

Survey on the  
situation of women  
workers in the ICT  
sector

# MAKE IT VISIBLE!

#femintech by **ivsz**



# Content

1.	Executive summary.....	03
2.	Introduction .....	05
3.	Women in the ICT sector .....	06
3.1	Share of women ICT professionals .....	06
3.2	Reasons for the low proportion of women in ICT .....	07
3.3	Part-time employment.....	07
4.	Women in ICT education .....	09
5.	Research methodology .....	10
6.	Results of the questionnaire .....	11
6.1	Presentation of the sample .....	11
6.1.1.	Employer questionnaire .....	11
6.1.2	Employee questionnaire.....	11
6.2	Perceived challenges .....	12
6.2.1	On the corporate side .....	13
6.2.2	On the employee side .....	13
6.3	Positive and/or negative discrimination perceived by female ICT workers.....	14
6.4	Corporate openness to women's employment.....	16
6.4.1	How employers see it .....	16
6.4.2	How employees see it .....	18
6.5	What makes the ICT sector attractive to women workers? .....	20
6.5.1	How employers see it .....	20
6.5.2	Women workers' motivations for ICT career paths/careers.....	20
7.	Analysis of interviews .....	22
7.1	Introduction of interviewees.....	22
7.1.1	Employer interviews.....	22
7.1.2	Employee interviews.....	22
7.2	Results of employer and employee interviews.....	22
7.2.1	Percentage of female employees in the company .....	22
7.2.2	Perceived difference in perceptions of female and male workers .....	23
7.3	Corporate attitudes .....	24
7.3.1	Corporate openness.....	24
7.3.2	Psychological safety.....	26
7.3.3	Stereotypes .....	27
7.3.4	Support for return after childbirth.....	28
8.	Support organisations, programmes, initiatives, good practices .....	30
9.	Women workers' suggestions for solutions .....	32
10.	Resources used .....	34

# Executive summary

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It is no secret that the ICT industry in our country employs fewer women than men and it is also no secret that society still considers IT as a masculine profession and that women working in the sector are confronted with these stereotypes in their daily lives.<sup>1</sup> However, our 2021 survey shows that today, the people who choose this profession are no longer "weirdos" and that they are useful members of the sector and the society. At the beginning of our research project, we named our work for the next months *FemInTech-Make it Visible*, and we had no idea how apt this name was, as women working in the sector often remain invisible and it is not only owing to employers, but women are not confident that they are as good professionals as their male counterparts, they often believe the stereotypes society has made them believe.

We've frequently pondered the significance of who work in the sector and whether it makes a difference, especially considering the under-representation of women in traditionally "male" industries. Our conclusion is clear: it certainly does matter! Numerous studies have demonstrated that increased gender and socio-demographic diversity within teams enhances innovation and yields better economic outcomes for companies.

In its manifesto titled "Alliance for a Digital Hungary!", the Association for a Digital Hungary (IVSZ) proposes the development of targeted programmes and the dedication of government funding to help increase the proportion of women in ICT jobs from the current 12% to 18% by 2025.<sup>2</sup>

Over the past two years, employment trends have changed during the pandemic, with women becoming the global losers in employment. As a consequence of the COVID-19 pandemic, the risk of unemployment is 1.8 times higher for women, one of the reasons being that the redundancies and the economic downturn affect more those sectors (tourism, hospitality, personal services) where the home office is not feasible and where the proportion of women in employment is higher. An additional risk is that only unpaid work at home becomes an alternative to paid work, which hinders the improvement of gender equality.<sup>3</sup>

Women's inactivity in the labour market is 5% higher than men's.<sup>4</sup>

However, the ICT sector is not aligning with the global trend of increasing demand for women, despite the untapped labour potential they represent. During the pandemic, women in the ICT sector faced less risk of redundancy, as this sector was among the first to adopt home office and teleworking practices, a shift expected to persist long-term. Additionally, the sector is gradually becoming more inclusive of diverse worker groups, including women, to address labour shortages. Although Hungary significantly lags in offering part-time and teleworking options, the research identified these as genuine needs for women. Fortunately, a positive trend has started, with several company managers telling us that they are now more open to part-time employment,

1. <https://eige.europa.eu/publications/work-life-balance/eu-policies-on-work-life-balance/women-in-ict>

2. <https://ivsZ.hu/human/>

3. McKinsey: COVID-19 and gender equality: Countering the regressive effects

4. ILO Monitor: COVID-19 and the world of work

and are planning to expand the use of this option.

Our research found that while women in the sector rarely encounter gender discrimination, they still face stereotyping in the broader community. Companies are beginning to address prejudice and incorporate diversity into their organizational culture. Our survey confirmed the principle that unfamiliarity breeds dismissiveness. In micro and SME companies, where the proportion of female employees is lower, stereotypes are viewed as more realistic, and women's career opportunities are more limited. However, these issues are less prevalent in the ICT sector compared to others.

In general, a highly constructive transformation is underway in the sector, aligning companies' employment strategies more closely with the preferences and requirements of their employees.

There is also a positive trend in ICT skills training. More and more girls are choosing this career, breaking down stereotypes about them, but there is still work to be done to reach the EU average.

In future/present employment, innovation and technology cannot take off without women, as technology products and services are for all of us. The (present) workplaces of the future can work effectively with teams with different experiences, mindsets and social roles. That is why it is important to draw attention in this summary

to the fact that the proportion of women leaders is far below the desired level. Today, if a woman in this country wants a career as an ICT professional, she is most likely to find a job as a senior manager in a large international company, as there is not yet a focus on women in senior management in this sector.

In a competitive digital economy, it's crucial for players to understand one another. This is why we conducted this survey: to gain insights into women working in the ICT sector and the companies that employ them. We recognize that the proportion of women in this field is low, and their attitudes and experiences are not widely discussed.

We hope you will thoroughly enjoy reading our study!



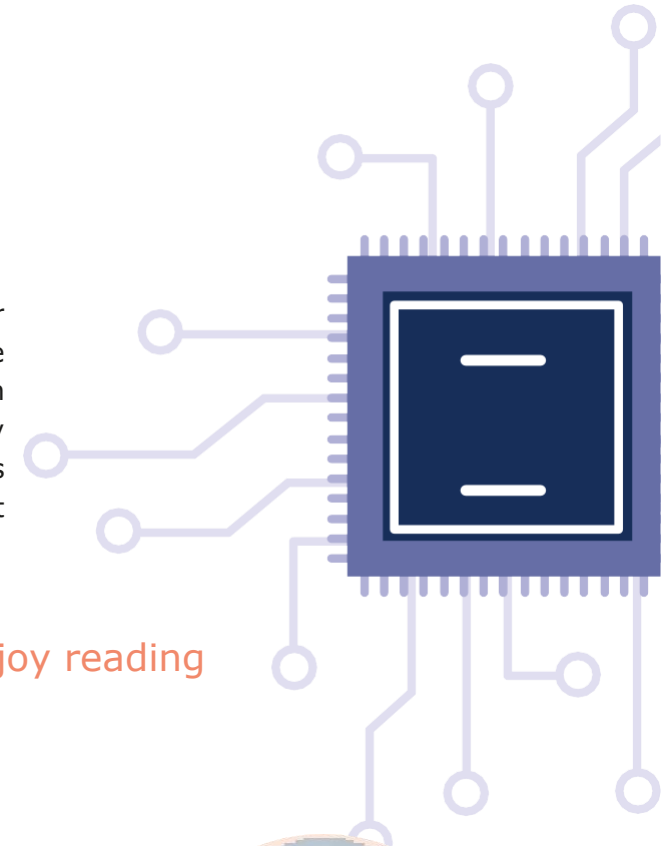
Nóra Kudari



Viktória Batin



Fruzsina Mikó



# Introduction

Digitalisation now covers all sectors, and this trend is growing, creating a wealth of opportunities for businesses and citizens alike. At the same time, with increasing digitalisation, the need for digital skills is growing rapidly in all sectors, opening up new employment opportunities. There is an estimated shortage of 700,000 ICT professionals in the EU, and this shortage is set to grow in the future. From 2013 to 2025, all occupations are expected to grow by around 3%, while demand for STEM professionals is expected to increase by 8%.<sup>5</sup>

## This trend can also be observed in the Hungarian labour market

According to a labour market survey<sup>6</sup> carried out by IVSZ, ITM and KIFÜ, the output of skilled workers does not follow the increase in labour demand in terms of quantity, quality and structure, while the demand for IT workers in other industries has increased, while the demand for IT workers in the IT industry has not decreased. The 2020 survey revealed that the demand for IT professionals has doubled over the past five years. Employers could potentially hire 44,000 digital professionals by the end of 2023 if not constrained by labour market realities, such as the persistent skills shortage, which has been worsening each year. This growing shortage of IT skills poses a long-term threat to the competitiveness of the domestic digital economy.

The EU has 8.4 million ICT professionals in the labour market in 2020, and only around 18.5% of them are women on average. Increasing the number of women in the ICT sector could create a significant labour market reserve across Europe. The ICT sector needs highly skilled professionals and the proportion of women in higher education is typically very high. Furthermore, an increase in the proportion of women in the sector would increase their opportunities to take up better paying jobs compared to traditional,

typically female-dominated professions, which in the long run would also mean a narrowing of the gender pay gap.<sup>7</sup>

One of the most important findings of the background research carried out by IVSZ in the spring of 2021 was that IT is still considered a male profession in Hungary, while companies would like to employ far more female digital professionals. This contradiction shows that this is a complex, deep-rooted problem, and this is why IVSZ decided to conduct the first comprehensive survey on the current situation of women in the ICT sector in Hungary.

The aim of the research is to gain a comprehensive understanding of the situation of women in the ICT sector from both the employers' and employees' perspectives. It is crucial to accurately assess this situation in order to develop projects and programs that offer well-targeted support for women in the ICT sector and their employers.

In our survey, we sought insights from both employers and employees. On the employee side, we aimed to learn more about women who have chosen IT as a career. We explored their motivations, needs, opportunities, challenges, self-perceptions, views on the sector and its future, and how they are received within the industry. On the employer side, we investigated how domestic companies support and motivate their female employees to remain in the ICT sector long-term. We examined the values and attitudes that shape their approach to female employees and diverse teams, the difficulties and opportunities they perceive for women, their reasons for considering IT a suitable career choice for women, and strategies to make the career more attractive to them.

5. [https://ec.europa.eu/commission/presscorner/detail/hu/ip\\_21\\_5481](https://ec.europa.eu/commission/presscorner/detail/hu/ip_21_5481)

6. <https://ivsz.hu/hirek/ot-ev-alatt-megduplazodott-az-informatikusok-iranti-kereslet/>

7. <https://eige.europa.eu/publications/work-life-balance/eu-policies-on-work-life-balance/women-in-ict>

# Women in the ICT sector labour market

## Proportion of women ICT professionals

The proportion of female ICT professionals is an important indicator of the role of women in the sector. Figure 1 shows the proportion of women ICT professionals in the EU countries. In 2020, Bulgaria had the highest proportion of female ICT professionals at 28.2%. The lowest rate was observed in the Czech Republic, at 10.2%.

After the Czech Republic and Malta, Hungary had the lowest proportion of women ICT professionals in the EU in 2020.

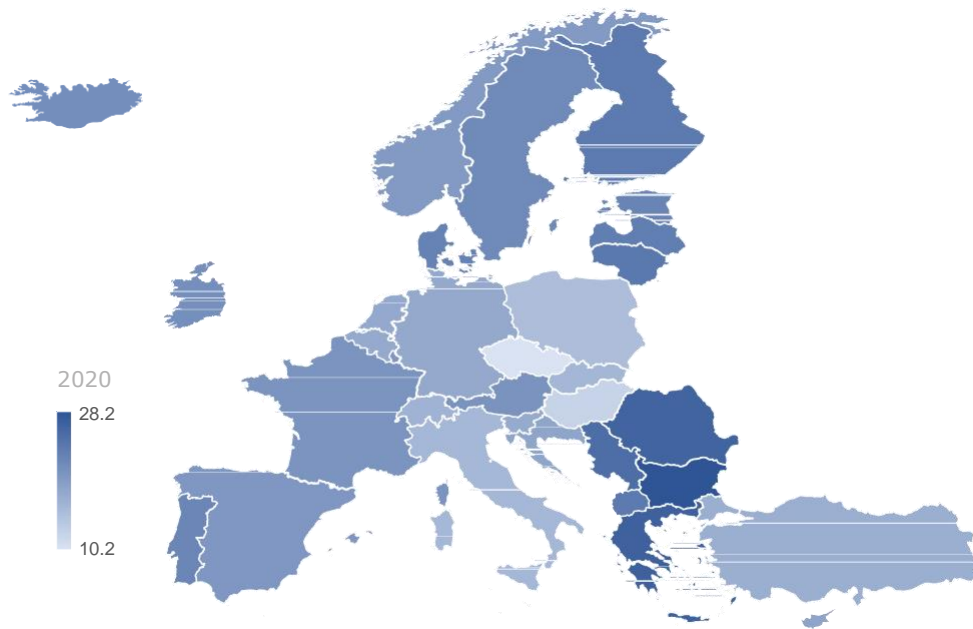


Figure 1 – Share of women ICT professionals in the EU (2020) Source: Eurostat, own editing

This is a slight improvement compared to 2017 and 2018, when Hungary had the lowest rate in the European Union, below 10% and almost half the EU average. We have slightly reduced the gap, but we are still among the top performers in the European Union in this respect.

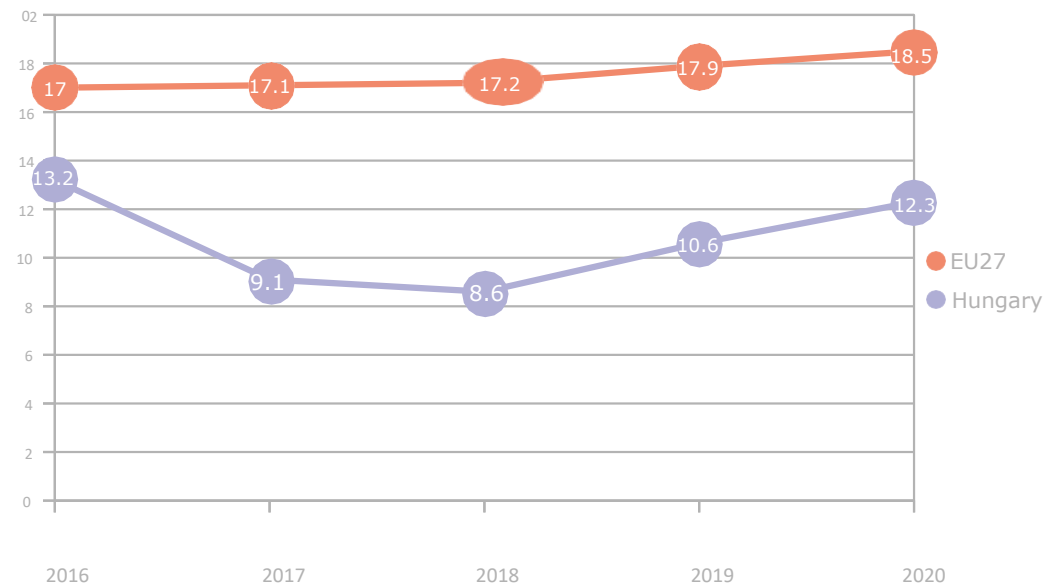


Figure 2 – Change in the share of women ICT professionals in the EU on average and in Hungary since 2016 Source: Eurostat, own editing

Figure 2 illustrates the change in the proportion of women in the European Union and Hungary over the past five years. The EU average shows a slight increase, while Hungary experienced a drop of over 4 percentage points from 2016 to 2017. Although the proportion of women in Hungary has been rising again from 2018 to 2020, it remains significantly below the EU average.

### Why are there so few women working in the ICT sector?

The low representation of women in the ICT sector can be attributed to various factors and requires a comprehensive approach that considers the broader social context.

In the past, the proportion of women in the ICT sector was higher due to the different nature of ICT jobs. With the advent of the internet and computers, the status and nature of these jobs evolved. Data entry and analytical roles, once prevalent, have been either outsourced or automated. As the prestige of ICT jobs increased, more men entered the sector. Consequently, the previously gender-neutral image of ICT professionals shifted towards a more masculine perception, with certain IT roles and positions increasingly associated with men.

One reason for the high proportion of men in the ICT sector is the gender segregation of the labour market. This concept refers to the gender segregation of occupations, sectors and jobs. Since the emergence of women in the labour market, there have been professions that are typically considered feminine or masculine. In female-dominated occupations, women are more likely to be employed, while in male-dominated occupations, a higher proportion of workers tend to be male. It is inherent in the phenomenon that women and men tend to prefer to work in occupations dominated by their own gender, thus perpetuating itself and gender stereotypes. This segregation is already reflected in career choice patterns,

which also contributes to the persistence of this trend.<sup>8</sup>

Gender segregation can be observed in the engineering and technology sector, which includes the ICT sector. Reasons for perceived gender segregation include gender stereotypes, gender divisions in educational backgrounds, masculine organisational culture and opportunities to maintain a work-life balance, especially for parents. Among the factors that explain the low proportion of women, the most common are the lack of interest and/or education of women in IT, ICT careers that favour men and cultural factors that reinforce the masculine association of the ICT sector. Gender segregation in the labour market is deeply rooted and starts at an early stage, in school or even before school, for the reasons mentioned above and because of the underlying social and cultural mechanisms.<sup>9</sup>

### Part-time employment

According to KSH data, Hungary is well below the EU27 average for the share of part-time workers. Our country is in penultimate place, ahead of only Bulgaria for part-time employment. In 2019, the share of part-time employees in the EU-27 was 18.3%, while in Hungary it was only 4.4%. In Hungary, the share of part-time employees decreased steadily between 2012 and 2019, falling from 6.7% to 4.4%.



8. [https://www.ksh.hu/statszemele\\_archive/2010/2010\\_10-11/2010\\_10-11\\_1082.pdf](https://www.ksh.hu/statszemele_archive/2010/2010_10-11/2010_10-11_1082.pdf)

9. EIGE (2018): Women and men in ICT



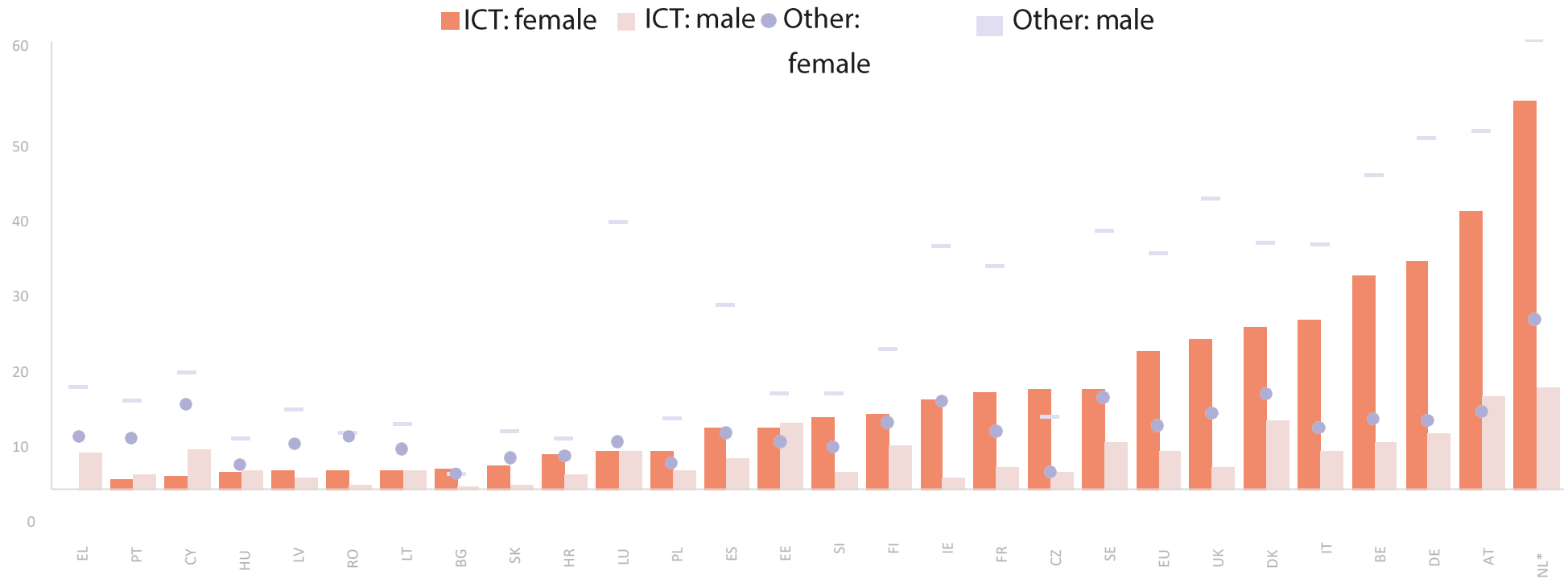


Figure 3 – share of part-time workers in ICT and other occupations in the 20-64 age group by gender and country Source: EIGE

Data show that this form of employment is generally less widespread in Hungary.

In the European Union, 16.5% of women ICT professionals work part-time, while in Hungary the figure is negligible at only 0.7%. In the EU, 5.4% of men working as ICT professionals work part-time, while the proportion is also lower in Hungary at 0.9%. Overall, in the EU, about a third more men than women work part-time in the ICT sector, so part-time employment in ICT has proved to be more popular among women in the EU. In contrast, fewer women than men work part-time in ICT in Hungary, but both rates are negligible, below 1%.<sup>10</sup>

**8.4 million ICT professionals in the EU and only**

**18.5% of them are women.**

**In Hungary, this figure is 12.3%.**

(2020 data)



## Women in ICT education

The gender gap in educational attainment among ICT professionals in the EU is 13 percentage points in favour of women. This means that women in the ICT sector are 13 percentage points more likely to have tertiary education compared to their male counterparts. Among EU countries, only Romania and Denmark have a higher proportion of men with tertiary education than women in this field, while Bulgaria shows no difference in education levels between men and women.

We looked at the position of women in IT not only in the labour market, but also in education. We looked at data on the proportion of women in higher education in IT (Figure 4) and how the proportion of women in IT education has changed over time. The data show that overall, the proportion of women in IT courses is still below 20%, neither among enrolments nor among graduates, but in both cases there has been an upward trend over the last 10 years.

The share of women among graduates in IT education (Figure 5) in 2020 was 17.6%, which is already close to the EU average for the share of women ICT professionals and significantly higher than the 12% in Hungary. This also means that if the sector can retain students with IT qualifications in the labour market, it has a good chance of reducing its backlog, thereby exploiting significant labour market potential.

However, the increase in the proportion of women is not limited to higher education. According to the latest IVSZ bootcamp audit report, women comprised 25.6% of bootcamp students in 2020. This figure surpasses both previous years' statistics and the official 12% representation of women working in the information and communications field.

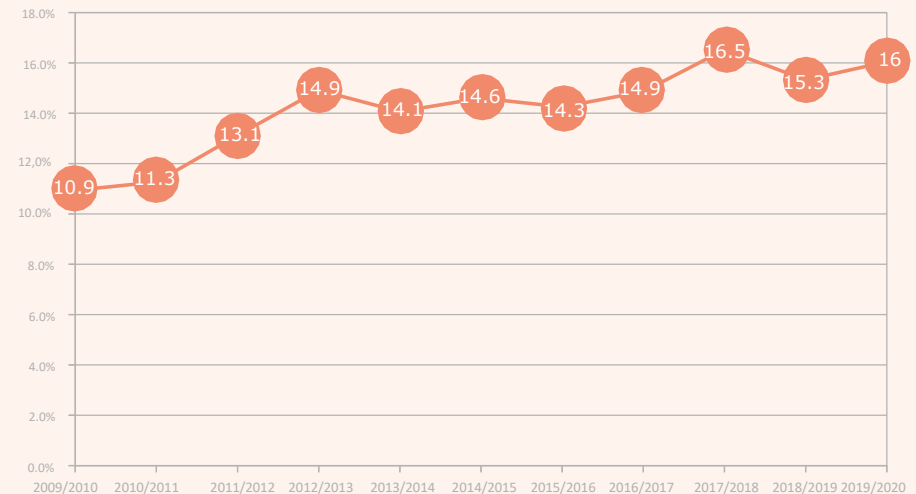


Figure 4 – Change in the proportion of women among those starting IT training for recruitment reasons  
Source: OE, own editing

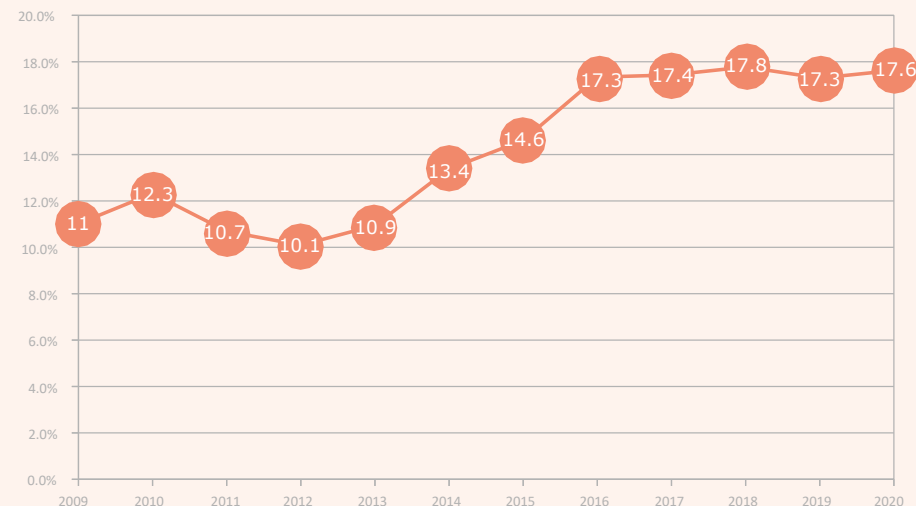


Figure 5 – Change in the proportion of women among graduates in computer science  
Source: OE, own editing

11. <https://ivsz.hu/hirek/tovabbra-is-nagy-a-kereslet-a-bootcamp-hallgatok-irant>

# Research methodology

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During the research we combined a variety of research methods: secondary analysis of available statistical data, primary qualitative and quantitative data collection, and a **professional workshop** with the participation of IVSZ member companies and partners, which played a key role in the interpretation of the measurement tools and results, for validation and quality assurance purposes. The participants of the workshop were company executives, board members, HR managers. Their task was to assist the staff of the IVSZ in setting up the measurement tools and to carry out the validation. Besides this, they also helped to accurately define the target groups included in the data collection.

**Workshop participants:** EPAM Systems Kft., Green Fox Academy, CodeCool, H1 Systems Kft., Vodafone Magyarország Zrt., ShareITlab.

A secondary analysis was carried out to further map and review the available national and international research materials and statistical data on women's ICT-related further education and labour market participation.

**During the questionnaire data collection,** we used a form of quantitative data collection method called Computer Assisted Web Interviewing (CAWI).

The research involved an online questionnaire survey with two target groups. Employers in the ICT sector were interviewed. In the target group of employers, we asked the CEO, a member of management, a member of the board of directors/executive board, or an HR manager to respond. In addition, the other main target group of the questionnaire survey was female employees. The target group of female workers was defined as follows: For the purposes of the survey,

ICT jobs are defined as all jobs that require a degree in an IT-related field or equivalent skills, such as software development, programming, operations, data science, etc., and jobs that directly support these fields and do not require IT skills but require a high level of digital literacy as a key competence, such as Business Analyst, Product Owner, Agilist, Security, Testing, etc. No demographic demarcation was made.

The **results of the questionnaire surveys to be carried out during the research cannot be considered representative**, a so-called non-probability sampling procedure was used. A snowball sampling procedure was also used to reach employers and female employees. The idea was to first recruit some members of the target group and then to recruit further through the initial sample, asking participants to forward the questionnaire to other potential subjects that matched the target group.

**The interview** was used to complement the results of the questionnaire survey. The interview data collection followed semi-structured interview standards. After a swift analysis of the questionnaire, insights gained were incorporated into the interview guide, facilitating deeper discussions. This semi-structured interview survey targeted ICT companies, relevant NGOs, and professional associations significant in the ICT sector. Interviews were conducted with company directors, management members, and HR managers. Additionally, a focus group survey was carried out among female workers in ICT roles.

# Results of the questionnaire (presentation of the sample)

## Employer questionnaire

Fifty-two companies completed our employer questionnaire. Given this small sample size, it is important to note that the results cannot be generalized to the entire sector. However, our survey does provide valuable insights into the attitudes of managers, offering a "snapshot" of the processes and challenges within the sector. For ease of interpretation, results are presented as percentages. However, it is crucial to remember that these percentages reflect the views of only 52 companies.

In terms of the position of respondents, the largest proportion of respondents, 52%, were CEOs/managers. 21% of the respondents were HR managers, 9% were management members, and IT managers and finance managers were also among the respondents. 46% of the respondents were micro enterprises with less than 25 employees, 29% were SMEs with less than 250 employees, 17% were large enterprises with more than 250 employees and 4% of the respondents were start-ups. When interpreting the results, it is important to note that a higher proportion of respondents were from companies with relatively low employee numbers. This gave us a better insight into their processes, which was the purpose of our survey, to see how women are received in their companies.

The largest proportion of respondents to the questionnaire was 77% of Hungarian owned companies. 19% of respondents were international and 4% were mixed-ownership companies.

## Employee questionnaire

The target group of our employee survey was exclusively female employees working in IT/IT sensitive jobs, therefore the questionnaire was completed by 100% female employees, 285 employees in total. The average age of respondents is 33 years,

and the statistical distribution of respondents by age reflects labour market trends. 19.3% of respondents work in a managerial position, of which 3.2% are in senior management. Regarding their IT qualifications, 34.0% of respondents have no IT qualifications, 33.7% have obtained IT qualifications through a short term IT training programme, the so-called bootcamp, and 23.5% have a higher level IT qualification. The women who filled in the questionnaire came from different IT areas: the Backend and Frontend areas were the most represented, but also Testing and Fullstack were typical. In addition, DevOps, Big Data and AI also appeared.

Among the female workers who completed the questionnaire, professional experience was evenly distributed. On average, respondents have 4.7 years of experience in ICT roles.

91.2% of the female workers surveyed work as employees, full-time (64.2%), part-time (10.9%) or as students (16.1%), as contractors (6.7%), 3.9% as contracted workers and 1.1% as temp agency workers. The low part-time employment and the preference for being employed in our country is therefore also reflected in the sample we have analysed. The highest proportion of women working in large companies (47.5%), 32.2% of women working in SMEs and a minority of respondents from micro-enterprises (12.4%), self-employed (5.4%) and start-ups (2.5%).

# Business challenges



On the corporate side, the challenge they perceive most is not the number of women already employed by companies, but their lack of them: 31% (16 companies) of the companies that responded to the questionnaire cited the lack of female candidates as the main challenge for their employment. 68% of the companies that filled in the questionnaire had a maximum of 20% female applicants for IT jobs in the last year, of which 7% (3 companies) had no female applicants. In addition, generational life situations (e.g. childbirth, caring for elderly parents) and integration difficulties were the most common challenges encountered. Women's lack of professional knowledge was perceived as the least challenging. However, if we look at the variables by firm size and ownership background (Figure 6),

we see from the data of the responding firms that the lack of professional knowledge appears as a challenge in domestic micro-enterprises, although minimally (firm).

Female candidates are particularly scarce in large companies and those with an international presence. Our research consistently revealed that the organizational culture of companies that have begun addressing this issue—whether due to social pressure, internal demand, or influence from a parent company—often offers a more relevant response to women's employment needs. Such efforts are mostly observed in companies with international backgrounds. In micro-enterprises, the shortage of female candidates may be attributed to their small size, which results in fewer job seekers overall.

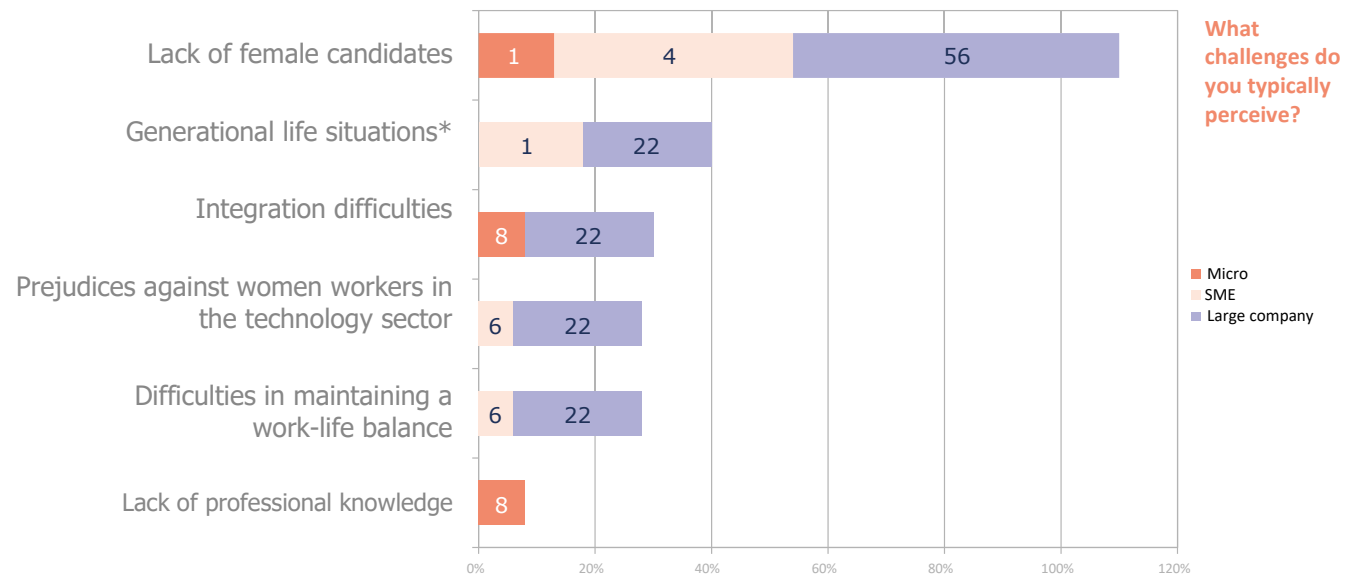


Figure 6 – Perception of challenges to women's employment in IT by firm size

\*e.g childbirth, caring for elderly parents.

## Perceived challenges on the employee side

We inquired with female workers about the factors they believe are hindering their career advancement. Figure 7 illustrates the obstacles they identify as the most significant barriers to their careers in IT

35.4% of respondents said that stereotypes against female IT workers are a barrier to their career progression, also nearly 30% think that giving up work to have a family can be a barrier for women in their career development, and that they do not get enough information about the ICT sector when choosing/changing their career. A low percentage of female workers thought that ICT companies are not flexible in employment (10.2%) and that they are not family-friendly workplaces (7.4%), and are barriers to women's career progression in IT.

Maintaining a work-life balance is crucial for retaining female workers. To explore this issue, our questionnaire inquired about the challenges women face in this area. Over one-third of women view workload as a challenge, 16.8% find overtime problematic, and nearly 10% cite a lack of flexibility and part-time work as issues. Additionally, many respondents noted a shortage of time for learning. Balancing work and often family commitments leaves them with insufficient time for learning and self-development needed to keep their knowledge current.

This is a relevant issue not only for women who are currently working, but also for women on maternity leave. The absence of women on maternity leave from the labour market for 1-3 years risks that they will not be able to keep up with technological developments. Several respondents mentioned that the high level of stress associated with their work is often a problem for them. The lack of teleworking also makes it difficult for women workers to maintain a work-life balance. However, in some cases, teleworking itself has become a challenge, especially with the restrictions imposed by the pandemic,

where children were forced to distance educate, putting a double burden on workers who have to manage their family and work roles at the same time, in the same place.

### What do you think is holding women back in their careers in IT?

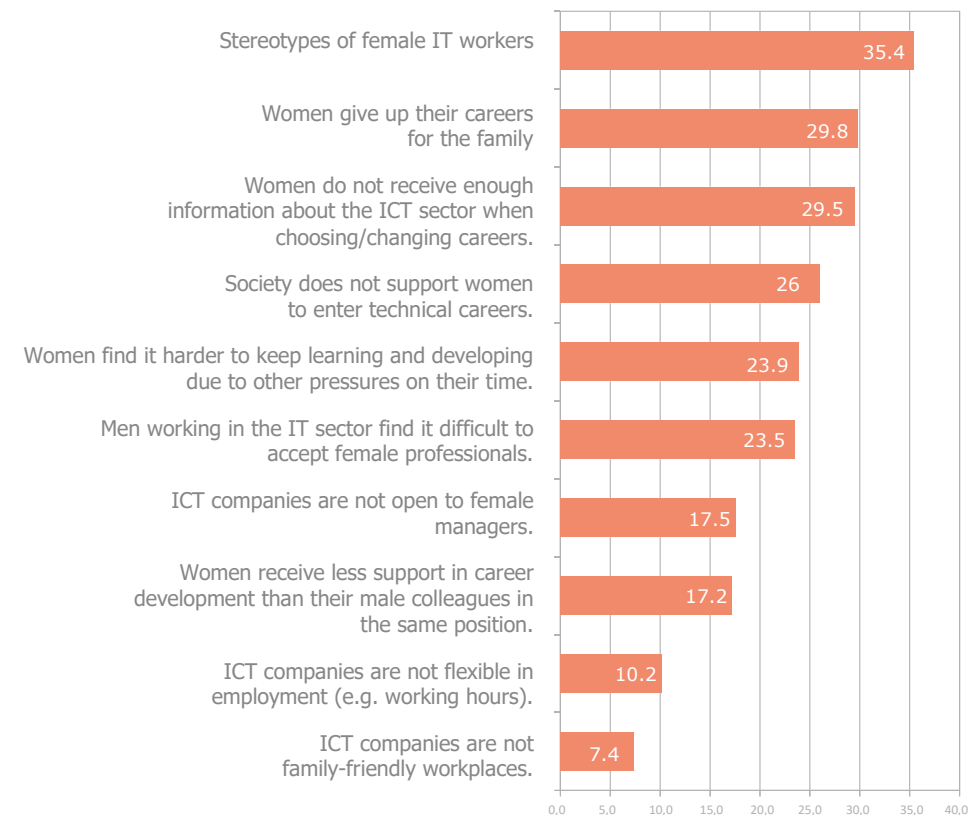


Figure 7 – Barriers to ICT careers by women (%)

# Different treatment in the workplace



A key aspect of the research was to determine whether gender discrimination exists. Overall, our sample indicates that workers in the ICT sector do not encounter gender discrimination. However, the prevailing perception that the technology sector is predominantly male is evident in the findings. We did not explicitly define differential treatment in the survey, allowing respondents to interpret it based on their own experiences. The women interviewed generally reported either no or infrequent experiences of differential treatment at work. 46.7% of respondents had not experienced any discrimination at work, 20.7% had experienced positive discrimination in their careers and 24.2% had experienced

negative discrimination at work. Responses show that among respondents who have experienced differential treatment in their careers, both positive and negative discrimination are typically rare. When looking at differences in treatment by company size, the largest percentage of people perceived negative discrimination in the large industrial sector, which is where most female employees work.

When disparity is analysed by age group (Figure 8), women who answered positively to the question on disparity experience positive gender discrimination relatively often. The 30-40 age group rarely experiences positive discrimination. At this stage of life

Have you experienced different treatment at work because you are a woman?

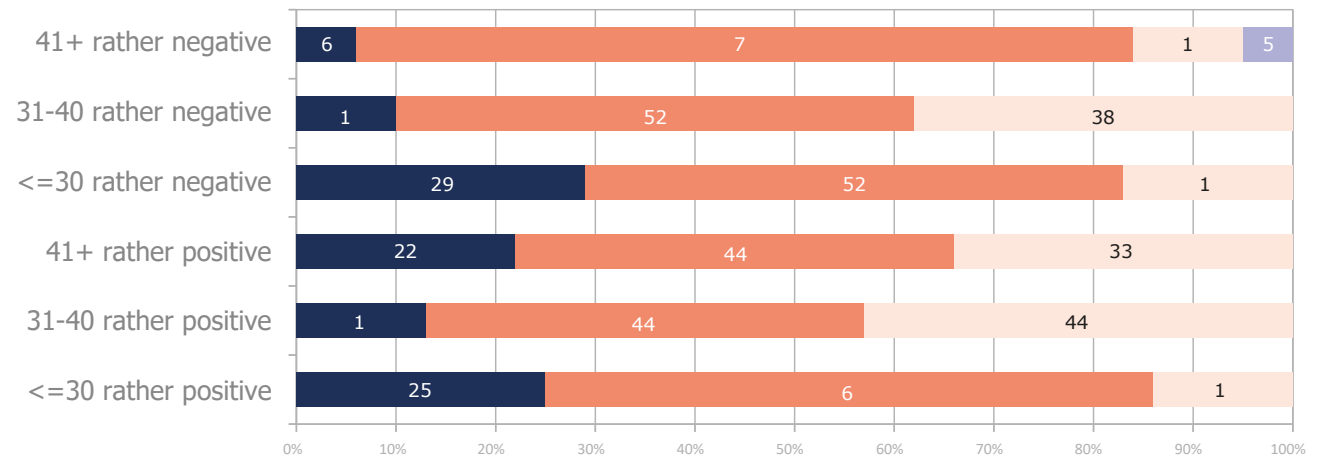


Figure 8 – Differential treatment at work - by age group

■ Very rarely ■ Rather rarely ■ Rather often ■ Very often

## **A large proportion of women respondents feel that the workplace is inclusive and supportive, although their share of employees is typically low.**

Most women have young children and the employer survey results show that tracking family life is a challenge for companies.

Among respondents who answered negatively regarding differential treatment, only 5.6% of those aged 40 and older reported experiencing negative discrimination frequently. Overall, respondents generally encounter negative discrimination less often.

Responses indicating "very often" are considered to reflect "ageism," which is not exclusive to the ICT sector but is a widespread issue across various industries. The ICT sector is frequently associated with younger individuals, and our findings suggest that some company managers design their hiring strategies around younger employees, presuming that older workers are less adaptable, lack relevant skills, and have higher salary expectations. Women over 45 are especially susceptible to these biases.

47.5% of respondents said that their gender had influenced their job application, 38.6% of them said that they felt that being female had influenced their application in a positive way, i.e. they felt that they were hired because they were female, and 30.7% felt that it had influenced their application in a negative way, i.e. they felt that they were rejected because they were female.

We also inquired among female IT workers about their experiences with the pay gap, specifically whether they have received lower pay than their male counterparts with similar roles and qualifications throughout their careers. In Hungary, the lack of public awareness regarding wage transparency is evident in the responses. According to the data, 38.4% of female workers have no information about wage differences, 32.1% have not encountered a pay gap compared to their male colleagues, 29.5% reported having received lower pay than their male counterparts in the same role, and 8.0% continue to experience such discrepancies.





# Corporate openness towards women's employment

## How employers see it

Companies are mostly seen as open to employing women.

The concept of openness was not defined in the research, it depended on the respondent's perception of what is meant by openness. Figure 9 illustrates how business leaders perceive the openness of the sector. It can be seen that overall the sector is perceived as more open, but

it can be concluded from the responses that business leaders also consider that there is room for improvement in this area before the sector reaches full openness. The number of micro-enterprises that are considered not to be open to women's employment is relatively low (2 enterprises), but it highlights the trends in the sector. It makes you think that among the SMEs and micro-enterprises, there are some companies (4 companies) that are not able to judge, they have no insight into the sector.

In general, how would you rate the openness of ICT companies towards female employees?

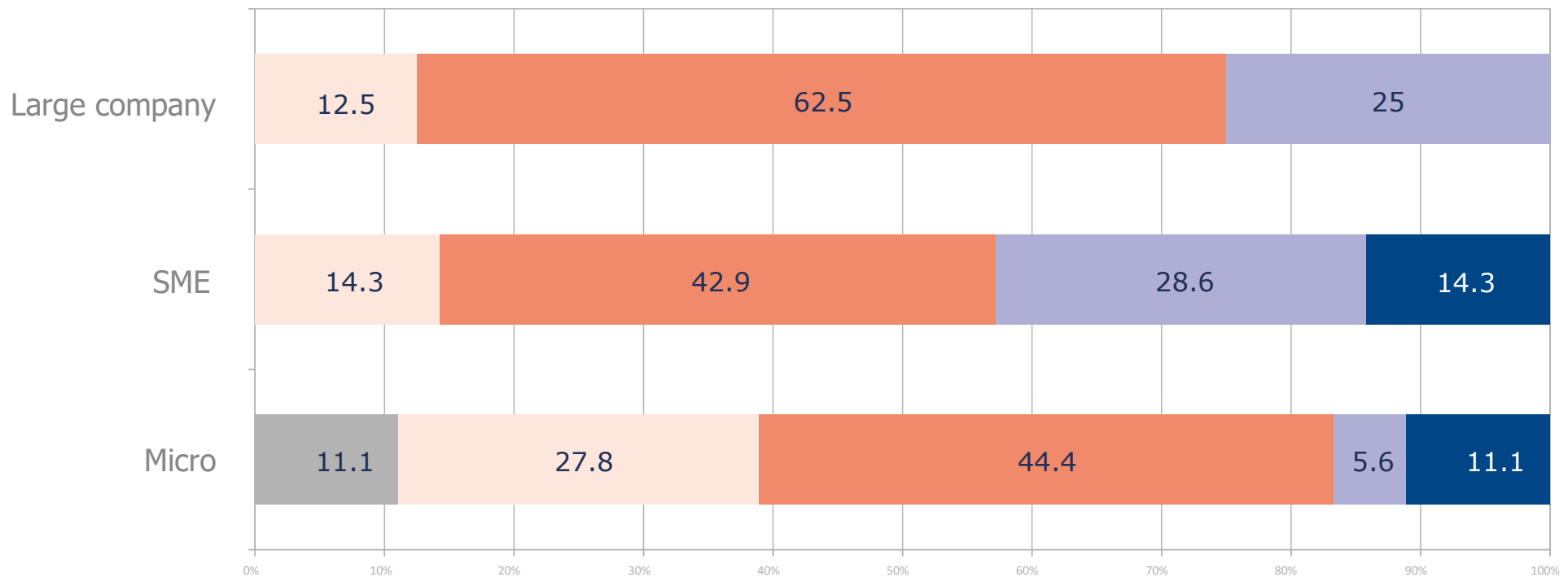


Figure 9 – Openness of ICT firms according to their self-assessment

Rather not open
  Partially open
  Rather open
  Mostly open
  Can't tell

We also explored perceptions of openness regarding psychological safety, with respondents evaluating this in the context of their own companies rather than the sector as a whole. While 17.1% of respondents (7 companies) viewed the sector as entirely open, over 80% (45 companies) fully agreed that their organizations are open to hiring women, provide equal opportunities for career advancement and pay, and ensure gender equality in skill assessment. This sense of openness should be considered alongside attitudes towards psychological safety. Companies also rated their environment as supportive in this regard, with more than 70% agreeing that women can openly report issues, raise professional concerns without fear of negative consequences, and discuss problems and challenges openly. Opinions were more varied regarding the consideration of the unique challenges faced by women in their personal lives, but 51.2% (21 companies) affirmed that they fully address these challenges. The most contentious issue was the recruitment of women from other sectors into IT roles through retraining.

Corporate attitudes towards women's employment

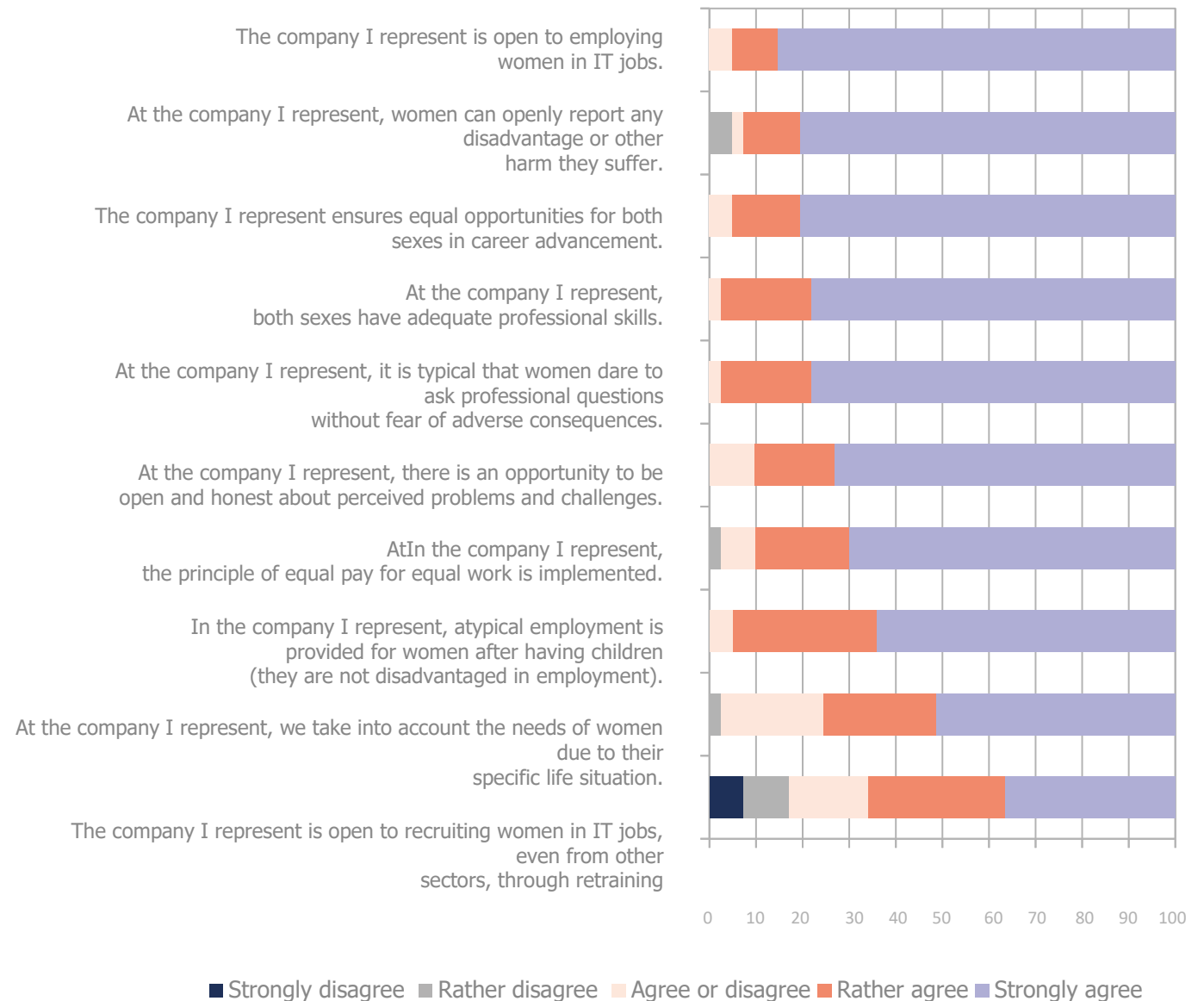


Figure 10 – Corporate attitudes (%)

# Corporate openness towards women's employment

## How employees see it

Our questionnaire measured the extent to which women in ICT jobs perceive their employers and the ICT sector in general to be open.

To assess this, we developed attitudinal statements regarding openness and psychological safety within the company, with female employees indicating their level of agreement using a five-point scale.

The responses show ("strongly agree" and "tend to agree" answers combined) that the majority of female workers feel that they have been able to raise professional issues at work without fear of negative consequences (79.4%) and that they have the opportunity to talk openly and honestly about perceived problems and challenges (77.3%). A high proportion also agreed with the statement that they had not experienced gender differences in their professional knowledge and skills acquired during their careers (67.5%) and that the ICT sector was open to employing women (64.4%). Agreement was lower, but still more than half of women (53.0%)

## Women's attitudes towards corporate openness

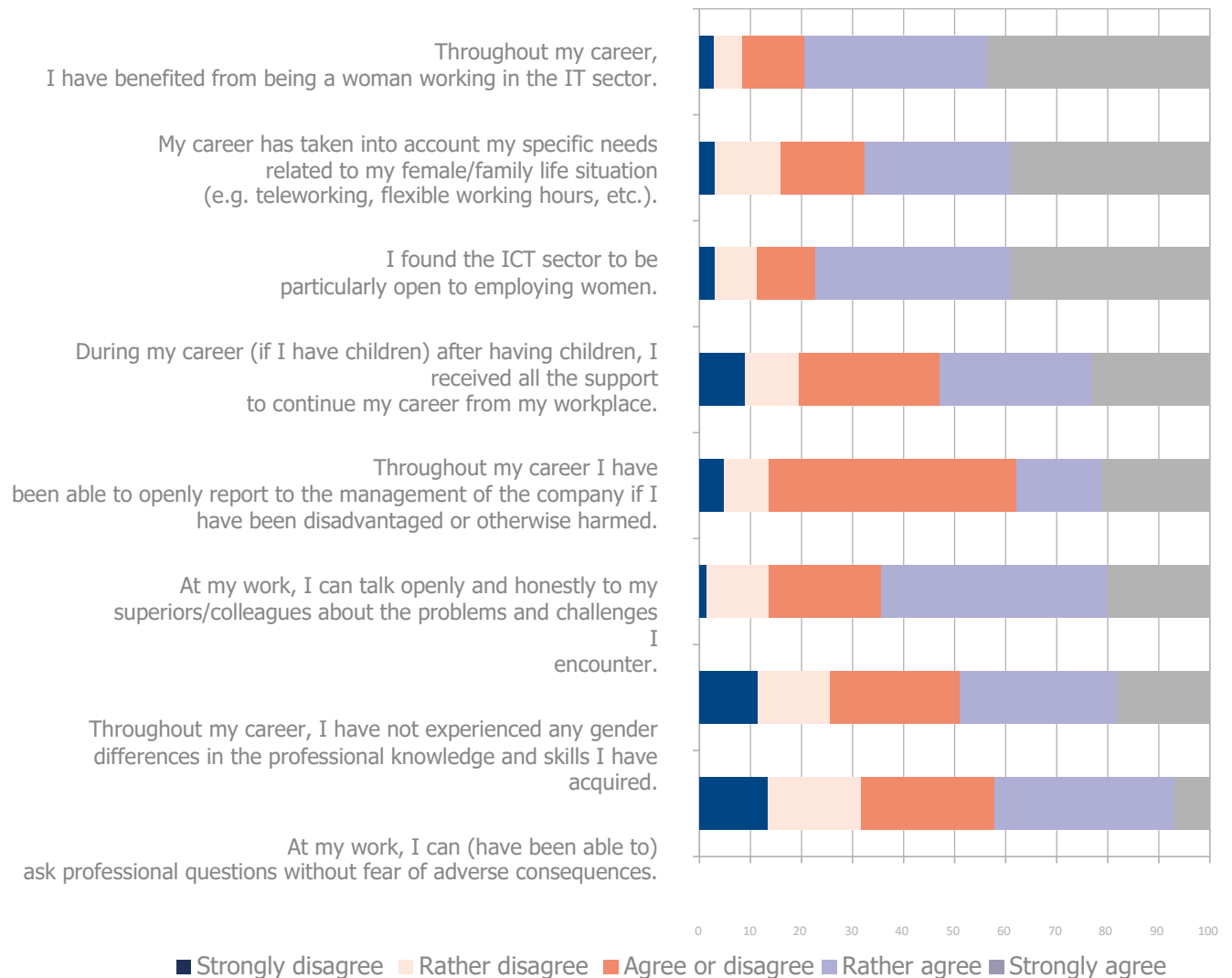


Figure 11 – Women's perceived openness to companies by attitudes (%)

felt that during their career they could openly report to company management if they felt disadvantaged or harmed in any other way. Nearly half of women (49.0%) agreed that their employer had taken into account their specific needs in their career, such as flexible working hours or teleworking, due to their female/family situation. 42.1% of respondents have benefited from working as a woman in the ICT sector in their career.

The proportion of women with children who felt fully supported by their workplace after having a child was relatively low, at 37.9%. Among those with children, 64.5% returned to their jobs prior to having children. We asked these returning mothers about the support they received upon their return. The most commonly mentioned forms of support included gradual return, part-time work, flexible hours, and home office options. Additionally, some highlighted the understanding and supportive attitude of their managers. We also explored the reasons why some mothers did not return to their previous positions. Among those who did not return, 25% cited the lack of a gradual return process as the main reason. Other frequently mentioned reasons included insufficient flexibility or teleworking options and the fact that their previous position had been eliminated.

The ICT sector tends to have a higher proportion of male employees, so it was important to look at team integration and attitudes. Our hypothesis was that women tend to work in teams where they are in a minority (less than 25%) compared to male workers, and the responses confirmed this, with 65% of respondents working in a team/work group where the proportion of women is less than 20%, of whom 23.5% said they were the only women in their team.

Most female workers, comprising 83.6% of respondents, view their team or work group as generally inclusive. Additionally, 88% of those who completed the questionnaire reported receiving various levels of management support to assist with their integration into the team.

Overall, although the proportion of women in ICT companies' teams is typically low, the majority of women respondents do not feel that their team members are not inclusive or that they do not receive managerial support to be so.

Over half of the female ICT workers who completed the questionnaire, specifically 51.8%, reported having received support for their career plans and path. Of these respondents, 21.8% received regular management support for their career development, while 26.4% reported not receiving any support at all.



# What makes the ICT sector attractive to women workers?

## How employers see it

The top factors that appeal to female employees include remote working or home office options, flexible working hours, and opportunities for learning and development. Additionally, part-time employment options, family-friendly office environments, work-life balance opportunities, and involvement in innovative projects are frequently cited as desirable factors by respondents.

## Women workers' motivations for IT career path/career

We asked women what motivations drove them to pursue a career in the ICT sector (Figure 13). High income and continuous learning and development opportunities were the

### What do you think would be attractive to women in your company?

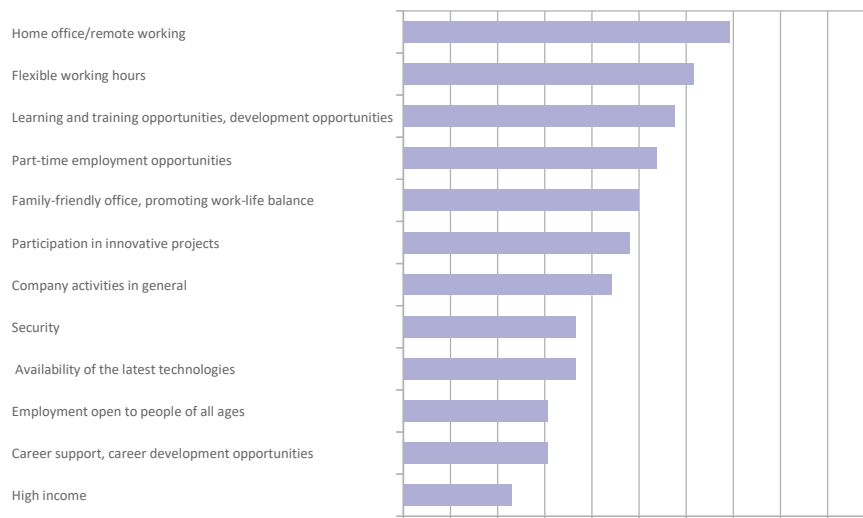


Figure 12 – Factors that attract female employees in the company as perceived by companies (%)

### What factors motivated you to work in the ICT sector?

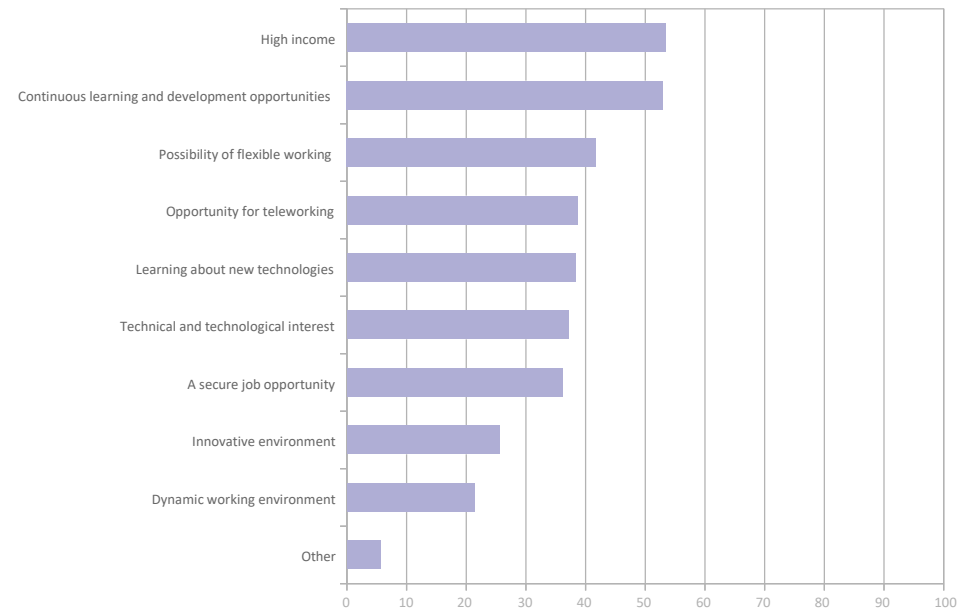


Figure 13 – Motivational factors for finding a job in the ICT sector (%)

underlying motivations for most respondents. Flexible working, teleworking and learning about new technologies were also highly rated as important motivational factors. Other opportunities cited by employees include a forward-looking perspective, secure business development, an agile environment and diversity.

Figure 14 displays the ranking of motivational factors according to the preferences of respondents in each age group, highlighting the factors they rated highest.

	under 30 years	31 to 41 years old	over 41 years
1	High income	Continuous learning and development opportunities	Continuous learning and development opportunities
2	Continuous learning and development opportunities	High income	High income
3	Possibility of flexible working	Opportunity for teleworking	Learning about new technologies
4	A secure job opportunity	Technical and technological interest	Possibility of flexible working
5	Opportunity for teleworking	Learning about new technologies	Opportunity for teleworking

Figure 14 – Top 5 motivating factors for each age group (%)

The data reveal that high income and opportunities for continuous development are key motivating factors across all age groups. However, higher earnings are a stronger motivator for younger workers compared to older groups. For individuals aged 31 to 41, the chance for ongoing learning and development is a more significant motivator. In contrast, younger workers (under 30) prioritize flexible working, job security, and teleworking opportunities. Those aged 31 to 41 also find teleworking, interest in technology, and learning about new technologies highly motivating. For workers aged 41 and older, motivations include learning about new technologies, flexible working options, and teleworking. These factors reflect the typical life situations and priorities of each age group:

while for younger people, who are typically at the beginning of their careers, job security and income are the most important, for those aged 31 to 41, teleworking has become a priority, which is likely to give them a better work-life balance, which may be particularly important in this period, as this age group is most likely to have children. Flexible working and teleworking are also important for people aged 41 and over, while the introduction of new technologies is also one of the most important motivating factors for this age group, challenging the stereotype that "ageing" workers are unmotivated to learn and develop.

We also asked employees about the extent to which the activities listed above and their hopes for the sector have been fulfilled.

On average, 81.6% of respondents reported that their expectations for the sector had been met, while only 4% felt their expectations were unmet. Opportunities for continuous learning and development were the most successful in fulfilling expectations, with 89.3% of respondents indicating satisfaction. Conversely, high income was the least likely to meet expectations, with only 65.5% of respondents finding it satisfactory.

**The main motivators are: high income, the opportunity to develop, teleworking and flexible working hours, and the availability of new technologies.**

# Interviews



## Introduction of interviewees

### Employer interviews

The survey primarily targeted IVSZ member companies, categorizing interviewees based on three criteria: whether the companies were domestically or internationally owned, their size (SMEs or large companies based on employee count), and their focus on women in the ICT sector (NGOs and professional associations). A total of 18 interviews were conducted: 3 with companies employing 10-49 people, 8 with companies employing 50-249 people, 4 with companies employing over 250 people, and additional interviews with NGOs, professional associations, and female IT community leaders. Among the surveyed companies and organizations, there were 7 international and 11 domestic participants. The sample included a range of entities such as IT consultancies, service providers, developers, recruitment agencies, IT contracting firms, start-ups, training companies, and bootcamps. Interviewees held various positions, including CEOs, founders, owners, HR managers, and managers in organizational and business development.

### Employee interviews

We planned to invite a group of 6-8 people from the target group for a 1-1.5 hour discussion. However, the fifth wave of Covid-19 and illnesses reduced the focus group to 4 people.

**Participant 1:** She has been working in the

sales department of a Hungarian IT consulting and service company for 3 years, before that she also worked in this position for 3 years, as a key account manager, her duties include customer relations and project follow-up.

**Participant 2:** She has been working for an international multinational ICT company for 6 years, graduated as an IT engineer, started her career as a coder, later as a scrum master, now her job is a transition between project management and development.

**Participant 3:** She started as a trainee in an international multinational ICT company, worked as a salesperson in ERP, CRM systems and is currently working as a salesperson.

**Participant 4:** She has been working in IT for more than 20 years, graduated as a software design mathematician, currently freelance, working on Oracle development, but also as a business analyst: writing specifications mainly for banks, telecom companies, and also working mainly for large domestic companies.

## Results of employer and employee interviews

### Percentage of female employees in the company

In the participating ICT firms, women are more represented in back office, finance, HR, marketing, sales. The proportion of women in companies moving from IT to business (e.g: Business Analyst), the proportion of women is increasing, with a distribution of between 5 and 10% in hard IT areas in the interviewees' companies.



In management, the proportion of female managers is generally lower relative to the number of employees, with women often found in HR, marketing, sales, and finance roles. A representative from a large international company noted that recruiting female managers presents similar challenges to those faced in recruiting IT professionals: there is a limited pool of candidates, requiring additional effort and targeted searches to find suitable female candidates. Several interviewees reported a low percentage of female middle managers, suggesting that this might be due to middle management positions often being filled by ICT professionals, where women are less represented compared to other fields like sales, marketing, and HR. Despite this, some interviewees shared positive examples of having female managers, technical directors, and IT managers in challenging IT roles.

The head of a large, domestically-owned company says that they are facing a growing shortage of IT staff in the market, leaving companies with few options to choose from due to this lack of resources. However, while the education market also trains a low proportion of female IT professionals, companies are not able to hire a significantly higher proportion of female professionals.

Both large international companies and domestic SMEs have reported an increase in the proportion of women in recent years. In both cases, interviewees said that the growth was due to the conscious efforts of the company. The issue of quotas was raised in relation to increasing the proportion of women. According to several interviewees, the effectiveness of quotas is questionable: one of them said that in her experience it often has a negative impact on performance when female workers experience and perceive that they are a company quota and are not hired only (or not primarily) for their professional skills. Many have described the quota phenomenon as a necessary evil, but it triggers a change of attitude, an opening up of corporate culture.

#### Perceived difference in perceptions of female and male workers

Interviewees were asked if they noticed a difference in how female and male workers are perceived. While employers generally did not observe any internal discrimination or gender bias within their companies, many acknowledged that societal prejudices and stereotypes persist—such as the perception that certain jobs are inherently more masculine or feminine. They emphasized the need for tech companies to actively work towards increasing female representation in the sector. One interviewee from a consultancy noted that, in her experience, small organizations tend to be less discriminatory due to their more family-like and collegial atmosphere. For larger companies with over 500 employees, the ownership background plays a crucial role. In large international firms, it is common for the parent company's equality and diversity policies to be implemented at the Hungarian subsidiary. In these cases, there is generally a strong commitment to equality and no gender-based pay disparity.

Although the interviewees agreed that they do not typically experience discrimination in their company, there were cases on the client side (e.g. in the manufacturing sector) where women experienced negative discrimination, for example, male managers initially found it more difficult to accept a female colleague as an equal interlocutor.

Female workers have not only faced negative discrimination but in many cases have also encountered positive discrimination. According to a leader of a female ICT community, it is common for ICT employers, including both SMEs and multinational companies, to show a strong preference for female candidates. This preference can stem from various factors: managers might be increasingly aware of the advantages and significance of diversity, or they might be leveraging positive discrimination to boost female representation in response to gender quotas.

The focus group centered on the experience of positive discrimination. One interviewee from a large international company noted that she often received more professional attention and interest compared to her male colleagues. This was a stark contrast to her university experience, where a teacher had expressed the belief that girls were not as capable as boys and expected more from them for the same grade. The focus group particularly noted that the current male generation tends to be more accepting and supportive of female professionals, especially in companies with an international presence. Additionally, some domestic SMEs and large companies are also actively addressing and opposing discrimination.

What was perceived as a negative experience by interviewees was that they initially distrust women's expertise at middle management level, but this changes over time. This was particularly the case in smaller businesses, which is reflected in the results of the employer questionnaire.

Three of the focus group participants agreed that women have to do more to be recognised and promoted than men, despite their perception that companies are making efforts to overcome this, but they believe that it will take time for attitudes towards women to change.

## **Corporate attitudes**

### **Corporate openness**

We wanted to know how employers and employees perceive openness, so we covered this both in the in-depth interviews with companies and in the focus groups. We showed the partial results of the questionnaire to the interviewees and asked them questions about them.

During the interviews with employers, it emerged repeatedly that managers defined openness as an opportunity for employment and did not consider integration processes and adaptation as a priority.

Companies are generally perceived as receptive to hiring women. The interviews revealed that these companies understand and appreciate the value and advantages that female employees bring, particularly in fostering diversity. They recognize the fresh perspectives and energy that women contribute to predominantly male-dominated fields. Additionally, many interviewees highlighted that corporate culture and core values play a significant role in shaping this openness.

We also asked employees and employers how they rated the difference in the results of the questionnaire (Figure 15). While 85% of companies rated themselves as fully open, only 20% of female employees rated themselves as open. Most do not perceive such a big difference, but agree that employers and employees have different perceptions of openness.

The owner of a large domestic company put it like this: "men over-dominate this sector: if there is a gender conflict, for example, it is not necessarily the fault of the company, but of the colleagues, which is partly the company's fault, but it depends a lot on individual attitudes, so I can imagine that there are integration problems and that female respondents identify this with the company, but since the company is made up of employees, it is important to address the phenomenon, and this may also be the reason for the difference in the perception of openness".

The variations in perceptions of openness could be due to several factors. While companies may verbally express their commitment to hiring women and actively recruit them, women might still feel that the work environment is not truly supportive. For example, sexist jokes might be considered "normal" in some companies, particularly in interactions among men. This can be distressing for many women, as highlighted by the interviewee's experience, leading to discomfort if they perceive such jokes as directed at them personally.

Some respondents felt that the openness could also be influenced by a woman's ability to succeed in an IT job, and that this also points to individual preferences. Also, the interviewee's view is that managers think the door is open, they take people in, but when they answered, they did not think about what would happen to them in-house.

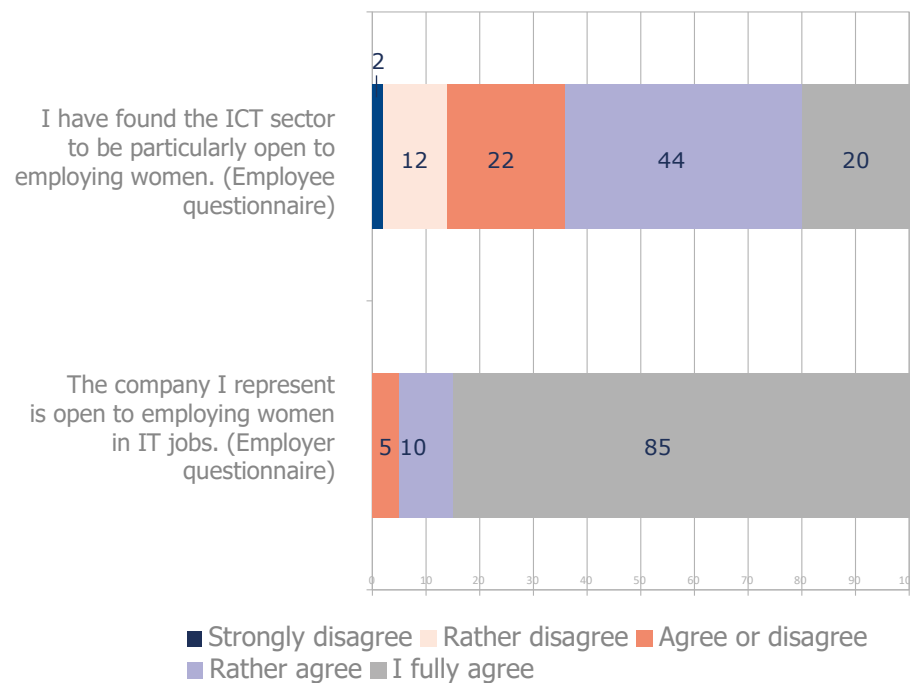


Figure 15 – Evaluation of openness employer and employee outcomes

Focus group participants agreed that most companies have become more open because they are under pressure to hire from the market due to skills shortages. The human resources situation has prompted several companies to change their approach and start to open up to target groups where they believe there is still a labour pool.

The discrepancy they observe is that companies often fail to consider that women face unique challenges both personally and professionally. According to one interviewee, a common mistake is to assume what female workers need instead of directly inquiring about their needs. As the interviewee put it: "You should simply ask what is important to the individual, such as needing to pick up a child, having flexible working hours, or having days with shorter hours." However, two of the interviewees did not perceive this issue; they felt that their employers were open and attentive to their needs and viewed their female status as advantageous.

The results of the quantitative employee survey are echoed in the perspective of a participant over 45, who perceives a lack of genuine openness or curiosity. However, she notes that the situation has improved significantly since the beginning of her career, when she was advised, "it's a man's game, you have to endure." She believes that true openness often hinges on small considerations, such as whether an employer acknowledges that women might struggle with heavy laptops or if there are relaxation options beyond the foosball table, or if team-building activities extend beyond just having a beer. According to her, it is often male colleagues who point out these issues, suggesting that "it might not be good for girls" and expressing a preference for "more girly activities," while employers tend to adhere to rigid assumptions.

Respondents generally have negative experiences with quotas. They believe that quotas can be detrimental rather than beneficial, as they may negatively affect male colleagues, who might be dissatisfied with a new hire brought in due to a female quota. This can exacerbate negative sentiments and stereotypes about female IT professionals. Instead, participants would prefer companies to foster an environment where everyone has an equal opportunity to succeed. They advocate for addressing only the unavoidable career differences, such as providing support for women with children and implementing career models specifically designed for women.

**Psychological safety**

The concept of "psychological safety" was first introduced by Amy Edmondson, an organisational behaviour researcher at Harvard University, who says that psychological safety is the belief that employees will not be punished or humiliated for brainstorming, asking questions, expressing concerns or addressing mistakes, and reporting when they are being disadvantaged in any area. Psychological safety is not just a good feeling that contributes to employee engagement, it is the essence of organisational culture. Teams with a higher level of psychological safety are less likely to leave the firm, i.e. turnover is reduced, teams generate more revenue, business results and are twice as productive.<sup>12</sup>

One of the common characteristics of high performing teams is a high level of trust and acceptance between members. Fear of negative perceptions can reduce confidence, so many ideas do not surface, hampering innovation and competitiveness. When stereotypical expectations are imposed on women in a company,

the pressure to conform erodes the confidence and creativity to be themselves in the workplace and the values that make a company more than it is.

Figure 16 demonstrates how employers and employees perceive the two core values of psychological safety—honesty and openness—by reflecting these perceptions. The first question highlights how female ICT professionals rate these values, while the second question evaluates the overall climate of trust. Although we do not have data on the company-wide results, it is probable that if the results are notably negative, the issue extends beyond female employees and affects the entire organisation.

We asked the interviewed companies how well they think they can provide psychological safety for their employees. We also wanted to know what they think lies behind the differences, why 81% of employers feel that women can openly report grievances and discrimination, while 19% of women feel this way.

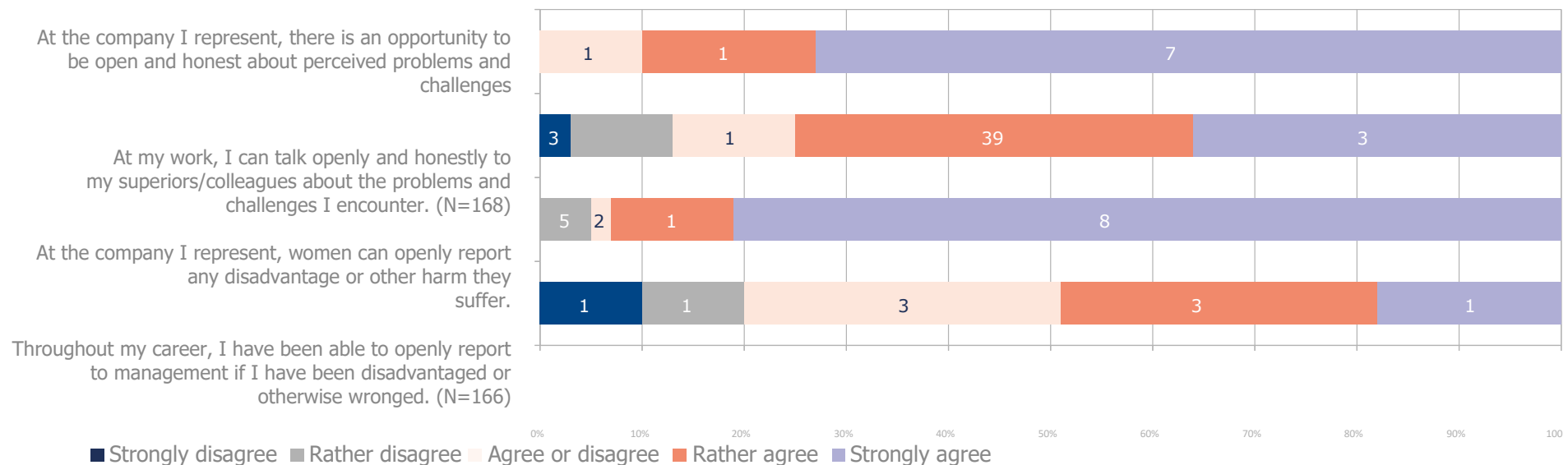


Figure 16 – Comparative graph of psychological safety (%)

12. Edmondson, A. (2018). The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation and Growth.

According to one of our female CEO interviewees, the difference may be due to the fact that the responding CEO may think that if he or she encountered such a problem, he or she would be open about it, while women may have responded more likely to think that there was a forum where they could report it in a safe way. This perspective is supported by several leaders who noted that advocating for oneself is not yet well established in the domestic social and corporate culture. There is also a lack of platforms and significant mistrust about the consequences of reporting issues. In Central and Eastern Europe, including our own country, employees often fear job loss if they raise grievances, leading many to eventually resign rather than address workplace problems. The owner of a large domestic company emphasized that these signs should be closely monitored, as listening and maintaining a consistent, fair approach to discrimination—regardless of gender—are crucial for employee retention. Unfortunately, SMEs often lack the infrastructure to manage complaints, whereas multinationals may have dedicated HR personnel. According to the HR manager of a multinational company, dealing with such matters is very sensitive and personal, and she observes that many women are hesitant to report sexual harassment, partly due to the absence of a clear definition of harassment in our society).

She notes that there is a fear that if someone files a complaint, they might be told, "you can't even handle that," which could escalate into further bullying, or many women might think, "I chose this profession, I knew what I was getting into, I have to endure it." A senior consultant at a consulting firm adds that it is challenging to assess grievances and harassment objectively, and the manner in which feedback is handled reflects the overall maturity of the organizational culture.

Managers agreed that they give their employees the opportunity to give feedback, but typically few of these cases reach them. Although many people don't tell you directly about their problems, they can often tell you when something is wrong. There are also generational differences: Generation X members are more likely to "point out" the problem to their superiors, while Generation Y and Z members are more likely to talk honestly and openly about problems. According to another interviewee, it is very important in an organisation to have a

clear policy on what is tolerated and what is sanctioned by the company in terms of individual behaviour. According to the owner of a large local company, psychological safety - although a lot depends on the number of men in a team - is not just about the development team, but about the whole company and its culture. A representative of a domestic SME said that transparency is part of their organisational culture, but she believes it should be communicated more at company level. It is important that if there is a problem of this kind, there should be consequences.

Overall, the company managers found that the survey results prompted them to focus on the issue of psychological safety for retention, because there cannot be such a wide difference in perception within an organisation.

Focus group participants emphasized that the ability to speak up is heavily influenced by corporate culture. One participant noted, "as women, we often have a fear and a lack of confidence about whether we have assessed the situation correctly," which can increase the pressure to address grievances. Employees in international companies reported having access to a dedicated platform for reporting issues and mentioned that respect for personal boundaries is communicated to employees through a code of ethics during onboarding.

They attribute the difference to the manager's personal expression of feelings, noting that while the manager might discuss such issues privately, employees are unlikely to approach a manager due to the significant distance between them. All interviewees indicated that they had no contact with management and were unfamiliar with them.

### Stereotypes

Reflecting the results of our questionnaire, we asked employers what they think about stereotypes affecting women, as 52% of respondents consider that stereotypes prevent them from building their careers. The answers were mixed: some said that they do not encounter stereotypes at all, some said that they are present and that action is needed to break them down,

and some said that a process has started in recent years, that these stereotypes are starting to break down, and some did not consider the presence of stereotypes to be a sector-specific problem at all. When looking at stereotypes, it is important to see that in companies where there are no women in senior management, where the CEO is a woman, this is not a problem, as employees see a positive role model.

A female leader stated, "Addressing stereotypes is crucial because breaking them down independently is very challenging. I don't understand why companies aren't doing more about this, though there are positive examples. Grassroots initiatives are increasing, but in practice, we need more visibility for female colleagues. Showcasing role models and offering mentoring opportunities for women are essential".

Some of them pointed out that in many cases there is a stereotype that women are not good enough to be successful in this career: many women, many mothers, could do the most to break down stereotypes if they made themselves visible that this career is not just for men, that women, even mothers, can be successful in this career.

A manager at an educational company noted that stereotypes are prevalent in the field of education. She observed that there is a persistent, incorrect belief that women find it more difficult to complete IT courses, despite women achieving similar success as men in these programs. She emphasized the importance of working to dismantle these stereotypes and promote positive role models. Starting this process with young children and involving parents in this shared responsibility is crucial.

Participants in the focus group also experience stereotypes in their daily lives, but the situation is much better than it was a few years ago, not necessarily among colleagues in the sector, but rather in the social environment.

"Stereotypes of both women and IT people have diminished (we don't just picture dudes in plaid shirts anymore, we see a wide variety of IT people),

and this applies to women too," said one interviewee.

### Support for return after childbirth

When discussing company openness, most interviewees emphasized the importance of flexibility, especially for women with children. However, this flexibility is not exclusive to women with children. There is a growing recognition in our country that support is extended to all families with young children. According to the interviewees, home office options and flexible working hours are not only offered to women with children but also to male employees. Companies are increasingly providing flexible working arrangements, such as telecommuting, to help both mothers and fathers balance work and childcare responsibilities.

Many companies (both national and international, SMEs and large corporations) are paying particular attention to supporting women's return to work after maternity leave and to helping them reintegrate. The majority of interviewees also support returning mothers with part-time employment if needed/needed, thus facilitating their gradual return. One of them (a large international company), for example, indicated that if necessary, they would make monthly changes to the employment contracts of returning mothers, depending on how many hours they could work.

Another representative from a domestic SME mentioned that they adjust work hours to accommodate the needs of returning mothers. Currently, some part-time employees are working 12-hour shifts. The company strongly believes in supporting individuals who wish to return, viewing this as an effective strategy for employee retention.

Another large international company believes that flexibility is crucial for return, but argues that there should not be a 'standard flexibility' that is good for all mothers, as needs may vary. Instead, she believes that it is best practice to deal with these cases at local level and

to delegate decisions to where the most relevant information is available (e.g. team lead/project leader). They also have examples of an 8-hour job being done by two 4-hour workers, which although requires some coordination to ensure information flow, she has had an absolutely positive experience with this form of employment. She finds that in many companies, this type of employment is still seen as a risk. Although she also faces challenges, e.g.: it is sometimes difficult to reconcile part-time work with the client, a few hours a day may not be enough for mutual satisfaction. The interviewee has had positive experiences with returning mothers: she sees that typically part-time mothers put in more effort rather than less, and are enthusiastic and hard-working. She also thinks it is important to consider what the company stands to lose by letting the mother go and not supporting her return: they lose the knowledge they have invested years of time and effort in.

A commonly debated issue is the impact of having children on women's career advancement. One interviewee noted that having children can lead to a delay in career progression, particularly if one has been away from the rapidly evolving field for an extended period, such as 4-5 years. However, she pointed out that this delay can be quickly overcome. In her experience, the sooner mothers return to work — whether full-time or part-time — the less they fall behind in their careers. Therefore, it is crucial for companies to support their reintegration.

In the focus group, two members no longer have young children, while two others are currently raising young children. One participant, who works at an international company and has a young child, experienced challenges upon her return. The transition was difficult as she encountered a new manager during her maternity leave. When she came back, she was treated as an unfamiliar newcomer and was regarded as a junior, which led her to request a transfer to another team where her previous experience with the company was recognized.

**Recent years have brought positive changes, but the employment of women in the ICT sector and beyond is still an important and relevant issue. The problem is complex. A significant, multi-faceted change of approach and openness is needed to make progress.**



## Support organisations, programmes, initiatives, good practices

**Kyndryl:** have successfully raised the percentage of women in their workforce, but achieving this required a deliberate investment of effort. The company actively works to attract girls to IT from the secondary school level by participating in relevant events and initiating incubation programs. Additionally, they support female leaders through the establishment of a "Women's Network". **Vodafone:** organise a quarterly learning day on a Friday, where diversity and inclusion are very strongly represented, as well as more provocative topics. They have also introduced a parental policy, which is one of the first in Hungary to provide 16 weeks of parental leave for male employees. Vodafone Hungary aims to integrate employees with management experience back into the world of work, primarily but not exclusively women, whose careers in large companies have been interrupted for several years, typically due to having children or due to time spent in the company or in the family business.<sup>13</sup> The company also tries to keep maternity leave mothers integrated, for example through news, and has created a special newsletter for maternity leave mothers.

**Evosoft:** a 'Women in IT' community was created, whose main goal is to provide a platform for women in IT to share their experiences of how to succeed as women in IT, what they are missing in their career development, their challenges and their answers to them. A common experience was that self-doubt is a challenge for women working in IT, so training is also provided to help them improve this.

**EPAM:** there are programmes specifically for women and girls. In 2018, for example, EPAM Szeged organised 8 suitable programmes "Be a STEM star! Girls in IT" for high school girls.

Furthermore, EPAM's eKids programme, while not specifically targeting girls, has the unhidden aim of showing young people the diversity of IT and its potential before stereotypes are created or accepted.<sup>14</sup>

**Codecool:** triggered by an external initiative to create the CoderGirl scholarship scheme, which enabled girls to attend the training without paying tuition fees. The CoderGirl programme aims to make IT more accessible to girls and women, and to encourage and encourage them to start a career in IT.<sup>15</sup>

**Green Fox Academy:** The Green Fox Academy Academy4MoMs part-time programmer training with day-care services is aimed at mothers with young children who plan to return to the workforce as programmers, learning a new profession. INCO/Google.org commissioned Green Fox Academy to provide 300 women with free entry-level IT training and career support in 2021, with 430 people starting the programme in 2022.<sup>16</sup>

**Microsoft Hungary Logiscool:** in 2020, Microsoft and Logiscool launched the DigiGirlz AI Challenge, where girls could discover how AI can help people and drive sustainability in so many areas, as well as gain knowledge about the future, a special online experience and valuable prizes.<sup>17</sup>

**Morgan Stanley - NATE (Women in Science Association):** Morgan Stanley's Center for Information Technology and Analysis in Budapest and the Women in Science Association (NATE) have launched Smartiz,

13. <https://www.vodafone.hu/vodafonerol/karrier/reconnect>

14. <https://computerworld.hu/karrier/it-kepzes-gimnazista-lanyoknak-243833.html>

15. <https://codecool.com/hu/rolunk/tamogatas/codergirl-osztondij/>

16. <https://www.greenfoxacademy.com/academy4moms-kepzes>, <https://www.greenfoxacademy.com/hello-it-for-women-kurzus>

17. <https://www.logiscool.com/hu/digigirlz>

a programme for high school girls to deepen their mathematical knowledge and learn the mysteries of coding in a basic programming language. Smartiz is a free developmental and educational programme for girls in the 10th grade, which primarily aims to develop maths, digital skills and basic programming knowledge using modern pedagogical methods. In addition, girls participating in the programme were able to select children in need through NGOs and provide them with tablets to help them learn digital skills.<sup>18</sup>

**Women in Technology:** Vodafone, together with leaders from other organisations, launched a foundation for women in the industry to share experiences. They provide a platform for female IT workers to discuss how they can assert themselves and integrate in a male-dominated world. Furthermore, the aim is to raise the visibility of the profession in a way that inspires the next generation to choose this field, e.g: organising a "factory visit" to an area where the leader is a woman.

**NaTe:** initially provided a forum for women who had already worked in an academic field and had experience, they now also reach out to young girls with a range of initiatives from Girls' Day, Shadowing programmes to SCIndicator and Smartizig. Their aim is to support women and girls in pursuing careers in science and technology.<sup>19</sup>

**ShareITLab:** ShareIT Lab is a community that helps women to start, change careers and thrive in digital technology. Their aim is to show women that, despite stereotypes, there are many opportunities for women to get a job in digital technology or information technology. They organise events where experienced women in IT present opportunities through their own examples, whether it's a career change, a career move, or questions about making the switch or moving up.<sup>20</sup>



18. <https://computerworld.hu/karrier/ujabb-diaklanyok-kapnak-tamogatast-hogy-akar-programozok-is-lehessenek-299377.html>

19. <https://nokatud.hu/>

20. <https://shareit-lab.hu/rolunk/>

## Women workers' suggestions for solutions



One of the primary goals of this survey is to advocate for targeted projects and programs based on the research findings to effectively support female employees and their employers, aiming to increase women's representation in the ICT sector. To achieve this, we inquired about the types and forms of support needed for women's professional growth and what could help more women establish themselves in the ICT industry. While the survey focused exclusively on female workers, many of the suggestions provided could also be applicable to male workers, as they address general worker needs rather than being gender-specific.

The complexity of the issue at hand is underscored in the previous chapters: it requires a shift in attitudes not just from companies but also from society, the education system, and female workers themselves. Therefore, we sought input from our primary research group, female ICT professionals, to understand their perspectives on what is necessary to help more women establish themselves in this field.

The suggestions made by female employees in the questionnaire are summarised in Table 1.

What type/form of support would you need for further professional development?		What do you think is needed to get more women into the ICT sector?	
<p>Training, development</p> <ul style="list-style-type: none"> <li>• Providing training opportunities</li> <li>• Time allocated for study</li> <li>• E-learning opportunities</li> <li>• Language learning opportunities</li> <li>• Providing access to training materials</li> <li>• Learning account/resource for further training</li> <li>• Soft skill training</li> <li>• Coaching facility</li> </ul>		<p>Early education</p> <ul style="list-style-type: none"> <li>• Promote technical careers regardless of gender (girls should be targeted, so that this field is not just for boys)</li> <li>• To familiarise girls with the diversity of the IT world and provide them with a wide range of information about the opportunities</li> <li>• Supporting IT education from primary school age, integrating IT into education</li> <li>• Showing more role models</li> </ul>	
<p>Flexibility of employment practices</p> <ul style="list-style-type: none"> <li>• Part-time employment</li> <li>• Telecommuting Digital nomadism (the possibility to work from anywhere)</li> <li>• Alternative forms of employment</li> </ul>		<p>Social change</p> <ul style="list-style-type: none"> <li>• Eliminating stereotypes in education</li> <li>• Removal of the "masculine"/"feminine" occupational labels</li> <li>• breaking down general gender stereotypes</li> </ul>	
<p>Mentoring</p> <ul style="list-style-type: none"> <li>• Regular feedback</li> <li>• Providing knowledge transfer and mentoring between senior and junior employees</li> </ul>		<p>Changing the corporate mindset</p> <ul style="list-style-type: none"> <li>• Transparency</li> <li>• Inclusive corporate culture</li> <li>• Supporting integration into the team</li> <li>• More openness to women leaders</li> </ul>	
<p>Career planning</p> <ul style="list-style-type: none"> <li>• Establish a system to define the following objectives</li> <li>• Setting individual targets linked to organisational goals that have been set jointly</li> <li>• Exploring career opportunities within the company, identifying career paths, providing a career plan</li> </ul>		<p>Supporting work-life balance</p> <ul style="list-style-type: none"> <li>• Providing part-time employment</li> <li>• Encouraging this with public support</li> <li>• Flexible working hours</li> <li>• Providing teleworking</li> <li>• Social responsibility for equal distribution of women's invisible work</li> </ul>	
<p>Psychological support, building psychological safety</p> <ul style="list-style-type: none"> <li>• Trust</li> <li>• Spiritual support</li> <li>• An open discussion about what doesn't work</li> </ul>		<p>Changing attitudes among women</p> <ul style="list-style-type: none"> <li>• Breaking down stereotype "I can't be a good IT as a woman"</li> <li>• Greater openness to IT on their part</li> <li>• Courage and confidence to take this career path</li> <li>• Creating women's professional communities</li> </ul>	
<p>Team Cohesion</p> <ul style="list-style-type: none"> <li>• Supporting integration into the team</li> <li>• Support for Team Cohesion</li> </ul>		<p>Education, communication</p> <ul style="list-style-type: none"> <li>• Role models, presentation of success stories</li> <li>• Sharing experiences of women in the IT sector</li> <li>• Introducing a career opportunity</li> <li>• Presentation of the diversity of the IT field and jobs</li> </ul>	

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