

Transforming Futures through Digital Inclusion in the Nordic Baltic Region







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Acknowledgements

For a long time, we have made program decisions based on assumptions. The shortage of qualified Information and Communication Technology (ICT) professionals and the growing demand for them is not a new topic. However, there has been little research or data-driven conclusions on how to solve this problem. Over the years, many organizations have copied or adjusted existing programs, assuming they work and being primarily guided by feedback done by participants only shortly after the results. But there is still a lack of understanding about which initiatives are most effective, especially in the Nordic and Baltic regions, where digital skills are high, but strong stereotypes and gender biases in the ICT industry remain.

This research allowed us to focus on the Baltic and Nordic regions, helping to understand specific challenges and highlight important local aspects. This work would not have been possible without the work and support of our co-authors. **Nordregio** helped reach respondents and stakeholders in Sweden, Norway, Denmark, and Iceland. **International Women of Work in Finland** connected us with the female community and ICT professionals in Finland. **Smartwork Academy** expanded our reach in Estonia and across the Baltics. It has been a continuous effort and collaboration with all partners to reach key audiences and gather valuable insights.

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Riga TechGirls Team



Foreword



Stefan Eriksson Director of Nordic Council of Ministers' Office in Latvia

The Nordic Council of Ministers' office in Latvia is working with Nordic and Baltic partners to promote mutually beneficial cooperation, with the goal of making the Nordic-Baltic region the most integrated and sustainable region in the world. We are glad to have been able to support the project "Transforming futures through digital inclusion in the Nordic-Baltic region", led by Riga Tech Girls.

The Nordic-Baltic cooperation on digitalisation has been very close during the last years, especially after the establishment of the joint Nordic-Baltic Ministerial Council on Digitalisation, where representatives from all Nordic and Baltic countries meet to discuss all issues related to digitalisation. A concrete example of this cooperation is the 5G Techritory Forum in Riga, which has been supported by the Council since the beginning. A theme of discussion has also been digital inclusion, with a focus on reaching out to groups in society that for different reasons don't get access to the benefits of digitalisation. The Nordic institution Nordregio has been a lead partner in this flagship project, trying to map underrepresented group and suggesting ways to mitigate digital exclusion. As an add-on to these efforts, the Riga Tech Girls' project aims to further increase the knowledge behind the unequal representation by certain groups in digitalisation in general and the tech sector in particular. Hopefully, the research done in the project will help us to understand the mechanisms why these groups are lagging behind and will suggest ways to improve the situation and support the inclusion of all people in our digital society.



Key Finding and Suggestions

When bringing together different perspectives, it becomes clearer which key aspects each party should focus on. By analyzing these views, we can identify common ground, highlight critical areas of improvement, and ensure that all voices are considered in decision-making.

Below are some of the key findings that emerged from this research, offering valuable action points for each group involved. These findings serve as a guiding framework to help stakeholders align their efforts and work towards more effective and balanced solutions.

- **Skills gap:** Many in-demand ICT skills and professions are not being pursued by respondents.
- **Experience vs. academic education:** Employers prioritize practical experience over formal education, while employees often assume academic credentials are key.
- **Need for advanced programs:** Organizations and institutions require more high-level digital inclusion initiatives.
- **Flexibility matters:** Remote work and flexible schedules are crucial for underrepresented groups entering ICT.
- **Confidence barrier:** Many women hesitate to advance in their careers due to self-doubt about readiness.
- **Mentorship programs** help validate skills and guide career decisions.
- **Family support** is key during career changes, while **employer encouragement** boosts upskilling opportunities.
- **Networking events** provide inspiration and help professionals feel less isolated.
- **Certifications matter more at advanced career stages** but have little impact at the junior level from employees perspective.



Suggestions

- 1. **Help to integrate refugees and marginalized women into the ICT workforce**. Most common problems women from such groups face are legal restrictions, lack of professional networks, and unfamiliarity with industry expectations.
 - Offer mentorship and coaching to help individuals navigate job markets.
 - Provide job placement services that connect reskilled professionals with employers (CV online example).
- 2. For many women including refugees and marginalized women **English language is a key skill** missing. Offering and promoting English language courses for free can help to integrate them in the workforce.
 - Subsidize free English courses aligned with technical and business communication needs.
 - Integrate English language learning into ICT training programs to ensure simultaneous skill-building.
- 3. There is a growing demand for more specialized and **advanced ICT training programs** that go beyond basics.
 - Align with industry needs. Existing initiatives should also focus on in-demand fields such as cybersecurity, artificial intelligence, data science, cloud computing, networks and DevOps to equip professionals with necessary skills.
 - Accessible, flexible, and affordable ICT education is essential for bridging the digital divide.

Continue to:

- Subsidize training programs and offer programs for free for in demand fields to lower tackle financial challenges.
- Partner with ICT industry to offer certifications that align with job market demands

4. Provide structured career roadmaps that outline:

- The key skills required at different career stages (junior, mid-career, senior roles).
- Certifications, training programs, and experience pathways to help individuals



progress efficiently.

- Salary expectations and career growth options to help in guiding career decisions.
- 5. **Provide structured and clear company wide career roadmaps** that outline the levels of positions:
 - Certifications, training programs, and experience pathways to help individuals progress efficiently.
 - Salary expectations and career growth options to help in guiding career decisions.

6. Continue providing mentorship programs:

- Connect beginners with experienced IT professionals who can guide them through the industry. Work on a "pay it forward" approach where those beginners then become future mentors.
- Offer coaching on job application, Linkedin profile development and interview skill development.
- Mentors help to be role models in the industry and help to navigate career challenges.
- 7. Networking opportunities, can help aid in this purpose as well. Especially for women in tech growing in their careers.
- 8. When developing more advanced reskilling courses, focus on in demand areas such as:
 - Cybersecurity
 - Artificial intelligence and machine learning
 - Cloud computing and DevOps
 - Network Engineering,
 - Data Analytics and Data Engineering
 - Software architecture and engineering best practices

Reskilling programs should include:

- Mentorship for industry insights and job search support.
- Job placement to help employers value non-traditional backgrounds.
- Bridging programs to help refugees and migrants adapt to local job markets.



1. Overview



30 IT COMPANIES

From Nordics and Baltics Interviewed





Geographical representation of respondents

7 FOCUS GROUPS

ICT employees and women who want to get into ICT



12 STAKEHOLDERS Nordics and Baltics



>600 WOMEN Surveyed who are working in IT or are trying to reskill IT

> 1.1 Introduction

The Baltic and Nordic regions will increasingly prioritize digitalization as a key driver of economic growth and business transformation. In Latvia, the government has outlined a clear Digital Transformation Initiative that emphasizes three critical areas: enhancing digital skills across society, fostering the development of new digital products, and transitioning public services to fully digital platforms. This strategy aims to create a more efficient, innovative, and competitive digital economy in this region. Nevertheless, for such a transformation to succeed, two key factors must be addressed:

- 1) The demand for skilled IT professionals will continue to grow, as businesses increasingly rely on digital solutions, automation, and emerging technologies.
- 2) Digital literacy will become essential for all members of society, as digital services, communication, and business operations become more and more digitalised.

Northern European countries generally show the most positive examples of digital inclusion across EU, while Southern and Eastern Europe lag behind. Despite strong digitalization efforts across the Baltics, there are gaps in our digital competence levels. Especially significant is the fact that Estonia, Latvia, and Lithuania do not perform as strongly as their Northern European counterparts, indicating room for improvement in digital workforce development as well as suggesting that there is something that can be learned from the regional counterparts. Closing this gap and ensuring that both businesses and individuals become more digitally skilled will require targeted investment in digital education, workforce upskilling, and greater accessibility to digital tools and technologies.

An important part of digital inclusion is addressing underrepresented groups, particularly women, who remain significantly excluded the ICT workforce. Across the EU, women make up only 16% of ICT professionals, leaving a substantial portion of the population out. Various initiatives in Latvia are taking place to improve digital skills education and support underrepresented groups, including women, to pursue careers in ICT - Riga TechGirls being one of such organisations. Similarly, across Estonia, Finland, and Sweden there are nongovernmental organizations focusing on the same goals. However, a lack of data on the impact of these initiatives makes it difficult to assess how effective they are and identify the most successful strategies.

To effectively improve digitalization across the Nordics and Baltics, a structured and data-driven approach is needed. The existing digital initiatives and workforce shifts towards ICT careers provide already a valuable foundation for understanding which strategies are work, which need improvement, and where future investments should go. Establishing clear metrics for evaluating digital training programs, sharing best practices across borders, and aligning efforts between government, industry, and educational institutions will be a key factor in building a resilient, inclusive, and future-ready digital workforce.

> 1.2 Study Aim

Across the Nordic and Baltic regions, effort has been made to develop digital skills training, upskilling and ICT reskilling programs, including intensive courses and bootcamps. As a result of these growing initiatives and their demand, a strong ecosystem of non-governmental organizations and tech communities has developed, actively promoting digital inclusion and equal opportunities for underrepresented groups, particularly women. This collective effort has contributed to shaping government policies and expanding funding opportunities for NGOs and digital inclusion stakeholders, reinforcing the importance of inclusive digital education.

However, to ensure the future success of digital inclusion initiatives, it is essential to have a deeper understanding of the effectiveness and impact of existing programs. Future development in this field should build on proven, data-driven initiatives that deliver benefits to individuals and society. This research follows a structured approach that systematically evaluates digital inclusion initiatives, with the following objectives:

Identify Existing Programs: List and analyze existing digital skills and educational programs aimed at reskilling women into IT in the Baltic and Nordic States.

Evaluate Effectiveness: Assess the effectiveness of these programs in achieving their intended outcomes, including job placement, digital skill training, and career advancement for women.

Understand Challenges and Barriers: Investigate the challenges and barriers women in these regions face in accessing and benefiting from these reskilling programs, as well as entering ICT.

Highlight Best Practices: Identify and document best practices and successful strategies that can be replicated or adapted in other regions or contexts.

Policy Recommendations: Provide policy recommendations based on the findings to improve the design, development, implementation, and support of reskilling and upskilling initiatives for women in IT.

> 1.3. Methodology

In order to have a border and more objective focus of the Nordic and Baltic regions and to recognize the similarities and differences, the scope of the project will include a structured list of methods to achieve this. The methods will involve a mix of quantitative and qualitative, quantitative results providing a broader perspective on the ICT reskilling and upskilling initiatives whilst qualitative methods providing in depth insights on questions that will help to better understand the key aspects behind some program success as well as their barriers and challenges. The methodology is described below:

Geographical Focus: The research will focus on the Baltic States (Estonia, Latvia, Lithuania) and the Nordic States (Denmark, Finland, Iceland, Norway, Sweden).

Target Population: The primary demographic for this study is women, particularly those seeking to transition into IT careers through reskilling and women from underrepresented backgrounds such as Ukrainian immigrants.

Methodologies: The research will employ a mixed-methods approach, including qualitative interviews with program participants and ICT company representatives, quantitative surveys with ICT employees, and existing data collection on ICT industry and women in tech.

Types of Programs Analyzed: A broad range of digital skills and reskilling programs, including but not limited to coding boot camps, online courses, vocational training programs, and governmental or NGO initiatives.

Time Frame: Programs and initiatives from the past five years will be the primary focus, ensuring the relevance and contemporary understanding of the ecosystem.

Outcome Measures: Key metrics such as completion rates, employment rates, career progression, participant satisfaction, and digital skills gained will be used to evaluate initiatives success.

> 1.4. Structure of the report

The first section will provide an outline of the current situation across women in ICT and the broader ICT industry. It will focus on existing studies, with a particularly on regionally conducted. It will set the

background and outline any key information on the current state of digital skills levels across the region. Additionally, it will examine existing digital inclusion data, providing a contextual foundation for understanding the challenges and opportunities within the sector.

The second section will take a closer look at the workforce, with a particular emphasis on women in ICT. It will present an in-depth view on women in ICT, their reskilling and upskilling efforts and analyze the factors that women in the industry have identified as important to their successful reskilling or career advancement in ICT. The section will primarily focus on data gathered from the survey representing over 600 women from ICT, as well as feedback gathered from conducting focus group interviews with women in technology across Baltics and Nordics. The fourth section will follow with the ICT company and industry outlook on challenges with attracting and retaining workforce.

The fifth and sixth section will focus on providing insights gathered about the existing initiatives of digital inclusion across Nordics and Baltics. The sections will focus on initiatives that have received specific feedback from respondents of ICT industry women, companies, tech ecosystem, education institutions and government institutions that are connected to implementing digital initiatives.

The final sections will provide further suggestions and next steps for each of the previously mentioned groups of what activities should be focused on when thinking of implementing further strategies and initiatives to develop a more competitive digital economy across Nordics and Baltics.



2. Current State

2.1 Overview of the Nordic-Baltic ICT Industry

The European Union (EU) aims to employ 20 million ICT specialists by 2030 (Digital Decade Policy Programme 2030, 2022). In the Baltic region, Latvia's ICT sector has nearly doubled in size between 2008 and 2018, with a 96% increase in employment, a 169% rise in ICT companies. (Providus, 2020). Despite the increasing demand for ICT professionals, European labor markets face significant digital skills shortages. Sweden anticipates a shortfall of 18,000 professionals annually between 2024-2028 (The gender gap in technology in Scandinavia). In Latvia it is expected by 2030 to be more than 9'000 based on the Ministry of Economics data (Par darba tirgus vidēja un ilgtermiņa prognizēm, 2024). Already in 2020 56% of companies reported the struggle to hire qualified ICT professionals in Latvia, highlighting the start of this persistent shortage (Providus, 2020).



Figure 1.1 Percentage of ICT Specialists in EU between 2018-2024

Source: DESI indicators, ICT specialists

The increasing reliance on technology-driven solutions has placed digital skills at the center of workforce transformation, particularly in the ICT sector. The demand for ICT professionals is accelerating, making skill gaps one of the most significant barriers to business digitalisation.

According to the World Economic Forum's "Future of Jobs Report 2025", 85% of employers prioritize upskilling their workforce, 70% seek new talent with specialized digital skills, 50% transition employees into growing roles, and 40% reduce positions where skills become obsolete (The Future of Jobs Report, 2025).



Figure 1.2 Technology trends driving business transformation, 2025-2030

Source: World Economic Forum, Future of Jobs Survey 2024

Among the most critical skills distinguishing growing jobs from declining ones are programming and technological literacy. The rapid adoption of artificial intelligence (AI) is also one of the key fields of workforce transformation, with half of employers planning to restructure their business operations in response to AI advancements. Two-thirds of companies are actively hiring professionals with AI expertise, while 40% anticipate workforce reductions due to automation. Consequently, the demand for professionals specializing in specific technology fields is rising significantly (The Future of Jobs Report, 2025).

The urgency of digital transformation is further emphasized by global youth unemployment trends, where in 2023 an average of 11.2 % of 15-29 year-olds in the EU were neither in employment nor in education and training (NEET). In Latvia, Estonia and most Nordic countries the numbers slightly below the average whilst Lithuania falling behind with higher numbers of youths that can be identified as NEET (ec.europa.eu, 2024). Young people lack digital literacy and more advanced technology skills, resulting in a lack of job opportunities (Social Inclusion, Digitalisation and Young People, 2020). Thus also investing in digital education as well as junior level positions is critical to ensuring inclusive job growth.

As most EU countries—including the Baltics and Nordics—face aging populations, reskilling and upskilling efforts are crucial to maintaining economic growth. The untapped potential of underrepresented groups, including youth but particularly women, presents a significant opportunity for meeting workforce market demands while also improving workforce inclusion.

The increasing integration of digital technologies into business operations has made advanced digital skills a necessity for economic growth. The demand for ICT professionals continues to rise, yet skill shortages, gender gap, and demographic challenges threaten to slow progress. Addressing these gaps through data informed targeted reskilling and upskilling programs, inclusive hiring strategies, and digital access expansion will be essential for ensuring workforce sustainability and maintaining Nordic-Baltic regions competitiveness in the global digital economy.

> 2.2 Background of Baltic-Nordic digital skills

As previously emphasized, digital skills are crucial because today's in-demand roles require increasingly advanced technical expertise. Consequently, professionals who keep pace with these evolving demands can pursue higher-paying, more rewarding careers, while those who lag behind may be confined to lower-paying, stagnant positions and be in the danger of being in lesser demand positions. On top of that The Future of Jobs Report indicates that over 54% of employees will require reskilling as various roles are becoming less in demand such as postal service, data entry and bank clerks, cashiers and ticket clerks, administrative assistants, graphic designers (The Future of Jobs Report, 2025). Women are more exposed to this, with 11% of jobs held by women at risk of displacement, as women are highly represented in more routine or codifiable tasks than men across all sectors and occupations—tasks that are more prone to automation (Gender, Technology, and the Future of Work , 2018).

A key component for understanding the current state and success of digital inclusion initiatives is to have a base line of the skills needed to achieve it. Based on the DESI index the level of digital skills in Baltic states is mainly below the EU average while Nordic countries showcase higher results (DigComp Framework, 2022). The DESI index evaluates digital skills based on whether they are foundation, intermediate, advanced or highly specialised levels testing the interaction with technology. It can often be the association that the use of the internet is equal to the level of digital skills, whilst the data showcases different results.



Figure 1.3 At least basic digital skills, All individuals (16-74) in 2024

Source: DESI indicators, At least basic digital skills

According to 2023 data, the foundational digital skills that are already in high demand include:

- 1. Information and data literacy;
- 2. Communication and collaboration;
- 3. Digital content creation;
- 4. Safety;
- 5. Problem-solving (Gender Equality Index 2020: Digitalisation and the future of work, 2020).

While these foundational competencies remain essential, the demand for more advanced digital skills is expected to rise significantly by 2030. Based on the latest projections, the most in-demand skills will shift towards more specialized and adaptive capabilities, including:

- Al and big data understanding and leveraging Al and data analytics for decision-making and automation.
- Networks and cybersecurity ensuring secure and resilient digital infrastructures to protect against cyber threats.
- Technological literacy the ability to effectively navigate and use emerging digital tools and platforms.
- Curiosity and lifelong learning the capacity to continuously learn and adapt to new technological advancements.
- Resilience, flexibility, and agility the ability to navigate change, recover from disruptions, and embrace evolving digital environments (The Future of Jobs Report, 2025).

This shift emphasizes the increasing need for both technical know-how and ability to adapt to changing environments. While AI, cybersecurity, and data science will become increasingly important, soft skills such as curiosity, agility, and adaptability will also be essential for professionals to keep ahead with technological advancements and workplace demands. Organizations and educational institutions must therefore focus on not only equipping individuals with technical knowledge but also fostering a culture of continuous learning and ability to adapt to ensure resilience in this changing digital economy.

In order to meet this demand the gap in digital skills across underrepresented groups needs to be addressed early on. Across the EU men often have more advantages than women when it comes to the digital skills necessary to thrive in the digitalised world of work. More men than women have above basic digital skills in problem-solving and software skills, with a smaller gap evident in information and communications skills. Also it is apparent that the digital skills of both women and men increase with level of education and differences in all types of digital skills are largest among those with low education. Across all levels of education, women have fallen behind in problem-solving and software skills (Gender Equality Index 2020: Digitalisation and the future of work , 2020). Women have more data preparation and exploration skills, whereas men have more machine learning, big data,general purpose computing (GPC) and computer science skills (Young, Wajcman, & Sprejer, 2023). Women in EU remain behind men in using ICT technologies at work,

with the gender digital gap limiting their potential and reducing the EU's overall productive capacity(Damiani & Rodríguez-Modroño, 2023).

2.3 Digital Inclusion across Nordics and Baltics

Although women represent 57% of university graduates in the EU, only 20% of ICT-related graduates are female, and the proportion of women in ICT jobs remains low at 19% across EU (Damiani & Rodríguez-Modroño, 2023). In the Nordics and Baltics the average percentages are slightly higher, with Latvia representing 24% of women in ICT and the rest with similar percentages hovering over 20% mark (Damiani & Rodríguez-Modroño, 2023).



Figure 1.4 Proportion of women in ICT jobs

Source: Measuring the digital inclusion of women, Quality & Quantity 58

Nevertheless, gender disparities remain a significant challenge in the ICT sector, particularly in roles requiring advanced digital skills and technology creation. Fields such as software development, engineering, and cloud computing are still majority male, with women making up only 26% of professionals in Data & AI, 15% in engineering, and just 12% in cloud computing (Comission, 2024). In contrast, women are overrepresented in fields like healthcare, which generally demand fewer advanced digital skills. This discrepancy is further reflected in skill distribution—women tend to excel in data preparation and exploration, while men dominate areas such as machine learning, big data, general-purpose computing, and computer science. Moreover, women in the EU still lag behind men in using ICT technologies at work, limiting their professional growth and ultimately reducing the EU's overall productivity (Damiani & Rodríguez-Modroño, 2023).

It is no new information that various gender based stereotypes exist which hinder digital inclusion and equal opportunities in the ICT industry. Among some of the most emphasized throughout various studies is a) lack of confidence in applications: men apply for jobs even if they don't meet all requirements, while women tend to apply only when fully qualified, b) lack of

female role models: few female mentors and teachers in ICT reduce career encouragement for young girls c) workplace bias: employers can hold unconscious biases, leading to fewer opportunities for women in tech roles(Damiani & Rodríguez-Modroño, 2023). Measuring the digital inclusion of women: a poset-based approach to the women in digital scoreboard

Although this research focuses on how existing initiatives can support women in entering and advancing in ICT, it is essential to take into account these previously mentioned broader challenges that hinder their participation. Developing targeted strategies must include equipping women with digital skills, promoting diverse hiring practices, and fostering inclusive workplace cultures. Without these efforts, the global gender gap in business will persist, with full gender parity projected to take nearly a century. Closing this divide is not just about equity—it is a key driver of innovation and economic growth in the digital economy.



3. Women in ICT

> 3.1 Improving digital inclusion in ICT

As discussed previously in order to meet the demands of the changes across the business and workforce market there are three significant approaches that need to be addressed.

- Reskilling to ICT professions: With aging populations across the EU, reskilling the workforce for in-demand ICT roles is essential. Leaving skilled workers behind is not an option—reskilling ensures economic sustainability.
- 2) **Upskilling in ICT:** to meet the demands of more specialised and specific technical requirements. Businesses must invest in upskilling their employees to meet evolving technical demands. Instead of relying solely on external hiring, companies should develop internal talent to stay competitive.
- 3) **Providing entry-level opportunities:** To sustain digital growth, there must be opportunities for new entrants in ICT and career development programs that support new talent.

To gain deeper insights into workforce perspectives on reskilling, upskilling, and entry-level opportunities, over 600 women professionals were surveyed during the period of September 2024 to March 2025 across Baltic and Nordic countries. This was complemented by seven in-depth focus groups with women in ICT. The goal was to evaluate how effective initiatives and current programs are in meeting the participants' needs of entering new professions from different current roles (reskilling) and improving their existing skills to step up in their careers (upskilling) in technical roles, highlight such needs and identify areas needing improvement. The survey provided a broad overview of women's experiences across different regions, economic backgrounds, and social contexts, while the focus groups offered a more detailed analysis of support programs and highlighted challenges in career growth in the ICT industry. This combination of quantitative and qualitative research helped capture both the overall trends and nuanced challenges within digital inclusion efforts in the ICT sector.

Among all survey respondents, almost 43% reported completing IT training not to change jobs, but to upskill and gain a competitive advantage within their current workplace. This highlights the growing recognition of digital skills as a key factor in career progression and job security, reinforcing the importance of continuous learning in an evolving job market. 17% of women from the survey mentioned that rather than reskilling they will use the skills they have gained to remain in their current workplace and not change anything. [Figure 2.1]. From those 40 % mentioned that they have already reskilled whilst almost 60% said that they have not. This showcases a significant number of women eager to grow in their existing careers as well as reskill to IT [Figure 2.2].

Figure 2.1 Are you planning to reskill in the IT field or use your acquired IT knowledge in your current job? Overall



Source: Digital Inclusion, Survey, 2025

Figure 2.2 Have you reskilled in the IT field after completing any IT courses / coding bootcamps / workshops / entrepreneurship courses or other courses? Among those who answered "I will stay in my current job and not change anything".





Figure 2.3 Have you reskilled in the IT field after completing any IT courses/coding boot camps/workshops/ entrepreneurship courses or other courses? Overall

Source: Digital Inclusion, Survey, 2025



The survey results highlight key skills that are currently in high demand for individuals developing careers in ICT or looking to upskill within the industry The top three most sought-after skills are:

- Cybersecurity skills (64.3%)
- Artificial intelligence (62.8%)
- Coding and programming (61.7%)

These insights emphasize the importance of strategic upskilling for those entering or growing in the ICT industry. As companies focus more and more on AI, cybersecurity, and programming expertise, individuals looking to reskill or grow their careers in these areas show that participants are aware of the expected demands from them.

Moreover, the rising demand for project management and cloud computing skills suggests that there is a demand and expectation not only for technical expertise but also for organizational and leadership capabilities [Figure 2.4].

Figure 2.4 What do you think are the most in-demand digital skills in the labor market?

Coding and programming
61.7%
Cybersecurity skills
64.3%
Digital Marketing
30.6%
Artificial Intelligence
62.8%
User Experience
32.7%
Cloud computing
39.3%
Project management skills
40.3%

Source: Digital Inclusion, Survey, 2025

Looking deeper into the skills acquired by women who are not actively seeking reskilling but have engaged in IT training, it is evident that higher-level digital competencies are seen as essential for career growth and adaptability. According to the data, the most commonly acquired skills include coding and programming (48%), followed by computer hardware understanding (47%) and basic digital skills (45%) [Figure 2.5].

These findings suggest that women recognize the value of technical proficiency in strengthening their competitiveness in the workforce, even if they do not intend to switch careers. Web development (43%), software testing (34%), and UI/UX design (33%) also rank among the emphasized skills, reflecting an interest in both technical and creative aspects of ICT. Meanwhile, data analytics (32%) is emerging as a crucial skill, aligning with the growing demand for data-driven decision-making across industries.

This trend emphasizes the importance of digital upskilling, even among those not transitioning into ICT careers. It highlights a broader workforce shift where basic and advanced IT skills are becoming indispensable across various sectors, adding to the need for continuous education and accessible training opportunities.

Figure 2.5 IT-related skills acquired in the last 5 years

Learning to code and program	
48%	
Understand computer hardware basics	
47%	
Learning to use basic digital tools (email, communications tools, etc.)	
45%	
Web development	
43%	
Testing	
34%	
ui/ux	
33%	
Data Analytics	
32%	

Source: Digital Inclusion, Survey, 2024

The increasing engagement of women in IT-related training is apparent, with 74% of respondents currently attending a course to enhance their digital skills. This highlights a strong commitment to continuous learning and the recognition that technical proficiency is crucial for career development, even for those not actively transitioning into ICT roles. This is further supported by deeper interviews with focus group participants, where no matter the region women agreed that you have to be consistently learning to keep up in ICT.

Figure 2.6 Course or activity attended in the last 5 years



Source: Digital Inclusion, Survey, 2025

"... if you come to this industry, you definitely have to love learning, because there are new things all the time and you have to improve to remain good in this field."

Source: Digital Inclusion, Focus Group, 2025

"...all of them(courses and programs) together give you some confidence and make you less confused." Source: Digital Inclusion, Focus Group, 2025

"I think it is important to keep up to date and take regular courses or training about new stuff in my field." Source: Digital Inclusion, Focus Group, 2025

On top of that a surprisingly high percentage of all focus group participants mentioned that most if not all of the courses that they have attended have been for free, and that has influenced their ability to participate in them.

"If the courses were offered for a fee, I would hardly go, because you don't really know where you're going to end up and you're going to spend money on it without really understanding for what. I probably wouldn't go."

Source: Digital Inclusion, Focus Group, 2025

Nevertheless, participants recognize challenges in this area highlighting that there is a lack of non academic content and courses for professionals who want to upskill and get to their next position in their careers. Whilst various large scale ICT companies offer courses in collaboration with training centers for those for whom this is not provided the options are limited, especially at the start of you career. As seen in Figure 2.5 for various respondents the choice to pursue a course is an independent one and is not suggested by their company or otherwise.

"Finding courses that are not for beginners is a mission impossible."

Source: Digital Inclusion, Focus Group, 2025

Most participants also emphasized that whilst intermediate courses are not that available there is still a significant amount of opportunities available for them. They key factor is getting into the ecosystem, paying attention and following along:

"If you sit and do nothing, you think nothing is happening. The moment you've somehow logged on, followed, shared something, you've looked something up, then all the time the information starts coming to you. It turns out that a lot is happening. Sometimes friends and acquaintances suggest things." Source: Digital Inclusion, Focus Group, 2025

When digging deeper the survey data highlights the key skills women are currently studying to further their careers in IT and related fields. The findings reveal a strong focus on technical expertise, with a particular emphasis on programming, project management, and data analytics [Figure 2.7].

Figure 2.7 Are you currently studying in any IT related course, if so which one?

Data Analytics	5	
25%		
Project Manag	gemen	nt
34%		
Digital Market	ting	
11%		
Specific coding	g lang	gage o
56%		
Automation		
6%		
Cybersecurity		
8%		
Other		
4%		

Source: Digital Inclusion, Survey, 2025

3.3 ICT Workplace influence and career growth

For those women who have responded that they want to reskill, the main influences in their decision to consider a new job are: higher salary, growth opportunities, and remote work options [Figure 2.8]. The consistent ranking of these factors highlights how career advancement and workplace flexibility are fundamental to job satisfaction and retention.

These insights align with feedback on what skills and characteristics are perceived as most valuable for ensuring career opportunities. Employees prioritize workplaces that offer not just financial incentives, but also long-term career development and flexible work arrangements that align with their family and personal life needs.



Figure 2.8 Motivation to change your job

Source: Digital Inclusion, Survey, 2025

The survey results highlight that workplace flexibility is a crucial factor for many professionals considering a move into the ICT sector. 62% of respondents reported working in a hybrid model, making it the dominant work format among participants. Meanwhile, 20.42% work fully remotely, while 17.52% follow a traditional in-office model [Figure 2.9]. A key factor is also that all of the hybrid model respondents mentioned that they work full time.

Discussions in focus groups reinforced that hybrid and remote work opportunities are key motivators for women transitioning into ICT. Many participants emphasized that the ability to balance higher salaries with personal and family commitments was a decisive factor in choosing tech-related careers. The flexibility offered by ICT roles not only enhances work-life balance but also makes the sector more accessible to individuals who may have previously been limited by rigid office-based work structures.

Figure 2.9 Format of work



Source: Digital Inclusion, Survey, 2024

Further on when inquired about challenged to move upward in your career among survey respondents and focus group participants key challenges crystallize as:

- English language skills;
- Soft skills such as communication and management skills;
- Time constraints due to family commitments;
- Practical skills and years of experience;
- Academic level of education in IT.

A key aspect here that has been recognized at various points by survey respondents as well as focus group participants has been the need for a mentor, an experienced professional and contact from your field of expertise that can support and guide you.

"I'm lacking a mentor, someone who understands what I'm going through and has practical feedback and advice to share, because I often feel stuck, not knowing what should be my next step, if i'm ready for the next job, how to do it, connections with the field. Also I think shadowing an expert would help a lot, because I could see how processes are organized in real life not just by theory."

Source: Digital Inclusion, Focus Group, 2025



Socioeconomic factors significantly impact women's ability to enter and advance in ICT careers, with geographical location, economic stability, and available support systems playing an important role in determining access to reskilling and upskilling opportunities.

The survey highlights that 69.43% of respondents work on-site, while 20.38% have a hybrid work arrangement, and only 10.19% work fully remotely [Figure 2.10]. This distribution indicates that while remote and hybrid work is a priority for many, access to such opportunities remains uneven across different socioeconomic groups.

A particularly affected group is Ukrainian refugees, whose responses reveal that despite their strong preference for remote work, their real employment options are limited to in person roles. This limit is likely due to legal, economic, and integration challenges, which reduce their flexibility in the job market.



Figure 2.10 Format of work / Ukrainian refugees

Source: Digital Inclusion, Survey, 2025

An obvious factor for this is also a language barrier that many women mentioned when asked: "Are there any challenges for you to progress in your careers or change your career?". The second biggest challenge was a lack of growth opportunities in the existing workplace.

This is reflected also in the survey results indicating a strong desire among Ukrainian refugees to reskill for new career opportunities, with a significant amount emphasizing the need for remote work. According to the data 47.01% of respondents expressed interest in reskilling for a different position [Figure 2.11]



Figure 2.11 Format of work / Ukrainian refugees

When looking into skills development and upskilling the survey results highlight regional and demographic differences in skills demand among ICT employees in the Nordic and Baltic countries as well as Ukrainian refugees. The data reveals which skills employees prioritize and how different groups perceive the expectations placed on them. [Figure 2.12]

Advanced ICT skills are the most in-demand overall, but vary by region:

- 81.2% of Nordic respondents identified advanced ICT skills as a key requirement, the highest among the groups.
- 77% of Baltic respondents reported the same, showing strong alignment with Nordic trends.
- However, among Ukrainian refugees, only 64.7% cited advanced IT skills as a top requirement, indicating a greater emphasis on other competencies such as soft skills as can be seen in Figure 2.12.

Figure 2.12 Skills in demand from employer / Nordics, Baltics and Ukrainian refugees comparison

Source: Digital Inclusion, Survey, 2025



Source: Digital Inclusion, Survey, 2025

The findings highlight that women are actively engaging in IT training and upskilling, understanding the need for continuous learning. A clear emphasis from them is put on programming, in depth skills as well as leadership. However, they surveys and focus groups highlighted that there are challenges including limited access to non-academic training that is above basic level, lack of in depth content and roadmaps of the necessary skills provided by employers and barriers related to socioeconomic background.

A key takeaway is that among workplace flexibility, mentorship, and structured career pathways, offering targeted support programs that include basic digital skills, soft skills and english language training is key to gaining and advancing women in ICT from underrepresented socioeconomic backgrounds.



4. ICT Industry

To better understand the existing opportunities and challenges of the ICT industry 20 IT companies from Baltics and 10 from Nordics were interviewed. The goal of the interviews was to get to know the companies pain points, have a broader understanding of the hiring process and recruitment that could provide participants with key information on how to enter ICT as well as understand what has worked and what hasn't in reskilling and upskilling employees. The interviews were conducted in an open format with a pre set of questions and each took 1h online. The below results outline key points from all the interviews regarding specific topics discussed.

Key challenges and in demand professions in Baltics and Nordics

- **Competition for talent:** The Baltic ICT market is experiencing an ongoing talent shortage, with companies competing for a limited pool of skilled professionals. Companies need to come up with innovative offers for employees that can help attract them.
- Lack of professionals with specialized skills: Among the most in demand professions and skills various companies mentioned fields such as Cloud Computing, DevOps, Embedded Development, Networks, System engineering and Artificial Intelligence. Languages that were mentioned that tend to have shortages of talent were GoLang and PHP. GoLang in general is not that popular and used across the region, thus very often such professionals are found in limited amounts in competing companies.
- **Partners who demand mid level experts:** The demand for mid to senior-level IT experts is far greater than the current supply. Whilst companies themselves mention that they are open to having juniors the requirement for mid to senior level comes from their business partners.

Reskilling and upskilling employees

• **Upskilling of existing employees:** Most companies work with outsourced training centers and actively promote training for their employees. In order to encourage this a successful format is providing a set amount of hours each month that the employee can dedicate for learning or going through training.

- **Reskilling existing employees:** It is fairly common for employees to reskill in their companies and in many scenarios goes both ways: ICT professionals reskilling to other professions most often product owners or product managers, whilst the opposite can be found more frequently: professionals from other field reskilling to ICT. In such scenarios team leads and/or HR lead provides a roadmap on how to enter the next position. A more practical approach that has proved successful is putting the teammate as junior in other teams in the desired position.
- Leadership and communication skills: A key characteristic that was emphasized by various employers was the ability to lead, take on responsibility and be clear and concise in your communication. These are the main aspects that have proven to be essential when considering promotions among employees.

Hiring process

- Education vs Practical training: Throughout all interviews with ICT employers only 2 mentioned formal education such as a bachelor's degree in Computer Science as essential in their new employees. Most mentioned that highly valued are practical expertise, showcasing your own interest through projects and a portfolio, whilst a small number of interviewees even mentioned that they have stopped including the amount of years worked in a field in a specific job requirement, valuing practical understanding more.
- **Preparation:** Various interviewees mentioned that they can tell just by preparing for interviews and spending the time to research about the company and role plays a big role in leaving a good impression. There are a significant number of applicants who are not ready for interview questions and showcase a lack of understanding of the role they have applied for.
- Interview Process: For most ICT companies the interview process takes on average 23 days. Whilst for some companies they aim to make the process more effective and hire in 2 weeks, some mentioned that it very likely can take up to 35 days including all interviews and communication. There was a similar approach among most companies where the process tends to be between 3-4 steps, following the structure below:
 - Short phone interview;
 - Task or more in depth interview with Team lead with technical personnel present;
 - More in depth interview with Team Lead or HR;
 - Final interview with Team Lead in case of successful application.
- **Hiring is overseen by team leads:** Whilst most HR representatives help and support in the job requirement definition and job posting support, the main requirements and responsibilities of the potential employee are defined by team leads.



- **Hiring channels:** Whilst most companies shared that they use their local job board website that reached the biggest audiences, more so company representatives are using Linkedin Jobs and Social media posts, especially so in cases of technology related roles.
- **Hiring through suggestions:** Whilst in many cases a specific number was not given it is averaged that around 5-10% of employees are hired through the existing company network friends or relatives. This has proved very effective, nevertheless it remains a smaller amount.

Remote Work and Global Talent

- Work format: Almost all ICT companies agreed that their main style of work is hybrid. It can differ from team to team on the expectations on when and how each employee has to be in office and is usually set by the team lead. Additionally, for some companies it can differ on how people from different regions and more remote locations are organised.
- **Global and national talent:** This opportunity to work in a hybrid format has allowed to hire more talent from different cities across the country as well as different countries. Nevertheless, for most ICT companies it is the case to try and hire the best talent from their working country.
- **Digital tools and remote work skills:** In order for teams to work effectively most companies mention that there needs to be training and alignment on remote work skills and communications. There are cases where the communication remotely needs to be improved among teammates and rules set.

Overall all companies emphasize the need for ICT talent especially so in specialised fields which has shifted in the years. Nevertheless, it seems that there is a unified understanding that everyone needs to find effective ways of supporting the growth of such talent. This can be done through finding ways of how to offer junior positions, giving opportunities for reskilling to their existing employees, offering training to ensure that their existing employees skills remain at a high level and being open to new candidates from coding schools or other forms of self training.



5. Case studies

To better understand the existing strategies and initiatives across digital inclusion stakeholders which included educational and government institutions as well as coding schools, bootcamps and NGOs that work with reskilling, upskilling or research on digital inclusion have been interviewed. In total 12 stakeholders participated in the research helping to understand what initiatives have been and are focused on currently and which of those have proved to be more effective.



Woman Go Tech / Acceleration Program (Lithuania)

The Women Go Tech Acceleration Program offers a six-month mentorship opportunity for women seeking to transition into tech. Participants are paired with experienced mentors and gain industry insights, attend monthly events, and develop skills in fields like Front-end Development, Back-end Development, and QA. The program helps improve CVs, interview skills, and portfolios, and provides access to job opportunities. The program is designed to boost confidence, provide networking opportunities, and facilitate career growth in tech.

Accenture She Goes Tech / Bootcamp

The She Goes Tech program, organized by Accenture in support of Riga TechGirls, is designed to help women transition into IT careers through comprehensive training. Participants receive mentorship, practical knowledge in fields like coding, UX/UI, and QA, and career guidance to support entry into the tech industry. This initiative fosters gender diversity in IT while empowering women to develop competitive skills. The program tends to be followed up by another 3 month program and can transition into an internship in Accenture. The program ran from 2019-2023, it does not run anymore.

"If I hadn't done the bootcamp, no one would have taken me. If Accenture hadn't hired me, I wouldn't be working anywhere."

Source: Digital Inclusion, Focus Group, 2025

"...only thanks to them, I even got the opportunity to work."

Source: Digital Inclusion, Focus Group, 2025

"Well, I think the Accenture bootcamp was the best for me because they made us do a lot of practical work. They literally sat us down from eight in the morning until six in the evening. You listened to theory, and then you had homework after that."

Source: Digital Inclusion, Focus Group, 2025

"When I was applying for a junior role in a job interview, it was useful. So, even though I had no prior experience, having attended the Accenture bootcamp helped me because we worked within the SCRUM framework. We gained practical experience, and I was able to answer all the interview questions because I actually had both knowledge and hands-on practice."

Source: Digital Inclusion, Focus Group, 2025

Riga Coding School

Riga Coding School offers tailored IT courses for adults aiming to change careers and acquire programming and technology skills. Courses include full-stack web development, Python fundamentals, cybersecurity basics, UX/UI design, and automation testing. Training is accessible online, with professional lecturers and additional resources like career consultations, CV preparation, and job placement support. Graduates gain practical knowledge to start careers in IT and are connected with industry partners for internships or employment opportunities.

"Started with Riga Coding School with web development. In fact, after those courses, they got the bonus of helping you find a job. They must have had some kind of cooperation agreement with a number of institutions. And then if I got a job in one of the IT companies after that, that was my first experience with a British company."

Source: Digital Inclusion, Focus Group, 2025

"I started with Riga Coding School, because at the time when I was looking for anything meaningful, I couldn't find anything else. It was either this or going to university to study as a programmer. They seemed to be coherent enough for me to get that first impression whether I like or am good at programming at all. "

Source: Digital Inclusion, Focus Group, 2025

RTG Mentorship Program

The Riga TechGirls Mentorship Program is a six-month hybrid initiative aimed at supporting women in the early or growth stages of their tech careers. Participants receive personalized 1-on-1 mentoring from experienced professionals, access to career resources, and networking opportunities. The program focuses on various tech fields like UI/UX, software engineering, digital marketing, cybersecurity, and more, enabling mentees to gain practical skills, expand their professional networks, and achieve their career goals. Mentors also benefit from leadership development and community building. This program runs once a year and has been running since 2020. *"Discover Tech, it helped to understand what technology is and what is happening in which sector."* Source: Digital Inclusion, Focus Group, 2025

"...given that I work in IT as a project manager, at one point I also had things that were relevant to me that I wouldn't even say I either knew or applied."

Source: Digital Inclusion, Focus Group, 2025

"...helps to give you a general idea of what's going on in which industry."

Source: Digital Inclusion, Focus Group, 2025

Stars / Macibas Pieaugusajiem

The "Mācības pieaugušajiem" (Adult Education) program in Latvia provides opportunities for adults to enhance their skills through subsidized vocational training and development courses. These programs focus on improving digital literacy, professional qualifications, and personal competencies to meet labor market demands. Participants can access a variety of educational fields, with financial and logistical support such as transport and interpreter cost reimbursements. The program is supported by the European Social Fund to enhance lifelong learning.

"everything was sort of free for me, where I used the "Macībspēks pieaugušajiem" learning programme. I did the testing courses and also the project management tools."

Source: Digital Inclusion, Focus Group, 2025

WoTech

The WoTech program, run by Riga TechGirls and Smartworkacademy, offers free reskilling for women in Latvia and Estonia to prepare for junior programming roles.

The WoTech course is a 12-month program providing over 200 hours of hands-on programming training combined with soft skills development through webinars. The curriculum includes practical learning, culminating in a mandatory 2-month internship or equivalent professional experience. Designed for beginners, the program equips women in Latvia and Estonia with essential technical and interpersonal skills for junior programming roles. By offering personalized support and real-world projects, it aims to enhance participants' competitiveness in the IT sector. Funded through Interreg Central Baltic and sponsors, it aims to graduate 150 participants with enhanced competitiveness in the IT job market by 2025. The program only runs once throughout the year 2024.

Vilnius Coding School

Vilnius Coding School offers coding bootcamps for adults, focusing on various tech fields such as web development, JavaScript, and programming. The programs provide intensive, hands-on training with a focus on practical skills, designed to help participants launch or advance their careers in the tech industry. The school offers both full-time and part-time options and collaborates with companies to provide job placement support. Similar to RigaCodingSchool it is a franchise.

ICDL

The International Computer Driving License (ICDL) offers globally recognized certification programs that focus on essential digital skills for individuals and organizations. They provide various modules ranging from basic computer skills to advanced topics such as cybersecurity, coding, data analytics, and artificial intelligence. These certifications are designed to enhance employability by ensuring proficiency in using computer applications, and they are recognized internationally across industries and educational institutions.

Turing College Lithuania

Turing College offers flexible, self-paced career programs in data analytics, data science, AI, web development, and digital marketing. Designed for working professionals, these programs focus on real-world projects, 1-on-1 support from experts, and career assistance, including mock interviews and salary negotiation help. Graduates benefit from a high job placement rate, with many securing positions within six months of completing their courses. The platform emphasizes both technical and soft skills development to prepare individuals for careers in tech fields. This is a franchise and can be found in other cities as well.

Cerebrum Hub

Cerebrum Hub offers online reskilling and upskilling programs tailored to various industries, focusing on data science, business analytics, artificial intelligence, and other tech fields. Their courses are designed to help individuals enhance their technical skills and improve career opportunities through hands-on learning, live projects, and mentorship. They emphasize practical, real-world experience and aim to equip participants with the skills needed to succeed in the modern job market. It is usually paid and a private institutions open for anyone.

Kood Johvi

Kood/Jõhvi offers a 12-month hands-on coding program focused on practical learning and peer-to-peer collaboration. The program is designed to develop technical programming skills and prepare students for careers in tech. The school also emphasizes career support, helping graduates secure positions in the tech industry. Kood/Jõhvi is part of a broader initiative with coding schools operating in various regions, aiming to expand access to tech education. It is normally paid but through sponsorship offers scholarships.

Vali IT

Vali IT offers a 14-week training program to become a software developer, focusing on practical skills. The program includes theoretical lessons and real-world projects, followed by internships with partner companies. It is designed for individuals seeking career changes into tech, with a focus on job-ready skills. The course provides mentorship, hands-on experience, and support in securing employment in the tech industry.

IT Academy

The IT Akadeemia program, managed by Harno (Estonian Education and Youth Board), aims to enhance IT skills in Estonia by providing specialized training in tech-related fields. The program supports individuals looking to improve their digital literacy and offers opportunities for career transition into IT roles. It focuses on practical skills and aims to bridge the gap between education and the evolving demands of the technology industry. Seems to be similar to Macibas Pieaugusajiem with a bigger focus on tech.

Women in Tech (Telia and Smartwork)

Telia Company is focused on building digital skills by offering various initiatives aimed at empowering individuals and communities to navigate the digital landscape. These initiatives include providing training, workshops, and collaborations with educational institutions to foster digital literacy and upskilling. The company is dedicated to improving accessibility to technology and supporting people in enhancing their digital competencies to prepare for the future workforce. They have launched a program specifically for women to reskill them to ICT by providing online courses.



Pink Programming various community activities (Sweden)

Pink Programming organizes coding camps designed for women and non-binary individuals to deepen their programming skills. These camps focus on specific programming languages or topics and cater to different skill levels, from beginners to more experienced developers. Participants engage in intensive learning sessions, enjoy good food, and take part in activities that foster community building. The camps provide a supportive environment to expand technical knowledge while connecting with others in the tech community. This community is an NGO itself.

Tjejer Kodar

Tjejer Kodar is a Swedish initiative focused on increasing diversity within the tech industry by offering various training opportunities and community-building events for women and non-binary individuals interested in tech. They organize coding workshops, career events, and provide resources to help individuals transition into tech careers, with the aim of making the tech field more accessible and inclusive. They also offer boot camps and educational programs in collaboration with industry partners. They themselves say that they are the largest women in tech community in Sweden.

Technigo

Technigo offers coding bootcamps and courses designed to help individuals transition into tech careers. They focus on high-demand skills such as JavaScript, UI/UX design, and full-stack development, providing both live and on-demand learning experiences. The programs are aimed at people looking to change careers or gain new digital skills, with a strong emphasis on community and practical, hands-on training. Technigo's approach is designed for people from all backgrounds, with 90% of their students being women, and a focus on fostering equality in tech.

ReDi School of Digital Integration Malmo

ReDI School Malmö offers free tech training, focusing on women with migrant and refugee backgrounds. It provides courses in areas like web development, UX/UI design, data analytics, cybersecurity, and AI, aiming to enhance digital skills and foster inclusion in Sweden's tech sector. The school supports participants by helping them build professional networks, providing career services, and facilitating access to job opportunities within the tech industry. These courses are designed to empower women, offering the skills and confidence needed to thrive in tech careers.

ReDi School of Digital Integration

ReDI School Malmö offers free tech training, focusing on women with migrant and refugee backgrounds. It provides courses in areas like web development, UX/UI design, data analytics, cybersecurity, and AI, aiming to enhance digital skills and foster inclusion in Sweden's tech sector. The school supports participants by helping them build professional networks, providing career services, and facilitating access to job opportunities within the tech industry. These courses are designed to empower women, offering the skills and confidence needed to thrive in tech careers.

Academic Work

Academic Work Academy offers specialized, intensive training programs designed to help individuals transition into tech careers. These programs cover a variety of fields, such as software development,

data engineering, and cybersecurity. Participants receive hands-on experience, career coaching, and direct connections to job opportunities, with the goal of enhancing skills and employability in the tech industry. They offer this to anyone, not just women. Usually a coding course/bootcamp consists of 12 weeks.



Conclusion

Over the past 10 years, we've seen growth in the number of women participating in tech organizations, coding bootcamps, government-supported training, and various ICT skill-building initiatives. Across the Baltic and Nordic countries, every country now has at least one digital inclusion program that focuses on reskilling or upskilling underrepresented groups, such as women, for ICT careers. By listening to the women who are currently reskilling or have already made the leap into ICT, we can better understand what's working. Their feedback confirms that these initiatives are playing a key role in helping women enter high-demand tech fields, improving their quality of life while also contributing to Europe's digital economy.

In today's fast-changing world, digital skills are no longer optional — they are essential. With the rise of AI and large language models, this need will only grow. The high-demand areas highlighted in this report give us a clear picture of where the future is heading, and what we should be preparing for. To truly support digital inclusion, it's not enough to only focus on basic digital skills or general coding knowledge. We need programs that go deeper — offering training in advanced, high-demand areas, and helping people understand how digital systems and processes work.

Only then can we ensure that the members of our society are not just users of digital tools, but creators of the future digital world building new solutions.

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Focus Group Methodology and Resources

TARGET AUDIENCE

Women and underrepresented groups(including immigrants and Ukranian immigrants) over 18+, who have gone through any previous digital skills programs, coding boot camps, workshops, and entrepreneurship courses throughout the last 5 years.

ACTIVITY

Discuss digital skills and inclusion, digital skills programs, which ones they have attended, whether they have changed careers, and their experiences in the tech field.

GOAL

Identify specific areas where digital skills are needed and the types of programs that have been effective in reskilling to ICT industry or upskilling in IT career. Identify which characteristics of programs or personal situations hinder successful career change or upskilling.

Questions

- 1. What do you understand by the term "digital skills"?
 - 1.1. What digital skills do you think you have?
 - 1.2. What digital tools do you use in your current work?
 - 1.3. Are there any new tools you've started using in the last year?
 - 1.4. How do you deal with problems you can't solve yourself?
 - 1.5. What security mechanisms do you use on a daily basis or at work?
 - 1.6. What does "digital inclusion" mean to you personally?
- 2. What digital, programming, business or other technology courses or training have you taken? Was it free or was it paid?
 - 2.1. Was it free or paid?
 - 2.2. How much practical and how much theoretical work was involved in the course? Would more practicality be more valuable?
 - 2.3. What did you gain during the course, did the course give you any additional knowledge or confidence that has been useful in your current career or starting a new career?
 - 2.4. How did you find out about these courses and why did you choose to apply for them/what was the motivation to apply for them?
 - 2.5. What was the main area of the course? What was the content of the courses?
 - 2.6. Did you learn about any additional opportunities in the ICT job market that you didn't know about before? Companies you would like to apply for or professions you would like to work in?
 - 2.7. Did you feel like you could fit into the IT job market after completing any of the IT courses?

- 3. What additional events have you attended related to the IT industry? (including meetups, networking, work tinders, etc.)
 - 3.1. Do you think such events and attending them are important for your growth in the IT field? How significant, effective has it been?
 - 3.2. What was your assumption about the IT industry before starting the course and did it change after taking the course/attending IT events? (Were there any stereotypes that changed and has the view of the industry changed?)
 - 3.3. Which groups in your community do you think suffer the most from digital exclusion? Why do you think this is so?
 - 3.4. What specific barriers do underrepresented groups face when trying to access digital tools and resources?
- 4. Do you receive support when you face difficulties in your studies or career (emotional, financial, logistical, etc.)? If so, from what?
 - 4.1. Have you had any mentors (formal or informal) who have helped you in your education or career? How have they influenced your path?
 - 4.2. How do your family members contribute or not contribute to your education and career development?
 - 4.3. Can you share specific times when your family was supportive or not supportive of your academic or career decisions?
 - 4.4. How do people close to you contribute to your motivation and commitment to your studies or career?
 - 4.5. Did your closest people in any way influence your choice of education or career? If yes, please tell me in more detail.
 - 4.6. Do you believe that societal norms support or hinder your educational and career opportunities? Please explain in more detail.
 - 4.7. How important is it to you to receive encouragement from those around you?
 - 4.8. Do you have access to family or community resources (eg, financial support, study materials, career guidance) that you need to complete your education?
 - 4.9. Have you experienced any negative reactions from people close to you regarding your decision to pursue higher education or a career?
 - 4.10. In your experience, do traditional gender roles influence the support you receive from your family or community regarding your educational and career choices?
- 5. What is your current profession? What would be your next career move?
 - 5.1. Are you facing any challenges or lacking any skills to advance your career?
 - 5.2. Do you use any of the skills you learned in the courses in your daily work?
- 6. What initiatives or programs do you think would be most effective in improving the public's digital skills or IT career development?
 - 6.1. What kind of training or resources do you think are essential to promote digital literacy?
 - 6.2. Should NGOs, municipalities and companies be involved? In what way each of them should be involved?

- 6.3. How can awareness of digital inclusion be raised to promote participation? Do you think this is necessary at all?
- 7. What initiatives or programs do you think would be most effective in improving the public's digital skills or IT career development?
 - 7.1. Have you experienced any barriers or inequities in your technology experience?
 - 7.2. Have another comment, question we didn't ask or suggestion related to digital skills and IT initiatives?

IT Companies Methodology and Resources

Questions

1. Industry challenges

- 1. What are the biggest challenges your organisation faces in recruiting new staff?
- 2. What are the most important digital skills your organisation looks for when recruiting new employees? Ability to use specific tools.
- 3. What are the most common skills gaps you see in potential or existing employees?
- 4. Are there any digital skills or competences that you find challenging to recruit in the Baltic region? What are the ICT skills gaps in the Baltic region?
- 5. How do you fill skills gaps in your current workforce? Do you offer in-house training or look for external partnerships?
- 6. How could educational institutions and training programmes better prepare candidates for the positions available in your organisation?
- 7. How do you think the demand for specific digital skills in the ICT sector will change over the next 2-3 years?
- 2. Career development and staff development
 - 1. Which skills have been crucial in helping your employees move up the career ladder in your organisation?
 - 2. Please give us some examples you know of where an employee has moved into a different role in your company?
 - 3. Do you offer any specific certification or training programmes to help employees improve their digital skills?

3. Recruitment

- 1. How much emphasis do you place on formal education rather than practical experience when recruiting?
- 2. How do you arrive at the process of determining which profession you need? Who in the team initiates the need for a vacancy and what is the subsequent process that identifies the skills required?
- 3. Could you roughly say how many new recruits you recruit from your network/proposals and how many from advertisements?
- 4. Can you name the most effective recruitment channel for you?
- 4. Recruitment process
 - 1. What is your recruitment process? How many steps? Does it vary according to experience and level?

- 2. If you could name one aspect of the interview process that shows a candidate is a good fit, what would it be?
- 3. If you could name one aspect of the interview process that shows that the applicant would NOT be a good fit for you, what would it be?
- 5. Remote working and global talent
 - 1. What is the main working style in your organisation at the moment? Remote, hybrid, on-site? Does it vary by field, profession?
 - 2. Has the move to remote working impacted the digital skills that your organisation values? Perhaps a focus on cyber security and collaboration tools? If yes, how?
 - 3. Has the move to remote working had an impact on recruitment strategy and region? If yes, how many people outside your location do you recruit each year?
- 6. Partnerships and collaboration with the technology ecosystem
 - 1. How closely does your company work with educational institutions or training providers to build the digital skillsets of future employees or to recruit new employees?
 - 2. How does your organisation keep up to date with the latest digital trends and technologies?

Survey Methodology and Resources

The survey received 612 respondents across Baltics and Nordics, of which 52 where Ukranian migrants living in Baltic or Nordic states. Below the survey questions and description can be found in the way it was presents to the respondents.

"Digital Inclusion" Survey

Please fill in this survey if you are:

- 1) currently working in IT industry OR
- 2) have participated in any reskilling course in technology OR
- 3) if you have changed your career to ICT.

Questions:

- 1. Gender/ Dzimums:
 - a. Male / Vīrietis
 - b. Female / Sieviete
 - c. Non-binary / Nebinārs
 - d. Other/Don't want to share / Cits/ Nevēlos to atklāt
- 2. Age / Vecums
 - a. 18-24
 - b. 25-34
 - c. 35-44
 - d. 45-54
 - e. 55-64
 - f. 65 and more/ 65 un vairāk
- 3. Nationality / Nacionalitāte
- 4. Country of birth / Dzimšanas vieta
 - a. Sweden / Zviedrija
 - b. Finland / Somija
 - c. Estonia / Igaunija
 - d. Latvia / Latvija
 - e. Country in EU / Valsts Eiropas Savienībā
 - f. Country outside of EU / Valsts ārpus Eiropas Savienības
- 5. Place of residence / Dzīvesvieta
- 6. What is the highest degree or level of school you have completed? If currently enrolled, highest degree received / Kāds ir augstākais grāds vai izglītības līmenis, ko esat pabeidzis? Ja pašlaik studējat, kāds ir augstākais saņemtais grāds?
 - a. Haven't finished Primary School completed / Nav pabeigta skola
 - b. High school graduate, diploma or the equivalent / Vidusskolas absolvents, diploms vai līdzvērtīgs dokuments

- c. Incomplete higher education / nepabeigta augstākā izglītība
- d. Trade/technical/vocational training / Amatniecības/tehniskā/profesionālā apmācība
- e. Associate degree / Koledžas grāds
- f. Bachelor's degree / Bakalaura grāds
- g. Master's degree / Magistra grāds
- h. Professional degree / Profesionālais grāds
- i. Doctorate degree / Doktora grāds
- 7. Do you have any of these statuses? / Vai Jūs atbilstat kādam no šiem statusiem?
 - a. Migrant / Migrants (non EU citizen) (Go to section 2)
 - b. Asylum seeker (A person who arrives in a country and asks for asylum. He does not have the right to work in Latvia, and this is a temporary status until the officials decide whether to grant refugee status. If the status is not granted, the asylum seeker is deported back to the country of origin.) / Patvēruma meklētājs (Persona, kas ierodas valstī un lūdz patvērumu. Viņam nav tiesību strādāt Latvijā, un tas ir pagaidu statuss līdz amatpersonas izlemj, vai piešķirt bēgļa statusu. Ja statuss netiek piešķirts, patvēruma meklētājs tiek deportēts atpakaļ uz izcelsmes valsti.)

(Go to section 2)

- c. A refugee (a person who has been recognized by the responsible authorities as being at risk of persecution due to race, religion, nationality or social group in the country of origin. Along with the refugee status, a person obtains a permanent residence permit, may work and move freely) / Bēglis (persona, kuru atbildīgās iestādes ir atzinušas par vajātu izcelsmes valstī rases, reliģijas, tautības vai sociālās grupas dēļ. Līdz ar bēgļa statusu persona iegūst pastāvīgās uzturēšanās atļauju, var strādāt un brīvi pārvietoties.) (Go to section 2)
- d. Other / Cits
- e. No / Nē

(Go to section 3)

(Go to section 3)

Section 2. This section will contain questions related to migration/ Šajā sadaļā būs jautājumi, kas saistīti ar migrāciju

- 8. What is the reason for migration? / Kāds ir migrācijas iemesls?
 - a. For work / Darba dēļ
 - b. Family reasons / Ģimenes apstākļi
 - c. Studying / Mācības
 - d. Other / Cits

Section 3. Section where will be the questions related salary, english language knowledge and employment status / Sadaļa, kurā būs jautājumi par algu, angļu valodas zināšanām un nodarbinātības statusu

9. What is your average salary per year? / Kāda ir Jūsu vidējā gada alga?

- a. 0€ 5.000€
- b. 5.000€ 10.000€
- c. 10.000€ 20.000€
- d. 20.000€ 30.000€
- e. 30.000€ 40.000€
- f. 40.000€ 50.000€
- g. 50.000€ 60.000€
- h. More than $60.000 \in$ / Vairāk par 60 000
- 10. Please rate your English language skills on a scale of 1-10 (1 dont read, speak or understand anything, 10 - can can read, speak and understand easily) Lūdzu novērtējat savas angļu valodas prasmes no 1-10 (1 - nelasu, nerunāju un nesaprotu, 10 - lasu, runāju un visu saprotu)
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5
 - f. 6
 - g. 7
 - h. 8 i. 9
 - j. 10

11. What is your current employment status? / Kāds ir Jūsu pašreizējais nodarbinātības statuss?

- a. In employment / Nodarbināts
- b. Self-employed / Pašnodarbinātais
- c. Out of work and looking for work / Bez darba un meklēju darbu
- d. Out of work but not currently looking for work / Bez darba, bet pašlaik nemeklēju darbu
- e. Stay at home parent / Mājsaimniece
- f. Student / Students
- g. Military person / Militārpersona
- h. Retired / Pensionārs
- i. Currently unable to work / Pašlaik nevaru strādāt
- j. Parental leave / Bērna kopšanas atvaļinājumā
- k. Other / Cits

Section 4. This section will contain questions related to employment / Šajā sadaļā būs jautājumi, kas saistīti ar nodarbinātību

12. In which field are you employed? / Kādā jomā Jūs esat nodarbināts?

a. Education / Izglītība

- b. Healthcare / Medicīna
- c. Law / Jurisprudence
- d. Creative Industries / Radošā profesija (māksla, mūzika, teātris, etc.)
- e. Fitness / Sports
- f. Food industry / Pārtikas nozare
- g. Manufacturing / Ražošana
- h. Trade / Tirdzniecība
- i. Social work / Sociālā joma
- j. Tourism / Tūrisms
- k. Hospitality / Viesmīlība
- I. Entrepreneurship / Uzņēmējdarbība
- m. Technology services / Tehnologiju pakalpojumi
- n. Architecture / Arhitektūra
- o. Building management / Būvinženierija
- p. Research / Pētniecība
- q. Other.../Cits...

13. What is your current role/job title? / Kāda ir Jūsu pašreizējā loma/amata nosaukums?

- 14. What is the format of your work currently? / Kāds šobrīd ir Jūsu darba formāts?
 - a. Remotely / Attālināti
 - b. Onsite / Klātienē
 - c. Hybrid / Hibrīda
- 15. What is your type of employment? / Kāds ir Jūsu nodarbinātības veids?
 - a. Full-time employment / Pilnas slodzes nodarbinātība
 - b. Part-time employment / Pusslodzes nodarbinātība
 - c. Internship / Prakse
 - d. Contract employment / Līgumdarbs
 - e. Probation / Probācija (pārbaudes laiks)
 - f. Seasonal employment / Sezonas nodarbinātība

Section 5. This section will contain questions related to courses/ Šajā sadaļā būs jautājumi, kas saistīti ar kursiem

16. Have you attended any IT courses/coding boot camps/workshops/ entrepreneurship courses in the last 5 years? Vai pēdējo 5 gadu laikā esat apmeklējis (-usi) kādus IT kursus/kodēšanas intensīvos apmācību kursus/ /darbnīcas/uzņēmējdarbības kursus?

- a. Independently chosen IT course / Neatkarīgi izvēlēts IT kurss
- b. Coding boot camp / Kodēšanas intensīvie apmācību kursi
- c. IT course suggested by the company you work for / IT kurss ko ieteica

uzņēmums, kurā strādā

- d. Workshops / Darbnīcas
- e. Entrepreneurship courses / Uzņēmējdarbības kursi
- f. Other / Cits

- g. None / Nav apmeklēti kursi
- 17. Please specify the name of the course/training you have participated in? / Lūdzu precizē nosaukumu kursam/apmācībām, kuras esi izsgājis(-usi)?
- 18. Are you currently studying in any of the courses, if so, which ones? Vai Jūs šobrīd mācaties kādos no kursiem, ja jā, tad kuros?
- Have you reskilled in the IT field after completing any IT courses/coding boot camps/workshops/ entrepreneurship courses or other courses? Vai esat pārkvalificējies (-usies) IT jomā pēc IT kursu/ kodēšanas intensīvo apmācību kursu /darbnīcu/uzņēmējdarbības kursu vai kādu citu kursu pabeigšanas?
 - a. Yes / Jā
 (Go to section 6)

 b. No / Nē
 (Go to section 7)

Section 6. This section will contain questions related to reskilling / Šajā sadaļā būs jautājumi, kas saistīti ar pārkvalifikāciju

20. What was your first job? What was the level of seniority (junior/medior/senior)? Kāds bija Jūsu pirmais darbs? Kāds bija darba stāža līmenis (juniors/vidēja līmeņa speciālists/vecākais speciālists)?

Section 7. This section will contain questions related skills and knowledge / Šajā sadaļā būs jautājumi, kas saistīti ar prasmēm un zināšanām

- 21. What IT-related skills have you acquired so far? / Kādas ar IT saistītas prasmes esat apguvis (-usi) līdz šim?
- 22. Are you planning to reskill in the IT field or use your acquired IT knowledge in your current job? Vai plānojat pārkvalificēties IT jomā vai arī izmantot iegūtās IT zināšanas pašreizējā darbā?
 - a. Reskill and find a new job related to IT / Pārkvalificēties un iegūt jaunu darbu saistībā ar IT
 - b. Use the acquired IT knowledge in my current job / Izmantot iegūtās IT zināšanas esošajā darbā
 - c. I will stay in my current job and will not change anything in the nearest future / Es palikšu savā esošajā darba vietā un tuvākajā nākotnē neko nemainīšu
 - d. Other / Cits
- 23. What do you think are the most in-demand digital skills in the labor market? Kādas digitālās prasmes, Jūsuprāt, ir vispieprasītākās darba tirgū?
 - a. Coding and programming / Kodēšana un programmēšana
 - b. Cybersecurity skills / Kiberdrošības prasmes
 - c. Digital marketing / Digitālais mārketings
 - d. Artificial intelligence (AI) / Mākslīgais intelekts
 - e. User experience (UX) design / Lietotāju pieredzes dizains

- f. Blockchain technology skills / "Blokķēžu" tehnoloģiju prasmes
- g. Project management skills / Projektu vadības prasmes
- h. Cloud computing skills / Mākoņdatošanas prasmes
- i. Brand management skills / Zīmola vadības prasmes
- j. Quantum computing skills / Kvantu skaitļošanas prasmes
- k. Other / Cits
- 24. What skills do you think IT employers in the IT field are looking for? Kādas prasmes, Jūsuprāt, meklē IT darba devēji IT jomā?
 - a. Basic IT skills / IT pamatprasmes
 - b. Advanced IT skills / Padziļinātas IT prasmes
 - c. Soft skills / "Mīkstās" prasmes
 - d. Job-specific skills / Darbam specifiskas prasmes
 - e. Other / Cits
- 25. If you wanted to change your current job, what would be your motivation? / Ja Jūs vēlētos mainīt savu pašreizējo darbu, kāda būtu jūsu motivācija?
 - a. Working remotely / Attālinātais darbs
 - b. More flexibility / Lielāka elastība
 - c. Higher salary / Lielāks atalgojums
 - d. More autonomy / Vairāk brīvības
 - e. More career options / Vairāk karjeras iespējas
 - f. New environment, people / Jauna vide, cilvēki
 - g. Growth opportunities / Izaugsmes iespējas
 - h. Other / Cits
- 26. Are there any challenges for you to progress in your careers or change your career? Vai Jums ir kādi izaicinājumi, lai attīstītos savā karjerā vai mainītu karjeru?
- 27. Are there any skills you feel like you are currently missing to improve in your workplace? Vai ir kādas prasmes, kuras, Jūsuprāt, šobrīd trūkst, lai tās uzlabotu savā pašreizējā darba vietā?
- 28. If you work in the IT industry currently, do you feel any kind of inequality? If yes, please comment Ja šobrīd strādājat IT nozarē, vai jūtat kādu nevienlīdzību? Ja jā, lūdzu pakomentējiet
- 29. Would you agree to be a part of a focus group participant? If yes please leave your email. (*Focus group - a qualitative research method used to gather the opinions of a diverse group of people on a specific topic) Vai Jūs piekristu būt fokusa grupas dalībnieks? Ja jā, lūdzu, atstājiet savu e-pastu. (*Fokusa grupa - kvalitatīva pētniecības metode, ko izmanto, lai apkopotu dažādu cilvēku grupas viedokļus par konkrētu tematu)
- a. Yes / Jā
- b. No/Nē

(Go to section 8) (Submit form)

Section 8

30. Email / e-pasts

31. Repeat Email / Atkārtoti e-pasts