PAVING WAYS
TO THE GAMES INDUSTRY

What's your story?

We met hundreds of game developers at the Game Summit Sweden conference in Stockholm and asked them about their journey into making games. The speech bubbles that are scattered across the report contain some of the responses we received.

Recommendations

More **paths into the games industry** are needed, not only for those who play life in creative mode, but also for those who have lived life in survival mode or focused on side quests. This is necessary for the industry's long-term skills supply and future Swedish game successes.

- **Increase awareness of the industry as a place of work** among authorities and organisations that meet young adults, newly arrived immigrants and people with relevant skills.

- **Create a functioning system for supplementary education** so that people with relevant skills from other educations and professions can enter the industry.

- **Shorten the path from newly arrived to newly employed with English for Immigrants (EFI)** for individuals who have the qualifications for faster entry into English-speaking industries.

- **Promote creativity in school** through aesthetic subjects and expand to digital crafts and knowledge-enhancing game projects.

- **Protect popular education** and its efforts for development, integration, creativity and lifelong learning.

- **Abolish the employment norm** – make it possible for more people to start businesses as a way into the labour market.

- **Fix the bureaucratic bugs** for newcomers in Sweden, such as authorisation processes, access to a social security number and the salary floor level.

- **Improve statistics** – there is a lack of information on skills and prior learning in an analysable format, which means that opportunities for targeted interventions are missed.

- Keep up the pace and continue the ongoing successful work of **welcoming workplaces**, inclusion and gender equality.

- Expand the work of **transferring knowledge from senior employees** to new ones in a structured way.

- **Increase awareness of game development as a profession** – showcase the work and tell the stories of people behind the games and highlight role models with different life stories.

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Summary

This report identifies three overall challenges that may arise on the way into the Swedish games industry. The three main areas have been categorised as skills, barriers, and awareness.

Skills include validating, matching, and complementing existing skills from other educations or professions. **Barriers** include visible and invisible barriers such as insufficient language skills, cultural clashes, lack of networks, discrimination, and various bureaucratic barriers such as residence permit rules. **Awareness** includes the lack of awareness of game development as a possible future profession, both among individuals and among organisations working to support individuals entering the labour market.

There is a lack of game developers in Sweden and one of the industry's biggest challenges is the long-term skills shortage. There is a concrete need for a fast track into the Swedish games industry to create more pathways for skills with different backgrounds. However there is lacking data on what skills are available, not least among immigrants. What we do know is that there are plenty of potential participants for shorter supplementary educations for people with related skills who want to enter the games industry. Provided that practical obstacles such as the possibility of earning a living during education or complicating regulations are dealt with, supplementary educations should be able to provide a large exchange of added skills and broadened perspectives in a relatively short time. Within the framework of the higher vocational education system, there is both infrastructure and funding to enable rapid return. Further work on analysing and identifying the skills that need to be supplemented is needed to better match them to the right education.

This report also highlights the importance of more structured work with internships and experience transfer in order to ensure the **long-term** supply of skills, a wide range of perspectives, and to manage future retirements. This requires greater access to senior expertise, but also flexibility from the public sector and responsibility from employers in the sector. This is a long-term endeavour that is necessary to build a resilient and sustainable supply of skills.

The requirement to learn Swedish is a clear barrier to entering the labour market for those who are new in the country. In Sweden, only municipal adult education in *Swedish for immigrants* (SFI) is offered, which provides a basic understanding of the Swedish language, as well as vocational SFI. To work with games, however, English proficiency is far more important and should be prioritised to a greater extent. Highly educated immigrants, who may be eligible for supplementary education programmes or jobs in the games industry, often already have basic knowledge of English. Given that work and self-sufficiency are two important first steps towards settling and integrating, supplementing existing English skills can be a faster route to employability than Swedish lessons.

Being new in Sweden also presents a number of bureaucratic obstacles. For example, it has been challenging for employees from Ukraine to obtain a Swedish social security number or to change to a regular work permit. Long processing times makes the hiring process complex, putting labour migrants in a bureaucratic quagmire. The public sector must simplify and clarify

"Since playing my first video games, I have dreamt of creating game experiences for sharing stories"

the regulatory framework and shorten the authorities' processing times.

An important factor to entering the games industry and making it into the labour market is through entrepreneurship. New companies also drive growth in local hubs around the country. However, working in a start-up company is made more difficult by hoops such as the wage floor for work permits, which is based on the national median wage. There are also barriers such as culture clashes, discrimination and lack of networks. This needs to be counteracted through long-term work in the industry with training, dialogue and active leadership. This in turn requires more investment in research and education.

The report also states that awareness of the games industry as a possible career path must be increased among individuals who may want to work in games as well as among organisations that meet these individuals at different stages of their lives. This can be done in a variety of ways – for example, through creative subjects at school or meetings with role models.

Creative subjects in schools are a route to artistic creation and thus important for the future supply of skills in the games industry. The report recognises that it may be relevant to further develop creative subjects to include digital interactive creation. Through game projects, students and teachers can converge multiple subjects and discover games as a form of artistic expression.

Awareness of the games industry as a possible career path can also be raised by highlighting role models within game development. By highlighting experiences and people with different backgrounds, interests and perspectives, the games industry can be presented as a potential future workplace. Another option is regularly organising meetups where companies, game educations and people curious about the industry can interact. These meetings could provide a long-term supply of expertise and talent from new sources.

Another important route into both the games industry and the country that is highlighted in the report is via popular education, i.e. folk high schools and study associations. They offer an opportunity to try out their own creativity and can provide both context and a sense of belonging. During the current parliamentary term, the government has reduced funding for popular education, which particularly affects educational opportunities around the country.

Finally, the report shows that there is a huge lack of knowledge in the organisations that meet people in their search for jobs and career choices. These include study and vocational guidance counsellors, the Public Employment Service, establishment officers, Swedish For Immigrants providers, and voluntary organisations. Game development is a large and growing industry with a long-term need for skills that can offer permanent employment in creative professions. How will a person find their way in if there is no one knowledgeable to turn to for guidance? There is a lot of work to be done here in cooperation between the industry, authorities, and other relevant organisations.

Foreword

Games are unique works of art where technology, art, music and storytelling come together, and where the player becomes a co-creator of each unique game experience through interactivity. Play, an essential part of human development, allows us to explore our environment and ourselves. It allows us to experiment, and gives us a free zone from constraints and performance requirements, fostering creativity, problem-solving and social skills. For millennia, games have been a popular form of entertainment and an integral part of our social and cultural interactions.

Just as games are an integral part of life, the games industry is an integral part of society, facing and worrying about the same problems and challenges now and in the future. Moreover, the games industry has a wealth of opportunities to contribute to solving these challenges, both through exploration, creativity and technology, as well as in its role as an employer and societal actor. To continue to develop and prosper, the industry depends on people. The long-term supply of skills and access to expertise and experience remains a major challenge for a young and rapidly growing industry whose main raw material is creativity.

In this report, we have looked at how we can create conditions for more people with different backgrounds to be able to contribute their expertise, commitment, creativity and ideas to future Swedish game innovations and new game experiences for the whole world. There

are great opportunities to create triple benefits: for society, with more people becoming self-supporting and increasing tax revenues; for the games companies, with a wide range of skills and creative perspectives available; and for the individual, with meaningful and enjoyable work in games development. As an added bonus, we all get access to new games to experience and appreciate.

When tackling complex challenges, it is easy to think that the answers are just as complex. But sometimes the solutions are simpler than you might think. Many of the answers in this report are surprisingly simple. The complexity lies in the joint implementation. We have gathered knowledge and statistics, but above all we have talked to a number of organisations within and outside the games industry that in various ways contribute to the development of society and people's lifelong learning. It is my hope that their commitment and knowledge conveyed through this report can create collaborations and inspire new and innovative initiatives. The report in your hand will not be the end of a project – but the beginning of something bigger. What it will be is up to all of us together.

A beautiful winter's day in Västerås

Marléne Tamlin
Head of Sustainability, Swedish Games Industry

Can Games
Save the World?

Sustainability in the Games Industry

The world faces a number of complex challenges that transcend national boundaries. To address these challenges, global Sustainable Development Goals were adopted by UN member states in 2015.

These seventeen goals represent an ambitious and universal agenda that seeks to promote social, economic, and environmental sustainability and tackle the climate crisis. The UN aims to create a more equitable, sustainable, and peaceful world by 2030.

To achieve this, governments, the private sector, civil society, and citizens need to work together. The *Swedish Games Industry* works actively with collaboration and sustainability issues in various forms, and the project that led to this report is part of that work.

1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS	THE GLOBAL GOALS For Sustainable Development

The UN goals are all interconnected and interdependent in order for the world to achieve sustainable development. The following chapters examine how the industry, civil society, and the public sector can work together to create more paths into professions in game development – not only for those who play life in creative mode but also for those who have lived life in survival mode or focused on side quests. This is important both to ensure that more individuals, regardless of background, get a good education and find a fun and meaningful way to earn a living, and to ensure a sustainable supply of skills for the industry now and in the future. A diversity of people and perspectives and good working conditions increase creativity and the opportunity to create games that are appreciated by players around the world. In the long term, the work contributes to both a sustainable industry and production and a more equal and inclusive society.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

4 QUALITY EDUCATION

10 REDUCED INEQUALITIES

5 GENDER EQUALITY

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

8 DECENT WORK AND ECONOMIC GROWTH

17 PARTNERSHIPS FOR THE GOALS

Introduction

Game development is a growing industry. In ten years, the number of companies has quadrupled, the number of employees has more than tripled and turnover has increased fivefold. In 2022, there were 939 game development companies in the country with a combined turnover of SEK 32.5 billion and 8,445 employees. In addition, around 16,500 people work in Swedish-owned subsidiaries around the world.

The games industry is a creative industry where culture meets technology. The majority of game companies are small – 88% of all companies have fewer than ten employees.

Game development drives innovation that spreads far beyond its own industry and Swedish games have a large global reach. The games are launched directly to a global market with strong growth, and the supply of skills is also largely based on a global labour market. Swedish-developed games have been downloaded seven billion times, and every fourth person in the world has played a game developed in Sweden.

The industry's biggest challenges are access to expertise and access to capital. Stable conditions are needed for small companies to grow, and in the long term, access to expertise will be crucial for the industry to grow together with diversity, both among game creators and players.

In 2022, 501 people were newly employed in the Swedish games industry. This is a lower number of new entrants than the previous year, but there is still a major shortage of skills, not least in the longer term. There are comparatively few game developers graduating from the country's game educations, and

employers are largely recruiting from other countries. It is estimated that at least one third of the employees in the industry have moved to Sweden to work here, and at several of the larger companies half the workforce has moved here. Half of them come from outside the EU, in addition to consultants, freelancers, and other development collaborators within and outside the country's borders.

Diversity and gender equality efforts in the industry have resulted in more women being employed and the recruitment base has increased. In 2022, the proportion of women among new hires increased to 44%, but much work remains to be done before the industry is gender equal. This work, as well as skills development for existing staff, is needed for the industry to continue to grow and develop.

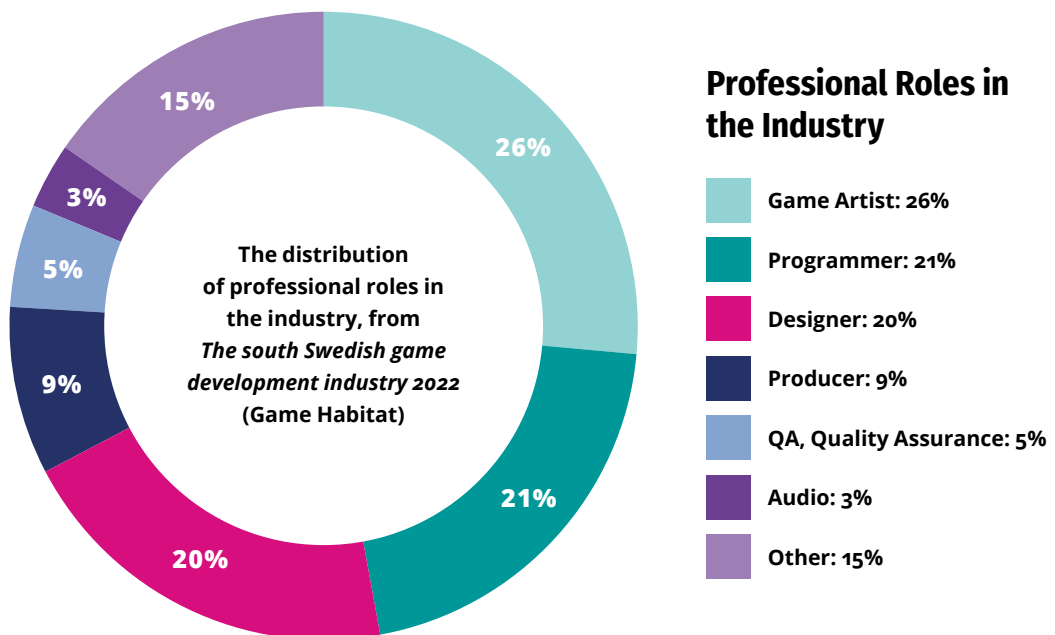This report is to some extent a continuation of *Talent, Education and the Art of Making Games* (2023), which describes professional roles, the country's education programmes and the formal structures that exist for approaching game development as a profession. Where the previous report mapped out which roads already exist, this one focuses on the paths that are currently missing.

The Games Industry
in Sweden

Professional Roles in the Industry

The term *game developer* covers all professions involved in the development of games. In some cases a single person may adopt every role, but more often several different people will collaborate on a project.

The distribution of professional roles in the industry, from *The south Swedish game development industry 2022* (Game Habitat)

Professional Roles in the Industry

- Game Artist: 26%
- Programmer: 21%
- Designer: 20%
- Producer: 9%
- QA, Quality Assurance: 5%
- Audio: 3%
- Other: 15%

The most common professional roles in the games industry are different types of artists, programmers and designers. Artists work on the visual expression of the game, such as 3D models, concepts, textures, animations and environments. Designers create the levels, game worlds, and the rules of the game. Programmers write the code and build the framework and tools that make the games work. In all roles there are generalists, specialists, and experts.

In addition to these roles, there are **QA testers**, **Community Managers**, **Producers**, **Marketers**, **Analysts** and a number of other professional roles, both game-specific and more general, especially in the larger companies. Examples of roles outside of game production include **HR staff**, **Office Managers**, **Economists**, **Lawyers**, and **Web Developers**.

Most game companies in Sweden work in English and have employees from different parts of the world. Knowing Swedish is rarely a requirement, and between 30-50% of all employees at a Swedish game studio have moved to the country to work in the industry. Half of all migrants are from outside the EU.

Game Artist

The Game Artist creates the game's visuals such as 3D models, textures, and environments. Artistic ability is a fundamental part of the job. There are different types of game artists but the most common are *3D artists*, *2D artists*, *animators*, *and technical artists.* In smaller companies the tasks are broader, and in larger companies the role is often more specialised.

A game artist's tasks include everything from modelling and animation to texturing, illustration, drawing, and concepts. 3D artist is a relatively broad term that is sometimes used for an animator, texture artist and/or technical artist. 2D artists often have a greater requirement for illustration skills. A concept artist produces visual sketches that describe and convey the artistic vision of the game. This may include the game's characters, environments, and atmosphere. The approved concepts are passed on to a 2D or 3D artist who creates models from the images that will be used in the game.

Designer

A game designer and level designer decide how the game will be played and experienced. A game designer often has a more general role while a level designer works on smaller elements, such as the layout and experience of a level.

The game designer is responsible for the development and realisation of the overall game concept. This applies to all elements of the game, not least gameplay (rules and conditions for a good game experience) in all its parts (game mechanics, game balance, navigation, actions, game fiction, and game experience).

In collaboration with the producer, the game designer is responsible for planning and evaluating the scope of the work in relation to time and resources, a responsibility sometimes referred to as Project Ownership. In addition, the game designer is responsible for the structure of the game design in the comprehensive design document.

Level Design is the process of designing, creating, and balancing levels and missions for a game, oftentimes using purpose-built software tools such as level editors like QuArK, GtkRadiant, Valve Hammer Editor or UnrealEd. In many game productions, internal tools are also developed to create and enrich levels, as the general ones are not always sufficient for the task.

Programmer

The work of a game programmer is theoretically oriented and often no different from programmers in other industries. For the most part, the job consists of writing code that *brings the game to life* by creating functions and logical connections. The programmer builds the framework and tools that make the game work. Game programmers are sometimes divided into Gameplay, Tools, and Engine Programmers.

A Lead Programmer, with management responsibilities, participates in pre-production to decide what is programmatically feasible. The lead programmer is also responsible for breaking down the design document into smaller technical sub-goals and meeting the deadlines for these. A lead programmer works with the producer to plan and evaluate the scope of the work in relation to time and resources.

Some game companies develop their own game engine, the framework that controls the game's functions, while others use existing game engines. Unreal Engine and Unity are two of the most commonly used commercial game engines on the market today.

Ubisoft Massive developed the Snowdrop game engine, which is used in Ubisoft games worldwide. EA DICE has developed the Frostbite game engine used in EA games worldwide, and King has developed its own engine, Defold, which is free to use for game development.

Other Roles in Game Development

QA , Quality Assurance or game testers, are responsible for ensuring the functionality and quality of the overall game experience. This often involves finding and identifying various bugs before and after the game is released.

Digital Marketing includes a variety of roles that in one way or another deal with product marketing. These include Social Media Managers, Search Engine Optimisers (SEO) who make the game more visible in search engines, and Community Managers who facilitate the relationship with the players. It also includes User Acquisition who work to expand the player base and Influencer Specialists who work to spread the game's content via influencers and streaming platforms such as YouTube or Twitch.

Analytics or data analysis refers to the analysis and communication of data relevant to a game company. Positions in this professional category include Business Intelligence Developers (BI Developers) and Data Analysts.

The Producer manages the game project and is thus responsible for ensuring that everything works and that the production is completed on time and budget with the quality that the client (or their own company) expects.

Often in larger companies, one producer takes care of the development process up until the game launch, whereafter another producer takes over the project, a so-called Live Producer. This person is responsible for the game, the brand, and its community once it is on the market. The producer has an overarching responsibility for the project's design documents and for ensuring that other employees deliver their respective work.

Specialists & Key Skills

A growing number of companies are in need of individuals with more specialised skills. Some such roles are:

- **Animators** who create movement for 2D and 3D assets, such as creatures and characters.

- **Technical Artists** who work as a kind of intermediary between artists and programmers in a role that is both technical and creative.

- **VFX Artists** that create visual effects such as light, weather and explosions in the game.

- **User Experience (UX)** and **User Interface (UI)** designers and artists, who work together to create controls, menus and interfaces that provide the player with essential input and feedback. There are also dedicated **UI Programmers.**

- **Lighting Artists** that specialise in creating and manipulating light in games.

Number of Employees in Occupation Codes 2173 & 2513

Number of Employees

2513 Developers
- Women
- Men

2173 Art and Design
- Women
- Men
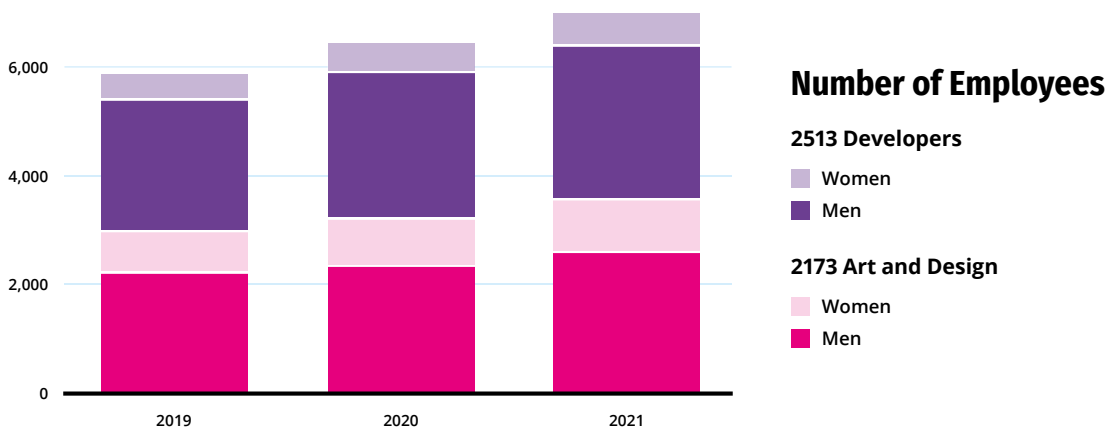
Number of Employees by Professional Role

Two occupational roles in game development have game-specific occupational codes (SSYK), in the official statistics compiled by Statistics Sweden (SCB). Occupation code *2173 Designer in games and digital media*, covers several occupations in art and design, and *2513 Developer in games and digital media* covers occupations in game programming. In addition to these, there are game developers in various specialisations under other occupational codes, and employees under these codes may also work in industries outside of game development. The sample can be seen as an indication of the number of employees in the country in the various occupational roles and the growth in the labour market. SCB also keeps statistics on gender distribution. In 2021, 16% of all game programmers were women and 27% of all artists and designers. The total share of women in the sample was 21.4% in 2021, just below the industry average of 22.1% in the same year.

Data on Education and Related Fields

Data is missing on the educational background and creative skills of people who are newly arrived in Sweden. Many possess relevant skills, but experience and education in the creative sector is likely to be an underutilised potential.

The country's game educations teach game development under the following SUN codes (Swedish educational nomenclature) covering three main groups:

SUN 213de, Game Art
SUN 213df, Game Design
SUN 481ab, Game Programming

Some educations fall outside these codes but may still have a game-specific focus, such as programmes for game testers and sound production. In 2021, there was a shortage of spots in the country's game educations and far fewer graduates than new employees in the industry. For senior skills, the games industry relies heavily on people moving to the country to work. Without experienced staff in the workplace, it is difficult to accept interns and train junior staff.

In addition to those with a specific background in games, there are also many with related education and occupations, who are already or have been in senior positions in other industries. Looking at related SSYK codes, according to Statistics Sweden, in 2021 there were over 75,000 employed educated software developers *SSYK 2512* and 4,500 people with a relevant education

working in graphics and design *SSYK 2172.* There are currently limited opportunities to train for something new or switch industries for those who are already well into their careers.

Educational Background Among Newly Arrived Immigrants in Sweden

The term newly arrived immigrants refers to a person who has been granted a residence permit as a refugee or for other reasons of protection, as well as relatives of people with such status. A person is normally counted as a newcomer during the time they are covered by the introduction programme, i.e. two to three years.

Between 2012 and 2021, around 200 people with an education similar to the country's game development programmes have immigrated to Sweden by means other than direct work permits. These people have an education in programming *SUN 481a* or graphic design *SUN 213d.* No statistics are available at a more detailed level. Looking at broader skills and including graduates in the twenty closest educational fields, there is a group of 10,700 graduates with skills relevant to the games industry. Almost half of these, 47%, are women.

Educational Background Among
Newly Arrived Immigrant Candidates

Artistic education
- Women
- Men

Programming/IT
- Women
- Men
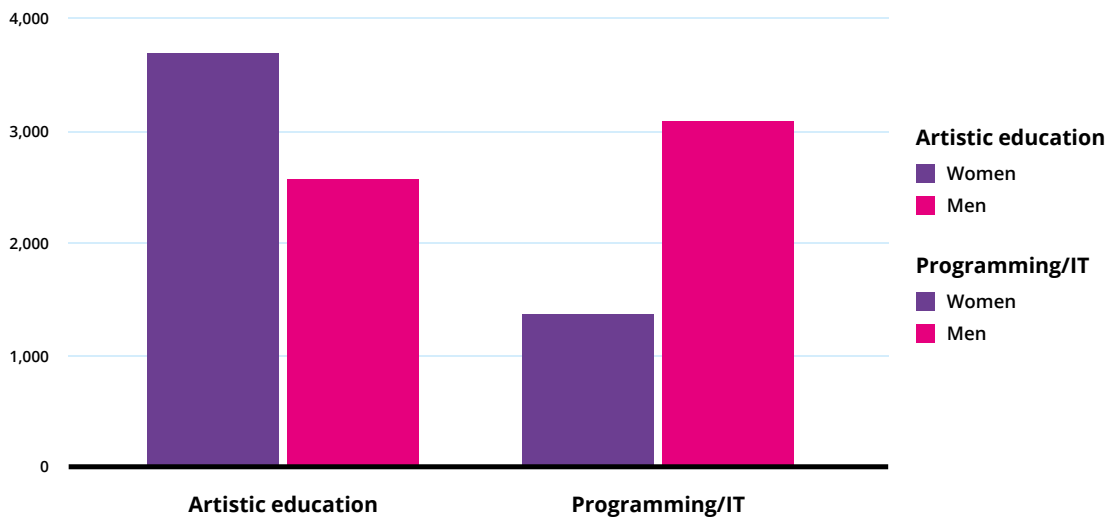
What complicates the estimation of skills is that 76% of all candidates with a degree in art have an *unspecified degree* in arts and media *SUN 219z*. The fact that such a large proportion of candidates fall into this category points to the difficulty of interpreting and categorising creative skills and educational background, and the inadequacy of the current SUN codes.

Ukrainians are not Included in the Data

Since spring 2022, a large number of people from Ukraine have sought protection in Sweden under the Temporary Protection Directive. These are not included in the statistics on educational background, and in autumn 2023 the Swedish Migration Agency estimated that around 30,000 Ukrainians were living in Sweden, of which around 20,000 were of working age. Of these, 70% are women and over 60% have a post-secondary education. In a survey carried out by the **UN Migration Agency** in spring 2023, 56% of this group already had work in the country. It also highlights a number of difficulties cited by Ukrainians in the survey, such as not being able to obtain a social security number and not being able to apply for a work permit without first

leaving Sweden. In many cases, this also means having significantly weaker protection in terms of social insurance, access to financial services and the labour market than those who came here by other means. Poorly adapted teaching of the Swedish language and lack of opportunities to study English are other obstacles to being able to take a qualified job.

More Challenges in the Job Market

Other groups who are new on the labour market face similar challenges as immigrants when it comes to approaching the games industry, though they may have better conditions and face fewer or different obstacles along the way. This applies to people from other industries who are re-educating themselves, accompanying partners and families of people with work permits, family immigrants, and young adults who need to make their own livelihoods in a relatively short amount of time. Raising awareness of jobs in the games industry and increasing opportunities to acquire the required skills through education, training, and game creation would enable more people to have a future in video games.

Game Developer Educations

There are several possible routes into the games industry, but the main one is through education. The report _Talent, Education and the Art of Making Games_ (2023) concludes that more game education is needed in the country to meet the demand for skills in the industry, not least to allow for the domestic industry to continue growing.

Studying to become a game developer can be done in different ways. Some are completely self-taught and some start developing games at secondary school. However, the vast majority have further education in the subject or related subjects – often through a post-secondary education in art, programming or game design at one of the country's universities or higher vocational educations. At many of these educations, students take joint courses across disciplines and create games together in projects.

The University of Skövde has a wide range of games courses with over 600 students in eight bachelor's programmes and four advanced level programmes. Education is provided in programming, design and three different programmes focusing on graphics: Animation, 3D and 2D art. There is also a _Game Writing_ programme where students can study digital story-telling with a focus on game development. There are also bachelor's programmes in music and sound for games. At advanced level, three master's programmes are offered, all in English and open to international students. Master's programmes are available in _Game User Experience_, _Serious Games_ and _Digital Narration: Game and Cultural Heritage_. The Master's programme is

in _Game Development_ with _Game Users Experience_ (GUX) and _Serious Games_ (SG) as elective specialisations.

Blekinge Institute of Technology (BTH) has offered game educations since 2004 in Karlshamn. At under-graduate level, there is _Design of Digital and Immersive Experiences_ with several related programmes such as _Design of Digital Experiences for Learning_, _Digital Sound Production_, and _Digital Visual Production_, all of which cover techniques that are applicable in games. They also offer a Master's degree programme – _Master of Engineering in Game Technology_. In autumn 2023, the _Bachelor of Engineering in Technical Artist_ was launched. The game educations at BTH cooperate closely with **Blekinge Business Incubator** and its game compo-nent Gameport, which has existed since 2003.

Chalmers University of Technology offers a Master's programme (MSc) in _Interaction Design and Technologies_, where students can choose to profile themselves in various areas, including games. Chalmers also conducts research on topics such as interaction design, game design, AI for music and graphics, VR and the use of IT in vehicles. The researchers in these areas are also lec-turers in the Master's Programme in _Interaction Design_.

Uppsala University runs four undergraduate game programmes and two graduate programmes at its Campus Gotland in Visby. All programmes focus on game design and offer a Bachelor's degree in *game design,* or alternatively *game design and project management, game design and graphics* or *game design and programming*. At advanced level, there are one- and two-year Master's programmes in *game design.*

Futuregames offers game programming education in Stockholm, Skellefteå, Boden and Malmö. In Skellefteå and Karlstad there are also programmes focusing on programming for mobile platforms. The *Game Artist* programme is offered in Boden, Skellefteå, Malmö and Karlstad. Two programmes are offered in game design, one in Boden and a specialisation programme in Stockholm. The *Project Manager IT & Games* and *Game & UX Designer* programmes are offered in Skellefteå. There is also the *Immersive Experience Creator* programme in Stockholm and *QA/Game Tester* in Boden, as well as *Animator and VFX Artist* in both Stockholm and Boden.

The Game Assembly (TGA) has three main game development programmes in Stockholm and Malmö – *Game Programmer*, *Level Designer* and *Game Art* – which together create game projects during the course. In Malmö, the *Technical Artist* and *Game Animator* programmes are also available. In 2023, a new programme started in Stockholm, *Procedural Artist.* All programmes are offered in Swedish and in close collaboration with the local industry. The school also runs a short remote education called *Linear Algebra for Artists.*

PlaygroundSquad (PSQ) has run game development educations since 2000 and currently offers three different programmes in Falun – *Game Programmer*, *Game Artist* and *Game Designer*. PSQ is also part of a collaboration with Sony through *PlayStation First,* which allows students to develop the majority of their game projects exclusively for Sony hardware and providing a unique specialised skill set.

Yrgo in Gothenburg offers the *Game Creator Programmer,* and *Game Creator Artist* programmes. Students from Yrgo won the prize for best game at the 2023 Swedish Game Awards.

In Stockholm, **Forsbergs Skola** organises the programme *Game Developer – game programming*. From autumn 2023, **Nackademin** offers a course in graphics, *Technical 3D Artist* in games in Solna.

Several folk high schools offer courses in games at both upper secondary and post-secondary level. **Hola Folkhögskola** in Kramfors offers a two-year post-secondary programme in **Indie Game Development** and the one-year *Game Audio Design* course. The school also runs a basic summer course, *Summercamp game development,* in cooperation with **FCV Sverige.** Almost all participants were motivated to continue their studies or employment immediately after the programme, and among former participants all remained in studies or employment after one year. In 2023, *Summercamp* was carried out in Boden and Kramfors and all participants who completed the programme went on to further studies or employment.

Changemaker Educations in collaboration with **Sunderby Folkhögskola** has developed a post-secondary vocational education, *Indie Game Developer*, in Boden and Luleå in close cooperation with game companies from the entire region. The programme has had study visits from groups of newly arrived immigrants interested in the Swedish games industry. They also offer a general course at upper secondary school level with a focus on game development, *Gamemaker*.

At **Ädelfors Folkhögskola** in Holsbybrunn, a special course in *game development* is held at upper secondary level and is divided into three specialisations: art, design and programming, as well as the post-secondary special course *Indie Game Studio.*

Valla Folkhögskola in Linköping, in collaboration with the game hub **East Sweden Game,** offers a 2-year course in game development at post-secondary level – *Valla Game Education.*

Östra Grevie Folkhögskola outside Skurup offers a post-secondary course, *Virtual Composer and Sound Designer*, with a focus on games, film and television. **Kristinehamns Folkhögskola** in Värmland, together with the game hub **The Great Journey**, offers the course *Indie Game Developer* at post-secondary level in Kristinehamn and Karlstad.

Bona Folkhögskola in Motala, in collaboration with the organisation **Female Legends**, offers a one-year remote general course titled *Digital Games and Community Management.*

Framnäs Folkhögskola in Öjebyn and **Solviks Folkhögskola** in Kåge are linked to the **Arctic Game** cluster and offer courses in game development, VFX and game music.
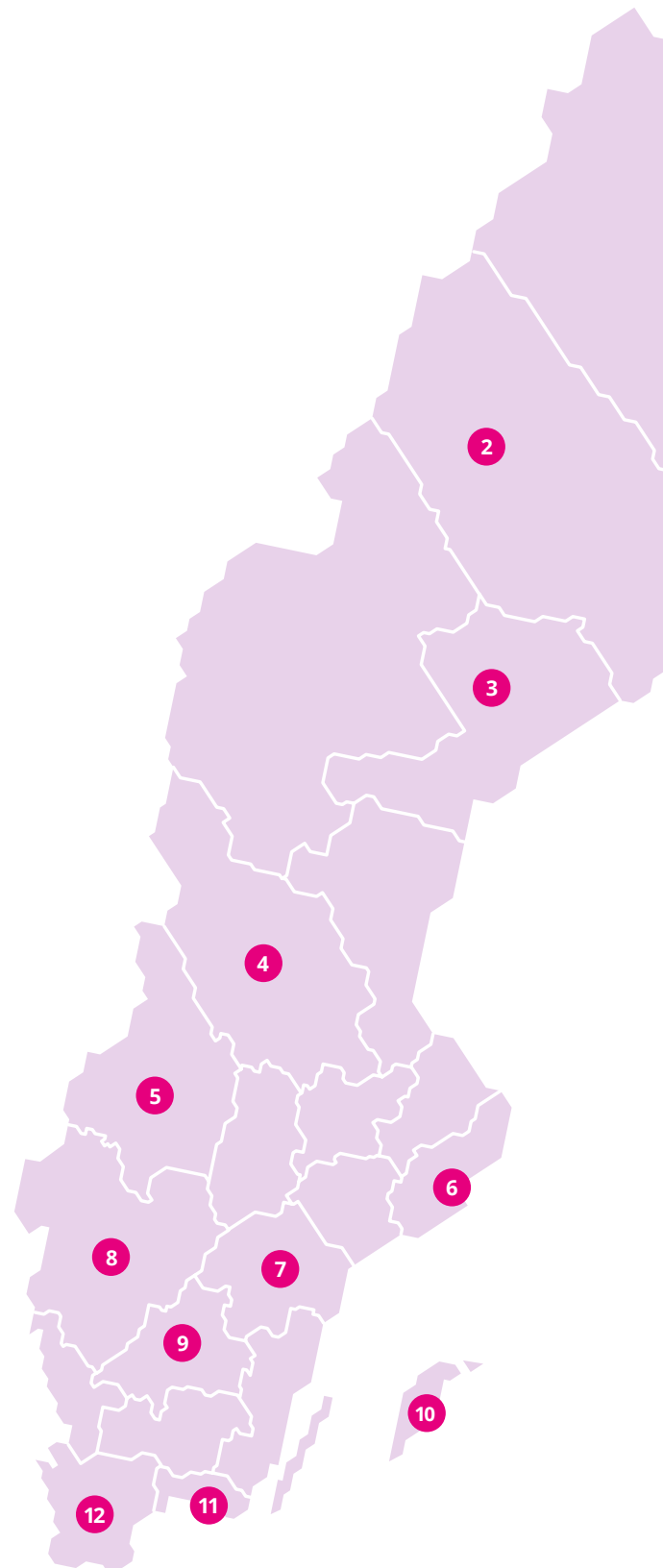
In 2020, **Spelkollektivet** started its game education *The Indie Quest* together with Tingsryd Municipality. The programme offers courses in programming, art and business development at upper secondary level within the framework of adult education. The programme is free of charge, CSN-eligible and held in English for both Swedish and international students.

There are also some upper secondary education programmes that profile themselves in game development. These include **LBS Kreativa Gymnasiet**, which runs upper secondary education programmes in games at 17 different schools in the country. All offer two different upper secondary programmes with a focus on games – an aesthetic programme with a special focus on game art and a technical programme with a special focus on game development. Students from both programmes create games together in the second and third years.

Björknäsgymnasiet in Boden offers the *GameDev* programme, which is an aesthetic programme with a focus on game development. The programme is run in close cooperation with **Boden Game Camp** and also has a national intake.

At **Nacka Strands Gymnasium** there is an aesthetic programme with a focus on games. The programme is characterised by two focus areas – game design and game art.

Törnströmska Gymnasiet in Karlskrona offers an aesthetic education specialising in game art, 3D and animation.

Higher Game Educations

Longer CSN-eligible game education at post-secondary level commencing in autumn 2023.

PlaygroundSquad,
Game Programmer

VÄRMLAND 5

Karlstad

Changemaker Educations AB
Futuregames Game Artist

Kristinehamns Folkhögskola
Indiespelutvecklare

REGION STOCKHOLM 6

Huddinge

Södertörn University
Spelprogrammet – inriktning
speldesign och scripting
Spelprogrammet – inriktning grafik

Stockholm

Stockholm University
Bachelor's Programme in
Computer Game Development

Changemaker Educations AB
Futuregames Game Programmer
Futuregames Immersive
Experience Creator

Forsbergs Skola
Spelutvecklare –
Game Programming

The Game Assembly
Spelprogrammerare
Leveldesigner
Spelgrafiker
Procedural Artist

Audio Production Academy
Game Audio Producent & Sound
Designer

Botkyrka

*Botkyrka kommun / Xenter
Botkyrka*
VFX-artist

Solna

Nackademin
Teknisk 3D-artist inom spel
Virtual reality-utvecklare

ÖSTERGÖTLAND 7

Linköping

Linköping University
Bachelor's Programme in
Computer Game Development

Master of Science in Computer
Science and Software Engineering

Valla Folkhögskola
Valla Game Education

VÄSTRA GÖTALAND 8

Gothenburg

Chalmers University of Technology
Interaction Design and
Technologies, Msc Programme

University of Gothenburg
Game Design & Technology
Master's Programme

Yrgo
Game Creator Programmer
Game Creator Artist

Skövde

University of Skövde
Digital Narration: Game
and Cultural Heritage –
Master's Programme
Games User Experience –
Master's Programme
Serious Games –
Master's Programme
Spelutveckling –
Master's Programme
Dataspelsutveckling – 2D-grafik
Dataspelsutveckling – 3D-grafik
Dataspelsutveckling – animation
Dataspelsutveckling – Game
Writing
Dataspelsutveckling – ljud
Dataspelsutveckling – musik
Dataspelsutveckling – design
Dataspelsutveckling –
programmering

REGION JÖNKÖPING 9

Vetlanda

Ädelfors Folkhögskola
Indie Game Studio

GOTLAND 10

Visby

Uppsala University
Bachelor's Programme in Game
Design and Programming
Bachelor's Programme in Game
Design and Project Management
Bachelor's Programme in Game
Design and Graphics

Bachelor's Programme in
Game Design
Master's Programme in
Game Design (1 year)
Master's Programme in
Game Design (2 years)

BLEKINGE 11

Karlshamn

Blekinge Institute of Technology
Design av digitala och
immersiva upplevelser

Karlskrona

Blekinge Institute of Technology
Civilingenjör i spelteknik
Högskoleingenjör i teknisk
spelgrafik

SKÅNE 12

Vellinge

Östra Grevie Folkhögskola
Virtuell kompositör och
ljuddesigner

Malmö

Malmö University
Spelutveckling

The Game Assembly
Spelanimatör
Spelprogrammerare
Technical Artist
Leveldesigner
Spelgrafiker

Changemaker Educations AB
Game Artist
Game Programmer

VARIOUS LOCATIONS

Changemaker Educations AB
Futuregames Animator and
VFX-Artist

1

NORRBOTTEN 1

Boden

Changemaker Educations AB
Futuregames Game Programmer
Futuregames QA / Game Tester
Futuregames Game Designer

Sunderby Folkhögskola
Indie Game Developer

Luleå

Luleå University of Technology
Civilingenjör Datateknik,
inriktning interaktiva system

VÄSTERBOTTEN 2

Skellefteå

Luleå University of Technology
Bachelor's Programme in
Computer Graphics for
Games and Film

Changemaker Educations AB
Futuregames Game & UX Designer
Futuregames Game Programmer

Visual Magic
VFX-artist: 3D-visualisering
och digital compositing

VÄSTERNORRLAND 3

Kramfors

Hola Folkhögskola
Indiespelutveckling

DALARNA 4

Falun

Tension Education AB
PlaygroundSquad,
Game Designer
PlaygroundSquad,
Game Artist

Entrepreneurship Across the Country

A large part of the growth in the games industry is due to start-ups. Some are students who start companies after their studies to bring a new game idea to the market. Others are experienced game developers who have worked for a few years in the industry.

Almost all game development supported by public funds takes place at regional and local level through incubation, game hubs, and industry clusters. In several locations across the country there are important initiatives where vibrant and dynamic ecosystems for game development have been created. A significant proportion of new businesses in the industry are in some way connected to the clusters.

Arctic Game, is a game cluster in Norrbotten and Västerbotten focusing on founding, coaching, education and investments. In 2017, the region's first game incubator, Boden Game Camp, was launched and today supports fifteen local studios. Arctic Game also works to promote underrepresented groups in the industry through inclusion and equality efforts.

East Sweden Game is a community and incubator for game developers in Östergötland. They offer, among other things, office space, coworking and counselling. Their premises in Linköping cover over 400 square metres and in 2022 a second office was opened in the neighbouring city of Norrköping. East Sweden Game was initiated by the municipal property company Sankt Kors in Linköping and is run by Norrköping Science Park in Norrköping. **Equal Play** is a network with roots in East Sweden Game that works to promote diversity and inclusion by spreading knowledge and organising both separatist and open events for anyone interested in game development.

The Game Collective is a project involving collective living, education, game development, publishing and events. It was initiated without external funding, and the preparations for starting the collective began already in 2016 with Castle Game Jam where the goal was to create a network with game developers from all over the world. In 2018, the organisation moved to new, larger premises in Väckelsång in Småland.

In 2022, **Uppsala University – Campus Gotland** in Visby invested in building a viable community for game developers in collaboration with the local games industry and private actors. The aim is to eventually promote commercial game development, research and entrepreneurship supported through coordinated business development.

The Great Journey was founded in 2016 and is based in Karlstad. The goal of the organisation is to support the growing games industry in Värmland. They organise activities, meetups, game jams, consultations and business development with a focus on sustainability, inclusion and leadership. Between 2023 and 2026, The Great Journey runs the EU project Gamechanger with the aim of building a strong ecosystem for game developers. Among other things, members are offered an accelerator programme with business development support to help them start game companies. In addition to the existing game educations in the region, The Great Journey also organises its own Fasttrack programme,

"I was an aspiring pro football player. But a serious blood infection forced me to spend a long time away from it. During this time I escaped into the world of game making, been an indie ever since"

which gives developers the opportunity to work on their game projects for nine months with CSN support.

Since 2004, **Science Park Skövde** has successfully led incubator activities for game companies in Skövde and since 2016 also in Gothenburg. Science Park Skövde works in close connection with the University of Skövde and constitutes a function for collaboration between academia, business and society. The game incubator has created hundreds of companies over the years and is the base for the innovation hub **Sweden Game Arena**, which offers a unique environment for game companies and brings together game education, research and entrepreneurship with the aim of creating a thriving games industry.

Mid Sweden Games works together with game developers, education providers, companies and the public sector in Västernorrland to create a sustainable foundation for the development and growth of the games industry. The cluster organises monthly network meetings for game companies, regular workshops with industry players that increase the companies' business competence, and create exchanges between game developers and academia. Mid Sweden Games also participates in the interregional project Level Up, which has enabled the Sundsvall studio A Bit Ago to participate in Science Park Skövde's start-up programme, an example of strong mutual exchange between Swedish game clusters.

Gameport (Blekinge Business Incubator BBI) is working to create a game developer cluster in Karlshamn.

Among other things, they offer office space that prioritises startups. A few times a year, Startup Challenge is arranged where different business ideas compete for a certain amount of start-up capital and a place in the incubator's Startup Program. Gameport also organises workshops, lectures and mentoring.

Game Habitat in Malmö celebrated its 10th anniversary in autumn 2023 and DevHub celebrated its fifth year as an office hotel and coworking hub for Malmö's game developers. Since 2013, the organisation has worked for the growth and sustainability of the regional games industry through a wide range of projects, collaborations, conferences and events. In the autumn of 2023, Game Habitat decided to further focus on its work for increased equality, diversity and inclusion. This includes collaborating with regional game studios, universities and organisations to bring more underrepresented game developers into the labour market and into leadership positions – through targeted initiatives, for example. For instance, Game Habitat, in collaboration with Invest in Skåne, offers international game developers access to a fully furnished guest office to try out what it is like to run a company from Malmö.

In spring 2023, Xbox Game Studios organised **Game Camp Sweden**, a 12-week developer programme filled with workshops and hands-on learning in game development. The programme was carried out in collaboration with the Swedish game companies Mojang, MachineGames and Simplygon. Game Camp is a travelling concept that has been held in South Korea and the USA in previous years.

Paving Ways?

The path to working with games can take many different forms. The most straightforward way is to go from a high school student interested in games to studying a specialised game course and then get an internship and a job at a game studio. Another way is to start a business with your classmates based on a game project initiated during your studies. For those who follow one of these paths, there are several options and good chances for jobs and development in the industry. However, in order to future-proof the games industry and replenish the skills and creativity needed in the long run, a wide range of skills, experience and perspectives is required. More people need to find their way to the industry. In preparing this report, based on interviews, reports and roundtable discussions with a wide range of relevant stakeholders, we have identified a number of obstacles and challenges that are common to several groups and individuals whose paths to a profession in game development are a little more winding.

The Difficulties can be Grouped into Three Main Areas:

- Validating, matching and complementing **skills** from other educations and professions.

- Visible and invisible **barriers** like lack of language skills and networks, cultural clashes, discrimination and various bureaucratic obstacles such as rules on residence permits and the like.

- The lack of **awareness** of game development as a possible future profession, both among individuals and among organisations working to support those on the path to work.

Challenge:
Skills

Obstacles

Game development is a team effort where many different competences need to work together to create a whole. As an international industry with a global audience, people with broad knowledge, background and experience are needed within a team.

As the industry has grown and developed, the need for specific game-related skills to work in the industry has also increased. Several professional roles are becoming more specialised which makes it even more challenging for people with experience in related industries to go directly to a job at the same level in a games company.

Despite this, there are no supplementary educations for software developers or graphic designers. In order to remain relevant and attract applicants, such educations need to be structured in a way that allows for a livable income during the education. This applies to both reskilling and immigrants who are required by the authorities to reach a certain level of income, among others. Several actors also find it challenging to validate the skills of candidates who do not come from a formal game education or directly from a game studio, in order to know what skills need to be supplemented.

It is often pointed out that the industry has a great need for senior expertise since it is still young and has grown rapidly in a short amount of time. The lack of senior competence also affects the possibility for companies to develop junior talents and means a lack of supervisory competence to receive interns, for example from universities of applied sciences. To some extent, there may also be a lack of strategic work

to create routines for transfering experience, which affects the skill regrowth and the possibility for more people to enter the industry. When it is difficult to get an internship for those who have taken the most direct route to game development through a game education with strong networks, it risks being almost impossible for those who are new in Sweden or have taken more circuitous routes through their professional lives. This means that the industry as a whole is losing out on a lot of potential talent. The lack of routine and time for experience transfer also builds up a potentially huge skills gap when the industry will start to face the first major retirements in a few years, in addition to the needs created by annual growth.

Another challenge is matching existing skills to the right jobs. As in many other industries, this is largely a matter of networks and contacts – while organisations and authorities that meet immigrants or other relevant groups are not even aware of the games industry as a possible career path, let alone have the necessary contacts and entry points.

At an aggregate level, there is also a lack of information about the skills coming to Sweden, which makes it difficult to plan and dimension recruitment efforts and supplementary educations.

MY FUTURE WILL BE BRIGHT

Outlook

Swedish Public Employment Service – the Office for Culture and Media

Since 1998, *Arbetsförmedlingen Kultur Media* is a sectoral employment agency within the Swedish Public Employment Service (PES). Their mission is to work with employers and professionals in the culture and media sector – including game development. There are several criteria for registering with the sectoral employment service. For example, the person must within the last three years have completed a higher education programme in the professional field or worked mainly within the professional field of culture and the media. The criteria are designed in cooperation with industry and interest organisations in the cultural and media sector. Many game educations are approved and equivalent educations, such as foreign ones, can be evaluated to meet the criteria. Those enrolled can receive counselling, attend recruitment meetings and get access to networks and guidance on starting their own business.

When it comes to channelling newly arrived immigrants to PES Culture and Media, they themselves note that there are several thresholds. The caseworkers who first meet the group often fail to pass them on to PES Culture and Media, and generally have little knowledge of how the games industry works and what professions are involved. Some isolated information initiatives, including a podcast, have been made over the years with some results, but in the absence of a systematic approach, the knowledge and effect disappear with staff turnover. When many people from Ukraine started coming to Sweden in 2022, PES Culture and Media prepared for a wave of registrations, but the influx did not materialise as the Ukrainians either did not register at all or got stuck in the regular Public Employment Service. PES Culture and Media also reports difficulties in identifying and validating creative educations and experiences from abroad. The caseworkers rarely do any further research but focus on the paths that are considered to lead to rapid self-sufficiency. This usually means focusing on concrete occupations without higher education requirements, such as taxi drivers. Sometimes candidates may also deliberately withhold experience in creative professions from the authorities, for example people who have fled a country with less or no freedom of expression and artistic freedom.

The Introduction Programme

The Introduction Programme (Etableringsprogrammet) is a specialised support service in the form of activities and training via the Swedish Public Employment Service for newly arrived immigrants who have been granted a residence permit. The purpose of the programme is to accelerate the settling of immigrants into working life and society through either work or studies. The programme covers newly arrived immigrants between the ages of 20 and 65 with a residence permit as a refugee or person in need of protection and their family members.

Together with an employment officer, a survey of the person's skills and experience is carried out and an individual action plan is drawn up. It must include *Swedish for Immigrants* (SFI) and social orientation. The programme is voluntary and involves primarily full-time activities for up to two years. Those who follow their action plan can apply for introduction benefit, supplementary benefit and housing supplement through Swedish Social Insurance Agency.

One part of the introduction programme is support for those who want to start their own business. There are a number of initiatives that provide shorter training or courses on self-employment. PES is part of a network

of various authorities, other information channels and actors who work for new businesses that are available in various ways in the respective municipalities. To be able to start their own company, people must present their business idea for assessment and have it deemed as viable. It is also possible to apply for support that allows the person to run a business while retaining activity support for a number of months, in order to be able to draw a salary.

Within the framework of the introduction programme, PES does not work with validation to any great extent, especially not at the highly qualified level. There are only a few occupations that receive validation, and almost all of them are at upper secondary school level. Educations held in languages other than Swedish are being trialled in several places around the country. It is mainly municipal adult education (Komvux) in the form of vocational education programmes that are trying this out, for example through courses held in first languages, as well as English and Swedish, as a route into care work.

For those participating in the introduction programme, it is possible to study the *Intensive Year* (Intensivåret). This means that SFI or vocational SFI, practical training and mentoring are more focused and conducted at a higher pace. The aim of the *Intensive Year* is for the person to quickly find a job in a selected profession or industry. Initially, a survey is made of the person's competences, experience and which profession or industry that are relevant. Those who take part in the *Intensive Year* are expected to be able to participate full-time and have at least one year left in the introduction programme. Those who complete the programme receive a certificate, which contains a description of knowledge such as an evaluation of language and professional skills from employers and mentors.

Jobbsprånget

Jobbsprånget was founded in 2016 within the Royal Swedish Academy of Engineering Sciences (IVA) and is Sweden's largest internship programme for newly arrived academics born outside of Europe. The internship spans four months and aims to give foreign academics the opportunity to show their potential in their field of expertise and speed up their introduction to the Swedish labour market. Jobbsprånget provides a platform where employers can advertise internships and get matched with newly arrived graduates. It is open for all types of employers to participate and since 2017 around 600 employers have participated in over 50 locations in Sweden. One of these employers is Massive Entertainment in Malmö. The programme is run in direct cooperation with the Swedish Public Employment Service (PES), which means that it is PES that decides whether the applicant is eligible.

Jobbsprånget is intended for foreign graduates with a higher education degree in fields such as engineering, economics or science. There are several eligibility criteria for the programme, including that the applicant must have a work permit, be registered with PES as an active jobseeker and have completed an initial interview with an administrator. The candidate must also have a good knowledge of English – both spoken and written, and a valid BankID. At Jobbsprånget all communication is in English and the employers can not require that the interns are able to speak Swedish. Since 2016, 3,000 foreign-born graduates have completed an internship through Jobbsprånget and 70% have found a job after completing their internship. The programme is currently run as an independent non-profit organisation with funding from the Knut and Alice Wallenberg Foundation and the Swedish Government via the Swedish Agency for Economic and Regional Growth.

Ny Kollega – a Route to Jobs for Migrant Journalists

In journalism, a variety of people with different backgrounds and perspectives are needed to understand and highlight different social events in a diversified way. In a joint project, SVT, Bonnier and Schibstedt, led by the media institute Fojo, have developed the *Ny Kollega* programme to broaden the recruitment base of new journalists. Admission to the programme requires a degree or work experience as a journalist from another country and basic knowledge of Swedish.

During one semester, the programme focuses on orienting participants in the Swedish journalistic landscape: basic rights and obligations, conceptual understanding, social orientation and networking. During the second semester, a paid internship as a journalist at a Swedish media organisation is offered to a selection of participants. The aim is to be able to offer employment after the end of the programme.

The project has suffered threats and hatred from right-wing extremists directed at both course participants and people involved in the organisation. Support for individuals and workplaces to deal with this problem has therefore been integrated as part of the work. Another lesson has been not to admit participants who do not have a sufficient skills in Swedish, and to give the people time during the first term to develop both language and networks further using, among other things, writing assignments and digital language cafés.

A success factor in obtaining qualitative internships has been that the committed companies SVT, Bonnier and Schibsted participate in the selection of participants from the start, and that the second semester and internship are not guaranteed but offered to those who fulfil the requirements. Last year, all interns received some form of employment at the end of the programme. Around 100 people applied for the 2023 programme and 16 people from different parts of the world were accepted.

Micro-Credentials

By Björn Flintberg, Researcher at RISE

In recent years, the EU has begun to look at micro-credentials as an opportunity to work on reskilling and continued education. Micro-credentials document shorter learning efforts that has resulted in a specific competence or ability and should be able to include both formal learning but also learning in the workplace and informal forms of learning. For the games industry, micro-credentials can be a good way of documenting specialised knowledge and a method of dealing with the challenge of staff undergoing longer educations in general. The vocational college and university educations that lead to employment provide a base, but over time the skills and competences of people in the industry develop, yet this is rarely documented. This leads to individuals having to account for their own competences via résumés or similar, which employers cannot confirm except through recommendations. With micro-credentials, this could be a clearer and better process that strengthens both the individual's career development and the employer's recruitment processes.

Validations can Help Immigrants

For people coming to Sweden from other countries and for people currently outside the labour market, micro-credentials can also be used in a beneficial way. Through validation and testing, abilities and skills could generate micro-credentials that describe speci-fic knowledge and make it easier for the industry to hire. This could involve people who have both a programming background and have acquired knowledge of games in other ways. Even if the knowledge does not correspond to a complete university or vocational college education, it can still cover parts of what is included in these educations and be defined as a micro-merit. This could lead to faster jobs, where further education and shorter courses can complement the existing knowledge of immigrants who have the potential to work in the industry, or others who can contribute to reducing the shortage of personnel, which is perhaps the industry's greatest challenge today.

A Path to Supplementary Education

A model for micro-credentials aimed at people who have migrated to Sweden could consist of a set of micro-credentials that break down the elements of existing educations and, with the help of the *Swedish Games Industry,* are formulated into a package of different competences and skills. For these, quality-assured validations can then be developed that can generate micro-credentials, thus clarifying what skills an individual possesses. Followed by the development of supplementary education either within the educational system or through interventions in companies that want to quickly hire people with high potential.

ANASTASIIA KLONOVA HELPS COMPANIES FIND TALENT FROM UKRAINE
Skill Shift Initiative

Photo:
Alina Harmash

"Recognise the opportunities, make use of talent and dare to recruit those who don't have the exact skills you are looking for"

Hi Anastasiia! You work at Skill Shift Initiative, what kind of organisation is it?
Skill Shift Initiative (Beredskapslyftet) is a non-profit organisation started in 2020 during the covid pandemic when we supported the healthcare sector with hundreds of temporary employees through, among other things, new short courses at Sophiahemmet University. The purpose of the Skill Shift Initiative is to support society in temporary challenges by mobilising resources from the business community. After the full-scale Russian invasion of Ukraine in 2022, Skill Shift Initiative has supported the Ukrainians who have come to Sweden in several ways, both through activity centres for children, summer schools, a Ukrainian cultural centre and the Ukrainian Professional Support Centre.

Can you tell us more about the Ukrainian Professional Support Centre?
The Ukrainian Professional Support Centre (UPSC) is a recruitment service where we conduct free job matches to help employers solve skills needs by hiring Ukrainian talent. Since its launch in April 2022, we have contributed to more than 400 Ukrainians being employed in Sweden in various industries. We have over 4,000 candidate profiles in our résumé database and around 8,000 Ukrainian followers in social media channels. Our team consists of Swedish specialists

who first analyse the recruitment needs of employers and then hand over the task to our experienced recruiters from Ukraine who advertise and select candidates that match the requirement profile.

What obstacles have you noticed in matching Ukrainian newcomers to the Swedish labour market?
We saw that in the beginning the Swedish language was an obstacle in many workplaces, but now more and more Ukrainians have started to learn the language through SFI and other language training. The level of English has also improved. Other obstacles can be that you don't have the competences required in Sweden, but many of our candidates are eager to learn. In addition, research shows that the fastest way to develop new competences is by starting a job or an internship.

What advice would you give Swedish game studios in their search for the right skills?
See the opportunities, utilise the talents and dare to recruit even those who do not have exactly the skills you are looking for. There are many people who have great potential to learn and grow within the roles and professional fields.

Yelyzaveta Anysymova
Illustrated this Report

Portfolio: www.lisasobacca.art

What was your inspiration for the cover art?
I tried to depict the hardships of finding a job in Sweden as the first level of a game. The next levels to achieve are the language barrier and blending into society. My character breaks this wall and reaches the last level where, as a candidate for the position, she must wait 2–3 months for different interviews (from a Ukrainian perspective, it's quite long), but if she makes it, people will say it was all absolutely worth it!

What do you think about living in Sweden compared to Ukraine?
I love Sweden because of its nature and people. The fresh piercing air, huge boulders to climb on to enjoy some tea, and endless fields of moss and swamps, it helps me soothe my mind and the anxiety caused by the Russian invasion. I feel very grateful for the people I have met while exploring life in Sweden.

The only thing I'd like to be considered is the possibility of providing Ukrainians with a social security number, as it's crucial to getting access to different services, from the post office and supermarket discounts to healthcare.

What I miss most about Ukraine is my family and friends. I miss the feeling of calmness and joy of everyday life. I am often reminded of the war and its consequences. War is always there, it's never gone even if you don't feel it physically, so most of all I miss peace in my country.

Ukrainian Professional Support Center

Since spring 2022, when Russia launched the attempted full-scale invasion of Ukraine, many people from Ukraine have sought refuge in Sweden and the rest of Europe. In autumn 2023, around 30,000 Ukrainians were estimated to be living in Sweden, of which around 20,000 were of working age. Of these, 70% are women, and over 60% have post-secondary education.

One organisation that has quickly gained solid experience in matching this group of immigrants to the skill needs in Sweden is the Ukrainian Professional Support Center. The project is financed by the European Social Fund and is part of the Skill Shift Initiative, a non-profit organisation launched during the pandemic by *Novare* together with the *Wallenberg Foundations* and *Sophiahemmet University.* The purpose of Skill Shift Initiative is to support society in temporary challenges by mobilising resources from the business community. Since the start, they have matched over 400 Ukrainians with jobs in Sweden free of charge and they have a broad network of Ukrainians in which they can find in-demand skills.

HESAM KANGARLOU ON HARNESSING INTERNATIONAL EXPERTISE

Business Area Manager Technology, Academic Work

"The skills shortage is not only a result of the supply of resources, but also of the perception of the potentially overlooked resources"

Hi Hesam! You work with skills supply in the technology sector, how big is the skills shortage and what are the risks?

The skills shortage in the Swedish technology sector is not cyclical but structural. Not enough technical expertise is being produced from the traditional channels, while a large number of people are reaching retirement age in the next five to ten years.

Companies hit hard by the skills shortage are missing out on business and projects, and the lack of the right people ultimately affects company growth as well as corporate culture. When workers are forced to compete for available skills, wages are also increased, creating wage inflation that is unhealthy in the long run.

Unfortunately, we also see recruiting managers who have unrealistic or carelessly formulated skills requirements while looking for skills in places where they do not exist.

The skills shortage is not only a result of the supply of resources, but also of the perception of potentially overlooked resources.

What obstacles and opportunities do you face in connecting the needs of companies and the skills of newly arrived immigrants?

Swedish companies in the technology sector are not as far advanced as many would like in implementing English as a primary language. As a result, the Swedish language too often becomes a barrier for the employee.

Furthermore, immigrants have not always had time to understand differences in culture and procedures. This may involve how to communicate with a recruiting manager during a first interview or how to write a comprehensive and easily understandable résumé. The opportunities to utilise the skills of immigrants are endless. Swedish business has long credited immigration as a catalyst for innovation, diversity and growth. In order to maintain our international competitiveness in the technology sector while at the same time being able to implement all the desired changes in society, it is absolutely necessary to utilise the skills of immigrants effectively.

What can companies and the public sector do better?

Companies need to ensure that there is a uniform will and strategy throughout the organisation, from the board to the line manager, to systematically make use of international skills. For this to happen seamlessly, the language barrier must first be broken and Sweden must be perceived as more *international*.

The public sector can learn valuable lessons from the fast-moving and flexible private sector. We need to get better at co-operating in Sweden and this is where the potential is greatest. For example, the Swedish Public Employment Service does not have to carry the heavy load, but we can equalise the responsibility on more private actors with a proven track record.

Academic Work

Academic Work is a recruitment and staffing company that focuses on students and graduates at the beginning of their careers. They have, together with their sister company Brights, developed a concept with intensive education programmes: AW Academy. These educations enable new careers mainly in IT and Tech through *Upskilling* – updating and improving existing skills and *Reskilling* – providing an employee with new skills. The education is aimed at people who want to retrain, at any time of life and with no prior knowledge requirements. Selection criteria are based on the individual's ability to acquire new skills in a short time, combined with motivation and personal qualities. Academic Work believes that they are thereby paving the way for a stronger diversity of candidates entering IT and Tech.

Participants who are admitted to such a programme receive free intensive education for about three months based on the Accelerated Learning methodology. After the programme, participants are guaranteed employment as a junior technology consultant with one of Academic Works' customers. The ambition is that the consultants will later be employed directly by the companies as a solution to the long-term supply of skills. The aim is for both employers and employees to benefit from the programme. The educations are mainly aimed at roles in IT and tech skills shortages and are developed in close cooperation with companies. They are given the opportunity to influence both the content of the education and the choice of candidates admitted to each education. The education modules differ from the traditional education system by focusing only on the skills needed for a specific role. Based on this, a tailor-made education is developed for either an industry or a company. Companies have the option of ordering their own class or accessing and pre-booking places on an existing education.

Since its inception in 2015, AW Academy has delivered over 250 education programmes, with over 4,000 people changing careers. In total, more than 1,000 companies have benefited from the new skills.

> *"Studied media in high school, then worked odd jobs and stumbled upon an animator at a convention. Applied and got in at a higher vocational education, got an internship in the industry, and the rest is history!"*

> *"Started out looking to be a photographer. It was really hard making a living and always liking games. I started to study at a higher vocational education. It was a shot in the dark – Now I work as an art director"*

Opportunities in Higher Vocational Education (HVE)

Higher vocational educations are state-funded post-secondary educations that combine theoretical lessons with internships. The length of HVE educations vary but is usually around two years, and courses are offered in several different sectors throughout the country. It is the Swedish National Agency for Higher Vocational Education that decides which HVE educations should be included in the higher vocational education system and grants state funding to education providers. The agency's core mission is to meet the industry's long-term skills needs. In other words, the purpose of the educations is to meet the needs of the labour market and are therefore run in close collaboration with companies and employers. The Swedish National Agency for HVE also examines whether the educations lead to the jobs and skills needs identified in the analysis.

There are also shorter programmes within the Higher Vocational Education Academy that are adapted to people who are already working. A course is a maximum of one semester, i.e. 20 weeks long. The courses may involve broadening existing skills or supplementing knowledge. It is possible to study remotely and part-time to make it easier to combine the course with work. Decisions on start dates, admissions and applications for the education are handled by each individual education provider (school). It is also up to the organiser to decide what entry requirements are needed, but a post-secondary education is required to take a shorter course. However, no short courses in game development are currently offered.

The Swedish National Agency for HVE organises seminars and conferences within the framework of validation and SeQF – Swedish National Qualifications Framework. Validation is a tool used to map and visualise individuals' existing skills. It can be knowledge from formal education, such as upper secondary or higher education, and through work that can be significant in a validation. In other words, validation may be suitable for people who lack documentation of their skills, which in turn may be needed when looking for a job or applying for an education.

The Swedish National Higher Vocational Education Authority analyses that the long-term need for skills in the games industry is great and states in the report *Area Analysis 2023: Games* that the size of the three existing educational specialisations can increase and that more skills may also be needed in new areas of expertise. This signals that, not least in light of the increased allocation of funds in the coming years, there are very good conditions for serious actors to expand and start more programmes and courses within game development.

IDA FONTAINE EDUCATES JUNIOR TALENT

Education Manager, The Game Assembly

"A good game developer needs to have an understanding of what is reasonable to do and what the other disciplines can and cannot contribute."

Hi Ida! You work as education manager at The Game Assembly higher vocational education in Stockholm, what challenges do you see for the long-term supply of skills in the industry?
Many people think it is a risk to invest time in junior staff and there are few senior game developers available to tutor interns because of the circulation of senior talent. We also find that many recruiters lack knowledge about the games industry.

For the long-term supply of skills, it is important that education providers and game studios work together to develop an ecosystem that welcomes junior staff. We see that the vast majority of our students find employment after their internship.

What do you see as unique competences for game developers that, for example, a back-end developer or artist lacks?
Understanding how the different disciplines work together towards a common end product. A good game developer needs to have an understanding of what is reasonable to do and what the other disciplines can and cannot contribute. Being able to work on-site or in a hybrid environment is important, which is particularly noticeable for interns after the pandemic.

What obstacles and opportunities do you see for creating shorter supplementary courses for people with related education and experience?
It's a great idea, but as an education provider with experience of shorter HVE courses, the amount of work in relation to the length of the course is simply not worth it. We have a shorter programme (of 1.5 years, Technical Artist) that works well, but short HVE courses need to be easier for education providers to implement from an administrative and financial perspective to make it worthwhile.

Conclusion

Available knowledge and data on existing competences are lacking. In order for more people to be able to quickly contribute their skills to the games industry, methods are needed to identify skills and needs and to supplement them with game-specific knowledge for those with related education and experience.

There are surprisingly few data points on what skills people who have moved to Sweden have brought with them if they do not come to the country as labour migrants for a specific job. After a review of existing data, interviews and mapping, it can nevertheless be concluded that there are plenty of potential participants for shorter supplementary educations for people with related skills who want to enter the games industry. In the group of newly arrived immigrants alone, there may be as many as 10,000 people over the past ten years who could theoretically be relevant. The potential for finding new talent and broadening skills through upgrading and supplementation is therefore great.

For these educations to work, they need to be adapted to the target group – for example, it must be possible to earn a living during the period. One possible solution is to find ways to finance some form of salary during the study period, such as reskilling support or similar systems. Another option would be to look at the possibilities of creating combination contracts where the person can start a part-time job in combination with a part-time education, a system often used to get more qualified teachers. Or it could be solved by making education compatible with either other support

schemes, such as the Introduction Programme, or with existing other employment by being part-time and largely remote. If the practical obstacles for the participants and education providers are solved, such supplementary educations should provide a large exchange in added competence in a relatively short time. Within the framework of the university of applied sciences system, there is both infrastructure and funding to enable rapid upgrading. Micro-credentials could be used to more clearly analyse and define which competences need to be supplemented depending on the entry point and background of the potential participants.

In order to secure the long-term supply of skills and manage to continue to grow, have access to senior skills and manage future retirements and natural movements between industries, a more structured approach to internships and experience transfer is needed. In other words, it requires flexibility and co-operation from the public sector and responsibility from employers in the industry. This is a long-term effort that may initially be perceived as slowing down, but is an absolute must in order to build a resilient and sustainable skills supply in the long term.

Challenge: Barriers

Obstacles

There are several potential barriers for those new in Sweden – language, culture, discrimination, exclusion, bureaucratic bugs and lack of networks. In terms of language and culture, the games industry may have advantages over other career paths. Swedish game studios recruit staff from all over the world and the vast majority of companies work entirely in English.

Game development is an international industry and between 30-50% of people in the Swedish industry have moved to Sweden to work in games. At several of the large companies, immigrant labour is in the majority, and at the country's largest game studio, Massive, there are employees of 57 nationalities. This is an asset that, if used correctly, can be a great help when onboarding new international expertise. However, working in English is of little help to immigrants new in Sweden as long as authorities focus entirely on Swedish first and work second. There are also limited opportunities to get time and education to improve their English within the framework of the introduction programmes.

There are also several laws and regulations that make things more difficult. In autumn 2023, the Swedish Migration Agency received a new mandate to prioritise shorter lead times for **work permits** for highly qualified labour immigration, which includes most jobs in the games industry. This work is expected to start in early 2024. Until the results of this work are implemented, processing times continue to be an obstacle to recruitment. Companies in the games industry report that the long lead times are not only a heavy administrative burden, but have also caused workers to be banned from working while applying for licence extensions, a situation that can be likened to a catch-22.

The new D-visa law made travelling on business a little easier, but for the individual, the ban on private travel is just as worrying. The problem of probationary employment became clear after the new migration law, which came into force on 1st June 2022, required a completed employment contract to be attached to the application. The Migration Agency may only grant a work permit for the six months of the probationary period and the permit needs to be reapplied for when the employment is extended to a permanent position. This creates a large administrative burden for both the Migration Agency and the employer and makes it difficult for the employee to register in Sweden when the permit is shorter than one year. Although a probationary period with the intention of becoming permanent employment should be sufficient to obtain a social security number, the problem of the Swedish Tax Agency's irregularity in its assessments is a major problem. Companies report that they need to produce specific documents and that new employees need to visit specific offices to have their applications processed.

The wage floor for work permits, which is based on the national median wage, makes it particularly difficult for start-ups and smaller game companies in locations outside the metropolitan regions to employ staff from outside the EU on the same terms as their Swedish and European colleagues. For international students, the way into the industry by being a co-founder of a new game company with compensation in the form of options and co-ownership becomes unavailable.

Adding to this, high demands on **newly arrived immigrants** for quick and well-paid self-support, both to stay and not least to be able to reunite with their families. The focus from authorities and society is therefore often on concrete jobs with little or no requirement for additional education. Creative and artistic skills are not considered as a possible route to work. Within the framework of the introduction programme, there are hard requirements for programmes that are supposed to lead to jobs, but which may not always correspond to the paths that could actually lead to jobs in the games industry.

For those who arrived from Ukraine in the last year under the **Temporary Protection Directive**, it is relatively easy to stay and work in Sweden. However, they lack access to the reception system and do not receive a social security number. Not getting a social security number severely hinders the possibility of actually building a life in Sweden. In order to obtain a social security number by instead applying for a residence permit or a work permit based on employment, the legislation requires the person to leave the country during the processing. At present, this is done for an indefinite period, which is rarely compatible with maintaining permanent employment in Sweden.

Discrimination is a more invisible but tangible obstacle for many. According to the Equality Ombudsman's (DO) **report with statistics 2015-2021**, the number of complaints increased by 42% in 2021. During the period 2015-2021, complaints of harassment related to ethnicity were consistently the most common. Beyond outright discrimination, there are also challenges around workplace culture and closed informal networks in workplaces when an industry is growing rapidly. Jargon and unwritten rules, difficult to navigate for new colleagues with different backgrounds, are also existing risks, not least in an industry that has historically emerged from a relatively homogenous group. For those who are new or break the norms in the workplace in some way, this can create insecurity and a sense of exclusion, which in turn reduces creativity and productivity in the company and makes it more difficult to secure future skills.

Another problem is that a relatively common route into the industry – starting your own business and developing your own game idea – is often completely outside the scope of what is possible for those who are not already securely settled and anchored in the Swedish social security system. The requirements for income and the fact that since November 2023 you must have a monthly salary of 80% of the median wage (SEK 27,360 in 2023) to be granted a work permit means that self-employment, whether on your own or as part of a start-up, becomes an impossible path. Not least for the simple reason that it takes time to develop a game and reach the market.

Outlook

Swedish for Immigrants (SFI)

Swedish for immigrants is a municipal adult education (Komvux) for individuals who need basic knowledge of the Swedish language. There are various requirements for studying SFI, but some primary ones are that the person must have a residence permit and be registered in a Swedish municipality. Since 1st July 2023, people can take the course from the year they turn 16 and there is no upper age limit. The education is free of charge and students have access to books and other learning tools. The course is tailored to the individual's needs and there are three study paths based on the person's educational background. There are also two levels – basic and upper secondary level and Komvux as adapted education. It is the home municipality that must offer SFI to those who are entitled to it, and the municipality is also obligated to offer study and career guidance.

"Started own studio out of uni, released a game, ran out of money. Worked day job for 5 years, making passion projects & volunteering with games organisations in my spare time, which eventually led back to games jobs"

Community Volunteer Work

There are many voluntary and non-profit organisations and individual volunteers who provide services, support and social activities for different groups such as immigrants or young adults with diverse backgrounds. This can involve everything from practical help and support with contacts with the authorities to language cafés, homework help and networking.

Some organisations have dedicated volunteer co-ordinators who manage and organise volunteers. Many non-profit organisations around the country aim to increase the sense of community in society between new and settled Swedes. These include **Nya Kompisbyrån**, where people can, for example, become coffee buddies or participate in mentoring programmes. Matching is done through buddy matching where two people are put together based on common interests. Statistics show that almost 30% of those who were job seekers have found an internship or job with the support of their buddy. **Kompis Sverige** is another similar non-profit organisation where the buddy programme is designed to create social integration. The participants' development is monitored against the organisation's four qualitative goals – language, networks, participation and trust. In Stockholm, **Nema Problema** works mainly with mentoring programmes where a person who is new in Sweden is matched with a mentor who has a similar professional and educational background. The aim is to shorten the path to employment and a mentor is

expected to provide experience, industry knowledge and expertise. As many as 95% consider that their mentor has helped them to enter, or move towards, the labour market. Around 30% of the 532 people who participated in 2022 got a job during the programme. **Mitt Livs Val** in Gothenburg and Stockholm is aimed at people aged 16-23 who are new in Sweden. Together with students, lecturers and professionals, they work to give newly arrived young adults the same opportunities for education and social participation as those born in Sweden. In the labour market preparation programme *FRAMÅT!* participants are given the opportunity to strengthen the link between education and work and are taught about the labour market and working life.

Sweden's ten study associations operate in all 290 municipalities in the country. According to the *Folkbildning Council's overall assessment in 2022*, the study associations had 36,000 participants in initiatives for people far from the labour market, Swedish language training for those on parental leave and Swedish from day one for asylum seekers.

The government's budget bill for 2024 proposes cuts in the grants of the study associations by almost 28% up to and including 2026. The reduced grants will affect the range of programmes in the study associations' activities and, by extension, the participants, not least those far from the labour market.

HIWOT WOLDESILASSIE BRINGS YOUNG PEOPLE'S PERSPECTIVES TO BUSINESS LEADERS

Young Inclusion Leader, Right By Me

"If I see someone in the industry who looks like me, I might be interested"

Hi Hiwot! You are part of Right By Me's Young Inclusion Leaders project, what is it?
It's a role where youth with a foreign background are trained in leadership and rhetoric, and share their experiences on inclusion on different platforms. For example, Inclusion Leaders can act as role models for companies through reverse mentoring or lectures so that companies can recruit more broadly and under-stand young people's perspectives on inclusion.

Have you experienced any particular challenges as a young person with a foreign background in Swedish society?
I have not experienced the same things as young people born here. I don't know all the opportunities for jobs and so on. I think it's important to work more with inclusion so that everyone has the same opportunities.

What is your impression of the Swedish games industry today?
I don't know much, but I think of different games like *Minecraft* for example. But I've been told that there are other related professions, such as digital design. It would be nice to find out more.

What do you think would attract more young foreign-born people to train as game developers?
I think clearer role models are needed. If I see someone in the industry who looks like me, I might be interested. It would be good if we could gain a personal connection – for example, the industry visiting places where youth or people from different backgrounds are. I never got to go on a study visit, but if game developers open up for visits or become visible to more groups, I think more people would be interested.

Right By Me

Many newly arrived immigrants are children and young adults. One organisation that can provide a perspective from these groups is *Right By Me*, which aims to protect, educate and empower vulnerable youth. Right By Me is run by, for and with people aged 14-24 with a foreign background. The aim is to increase their employment opportunities, physical and mental health, and the power to drive change for themselves and in society. The activities are modelled on youth-led change work with the vision that they should not only be included, but also best drive their own development.

Right By Me also works for a more inclusive and diverse business, associations and public sector. In 2023, the *Young Inclusion Leaders* project was launched with the aim of contributing to a change of perspective in the view of young leadership and the target group of youth with a foreign background. The project is carried out with support from *Allmänna Arvsfonden* (the Swedish Inheritance Fund) and, together with companies, organisations and municipalities, they arrange reverse mentoring programmes, lectures and focus groups, where young people share their expertise.

Sharkmob Hired their Ukrainian Art Studio

When Russia began its attempted full-scale invasion of Ukraine, Sharkmob quickly decided to help all employees of Ulysses, an outsourcing partner in Ukraine. Among other things, Sharkmob offered employment with market wages in Sweden. Housing was arranged by Sharkmob through an already established collaboration with Stena Fastigheter for offices and apartments for new employees, and in some cases employees provided accommodation options.

One challenge was language, but since Sharkmob already had Ukrainian and Russian employees, the initial difficulties were overcome, although there were also some conflicts to deal with. Sharkmob has also brought in English teachers and employees are now working on improving their English skills, which is key to working in the games industry in Malmö.

The Temporary Protection Directive allowed the newly arrived and newly employed Ukrainians to start working immediately. However, living in Sweden without a social security number creates several problems, such as dealing with banks or seeking medical care. Although they have lived, worked and paid taxes in Sweden for almost two years, they are not entitled to a social security number or medical care beyond the most urgent needs. They also live in a limbo where they do not know how long and in what form they will be allowed to stay.

In order to change the basis of authorisation from the Temporary Protection Directive to a work permit through the employer, the persons must leave the country for 6-8 weeks. This is despite the fact that they are permanently employed in Sweden with workplace, accommodation and in some cases family in the country.

Sharkmob – Exoborne

PERNILLA ALEXANDERSSON CALLS FOR SYSTEMATIC AND LONG-TERM CHANGE

CEO and founder, Add Gender AB

Photo: Lisbet Spröndly

"The more people involved, the more power we have"

Hi Pernilla! You run Add Gender and have worked both within and outside the games industry with gender equality and inclusion. What have you learnt in your work in other industries that the games industry can learn from?

That it cannot be solved by a single company. Every single organisation needs to play its part – otherwise the chain will fail. There are strong social norms and stereotypes to change, and the hard work must be done in collaboration. The more people involved, the more power we have. The success factors that I have seen over the years are that communicative and dialogue-promoting solutions are best, but the work needs to be done systematically and tirelessly. This takes us faster to gender equality, inclusion and a good supply of skills!

How does the work environment affect the productivity and creativity of a team?

Inclusion is when everyone in a specific context feels valued, seen and respected, has confidence that we all have equal opportunities to succeed, and is filled with a true sense of belonging. A respectful culture characterised by an inclusive approach can have a tremendously positive impact on performance, focus, wellbeing and team morale. For example, solid **sets of analyses** show year after year that companies with an inclusive work environment have better **job satisfaction and knowledge sharing between employees**.

The alternative is insecurity, incivility and abuse, which we unfortunately see a lot of evidence of in working life today. This leads to the consequence that employees' performance deteriorates, creative solutions are fewer and the quality of the end product is lowered. People leaving is only the tip of the iceberg. Those who are not "visible" in the statistics stay and vent their frustration on colleagues – or don't dare to come up with a curious idea or bother to contribute to the company's development.

What can be done to foster a welcoming and inclusive work culture?

Much, of course, lies in leadership, whether formal or informal. Keys to inclusive leadership are very much about promoting psychological safety – and there is no limit to the innovation and creativity we can achieve. You can also work with awareness-raising initiatives. A key I often highlight is also finding your and your organisation's 'why'. For example, grounding the management team's motivations to promote gender equality and inclusion in business and sustainability is a success factor. Last but not least, continuous and systematic work is needed.

"A friend who really wanted to get into the games industry dragged me to a recruiting event and while convincing the recruiters there I convinced myself as well"

"Throughout my life I did various things to use as outlets for my creativity and a few years ago realized that making games is an excellent outlet. Now I am in too deep to stop designing games"

"Solo woman in game programming class, to game writing. Several small failed projects. Now game designer at a company with 50% women"

DONNA

In 2011, DONNA was founded at the University of Skövde. It is a network for game developers and game students who identify as women, non-binary or trans. Over the years, the network has developed and adapted to the activities of Skövde University. In the beginning, the network worked mainly with the recruitment of women to the university and retaining students in the educations. This work continues, but now they also work with the industry to ensure that the labour market that game students enter is healthy. Science Park Skövde's All In project operates in the same area. The aim of the project is to work with other game clusters in Sweden to develop tools and methods to attract more women, non-binary and transgender people to start their own game studios. One of the project's goals is to map the obstacles that the target group encounters when starting a company, for example, and then identify the necessary support structures.

DONNA started the DONNA DAY conference in 2017 with the aim of helping and supporting female game developer students in the transition between student life and professional life. In connection with the annual Sweden Game Conference in Skövde, the networking event is organised as an event where game students are given the opportunity to meet and be inspired by professional game developer role models. The popularity of the event grows every year and over time the networking event has been redesigned to also include a programme for alumni from previous years. The event aims to network and build relationships with people in the games industry, with mentors from several different companies attending and sharing their experiences.

Conclusion

There are many different initiatives that can shorten the path to employment in the games industry. For example, the industry needs to continue working on systemic inclusion leadership and the public sector needs to address the bureaucratic bugs associated with being new in Sweden. Employment standards need to be abolished and English language courses need to be made available.

The most concrete barrier for those who are new in Sweden is language. In the games industry, however, the most important language for getting a job is not Swedish, but English. Among highly educated people who may be considered for supplementary education and jobs in the games industry in the near future, there is often at least a basic knowledge of English already. However, there are no public English courses for newly arrived immigrants. Instead, the focus is on Swedish first. Since work and self-sufficiency are important first steps for settling and integration, it could perhaps be relevant to review this in order to first supplement the existing English to a level that enables education, training and work in English-speaking industries. Maybe it's time for municipal EFI – English for Immigrants?

For immigrants, there are also a number of *bureaucratic bugs*. The example of employees from Ukraine not being able to get a social security number or the long processing times for short-term licences are just two out of many. Here, the public sector must simplify and clarify regulations and shorten processing times for authorities. The opportunity to obtain a social security number or apply for a permit to stay and work needs to be provided on the spot in Sweden, without the applicant having to leave the country and thus their home, work and family. The new wage floor for labour immigrants affects employees in small (new) companies outside the metropolitan regions. It makes settling more difficult and creates a possible route into the industry for a not insignificant group. Starting your own business is an important part of many people's entry into the games industry and drives development in local hubs and across the country. However, the systems for authorisations, livelihood requirements, support and insurance

systems are based on employment. The public sector needs to abolish the employment norm and make it possible for more people to start businesses as a way into the labour market.

The rules for work permits need to be simplified and the lead times for permits need to be shortened. The current regulations with short work permits for probationary employment and the requirement that Ukrainians need to leave the country to obtain a work permit both complicate the work for companies that want to hire, and put labour migrants in a bureaucratic trap. The wage floor for work permits constitutes another barrier, not least for students and smaller companies outside the metropolitan regions. The Migration Agency also needs to ensure that agreements maintain collective agreement standards even when the wage floor is met in sectors where collective agreements are not the norm. This also applies to the process of obtaining a social security number. Here, the public sector must simplify and clarify the regulations and shorten the authorities' processing times.

Regarding barriers such as culture clashes, discrimination, an exclusionary culture and lack of networks, they need to be counteracted through deliberate and long-term work in the industry with education, dialogue and active inclusion leadership. Continued systematic and active work is required for an open, welcoming culture where differences are valued and included to ensure a sense of security and participation. Thorough onboarding, mentoring, team development work and networking can be successful interventions. Support from external research and education could further enhance this work.

Challenge: Awareness

Obstacles

The lack of awareness of game development as a profession and the games industry as a career path is repeatedly identified as one of the clearest obstacles to broader recruitment and skills supply. Many people play games but few know about the opportunity to work on creating them.

The lack of awareness is particularly true in groups that are currently underrepresented in the industry – and not least in the organisations that meet young adults, immigrants and others seeking new career paths.

There is even less knowledge about how the games industry is structured and that game companies largely offer permanent full-time positions from offices during normal working hours. This can be compared with other parts of the creative sector, which often functions as a gig economy with shorter and longer assignments rather than permanent employment, and with very high competition for jobs. As noted in the chapter on skills, this has led to the Swedish Public Employment Service itself failing to place immigrants with relevant skills and experience in the creative sector in general and games in particular. Also within other organisations that meet these groups, such as non-profits, study counsellors, study associations and SFI courses, knowledge of the games industry as a career path is low and is based solely on the knowledge and commitment of individuals.

For the people who could be the game developers of the future, there is usually a lack of understanding of what game developers actually do. What competences are needed? How is a game created? What does a typical day at a game studio look like? In this context underrepresented groups, such as women and young adults with a foreign background, there is a need for role models to identify with and be inspired by.

The people behind the games are currently quite invisible to the public, unlike many other creators. This is often perceived as a positive thing, as game creation is a team effort, but it also makes it harder to imagine the work and the people behind the scenes and to see a future for yourself in the industry. A common way to gain early insight into different professions is through short-term internships, but this is difficult to achieve in games companies as simple tasks are few and the development of new games is often surrounded by non-disclosure agreements, which cannot be signed by people under the age of 18.

EMMA IHRE ON SUSTAINABILITY IN THE GAMES INDUSTRY

Head of Sustainability at Embracer Group

"A more diverse and inclusive industry will be stronger and more successful"

Hi Emma, you are the Head of Sustainability at Embracer Group. What does sustainability mean to you?

For me, sustainability is synonymous with running a business responsibly so that it not only survives but also thrives well into the future. For businesses to do good for both people and our beautiful planet, they must be profitable. A company that is not financially stable cannot offer players great games, retain skilled employees or contribute to welfare through tax revenues. But for long-term profitability, companies must take a broader view than just financial gain and the success of their next game. Sustainability is about running businesses in a way that creates value for employees, players, the industry and other stakeholders, both now and in the future.

Why should we work to help more people find ways into the games industry?

Diversity and inclusion are key sustainability issues for our industry. By attracting people with different backgrounds and skills to the games industry, we can broaden our recruitment base and welcome more talent. It is not only important to strive for greater diversity, but also to promote inclusion. We need to give everyone the opportunity to contribute their unique experiences, skills and qualities. A more diverse and inclusive industry will be stronger and more successful, which in turn benefits our customers, the players, with increased enjoyment and community, as well as creating more jobs and economic support for our welfare.

How did you get into the games industry?

The recruiter who asked if I was interested in becoming a sustainability manager at Embracer Group led me here. As I researched the industry and the company, I realised that it is one of the most exciting industries at the moment. It combines both culture and business and drives technological developments that impact other industries. I was also curious about the low awareness and prejudice surrounding the industry. By raising awareness among people outside the games industry about what games are and how the industry can contribute to an even better future, I hope that the knowledge of politicians, media, and other stakeholders will increase. This, in turn, would improve our ability to do even more for individuals, society and global development.

Outlook

Diverse Talent – Games Career Day

As part of the *Game Accelerate South Sweden project,* in 2023 Game Habitat organised a first *Diverse Talent – Games Career Day*, a recruitment and inspiration day to find skills outside the usual channels and networks. In the first round, the focus was on the target group of women (including anyone with experience of being treated and perceived as a woman), and specifically people who are not working in games yet but are working or studying in other contexts where the skills are relevant to game studios – and who may be curious about the industry. The aim was to raise awareness of game development and the games industry as a possible career path.

During the day, various possible professional roles in game development and game companies were described, and several people with different backgrounds, who found or stumbled into the industry in ways other than the most common, told their stories. This was followed by an opportunity to mingle with game studios, recruiters and educators.

One challenge that was identified in advance was reaching the target group outside their own network. However, through deliberate marketing efforts, identifying the target group and spreading the word through other organisations and ambassadors, the event was successful and around eighty people who matched the desired target group attended. Businesses and schools were also positive about participating, with nine organisations present.

Game Habitat has received very positive feedback from both companies and participants and is planning more similar days. The biggest lesson was that it was relatively easy to make a good event as many people were engaged and positive to the initiative. They have also identified that there is a great need for stories about the variety of roles and people in the industry to reach more and new talents.

Summercamp Boden

FCV Sverige works with bringing groups outside the usual routes into the games industry. It is a social enterprise based in Boden with activities in both Norrbotten and Västernorrland to develop innovative concepts, methods and products aimed at young people neither in employment nor in education or training (NEET).

One of these initiatives is called Summercamp or Wintercamp and is carried out in collaboration with

other actors, such as municipalities, coordination associations, the Swedish Public Employment Service and Hola Folk High School. It is a study motivating game course of 8-10 weeks that lowers the thresholds for entering the world of game development, the only thing required is an interest in playing. Participants learn the basics of game development while focusing on inclusion, meeting each individual's needs, awakening motivation and drive so that everyone can participate on their own terms and create a community together.

Another important element is study and career guidance. Here, the driving forces of gamification are used in counselling and one of the methods is the company's proprietary board game *Hot Skills.* The game has been developed with the aim of being fun, stimulating and inclusive, while at the same time containing guidance within the game design.

Summercamp/Wintercamp is a uniquely designed concept that has proved both attractive and accessible, with very good results. The five completed courses since 2021 have an average of about 95% of the participants continuing on to education or work immediately after completing the programme. In 2023, all participants went on to further studies or employment.

SPACE Academy

SPACE Academy is an educational programme for youths between the age of 11-20 and is a part of SPACE Stockholm – a digital cultural centre with a focus on games, E-sports, music and content creation. The purpose of the cultural centre is to create an inclusive and engaging environment where people can meet. The goal of the programme is to create future career opportunities in programming and game development for young people regardless of their background. In their work with people with language barriers, SPACE Academy uses technical means to communicate and they encourage other youth in the courses to do the same. In other words, language is not an obstacle in their work. SPACE Academy also has the goal of increasing gender diversity in tech and works hard on gender equality. In 2023, they had 53% girls attending their courses. SPACE Academy offers two free introductory courses – the half-day *YouCanCode* event for secondary

school classes aged 13-19, and the five-day *Intro to Coding and Game Development* course for youths aged 11-20. There are also a number of fee-based afternoon courses in various specialised areas. SPACE Academy has a strong focus on mentoring, having identified the need for young people to have good role models to inspire them.

Felix Disturbs an Engineer

The television show *Felix disturbs an engineer* (Felix stör en ingenjör) was made in three seasons and was broadcast between 2010 and 2016. The premise of the show was that presenter Felix Herngren travelled around the world to meet young Swedish engineers at their workplaces. The viewer got an insight into the everyday life of several successful engineers in the fields of construction, chemistry and technology. The series was created by the Association of Swedish Engineering Industries together with TV4 with the aim of attracting more young people to choose a future as an engineer. The show is still available for viewing on TV4 Play.

As a follow-up to the show, *Sweden's Most Annoying Summer Job* was launched by the Association of Swedish Engineering Industries. A competition where young adults interested in technology had the opportunity to compete for a summer job at some of Sweden's largest technology companies. Over 6,600 young adults applied and only twelve were selected. The summer workers blogged during their time at the companies where they got to try out working as an engineer.

#WeMakeGames

In 2022, Game Habitat started its interview series *#WeMakeGames,* which highlights voices in southern Sweden's game industry. People with different backgrounds are given the opportunity to tell their story, about their current work and the journey to their current role. The purpose of the interviews is to visualise the wide range of roles and people that make up game studios. So far, ten people have shared their stories and the project is ongoing. The interview series is part of Game Habitat's project *Game Accelerate South Sweden* (GASS) and is available on their website.

Conclusion

Awareness of the games industry as a possible career path must be increased, both among individuals who might want to work in games development, and not least among the organisations that meet these individuals at different stages of their lives.

Games and creativity in schools – creative subjects such as art, crafts and music are important for creativity and thus the future supply of skills in the games industry. But there is a missed opportunity to use games in schools, for example through games in education or game projects where students learn to collaborate across subject boundaries and discover digital creative projects and games as a form of expression. Libraries and Kulturskolan (The School of the Arts) are also important players in enabling more people to try out and develop their creative talents. The School of the Arts is a good example of where pedagogy has been developed to enable more people to practise game creation.

Game developers as role models – the industry needs to do a better job of telling about the people in the industry, what game developers actually do and what professional roles are available at game companies. There is a huge lack of knowledge about what game development is and a lot of prejudice about who develops games. By highlighting stories and people with different backgrounds, interests and perspectives, the industry can show that there is room for more people, which in turn can lead to more people imagining a future as a game creator.

Provide Insights – to give more people a first hand view into what it is like to work in the games industry. For instance through open house events at schools or labour market days where companies, game educators and curious people meet in a relaxed setting. Also creating targeted events where underrepresented groups can meet the industry. Organising this type of recruitment day regularly across the country could provide a good long-term supply of skills and talent from new sources.

Another important way in, not least for many lost young adults, is through popular education. Folk high schools and study associations can provide context, a sense of belonging and the opportunity to try out their own creativity. There are initiatives here that could easily be spread to more people. The major cuts that are now being made to popular education risk that there will be fewer such opportunities.

Last but not least, there is overwhelming ignorance in the organisations that meet people in their search for jobs and career choices. For example, study and vocational guidance counsellors, the Swedish Public Employment Service, establishment administrators, SFI providers and voluntary organisations. Game development is a large and growing industry with a long-term need for skills that can offer permanent employment in creative professions. This information must be made visible and highlighted, especially in the organisations that meet job seekers on a daily basis. There is a great deal of work to be done here in cooperation between the industry and the authorities and other relevant organisations.

About the Report

The report is based on a project financed by the Swedish Public Employment Service's promotional funds ("Främjandemedel"), in which opportunities and obstacles for the group of newly arrived immigrants in Sweden to approach the games industry have been investigated. In this report's analyses, the approach is broadened somewhat, to include new paths into the industry for more groups and individuals who might otherwise find it difficult to find their way to game development as a profession.

Within the framework of the project, two workshops have been conducted in the form of round table discussions. People from a number of different organisations have participated in these workshops with a wide range of roles, perspectives and experiences within and outside the games industry. The results of these workshops and follow-up interviews with interesting organisations and projects have formed the basis for the analysis in this report.

We have also collected existing knowledge, statistics and data from our own organisation, our member companies and external parties. The Statistics Sweden (SCB) database is the basis for data on occupational classifications and educational specialisations. A special extract has been produced by Statistics Sweden for the report on the educational background of newly arrived immigrants. The data from SCB was collected in October 2023 and interviews were conducted on an ongoing basis with experts from within and outside the industry. The speech bubbles with quotes throughout the report come from participants at the Game Summit Sweden conference in Stockholm on

15 November 2023 who sent in their stories about how they ended up in the games industry. These have in some cases been anonymised and editorially reworded to fit the format.

The report's illustrator Yelyzaveta Anysymova is a Ukrainian living in Sweden who we came into contact with through Skill Shift Initiative / Ukrainian Professional Support Centre. She has created a unique cover for this project and a selection of illustrations from her portfolio can be found throughout the report.

Data on game companies such as the number of employees in the industry and turnover comes from the industry report *Swedish Games Industry 2023: Game Developer Index*. This report also builds on knowledge and data from the report *Talent, Education and the Art of Making Games*, which was released in early 2023.

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