 2005 and 2024.

**Natural sciences**

In the natural sciences, women's entry potential is relatively high, but the most pronounced break occurs after the doctorate, at the transition to research positions.

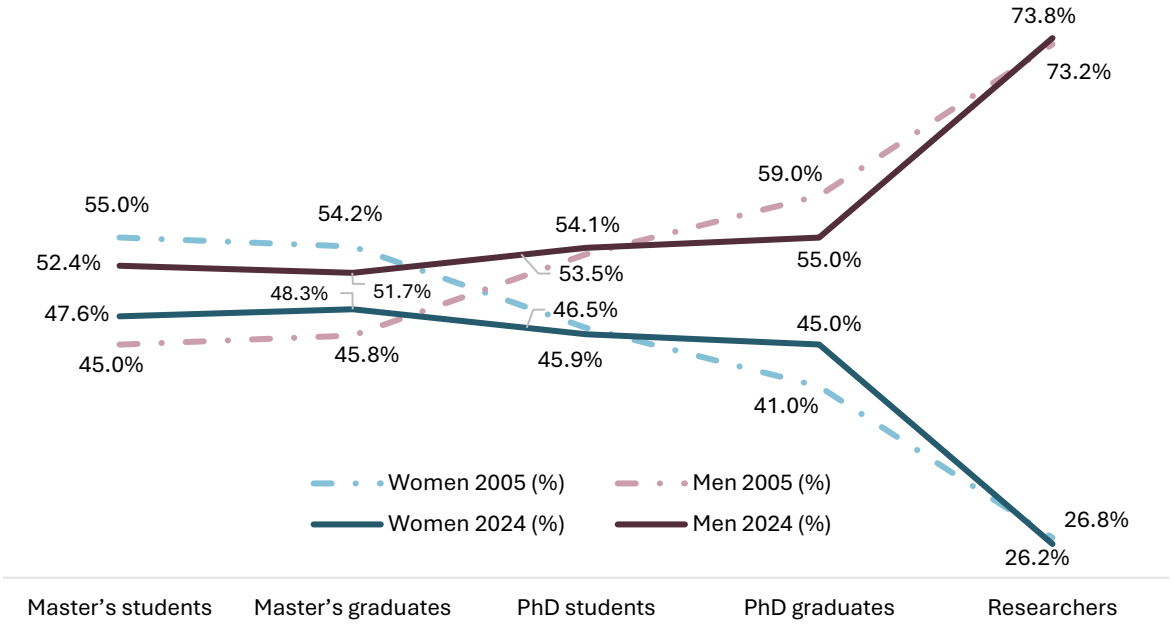
**Master's:** In 2024, there was approximate parity between women and men at the master's level (students and graduates).

**Master's → PhD + PhD:** At the master's → PhD transition, the loss of women is small (2.4 percentage points) and represents an improvement compared with 2005 (7.6 percentage points).

**PhD → research:** The largest loss occurs after the doctorate. In 2024, women made up only a quarter of researchers, and the loss was 18.8 percentage points, the highest across fields.

**Result:** Inequality in the natural sciences is concentrated primarily in the transition after obtaining a PhD (see Figure 9).

Figure 9: Natural sciences (HC) – from study to a research profession:
women and men at individual stages of the ideal-typical path (%), 2005 and 2024




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; CZSO, Research and development indicators; own processing

**Engineering and technology**

Engineering and technology shows low representation of women throughout the entire educational and research path, without a marked shift towards parity.

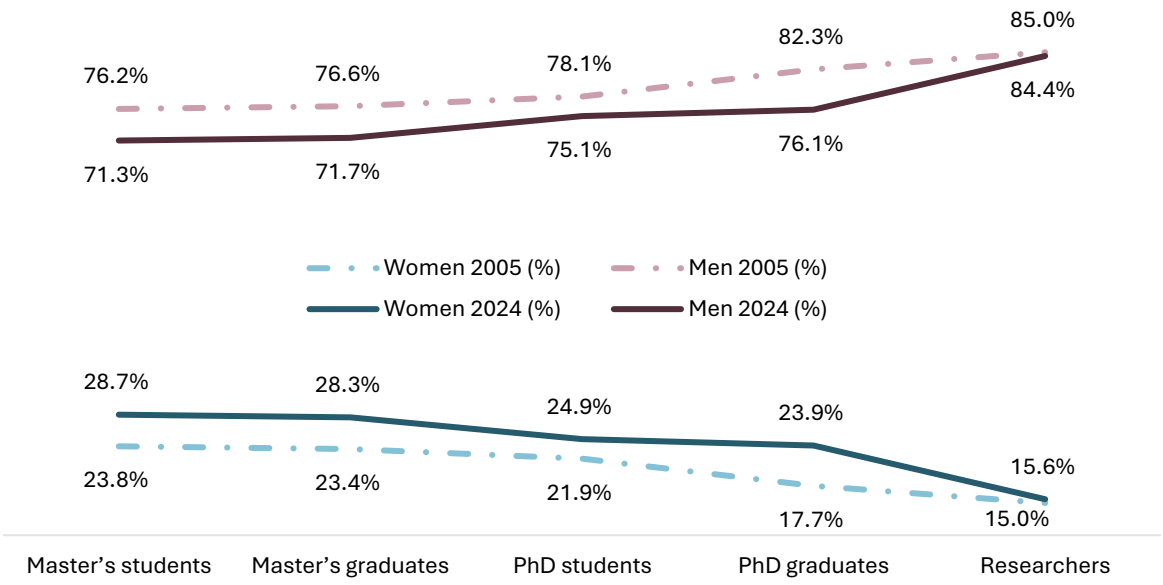
**Master's:** Engineering and technology has low representation of women already at entry, with the share of women roughly between 25% and 30%.

**Master's → PhD + PhD:** Here, the decline in the representation of women is not decided at a single transition, but accumulates gradually across all subsequent phases of the path.

**PhD → research:** The cumulative effect is a very low proportion of women in the research profession. In 2024, women made up only 15.6% of researchers.

**Result:** Engineering and technology has not been moving towards parity over the long term in any category of the ideal-typical path (see Figure 10).

Figure 10. Engineering and technology (HC) – from study to a research profession: women and men at individual stages of the ideal-typical path (%), 2005 and 2024




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; CZSO, Research and development indicators; own processing

**Agricultural sciences**

In the agricultural sciences, the high representation of women at the master's level decreases markedly at the transition to doctoral study and then further at the transition to the research profession.

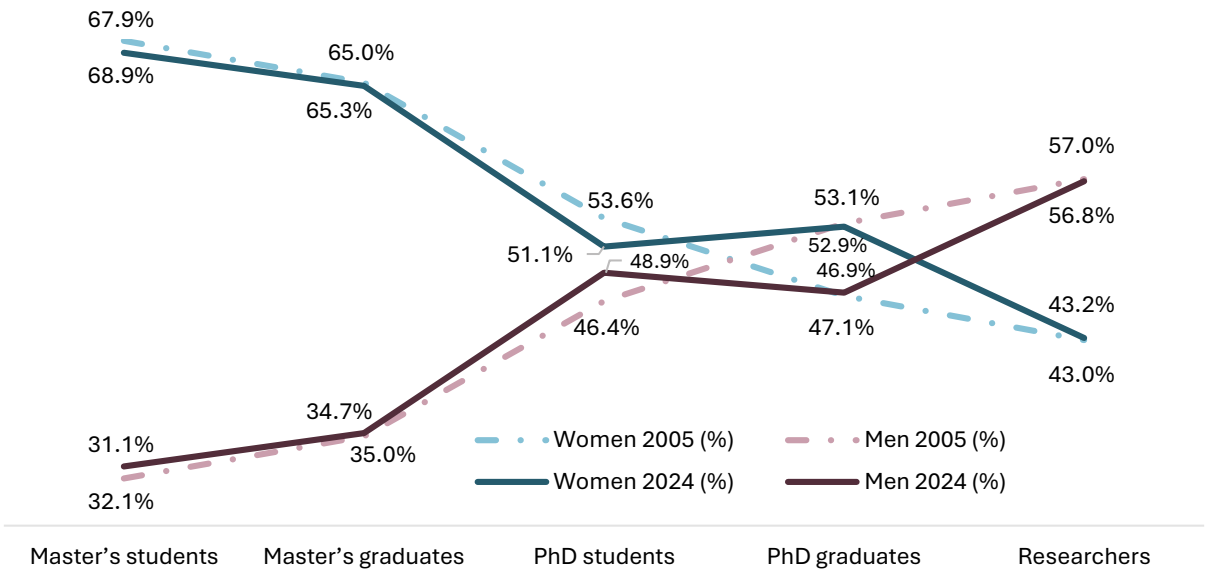
**Master's:** In 2024, women accounted for almost 69% of master's students and approximately 65% of graduates in the agricultural sciences.

**Master's → PhD + PhD:** At the transition to doctoral study, the share of women drops by 13.9 percentage points.

**PhD → research:** After the doctorate, the decline in the representation of women persists at entry to research (a loss of 9.6 percentage points), and women represented 43.2% of researchers in 2024.

**Result:** The key problem here is the long-term pattern of loss at the transition from PhD to research (see Figure 11).

Figure 11: Agricultural sciences (HC) – from study to a research profession: women and men at individual stages of the ideal-typical path (%), 2005 and 2024




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; CZSO, Research and development indicators; own processing

**Medical sciences**

In the medical sciences, women form the majority at the master's level, but their representation decreases markedly already at entry to doctoral programmes.

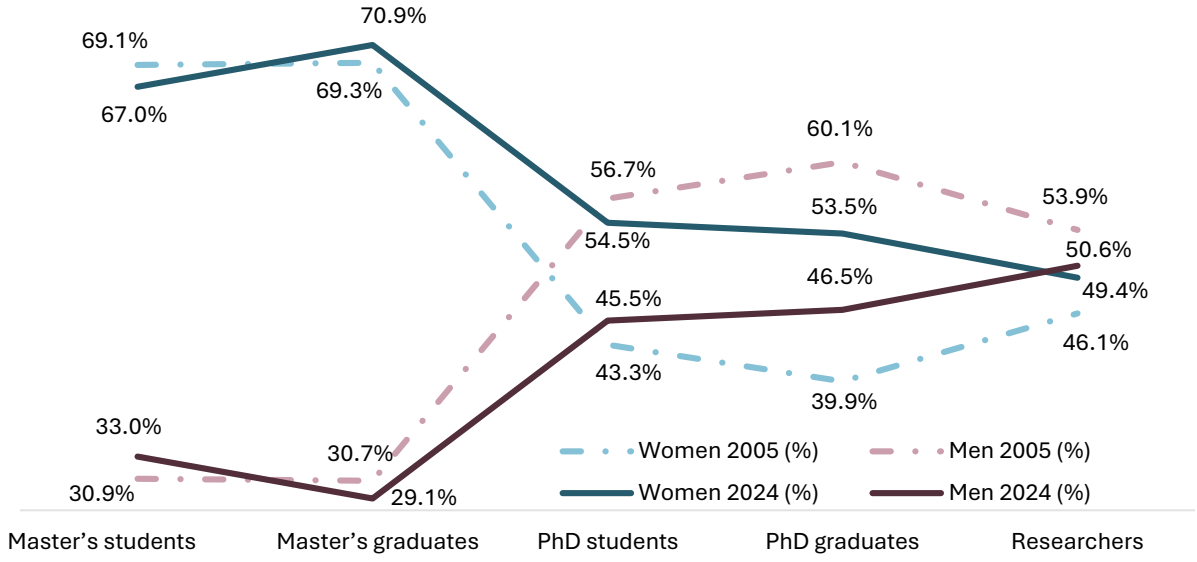
**Master's:** In 2024, women and women graduates represented approximately 70% of all students.

**Master's → PhD + PhD:** The largest loss occurs at the Master's → PhD transition (16.4 percentage points in 2024 compared with 26 percentage points in 2005). In doctoral programmes, women represented 56.7% of students and 53.5% of graduates.

**PhD → research:** At the level of research positions, the representation of women and men is virtually balanced.

**Result:** Inequality in the medical sciences is concentrated mainly in the Master's → PhD transition and less in the transition to research itself (see Figure 12).

Figure 12: Medical sciences (HC) – from study to a research profession:
women and men at individual stages of the ideal-typical path (%), 2005 and 2024




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; CZSO, Research and development indicators; own processing

**Social sciences**

In the social sciences, the main loss of women occurs at the transition from the master's to the doctoral level, while smaller losses occur at the transition from PhD to research.

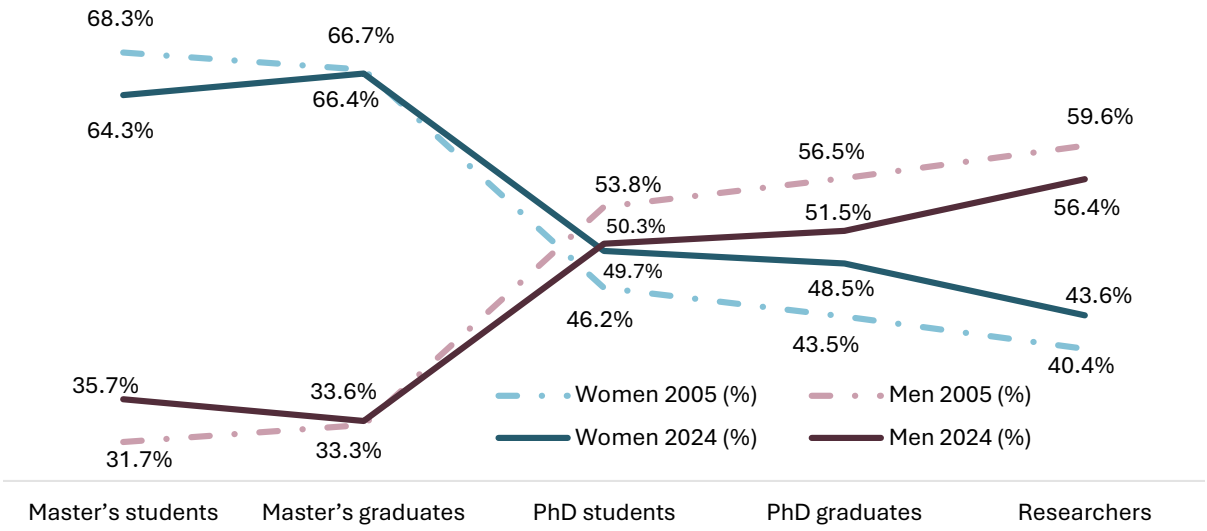
**Master's:** In 2024, women accounted for more than three fifths of students and 66.4% of master's graduates.

**Master's → PhD + PhD:** At the Master's → PhD transition, the loss of women is 16.7 percentage points (20.5 percentage points in 2005). At the PhD level, representation is close to parity (49.7% women students and 48.5% women graduates).

**PhD → research:** At the transition from PhD to research positions, the loss is smaller (4.9 percentage points).

**Result:** The main break in the social sciences lies at the Master's → PhD transition, while the transition to research records smaller losses (see Figure 13).

Figure 13: Social sciences (HC) – from study to a research profession: women and men at individual stages of the ideal-typical path (%), 2005 and 2024




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; CZSO, Research and development indicators; own processing

**Humanities**

In the humanities, losses of women accumulate at both the main transitions: from master's to doctoral study and from the doctorate to research positions.

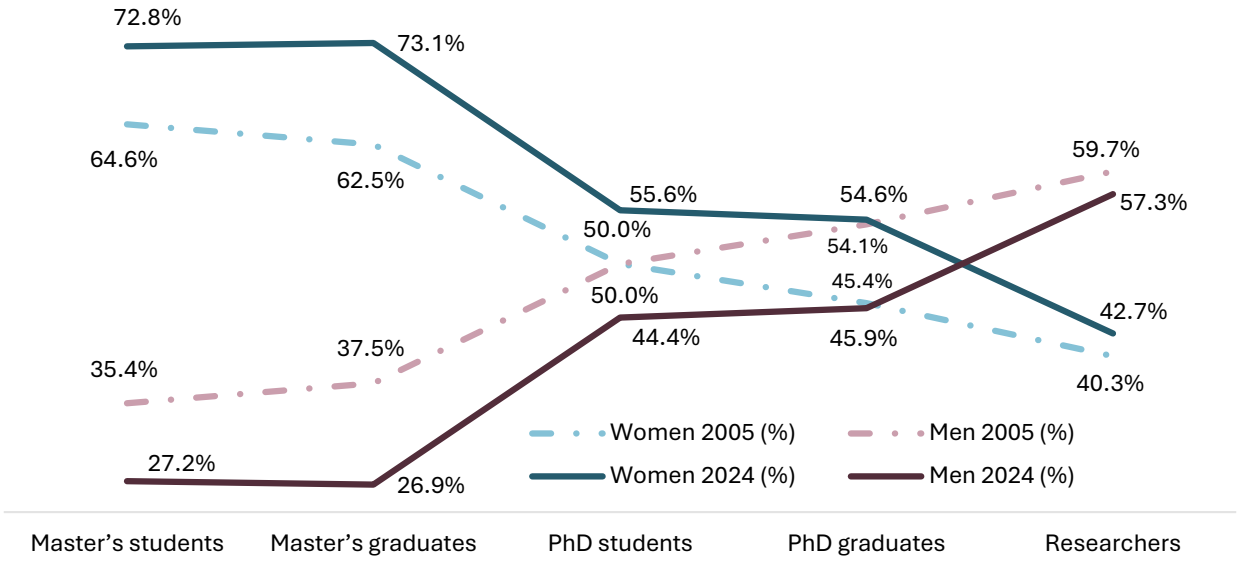
**Master's:** Women are more strongly represented than men at the master's level (by more than three fifths).

**Master's → PhD + PhD:** The loss of women at the Master's → PhD transition is 17.5 percentage points. At the PhD level, women account for 55.6% of students and 54.6% of graduates.

**PhD → research:** The loss at the transition to research positions is 11.9 percentage points (5.6 percentage points in 2005), increasing over time.

**Result:** In the humanities, both transitions are significant (see Figure 14).

Figure 14: Humanities (HC) – from study to a research profession:
women and men at individual stages of the ideal-typical path (%), 2005 and 2024




Source: MEYS, Performance indicator statistics for public and private higher education institutions in the Czech Republic; CZSO, Research and development indicators; own processing

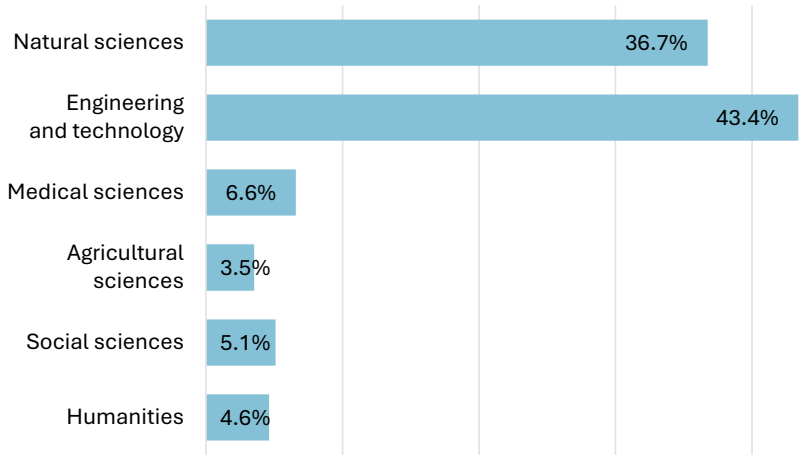
## RESEARCHERS BY SCIENTIFIC FIELD

Research positions in the Czech Republic are concentrated primarily in engineering and technology and the natural sciences (together approximately four fifths of all researchers), where the representation of women among researchers has long been the lowest. Conversely, fields with a higher share of women employ a substantially smaller proportion of researchers. This pattern corresponds to the broader European picture of gender segregation in science and technology and in research-related occupations.

As a reminder, according to CZSO data, in 2024, a total of 70,371 persons (HC), or 49,417 full-time equivalents (FTE), worked in research and development as researchers.

The structure of researchers by scientific field in full-time equivalents (FTE) shows that the largest share is in engineering and technology (43.4%) and the natural sciences (36.7%), which together account for 80.1%. They are followed at a considerable distance by the medical sciences (6.6%), the social sciences (5.1%) and the humanities (4.6%); the lowest share is in the agricultural sciences (3.5%) (see Figure 15).

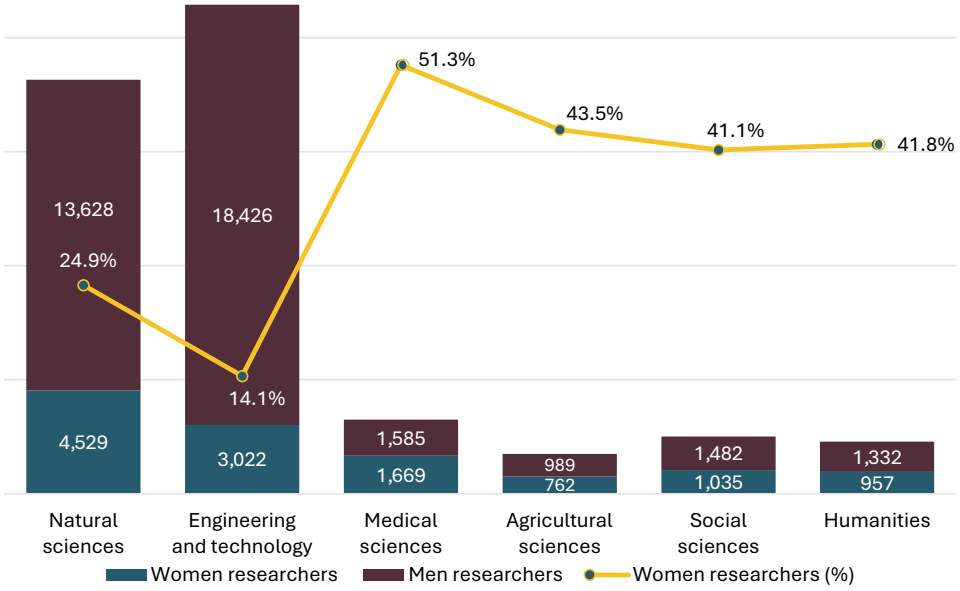
Figure 15: Researchers by scientific field in 2024 (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

In terms of women's representation among researchers in full-time equivalents (FTE), the lowest values are in engineering and technology, where women make up 14.1%, and in the natural sciences, where women make up 24.9%. In the other scientific fields, the representation of women is substantially higher: women account for 51.3% in the medical sciences, 43.0% in the agricultural sciences, 41.1% in the social sciences and 41.2% in the humanities (see Figure 16). The issue is not only the low share of women in engineering and technology and the natural sciences. What is crucial is that these very fields represent the largest volume of research jobs.

Figure 16: Researchers by scientific field and sex in 2024 (FTE, absolute numbers and %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing
Note: The figure deliberately combines absolute numbers of persons and the percentage of women, so that it is immediately visible in which fields the largest volume of research positions is concentrated and what the share of women in those fields is.

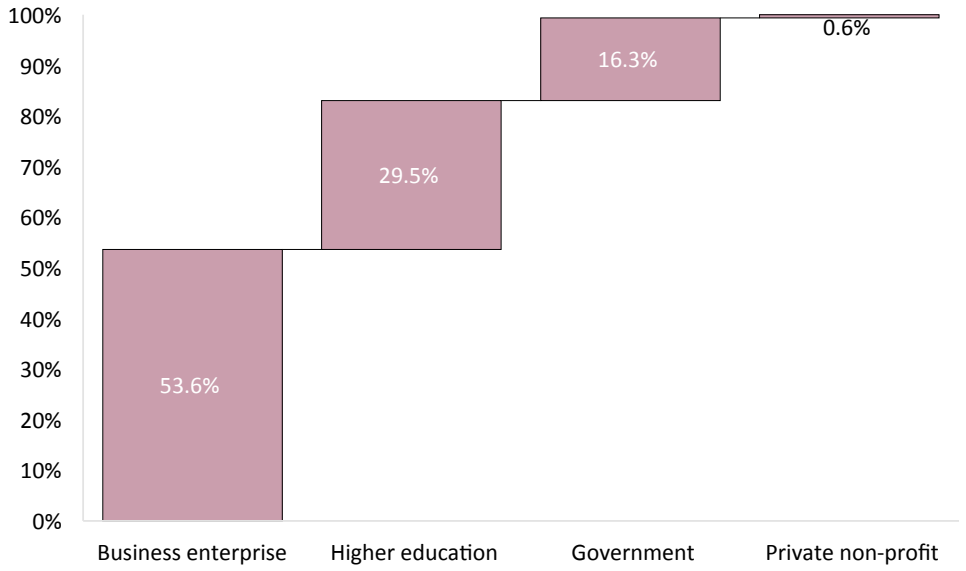
**In fields employing the most researchers — 80.1% in the natural and technical sciences — the representation of women is also the lowest. This is a pattern seen across European countries, where women are, in general, less likely than men to be employed as researchers.**

## RESEARCHERS BY SECTOR OF RESEARCH PERFORMANCE

The business enterprise sector employs the largest share of researchers in the Czech Republic, followed by the higher education sector; together, these two sectors employed 83% of researchers in 2024. It is the business enterprise sector where the proportion of women among researchers is the lowest.

In 2024, 53.6% of researchers in full-time equivalents (FTE) worked in the business enterprise sector and 29.5% in the higher education sector. The government sector employed 16.3% of researchers in FTE and the private non-profit sector 0.6% (see Figure 17).

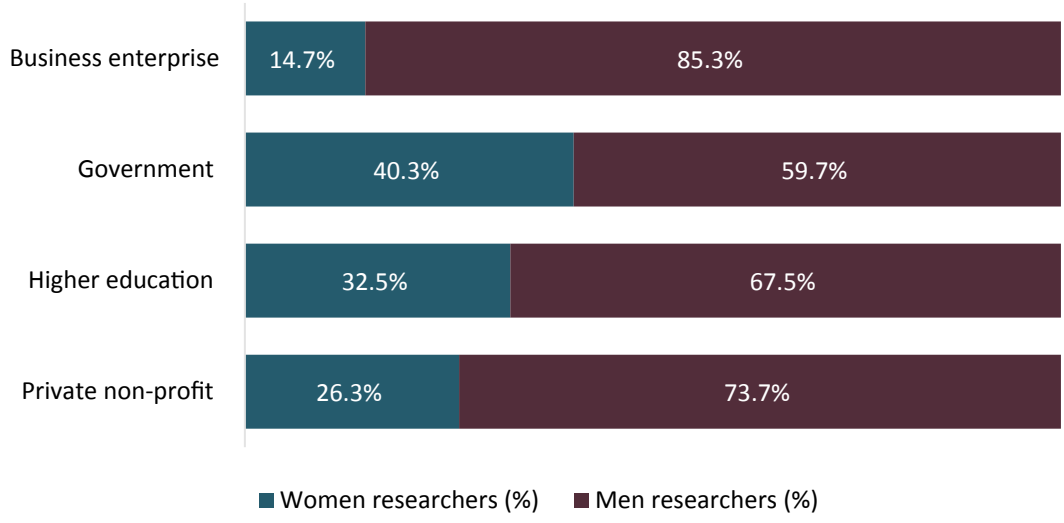
Figure 17: Researchers by sector of research performance in 2024 (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

The representation of women differs markedly between sectors (see Figure 18). In the business enterprise sector, women accounted for only 14.7% of researchers in 2024, down from 14.1% in 2005. In the government sector, the share of women was 40.3% (compared to 36.4% in 2005), and 32.5% in the higher education sector (compared to 32.4% in 2005). In the private non-profit sector, women represented 26.3% in FTE (compared to 59.6% in 2005).

Figure 18: Researchers by sector of research performance and sex (FTE, %)



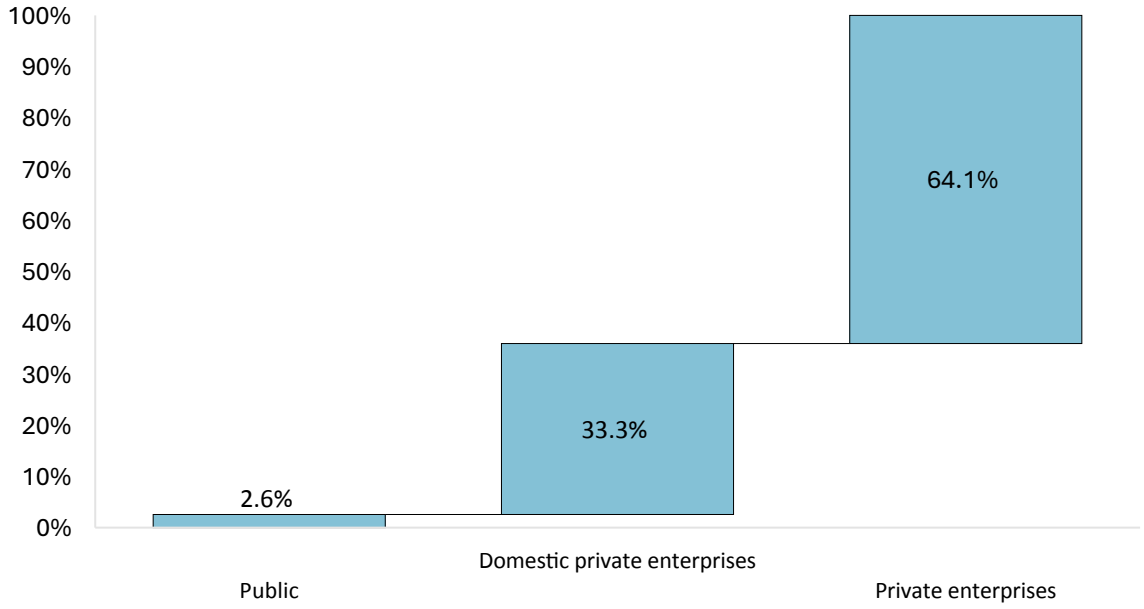

Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

**Business enterprise sector**

The business enterprise sector accounts for the largest share of research jobs but has the lowest long-term share of women among researchers.

In 2024, research activity in the business enterprise sector, measured in FTEs, was concentrated primarily in private enterprises, which accounted for 97.4% of research FTEs. Within private enterprises, the largest share was in those under foreign control (64.1%), while domestic enterprises accounted for 33.3%. Public enterprises accounted for 2.6% (see Figure 19).

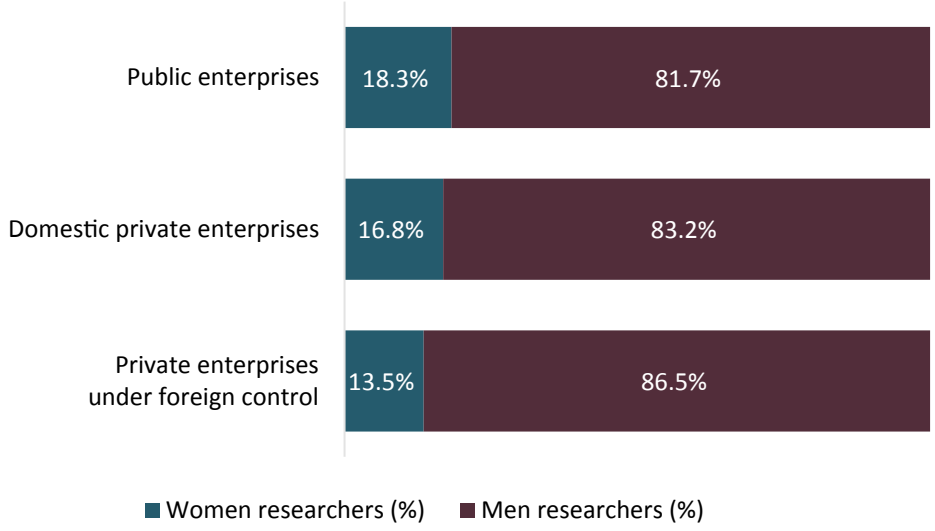
Figure 19: Researchers in the business enterprise sector by type of workplace in 2024 (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

The representation of women and men researchers in the business enterprise sector is strongly imbalanced. Men clearly dominate in all types of enterprises, whereas women do not account for even one-fifth representation anywhere. While in absolute FTE values more women researchers are employed in private than in public enterprises, public enterprises show the relatively highest share of women (18.3% women and 81.7% men in 2024) (see Figure 20). Thus, in no part of the business enterprise sector do women account for one-fifth of researchers, which points to the long-term masculinisation of the sector.

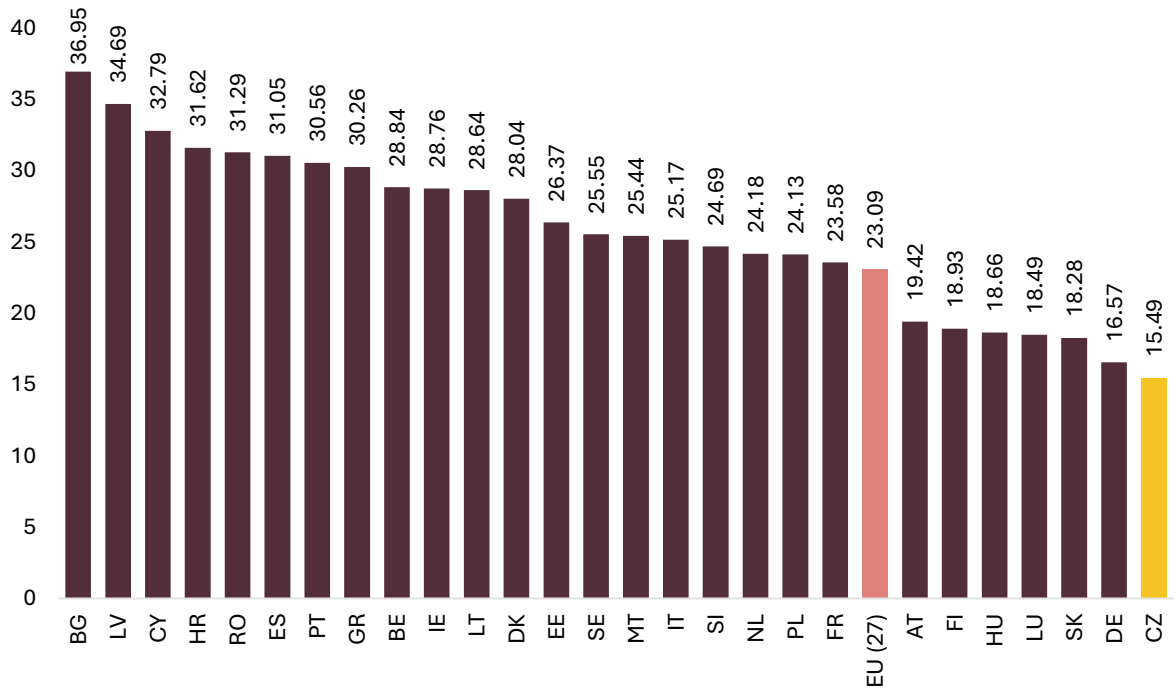
Figure 20: Researchers in the business enterprise sector by sex in 2024 (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2023; own processing

At the European level, in 2023, the Czech Republic ranked last, with 15.5% of women among researchers in the business enterprise sector in HC. The highest shares of women were recorded in Bulgaria (37%), Latvia (34.7%) and Cyprus (32.8%) (see Figure 21).

Figure 21: Researchers in the business enterprise sector in EU countries in 2023 (HC, %)




Source: Eurostat - Share of women researchers by sector of performance; own processing.
Note: The European Union (EU-27) average is for 2020.

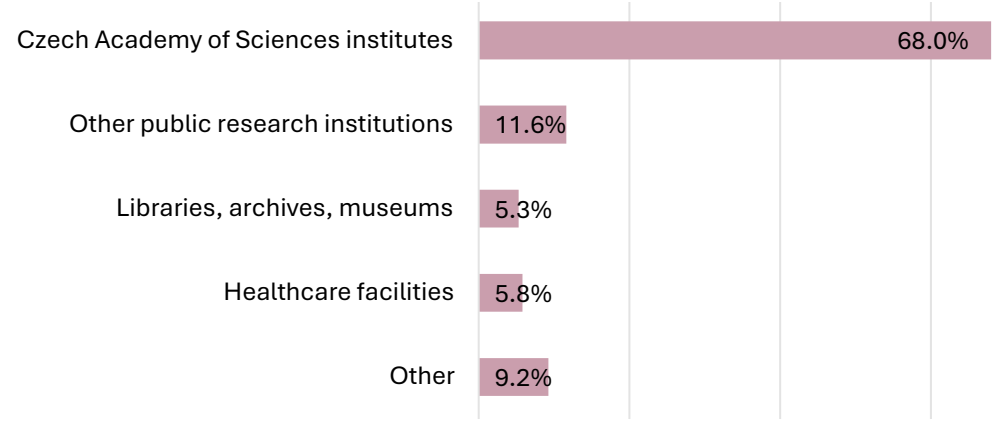
**In the business enterprise sector, which employs the largest share of researchers across all types of workplace, women have long made up only around one-fifth. This has not changed since data collection began in 2005, despite a rising number of women researchers. The Czech Republic ranks worst among EU member states in this respect as well.**

**Government sector**

The government sector shows a higher proportion of women than the business enterprise sector, but nevertheless remains below the EU average.

The largest share of research work in the government sector in 2024, measured in FTE, was carried out at institutes of the Czech Academy of Sciences (68%). Other researchers work in other public research institutions (11.6%), libraries, archives and museums (5.3%) and healthcare facilities (5.8%); the "other" category accounted for 9.2% (see Figure 22).

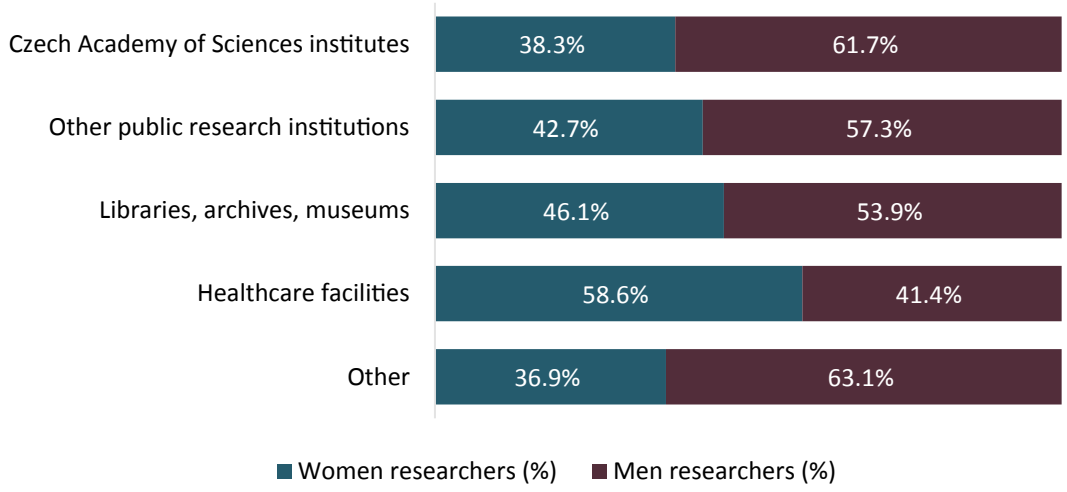
Figure 22: Researchers in the government sector by type of workplace in 2024 (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

In the government sector too, the representation of women varies markedly by type of workplace. The higher share of women in healthcare facilities contrasts with their lower representation at the institutes of the Czech Academy of Sciences. In healthcare facilities, women accounted for 58.6% of research FTEs, which may reflect the predominance of women among students and graduates in medical fields. In libraries, archives and museums, the share was 46.1%, and at institutes of the Czech Academy of Sciences, 38.3% (see Figure 23).

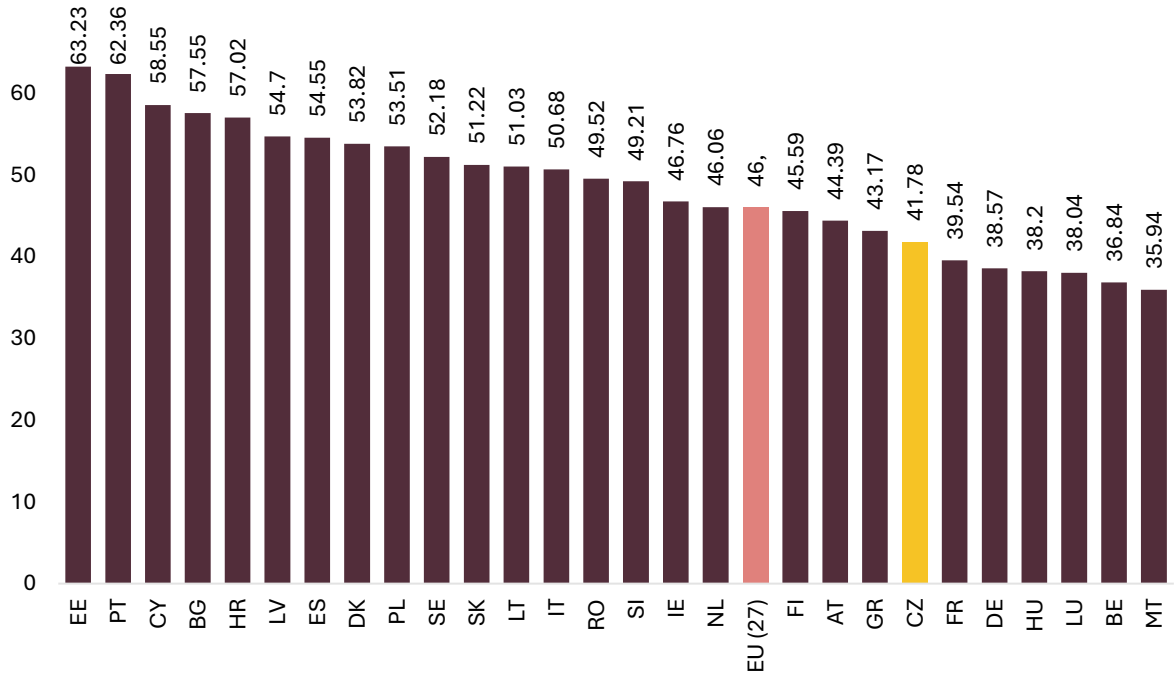
Figure 23: Researchers in the government sector in 2024 by sex (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

In a European comparison based on HC data, the average representation of women in the government sector is 46%; the Czech Republic, with 41.8%, is below this average. The highest shares of women in the government sector in 2023 were recorded in Estonia (63.2%), Portugal (62.4%) and Cyprus (58.6%) (see Figure 24).

Figure 24: Representation of women among researchers in the government sector in EU countries in 2023 (HC, %)



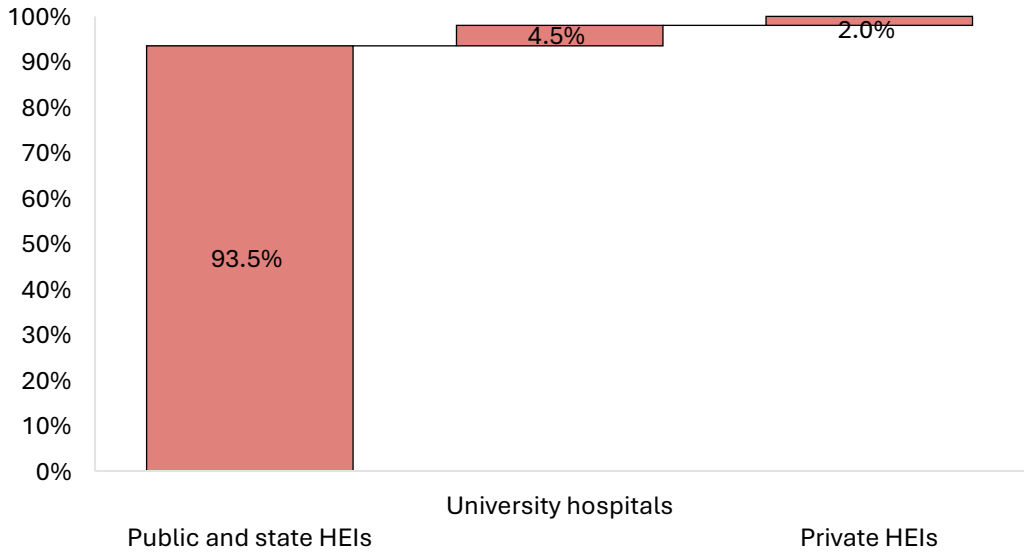

Source: Eurostat - Share of women researchers by sector of performance; own processing.
Note: The European Union (EU-27) average is for 2020.

**Higher education sector**

The higher education sector is the second largest employer of researchers. The representation of women is higher than in the business enterprise sector, but in comparison with other European countries, the Czech Republic is again among the lowest-ranking countries.

In the higher education sector in 2024, of the total 14,557 FTE in researcher positions, the largest number of researchers were employed at public and state higher education institutions (93.5%). University hospitals accounted for 4.5% and private higher education institutions for 1.7% (see Figure 25).

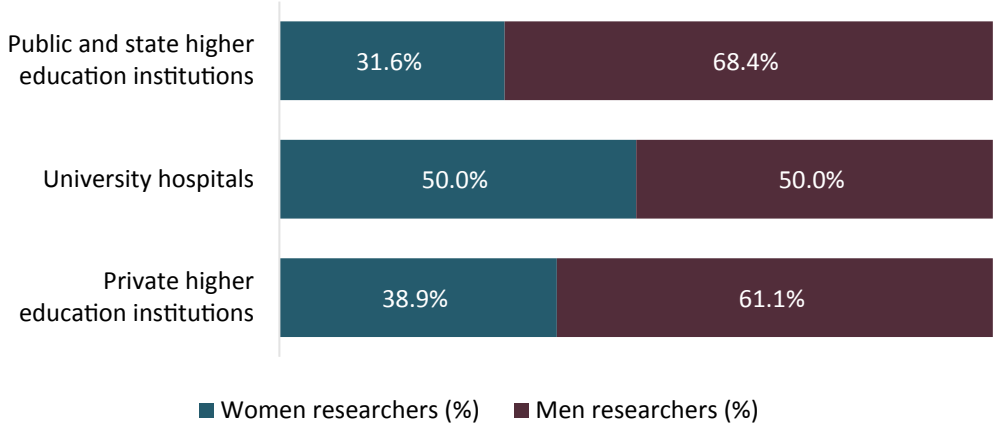
Figure 25: Researchers in the higher education sector by type of workplace in 2024 (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

University hospitals are closest to gender parity, with 50% women and 50% men in 2024, which represents a significant shift from 2022, when women accounted for 43.2% of researchers in university hospitals. This distribution is most likely related to the long-term predominance of women in health, pharmacy and medical fields of study. At private higher education institutions, women accounted for 38.9%, and at public and state higher education institutions for 31.6% of research FTEs (see Figure 26).

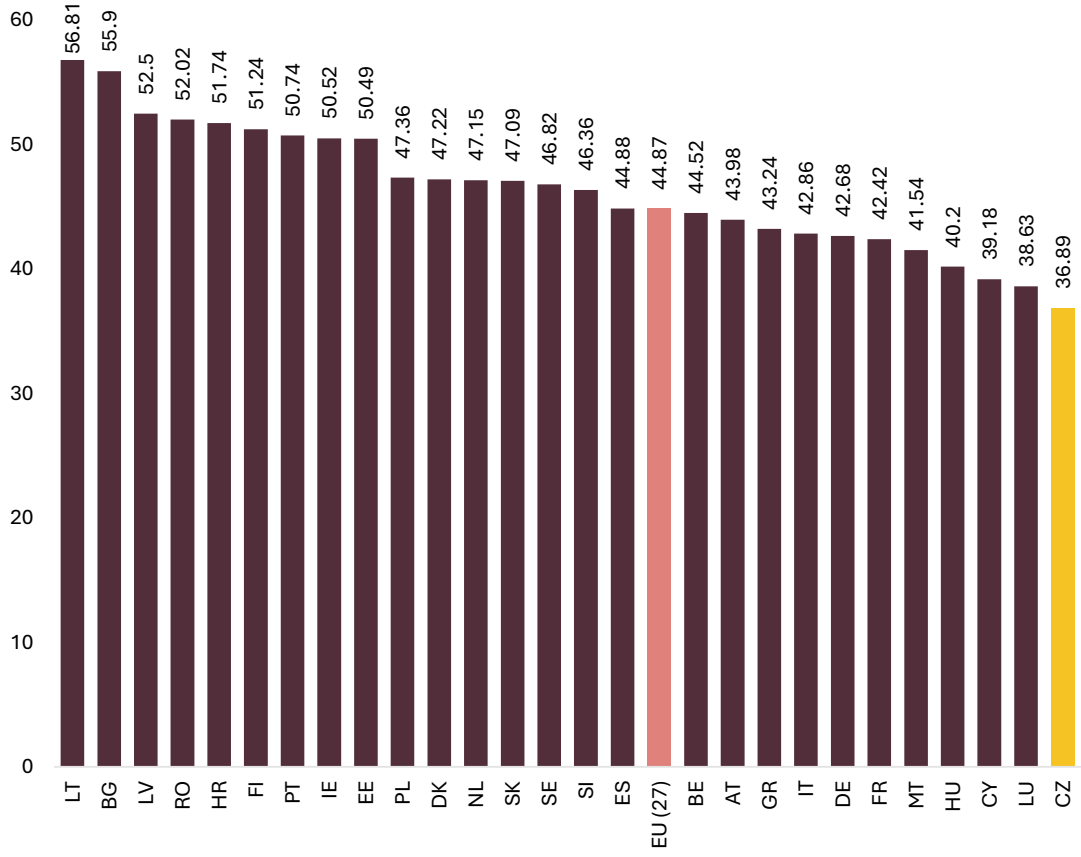
Figure 26: Researchers in the higher education sector in 2024 by sex (FTE, %)




Source: CZSO, Data on research and development (R&D) in the Czech Republic for 2005-2024; own processing

In a European comparison based on HC data,, in 2023, the Czech Republic ranked lowest, with 36.89% of women among researchers in the higher education sector. The EU average was 44.87%, and the highest share of women was recorded in Latvia (56.81%) (see Figure 27).

Figure 27: Proportion of women among researchers in the higher education sector in EU countries in 2023 (HC, %)



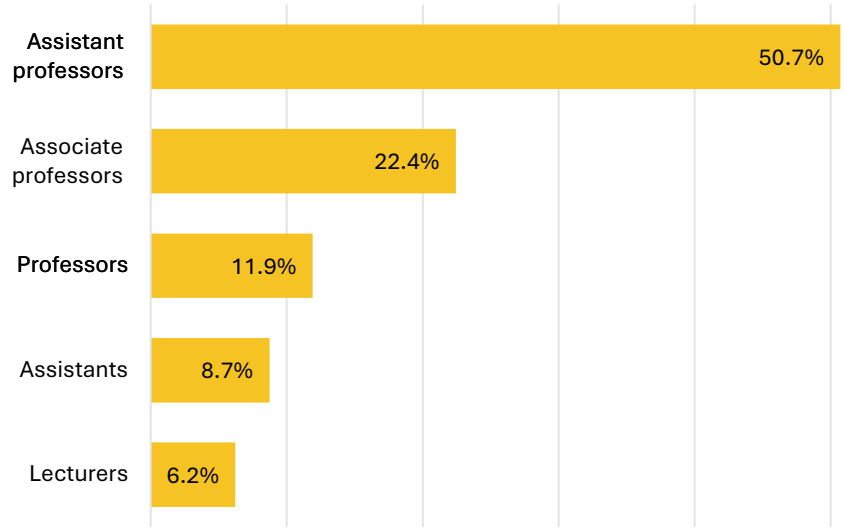

Source: Eurostat - Share of women researchers by sector of performance; own processing.
Note: The European Union (EU-27) average is for 2020.

## Academic staff at higher education institutions

While academic positions are mostly concentrated at the level of assistant professors, the share of women in the academic hierarchy decreases systematically towards the higher and more powerful positions of associate professor and professor. Compared with 2005, the increase of women among associate professors and full professors has been only slight (+5.1 percentage points; +5.2 percentage points), and inequality at the highest levels therefore persists.

In 2024, the five main categories of the academic career path at higher education institutions represented a total of 19,312 FTE. The largest share of these FTEs was accounted for by assistant professors (50.7%; 9,791), followed by associate professors (22.4%; 4,333), professors (11.9%; 2,299), assistants (8.7%; 1,688) and lecturers (6.2%; 1,201) (see Figure 28).

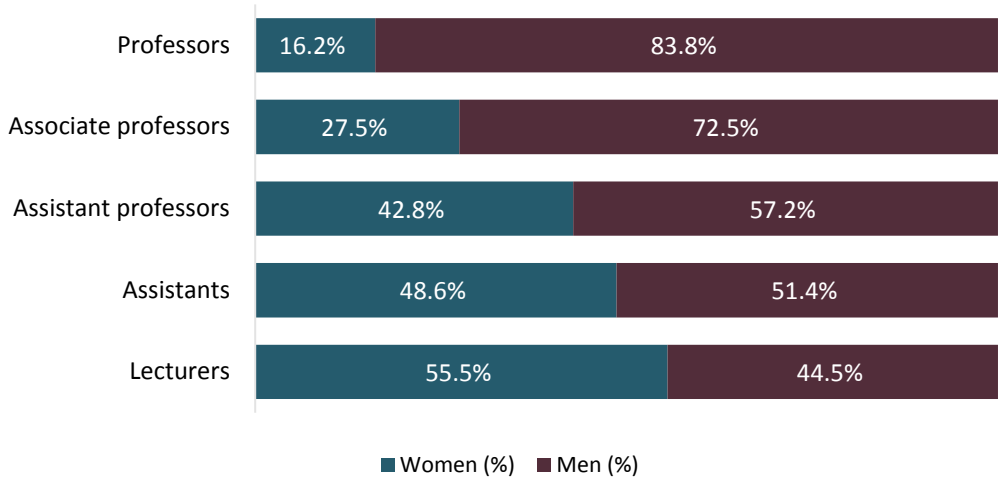
Figure 28: Structure of FTEs in academic staff positions by qualification level in 2024 (FTE, %)




Source: MEYS - Statistical Yearbook of Education - employees and wage resources 2024; own processing
Note: The figure works with five categories of the ideal-typical academic career path. The broader category of academic staff, according to MEYS/CZSO, also includes teaching staff engaged in research, development, and innovation. The total number of FTEs, including this category, is 19,915 FTE.

In terms of the ideal-typical academic career path (from lecturer to professorship), the share of women decreases, as the rank increases. In 2024, the share of women among academic staff was 55.5% FTE for lecturers and 48.6% FTE for assistants. Among assistant professors, the share of women was 42.8%, among associate professors, 27.5% and among full professors, 16.2% (see Figure 29).

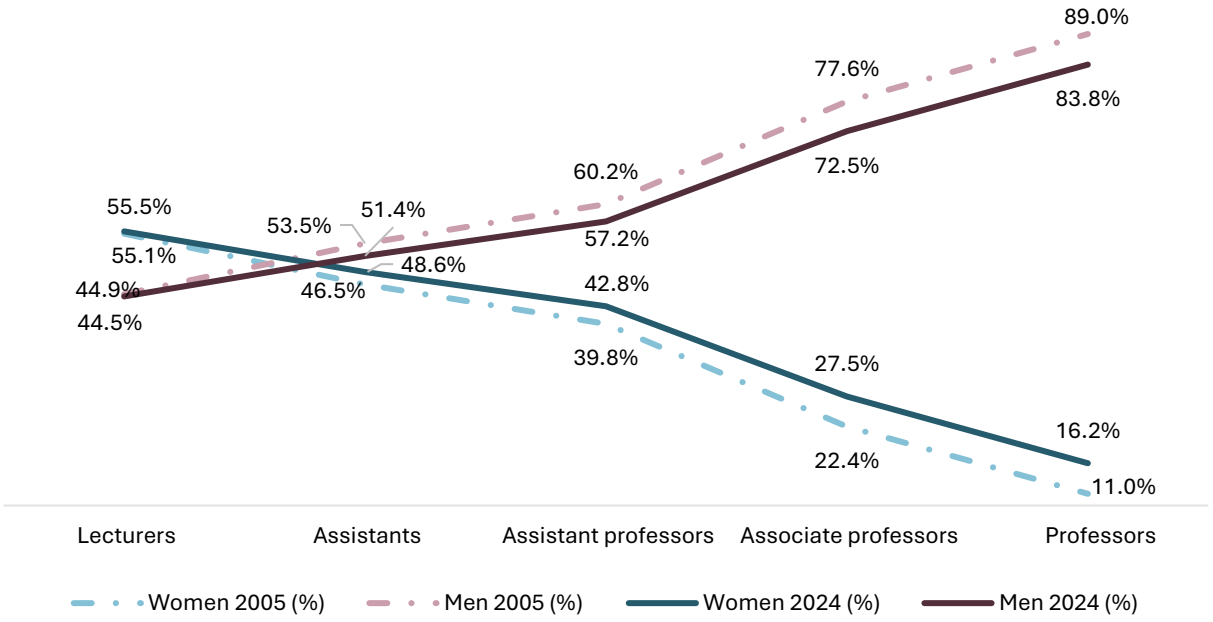
Figure 29: Structure of academic staff positions by qualification level and sex in 2024 (FTE, %)




Source: MEYS - Statistical Yearbook of Education - employees and wage resources 2024; own processing

Figure 30 illustrates the widening gap in the representation of women and men in academic positions. Between 2005 and 2024, there was only a limited increase in the share of women in the highest academic positions, and the gap between lower and higher levels persists. Compared with 2005, the percentage of women among professors increased by 5.2 percentage points to 16.2% in 2024, and among associate professors by 5.1 percentage points to 27.5%. No significant change was observed at the other levels (see Figure 30).

Figure 30: Proportion of women and men in the ideal-typical path of academic staff positions, 2005 and 2024 (FTE, %)



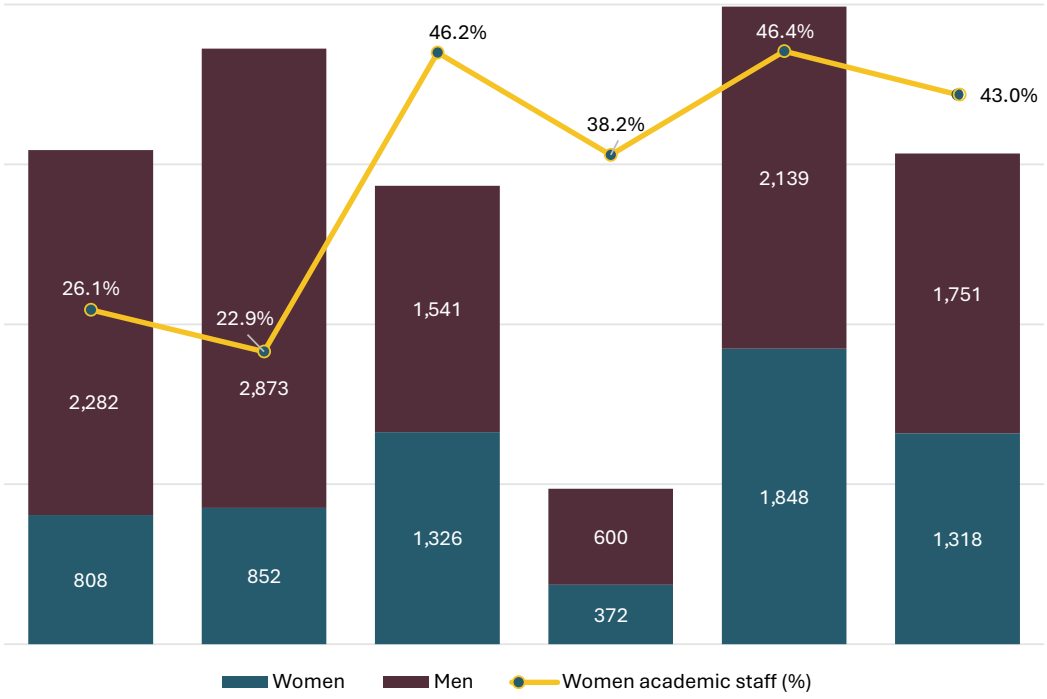

Source: MEYS, Education statistics - Employees and wage resources 2024 and Development Yearbook of Education 2005/06-2015/16; own processing

## Academic staff by scientific field

The structure of academic FTEs differs by scientific field, with women again underrepresented in engineering and technology and the natural sciences, whereas the social, medical, and humanities fields are closest to parity.

In 2024, the highest shares of academic FTEs were in the social sciences (22.5%) and in engineering and technology (21.0%). These were followed by the natural sciences (17.4%), the humanities (17.3%) and the medical sciences (16.2%). The agricultural sciences had the relatively lowest representation (5.5%). In 2024, the social sciences (46.4% women), medical sciences (46.2% women) and humanities (43.0% women) came closest to parity. The lowest representation of women was in engineering and technology (22.9%) and the natural sciences (26.1%); in the agricultural sciences, the share of women was 38.2% (see Figure 31).

Figure 31: Structure of FTEs in academic staff positions
at higher education institutions by scientific field and sex in 2024 (FTE, %)



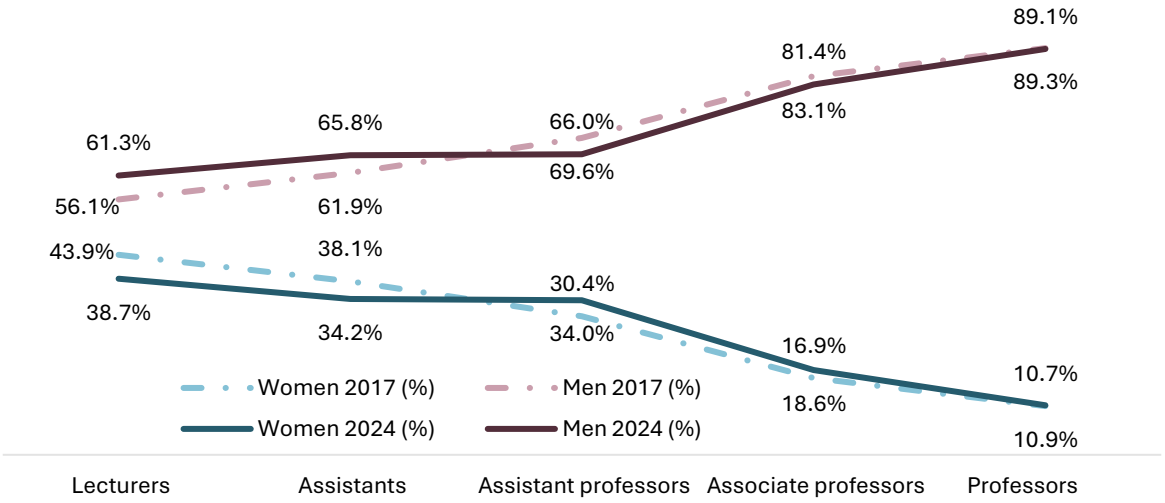

Source: MEYS; Statistical Yearbook of Education - Employees and wage resources 2024; own processing

## Academic staff by field and academic rank

Within individual scientific fields, the share of women decreases systematically with higher academic position, with the greatest inequalities across fields concentrated at the levels of associate professor and full professor.

In the natural sciences, the proportion of women declines with increasing position. The percentage of women has long been highest in lecturer positions; in 2024, it was 38.7%, representing a decrease of 5.3 percentage points since 2017. A similar decrease occurred among assistants, by 3.9 percentage points to 34.2% in 2024. Among associate professors, there was a slight increase of 1.7 percentage points, and among professors, a 0.2 percentage point increase (see Figure 32). In the natural sciences, therefore, the representation of women decreases with rising academic position and remains almost unchanged at professorial level.

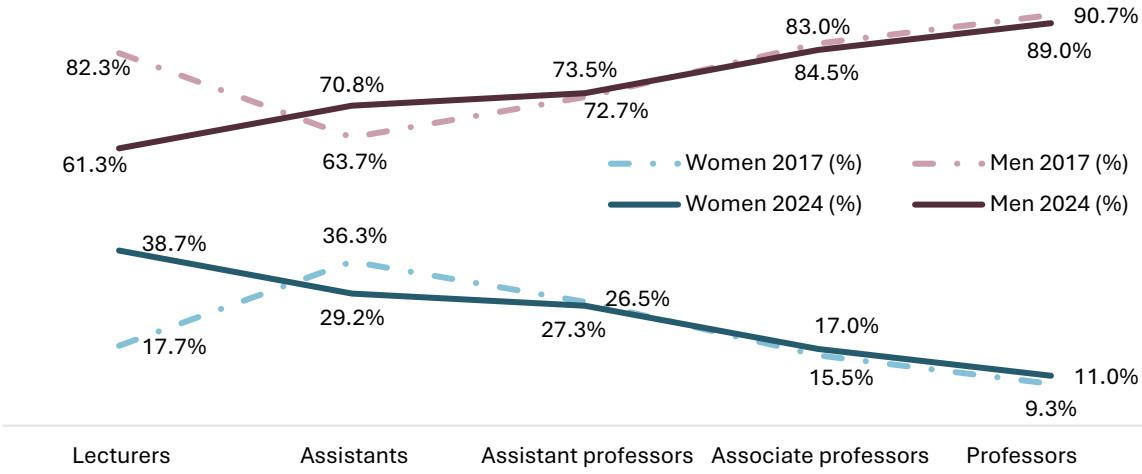
Figure 32: Proportion of women and men among academic staff
in the natural sciences by academic rank between 2017 and 2024 (FTE, %)




Source: MEYS; Statistical Yearbook of Education - Employees and wage resources 2017 and 2024; own processing

Engineering and technology is characterised by unequal representation of men and women at all academic levels. The representation of women in the highest positions is marginal: women hold 15.5% of associate professor positions and 9.3% of full professor positions. Since 2017, however, the percentage of women in lecturer positions has increased by 21 percentage points. On the other hand, there has been a decline among women assistants, with a decrease of 7 percentage points to 29.2% in 2024. Changes were not significant at the other academic levels (see Figure 33). Engineering and technology thus combines low representation of women at all levels of the academic career path with an exceptionally low share of women among associate professors and full professors.

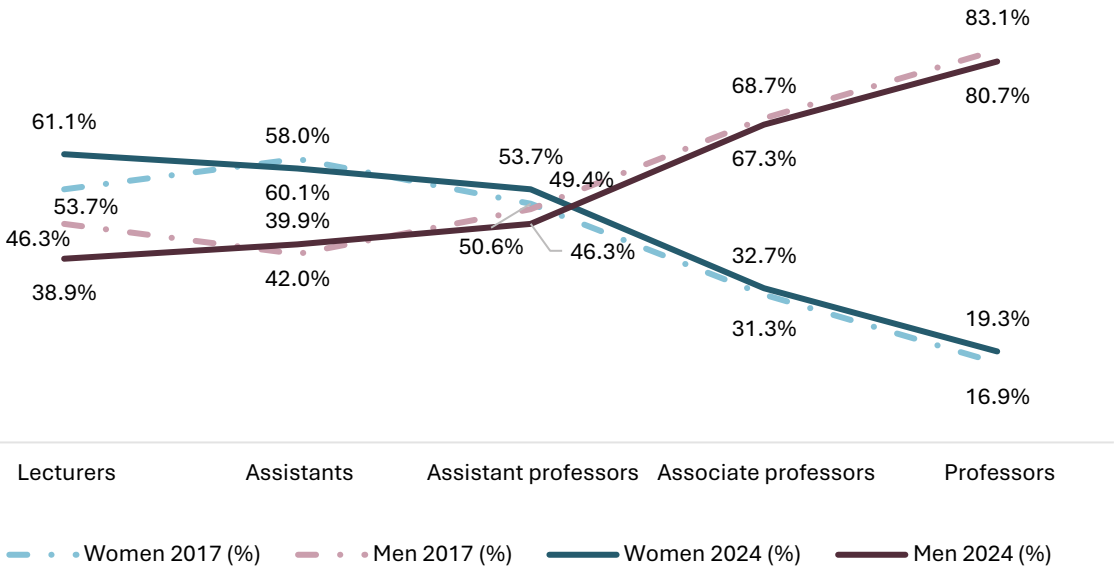
Figure 33: Proportion of women and men among academic staff
in engineering and technology by academic rank between 2017 and 2024 (FTE, %)




Source: MEYS; Statistical Yearbook of Education - Employees and wage resources 2017 and 2024; own processing

In the medical sciences in 2024, women predominated in three lower classifications: lecturers (61.1%), assistants (58%) and assistant professors (53.7%), but in higher positions they form a minority (associate professors 32.7%, an increase of 1.4 percentage points compared with 2017; professors 19.3%, an increase of 2.4 percentage points) (see Figure 34). The medical sciences show a strong effect of vertical segregation: women predominate at lower academic levels, but at the levels of associate professor and full professor, they form a minority. Given the high proportion of women in lower-level positions, attention should also be paid to working conditions in this field.

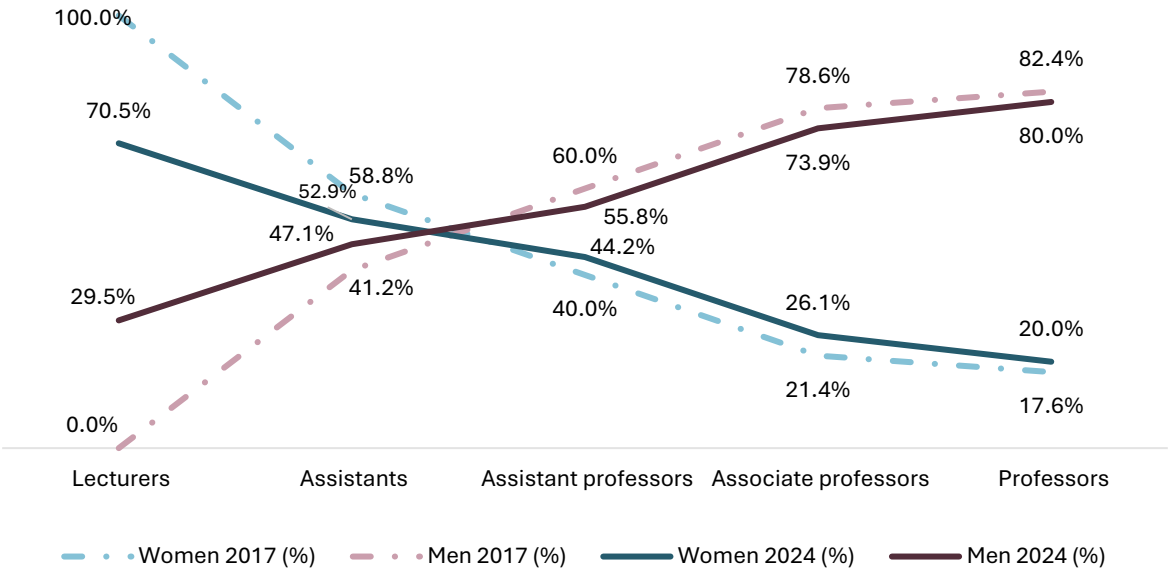
Figure 34: Proportion of women and men among academic staff
in the medical sciences by academic rank between 2017 and 2024 (FTE, %)




Source: MEYS; Statistical Yearbook of Education - Employees and wage resources 2017 and 2024; own processing

In the agricultural sciences, women predominated in lecturer (70.5%) and assistant (52.9%) positions in 2024. Women associate professors represented 26.1%, and women full professors 20%. It should be noted that in 2017, only two women and no men held lecturer positions. By 2024, the situation had improved slightly, with 13 women (70.5%) and five men (29.5%) working as lecturers (see Figure 35). In the agricultural sciences, therefore, the representation of women in lower academic positions is relatively high, but it decreases markedly towards associate professorships and professorships.

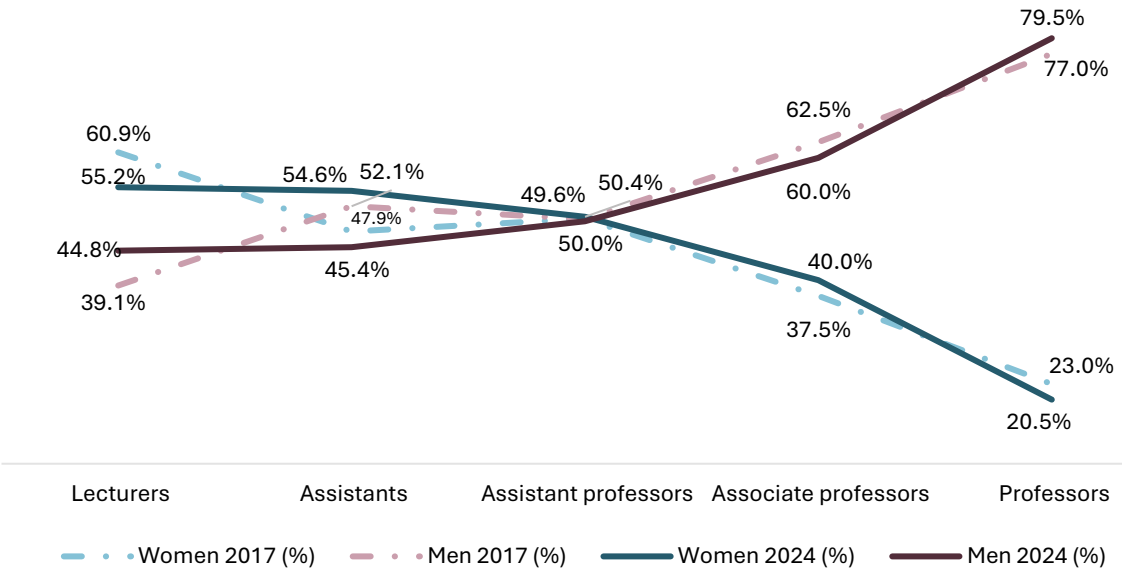
Figure 35: Proportion of women and men among academic staff
in the agricultural sciences by academic rank between 2017 and 2024 (FTE, %)




Source: MEYS; Statistical Yearbook of Education - Employees and wage resources 2017 and 2024; own processing

In the social sciences, the smallest differences in the representation of women and men were recorded across all classification levels. Even so, substantial differences persist: at the lower levels (lecturer, assistant and assistant professor), representation is close to parity, but at higher positions, differences remain. Women account for 40% of associate professors and only 20.5% of full professors, with the largest loss of 19.5 percentage points between individual levels (see Figure 36).

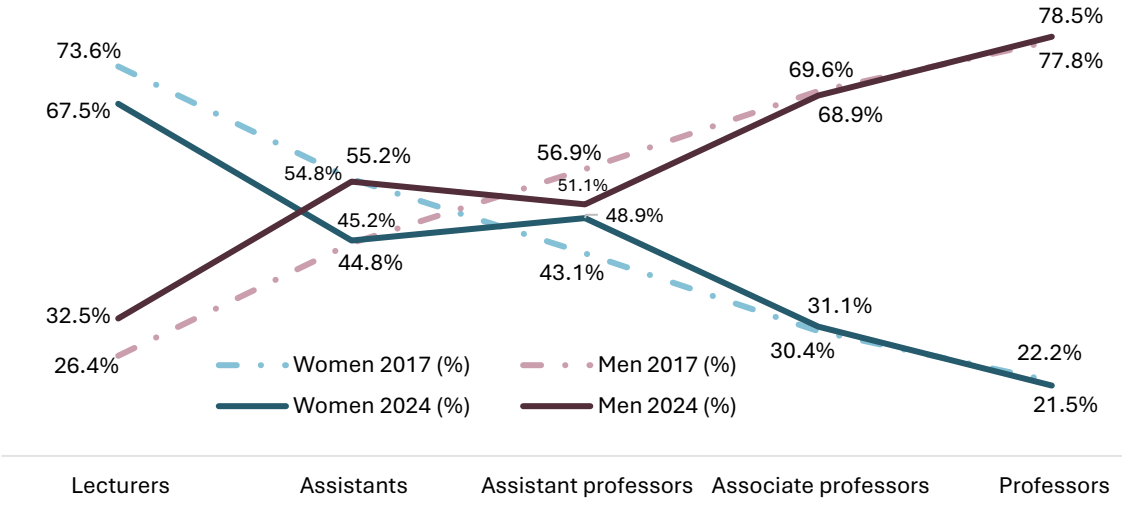
Figure 36: Proportion of women and men among academic staff in the social sciences by academic rank between 2017 and 2024 (FTE, %)




Source: MEYS; Statistical Yearbook of Education - Employees and wage resources 2017 and 2024; own processing

In the humanities, strong vertical segregation is evident, whereby the proportion of women decreases dramatically with higher academic position. In 2024, women accounted for 67.5% of lecturers, but only 31.1% of associate professors and 21.5% of full professors (see Figure 37).

Figure 37: Proportion of women and men among academic staff in the humanities by academic rank between 2017 and 2024 (FTE, %)




Source: MEYS; Statistical Yearbook of Education - Employees and wage resources 2017 and 2024; own processing

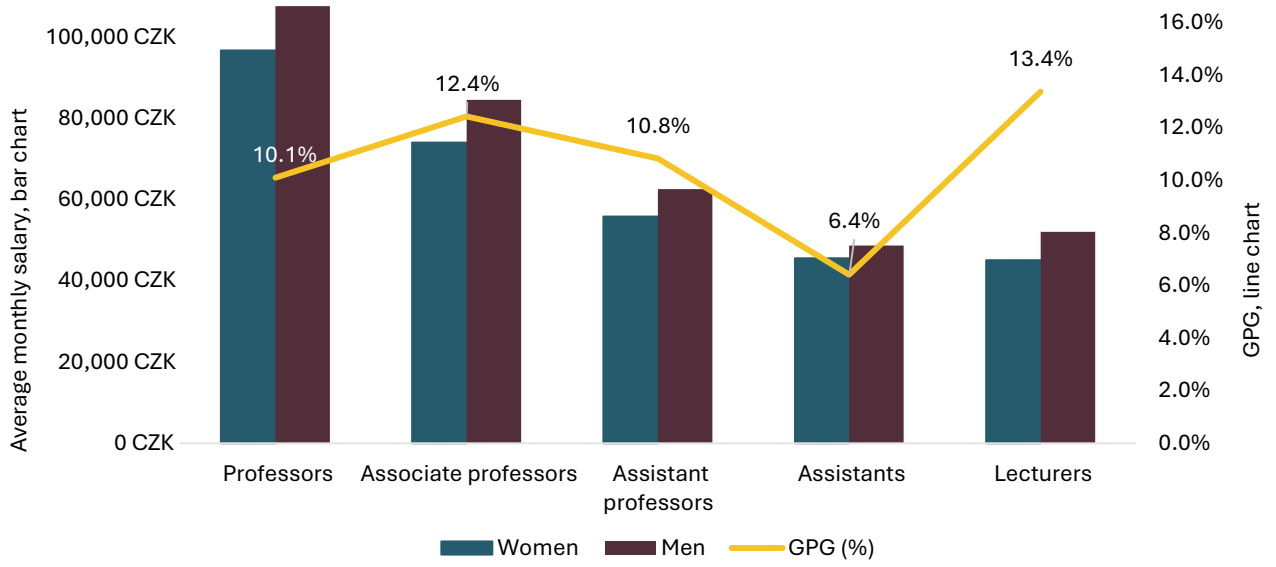
**At the lower stages of an academic career, the gap between women and men gradually narrows. At higher stages, however, no significant change occurs, and men continue to clearly predominate. Associate and full professors remain under-represented among women across all scientific fields, and in medical sciences the "glass ceiling" effect is clearly visible despite women's majority representation at lower stages.**

## SALARIES

Gender pay gaps indicate the percentage by which women academics have lower average salaries than their male colleagues. Gender differences in remuneration occur across all qualification levels in the academic sector and in 2024 ranged from 6.4% among assistants to 13.4% among lecturers, in both cases to the disadvantage of women (see Figure 38).

Because the data does not include the salary component comprising personal bonuses, the results should be interpreted as a conservative estimate. Based on general labour market data published by the CZSO, it can be assumed that the actual differences in academic staff salaries are even more pronounced.

Figure 38: Gender pay gaps (GPG, %) in average gross monthly salaries of academic staff by qualification level and sex in 2024




Source: MEYS, Education statistics - Employees and wage resources; own processing

## DECISION-MAKING

Women are systematically underrepresented in leadership and decision-making positions in research and development. In 2024, women accounted for only 13.2% of heads of research, higher education, and other research and development institutions. In the broader leadership of these institutions, i.e. in decision-making, strategic and control bodies, women accounted for 25.7% (see Table 3).

In 2024, some research and higher education institutions were led by women, such as the Czech Academy of Sciences, the Czech Rectors Conference, and the Council of Higher Education Institutions. Men continue to dominate leadership in state and public higher education institutions (89.3%). The same applies to public research institutions, where the share of women in leadership was only 8.3%. In the advisory bodies of selected research organisations, women hold between 15% and 27% of seats (see Table 3).

Table 3: Proportion of women and men in leadership and decision-making positions in research and development institutions in 2024 (HC)

| | **Leadership** | | | **Decision-making, strategic and control bodies** | | | **Advisory bodies** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Women | Men | % women | Women | Men | % women | Women | Men | % women |
| State and public higher education institutions | 3 | 25 | 10.7 | 656 | 1,759 | 27.2 | | | |
| Public research institutions | 6 | 66 | 8.3 | 268 | 887 | 23.2 | | | |
| Czech Academy of Sciences | 1 | 0 | 100 | 72 | 221 | 24.6 | | | |
| Czech Rectors Conference | 1 | 0 | 100 | 7 | 38 | 15.6 | | | |
| Council of Higher Education Institutions | 3 | 6 | 33.3 | 57 | 164 | 25.8 | | | |
| Technology Agency of the Czech Republic | 0 | 1 | 0 | 5 | 22 | 18.5 | 23 | 93 | 19.8 |
| Czech Science Foundation | 1 | 0 | 100 | 8 | 19 | 29.6 | 131 | 351 | 27.2 |
| Learned Society of the Czech Republic | 0 | 1 | 0 | 2 | 5 | 28.6 | 15 | 88 | 14.6 |
| Total | 15 | 99 | 13.2% | 1075 | 3115 | 25.7% | 169 | 532 | 24.1% |

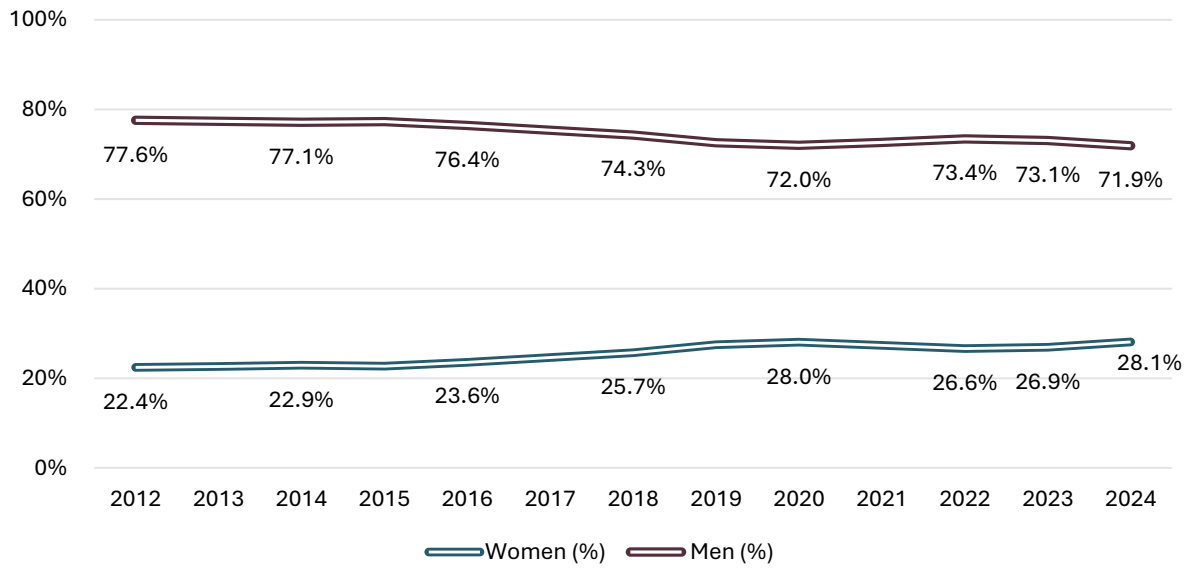
Source: Annual reports and websites of the relevant institutions; own processing

**The representation of women in leadership positions and in the decision-making and advisory bodies of R&D&I organisations has long been very low. In none of the monitored categories does the share of women reach parity, and at best it remains below one-third.**

## SCIENCE AND ENGINEERING PROFESSIONALS

In 2024, approximately 181.2 thousand persons were employed as science and engineering professionals. Women accounted for 28.1% (see Figure 39), an increase of 5.7 percentage points from 2012. Despite this increase, the share of women remains far below parity.

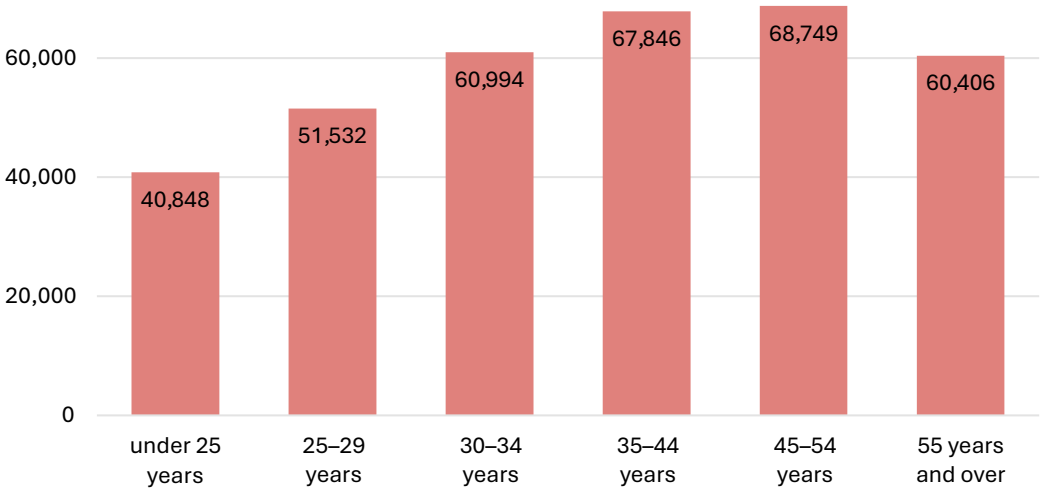
Figure 39: Science and engineering professionals by sex, 2012-2024 (HC, %)




Data source: CZSO, Labour Force Survey, Science and engineering professionals; own processing

Among science and engineering professionals, differences in median wages can also be observed by sex and age. In 2024, the monthly median wage was CZK 54,735 for women and CZK 67,038 for men, a difference of 22.5% (in average monthly wages, CZK 62,723 for women and CZK 74,067 for men). Age differences in the wages of science and engineering professionals are particularly noticeable between the youngest age group and the 45-54 age category, with a difference of CZK 27,901 (see Figure 40). Wage differences between women and men thus appear across age categories and increase with age.

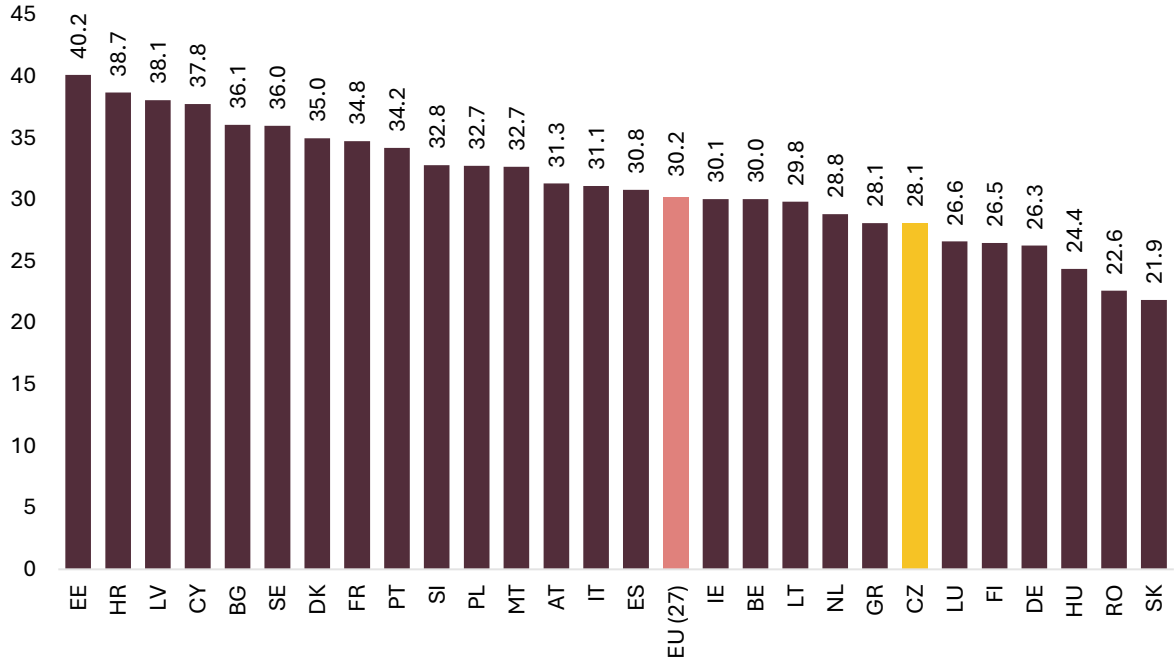
Figure 40: Median wages of science and engineering professionals by age category in 2024 (CZK)




Data source: CZSO, Science and engineering professionals - wages (CZSO based on data from the Structure of Earnings Survey); own processing

Compared with other European countries, the Czech Republic is below average in the representation of women among science and engineering professionals. In 2024, women in the Czech Republic accounted for 28.1% (HC), compared with the European average of 30.2% (see Figure 40). No EU country reached parity, but Estonia (40.2%), Croatia (38.7%) and Latvia (38.1%) came closest. The lowest shares in the EU in 2024 were recorded in Hungary (24.4%), Romania (22.6%) and Slovakia (21.9%).

Figure 41: Proportion of women among science and engineering professionals in EU countries in 2024 (HC, %)

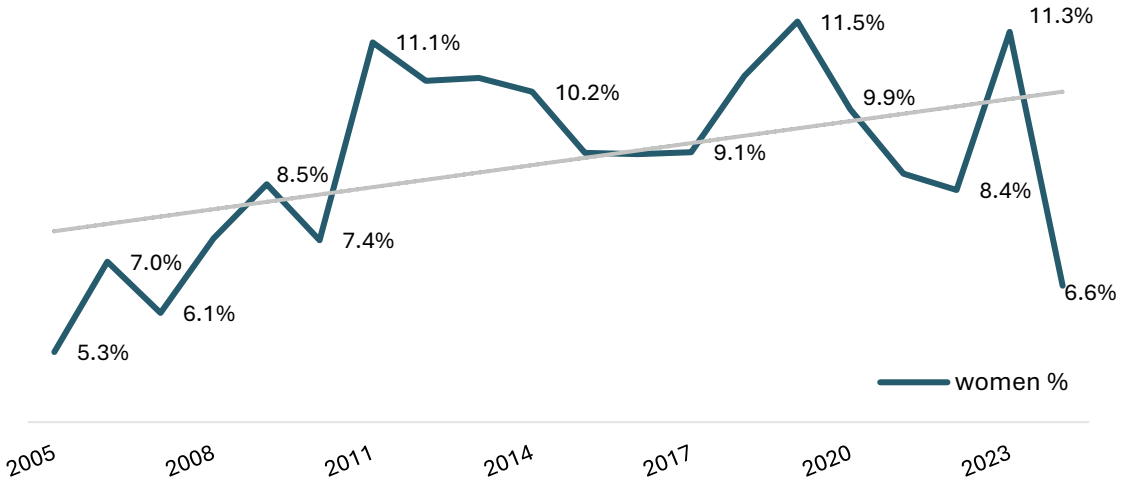



Source: CZSO, Science and engineering professionals in international comparison according to Eurostat; own processing

## PATENTS

The share of women among patent holders in the Czech Republic has fluctuated over the long term and remains low. After peaking at 11.3% in 2023, it decreased to 6.6% in 2024, the lowest level since 2007, when the share of women in granted patents was 6.1% (see Figure 42).

Figure 42: Share of patents granted to women from 2005 to 2024 (%)

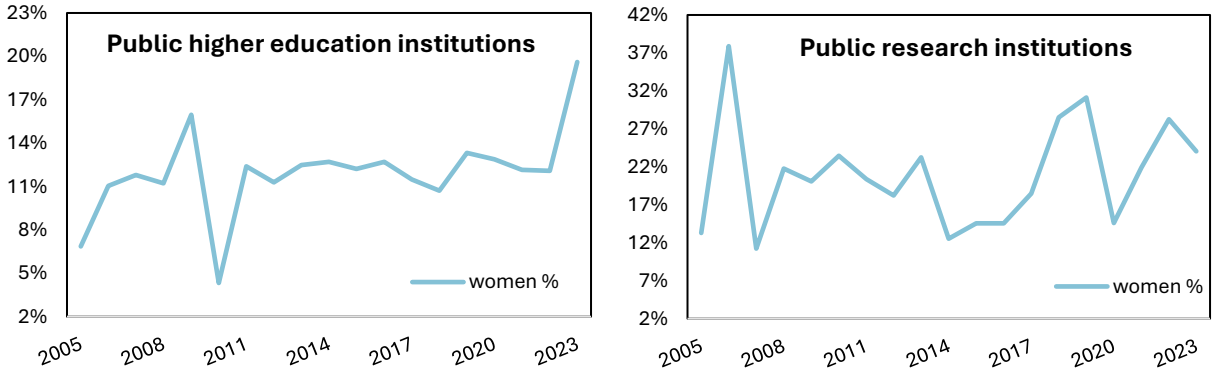



Source: CZSO: Patents granted in Czechia; own processing

The situation differs by type of patent applicant. At public higher education institutions, the share of women who received a patent increased substantially over the period monitored. Whereas in 2005 women accounted for 6.9% of patents granted, in 2024 the figure was 11.2%. The highest value was reached in 2023, at 19.6% (see Figure 43).

In public research institutions, women have the highest representation among patent grant recipients. In 2024, the share of women was 21.7%, with the highest value recorded in 2006, when women held 37.9% of patents (see Figure 43).

Figure 43: Share of patents granted to women
at public higher education institutions and public research institutions from 2005 to 2024 (%)

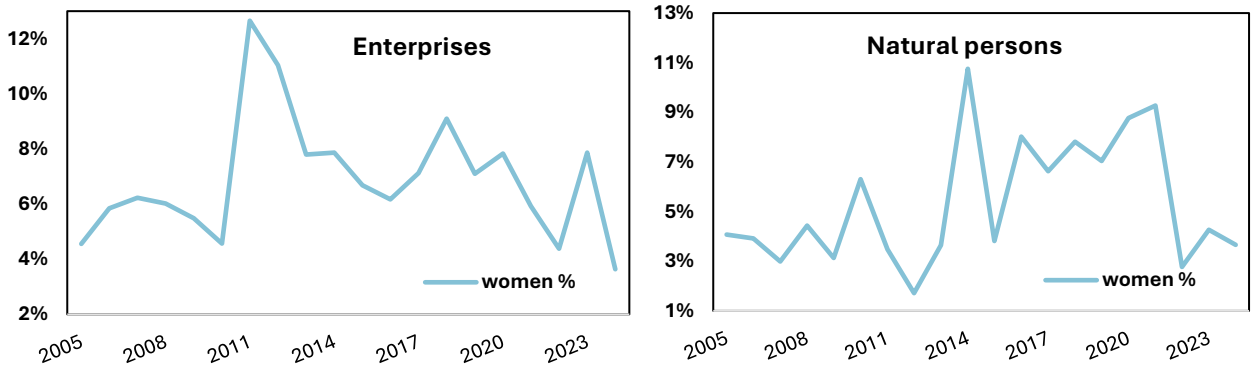



Source: CZSO: Patents granted with effect for the territory of Czechia; own processing

In the private sector, the situation is less favourable than in the public sector. In enterprises, women received only 3.6% of granted patents in 2024. Since 2005, the situation has fluctuated, with both declines and rises. The proportion of women among those granted patents exceeded 10% only twice during the monitored period: in 2011 (12.7% women) and in 2012 (11.0% women) (see Figure 44).

Among natural persons to whom a patent was granted, the proportion of women has been very low. In 2024, women accounted for only 3.7% of patent holders, which, in terms of real people, is only two women compared with 52 men, with a peak in 2014, when women accounted for 10.8% (see Figure 44).

Figure 44: Patents granted to women in enterprises and as natural persons from 2005 to 2024 (%)




Source: CZSO: Patents granted with effect for the territory of Czechia; own processing

**Data on the representation of women in leadership and decision-making positions, granted patents, and the share of women among science and technology specialists add another piece to the puzzle of gender inequality in the position of women in Czech science, research and innovation.**

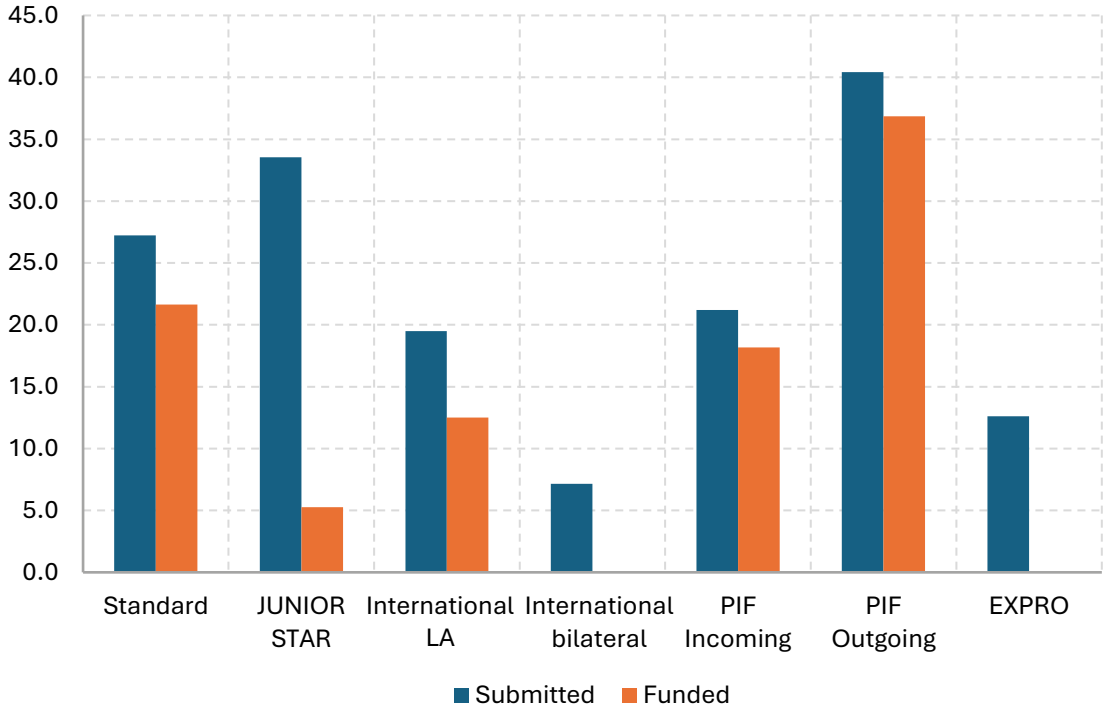
## RESEARCH FUNDING ORGANISATIONS

For an overall view of women's position in Czech science, it is also important to analyse grant support by the share of women and men among applicants for individual grant types and among recipients. This chapter presents the situation at the two main national providers, the Czech Science Foundation and the Technology Agency of the Czech Republic.

### Czech Science Foundation

Figure 45 shows that in 2024, in seven calls of the Czech Science Foundation, a total of 2,862 proposals were submitted, of which 760 had a woman principal investigator and 2,102 had a man principal investigator. Women accounted for 26.6% of the principal investigators of submitted proposals. A total of 518 projects were funded, of which 105 had a woman principal investigator, and 413 had a man principal investigator. The share of women among funded projects was 20.3%, i.e. 6.3 percentage points lower than among submitted proposals.

Figure 45: Proportion of women and men
among principal investigators of submitted and funded Czech Science Foundation projects (HC, %)

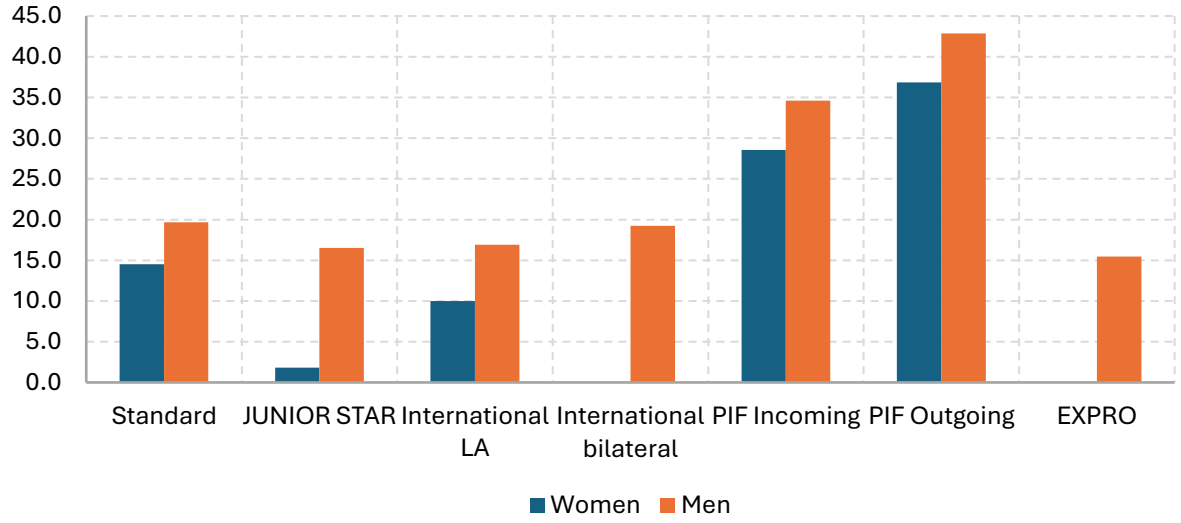



Source: data provided by the Czech Science Foundation; own processing
Note: The analysis uses counts of principal investigators (HC) for individual grant calls.

Figure 46 shows that the overall success rate of proposals with a woman principal investigator was 13.8%, compared with 19.6% for proposals with a man principal investigator. The difference in success rate was 5.8 percentage points to the disadvantage of women.

Women accounted for 24.5% of the requested allocation, but only 15.9% of the awarded allocation. This shows that the gender difference is reflected not only in the number of funded projects but also in the amount of financial support.

Figure 46: Success rates of women and men in individual types of Czech Science Foundation calls (HC, %)




Source: data provided by the Czech Science Foundation; own processing
Note: The analysis works with counts of principal investigators (HC) in individual grant calls. The success rate is calculated as the share of funded projects out of the number of submitted proposals in the given group. Return grants are not included in the interpretative section because the call was not announced in 2024.

In 2024, the largest differences in success rates between women and men were in international bilateral projects, EXPRO and JUNIOR STAR. In bilateral projects and EXPRO, women did not receive any grants, whereas they submitted two bilateral projects and 14 EXPRO projects (men were awarded 15 of 97 submitted grants). In the case of JUNIOR STAR, the success rate of women was 1.8% compared with 16.5% for men, a difference of 14.7 percentage points to the disadvantage of women; women accounted for 33.5% of the principal investigators of the submitted proposals.

For EXPRO and JUNIOR STAR, the difference may be related to the high selectivity of the calls, the requirements for an excellent and internationally embedded scientific profile, and, in the case of EXPRO, to the long-term underrepresentation of women in the most relevant parts of the academic career path.

The field breakdown of Czech Science Foundation data shows a pattern similar to the overall representation of women among researchers: in fields where women have long had the lowest representation in the research population, their representation among principal investigators of submitted proposals is also lower. In engineering and technology, women accounted for 16.7% of principal investigators of submitted proposals and 8.8% of principal investigators of funded projects. In the physical sciences, the corresponding shares were 19.0% of submitted and 13.3% of funded projects. By contrast, in the social sciences and humanities, the representation of women among submitted and funded projects was substantially higher and practically did not decrease between submitted and funded proposals: women accounted for 35.7% of principal investigators of submitted proposals and 36.7% of principal investigators of funded projects.

This result suggests that the field structure of the research population accounts for part of the differences in women's entry into Czech Science Foundation calls, especially in engineering and technology and in the natural sciences. At the same time, field structure alone does not explain differences in success rates: the largest decrease between submitted and funded projects is visible in the medical and biological sciences, where women accounted for 29.6% of submitted proposals but only 14.3% of funded projects. In EXPRO and JUNIOR STAR calls, the pattern is even more pronounced: with the exception of the social sciences, women did not receive any projects in any of the EXPRO and JUNIOR STAR expert panels in 2024. Given the low absolute numbers of funded projects, however, these results should be interpreted cautiously and as a signal for further monitoring.

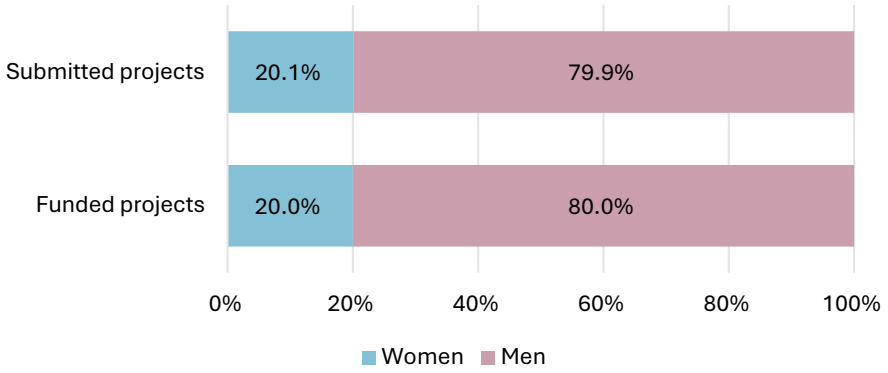
These results therefore point not only to differences in success rates, but also to the need to monitor who enters individual types of calls and what conditions affect the possibility of submitting a successful proposal. Given the findings above, attention should be paid in particular to the low success rate of women in JUNIOR STAR calls, as this result further underlines the low permeability of the R&D&I system and the opportunities for women's professional advancement at the transition from the postdoctoral phase towards a long-term sustainable research career, including in fields where the representation of women at entry is higher.

### Technology Agency of the Czech Republic

At the Technology Agency of the Czech Republic, the representation of women among principal investigators of submitted and funded projects is consistently low, at around one-fifth. The Technology Agency of the Czech Republic distributed support across six programmes: Transport 2030, TREND, PRODEF, Environment for Life 2, SIGMA and THETA 2. In 2024, 1,222 men and 307 women submitted a grant application. Of these, 332 men and 83 women were successful, representing exactly 20% of the funded projects awarded to women (see Figure 47).

The overall success rate of proposals led by women and men at the Technology Agency of the Czech Republic was practically the same in 2024: 27.0% for women and 27.2% for men. In the aggregated TA CR data, the low proportion of women is therefore reflected primarily at entry into calls and subsequently in their low representation among funded projects, rather than in a marked difference in the overall success rate. However, the difference is visible in the financial volume of support: the median support for funded projects since 2018 was CZK 8.6 million for women principal investigators and CZK 10.8 million for men principal investigators.

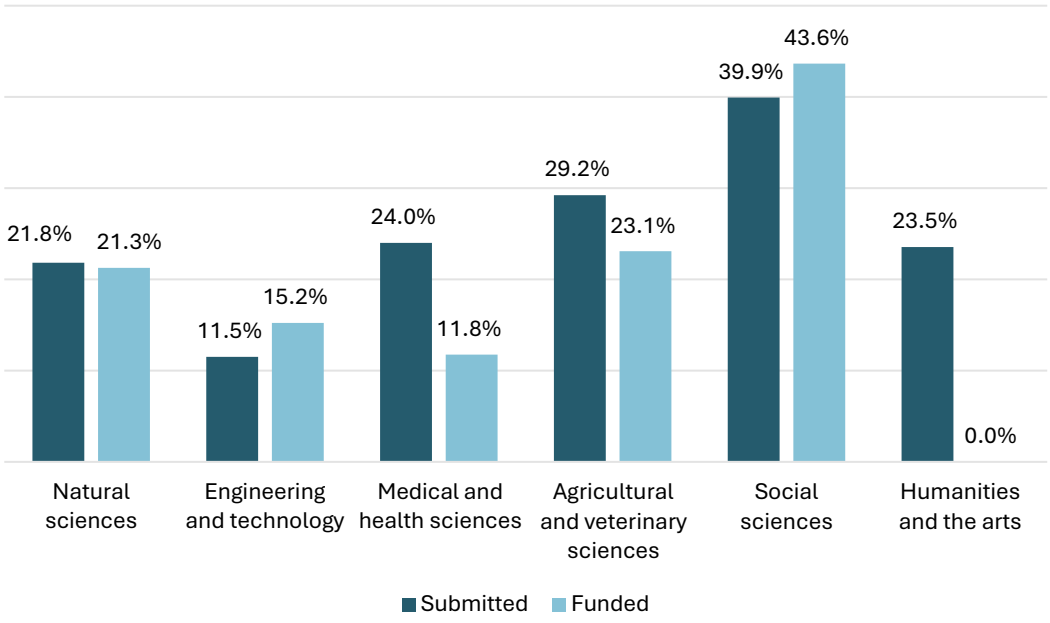
Figure 47: Women and men among principal investigators of submitted and funded projects at the Technology Agency of the Czech Republic in 2024 (HC, %)




Source: TA CR, Women and men in public calls since 2018; own processing

In 2024, the representation of women among principal investigators of submitted and funded projects at TA CR did not reach parity in any field according to the FORD classification. Projects in the social sciences came closest to parity, with 39.9% of submitted and 43.6% of funded projects. Women were the least represented in projects in engineering and technology (11.5% of submitted and 15.2% of funded projects). Women were the least successful in humanities projects, with none of the eight women principal investigators (23.5%) receiving funding (see Figure 48).

Figure 48: Proportion of women among principal investigators of submitted and funded projects at the Technology Agency of the Czech Republic in 2024 by FORD field (HC, %)




Source: TA CR, Women and men in public calls since 2018; own processing

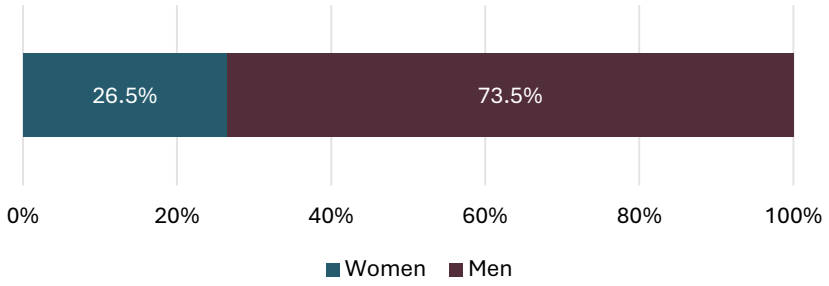
The field breakdown according to FORD shows that the underrepresentation of women among principal investigators of TA CR projects is not evenly distributed across scientific fields. The social sciences are closest to parity, with women accounting for 39.9% of principal investigators of submitted proposals and 43.6% of funded projects. Conversely, women are underrepresented in engineering and technology, where they led only 11.5% of submitted proposals and 15.2% of funded projects. In the natural sciences, the share of women among submitted and funded proposals changes very little, while in the medical and health sciences and in the agricultural and veterinary sciences, the proportion of women among funded projects is lower than among submitted proposals. The most pronounced drop is in the humanities and the arts, where women accounted for 23.5% of principal investigators on submitted proposals, yet no project led by a woman was funded in 2024. This result should, however, be interpreted cautiously given the low absolute numbers. Overall, the data show that at TA CR, in addition to the low overall representation of women, the field structure of calls is also important: in some areas, the representation of women among funded projects approaches their representation among submitted proposals, while in others there is a more marked decline.

A comparison of the field breakdown of TA CR projects with the representation of women among researchers by scientific field shows that fields with lower representation of women in the research population usually also have a lower share of women among principal investigators of submitted proposals. This pattern is clearest in engineering and technology, where women make up only 14.1% of researchers (FTE), and at the same time, only 11.5% of principal investigators of TA CR submitted proposals. Conversely, in the social sciences, where the proportion of women among researchers is higher, women also hold the largest share of principal investigator roles on submitted and funded TA CR projects.

This relationship does not apply in the same way to funded projects. Especially in the medical and health sciences and in the humanities and the arts, the proportion of women among funded projects is significantly lower than would be expected given their representation among researchers in those fields. This suggests that the field structure of the research population may explain part of the low entry of women into calls, but by itself, it does not explain differences between submitted and funded projects. These need to be interpreted with regard to the low absolute numbers in some fields, the thematic focus of TA CR programmes and other parameters of calls and evaluation.

The representation of women and men in TA CR evaluation panels is close to that among submitted and funded projects, with women accounting for 26.5% in 2024. Since 2018, when TA CR began recording these data, this representation has been around 20% (see Figure 49).

Figure 49: Proportion of women and men in TA CR evaluation panels in 2024 (%)




Source: TA CR, Women and men in public calls since 2018; own processing

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## ANNEX 3: DEFINITIONS OF EMPLOYEE CATEGORIES

| Employee categories | Category definition | Source |
|---|---|---|
| **Research and development (R&D) staff** | According to the OECD definition in the Frascati Manual, R&D personnel include researchers who directly carry out research and development, as well as auxiliary, technical, administrative and other staff working at research and development workplaces in individual reporting units. R&D personnel also include employees who provide direct support to research and development activities, such as R&D managers, administrative officers, and secretaries. | CZSO: Research and development indicators (link: https://www.czso.cz/csu/czso/ab00491932) |
| **Researchers** | They are engaged in the conception or creation of new knowledge, products, processes, methods, and systems, or in managing such projects. Researchers constitute the most important group of R&D personnel - the pillar of scientific and research activities. They are mainly employees classified in major group 2 (professionals) and subgroup 1237 (research and development managers) of the valid extended classification of occupations (KZAM-R). | CZSO: Research and development indicators (link: https://www.czso.cz/csu/czso/ab00491932) |
| **Technical and professional staff** | They participate in research and development by carrying out scientific and technical tasks and applying concepts and operational methods, usually under the supervision of researchers. They are mainly employees classified under class 31 (technicians in physical, technical, and related fields) and class 32 (technicians in biology, health, and agricultural fields, and related occupations) of KZAM-R. | CZSO: Research and development indicators (link: https://www.czso.cz/csu/czso/ab00491932) |
| **Other R&D staff** | These are craft workers, secretaries and clerks who participate in research and development activities or are integrated into such work; managers and administrative staff whose activities provide direct services to research and development are also included. | CZSO: Research and development indicators (link: https://www.czso.cz/csu/czso/ab00491932) |
| **Academic staff** | Professors, associate professors, extraordinary professors, assistant professors, assistants, lecturers and scientific, research and development staff who are employees of a higher education institution. They carry out direct teaching activities, work related to direct teaching activities, scientific, research, development and innovation, artistic or other creative activities. | Data: MEYS - Statistical Yearbooks of Education - Employees and wage resources; Data: Performance indicator statistics for public and private higher education institutions in the Czech Republic |
| **Employee categories** | Category definition | Source |
| **Science and engineering professionals** | Persons in occupations with the highest skill level. This includes, for example, astronomers, meteorologists, chemists, geologists, statisticians, biologists, botanists, zoologists, specialists in manufacturing, construction and related fields, architects, cartographers, surveyors, engineers, electrical engineers, and graphic and multimedia designers. The group is defined by the internationally used ISCO-08 classification, or its national version CZ-ISCO. | Data: CZSO - Labour Force Survey (LFS) |
| **Persons in R&D decision-making positions** | Persons in institutional leadership (directors of public research institutions, rectors of higher education institutions), persons in decision-making, strategic and control bodies. | Data: Annual reports and websites of the relevant institutions; own processing |
| **Persons in institutional leadership** | A person in leadership is a person who manages the given institution and, in the case of legal entities, is the statutory representative. In the selected institutions, this refers to a director, chair, rector or dean. | Data: Annual reports and websites of the relevant institutions; own processing |
| **Persons in decision-making, strategic and control bodies** | Persons in decision-making and control bodies are classified by institution as follows:<br>• public research institutions: institute board and supervisory board<br>• higher education institutions: academic senate, vice-dean, scientific/artistic/academic board, board of trustees<br>• Czech Science Foundation: praesidium, scientific board, control board<br>• Technology Agency of the Czech Republic: praesidium, research board, control board<br>• Czech Academy of Sciences: Academy Assembly, supervisory committee, Academy Council, Scientific Council<br>• Council for Research, Development and Innovation: members of the Council<br>• Council of Higher Education Institutions: praesidium, assembly<br>• Czech Rectors Conference: praesidium, chambers, plenary<br>• Learned Society of the Czech Republic: praesidium, board | Data: Annual reports and websites of the relevant institutions; own processing |

| Employee categories | Category definition | Source |
|---|---|---|
| **Persons in advisory bodies** | The following are included by institution:<br>• Czech Science Foundation: evaluation panels, expert committees<br>• Technology Agency of the Czech Republic: programme boards and committees<br>• Czech Academy of Sciences: committees and boards<br>• Council for Research, Development and Innovation: committees<br>• Council of Higher Education Institutions: working committees and working groups<br>• Czech Rectors Conference: working groups and committees | Data: Annual reports and websites of the relevant institutions; own processing |

| Category | Definition | Link |
|---|---|---|
| **Business enterprise sector (private business sources)** | This includes R&D funding from the economic entity's own financial resources, from the financial resources of another economic entity in the same business group, and from the financial resources of other economic entities in the business enterprise sector. | CZSO: Research and development indicators (link: https://csu.gov.cz/produkty-archiv/ab00491932) |
| **Enterprises under foreign control** | They include all enterprises, financial institutions and quasi-corporations controlled by non-resident (foreign) units (foreign affiliates). Most often, these are subsidiaries of non-resident (foreign) parent corporations. | CZSO: Foreign affiliates statistics (link: https://csu.gov.cz/statistika-zahranicnich-afilaci-fats-metodika) |
| **Government sector (public sources)** | This includes public funds earmarked for research and development that are distributed from the state budget, the research and development budget chapter, and regional budgets. | CZSO: Research and development indicators (link: https://csu.gov.cz/produkty-archiv/ab00491932) |
| **Higher education sector** | This includes all public and private universities, higher education institutions, and other post-secondary education institutions, as well as all research institutes, experimental facilities, and clinics operating under the direct control of, administered by, or associated with higher education organisations (e.g., university hospitals). This sector is not a separate institutional sector, but was identified separately by the OECD because of its important role in research and development. | CZSO: Methodology - R&D personnel (link: https://csu.gov.cz/metodika-pracovnici-ve-vyzkumu-a-vyvoji) |

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