



DATASPELSBRANSCHEN  
Swedish Games Industry



# Swedish Games Industry 2023

## Game Developer Index

Perfect Random –  
Sulfur



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The Swedish Games Industry is the trade organisation for video games in Sweden. The organisation represents the industry as a whole through the industry associations Spelplan-ASGD (game developers, producers, education, academia and support members) and ANGI (publishers and distributors).

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## Key Figures

Flamebait Games –  
Passpartout 2:  
The Lost Artist



Key Figures	2022	2021	2020	2019	2018
Number of companies	939 (+20%)	785 (+18%)	667 (+14%)	586 (+14%)	513 (+16%)
Domestic Net sales MEUR Swedish companies	3,058 (+13%)	2,713 (+28%)	2,115 (+26%)	1,682 (+21%)	1,393 (+3%)
Global Net sales MEUR Swedish companies	8,136 (+40%)	5,805 (+75%)	3,312 (+43%)	2,318 (+24%)	1,872 (+33%)
Net sales per employee in Sweden TEUR	362 (+6%)	342 (+7%)	321 (+13%)	284 (+8%)	262 (-10%)
Domestic Result Swedish companies MEUR	1,818 (+532%)	288 (-54%)	630 (+71%)	369 (+35%)	273 (-37%)
Result in Swedish companies globally MEUR	1,859	-123 (-117%)	720 (+46%)	493 (+47%)	335 (-25%)
Number of employees in Sweden	8,445 (+6%)	7,944 (+20%)	6,596 (+11%)	5,925 (+11%)	5,320 (+14%)
Of which men	6,429 (76,1%)	6,169 (77,7%)	5,186 (78,6%)	4,699 (79%)	4,824 (80%)
Of which women	1,977 (23,4%)	1,755 (22,1%)	1,410 (21,4%)	1,226 (21%)	1,036 (20%)
Number of employees in Swedish companies abroad	16,494 (+48%)	11,158 (+56%)	7,177 (+121%)	3,253 (+25%)	2,604 (+290%)

Key figures from the last five years. Change from previous years in brackets. We have used the aggregated annual exchange rate defined by the Riksbank, Sweden's central bank. In 2022, 1 EUR was 10.6317 SEK.

# Productivity and Skills

Questions were mounting for 2022. Would players around the world choose other pastimes over games after the lockdowns? Would delayed game projects lead to reduced sales? Would the problems with global value chains hit companies' finances? When we add up this year's figures, we see that these problems did not hamper the progress of Swedish game developers. More companies, more revenue, more employees, more women. It is with pleasure and not without relief that we present this year's report.

The biggest challenge facing Swedish game companies is the same as before: skills. Despite the high quality of Swedish game education programmes, it does not cover the needs. Compared to other creative industries, where there are usually more people being trained than the labour market can employ, the contrast is even greater. Despite recurring investments in education, not least in higher vocational education, the need is still great. Academic education also requires investment in research, so that education can rest on a scientific basis that is relevant to games. It takes a long time for educational initiatives to have an impact on the labour market: after all, it takes two to three years to complete an education.

Another way to illustrate the skills shortage, in business terms, is production capacity. The demand is there, the

channels are there, the production budgets are there, and there is no lack of international attention, but production capacity is the bottleneck. Apart from recruitment, companies have different strategies to deal with this problem. Many open offices or acquire companies in other countries, which is clearly reflected in the key figures in this report. There are many more employees in Swedish companies outside of Sweden than inside. Some of these jobs could have remained in the country. In addition, which we cannot measure, this means that investments by international companies are directed to countries other than Sweden. As is so often the case, the true number is higher. In addition to subsidiaries, many companies have consultants, freelancers and not least outsourced production (or "co-dev") to companies in other countries.

Another strategy is to increase productivity through new technological solutions. Recently, technological leaps with generative artificial intelligence have gained attention in the public discourse. Game companies have experienced many technological advances despite the fact that the industry is relatively young. The move from two-dimensional graphics to 3D in the 1990s. Touch screens and smartphones in the 00s. The shift from

# Foreword

games as a product to a service in the '10s. Just to name a few examples. The productivity gains in terms of technology leaps are also numerous. In the past, every game company used to develop their own game engines. Looking at the last decade, more and more have switched to standardised game engines that are used in many more games and thus have a larger user base and more resources. Asset libraries make it possible to reuse, for example, graphics from other games. Motion capture enables more realistic animations. So have the productivity gains from these technological advances led to fewer jobs? The answer is in the key figures in this report.

Game development is a team effort and the raw material is creativity. There you have it: two very human skills. With the right conditions, there will be even more jobs in future *Game Developer Index*.

Overall, companies have many ways to increase their production capacity, but they need more. Players around the world want more and better games. And they deserve it.

*Stockholm, October 2023*

**Per Strömbäck**

Head of Secretariat, Swedish Games Industry

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Aurora Arts –  
Fae & Fauna

# Summary

**The Game Developer Index maps, reports and analyses Swedish game companies' operations and international industry trends over the past year by compiling the companies' annual reports.**

The *Game Developer Index* maps, reports and analyses Swedish game companies' operations and international industry trends over the past year by compiling the companies' annual reports. Swedish game development is an export industry that operates in a largely global market. In a few decades, the games industry has grown from a hobby for enthusiasts to a worldwide industry with cultural and economic significance. The *Game Developer Index 2023* compiles the Swedish companies' latest reported financial year (2022). The report in brief:

- The Swedish game industry's revenue grew to EUR 3.1 billion in 2022, which is an increase of 13% in Swedish-registered companies. In total, including subsidiaries abroad, the Swedish industry had a revenue of EUR 8,1 billion, an increase of 40%.
- A total of 1,977 positions at game companies in the country are held by women, representing a share of just over 23%. Among new entrants to the sector, 44% were women.
- Swedish game companies are growing, employing 8,445 people in Sweden in 2022 and 16,494 people abroad. The global increase is mainly acquisition-driven, and in Sweden 501 people were hired, an increase of 6%.
- 104 companies started in 2022. These, together with 50 newly added pre-existing companies that changed their activities to game development, result in a total of 939 active companies in December 2022, an increase of 20% compared to 2021.
- In 2022, 31 investments and acquisitions were reported, of which six had a deal value over 100 million EUR. Swedish companies were buyers in 26 of the cases and sellers in nine of the deals.
- The ten most profitable companies together paid about EUR 250 million in corporate taxes on their profits.
- The ten largest employers paid a total of EUR 113 million in payroll taxes.
- 23 Swedish companies are listed on the stock exchange in Sweden. Together they had a revenue of EUR 5.7 billion in 2022.

Game development is a growth industry. Sixteen of the companies that exist today have been around since the 1990s, but almost half of all companies have been registered in the last five years. In 2022, 104 new companies were registered. The games are launched directly on an



During 2022 DICE celebrated 30 years making games.  
Artwork by Jonas Åkerlund.

international market with strong growth and the supply of skills is also largely based on a global labour market. Factors that point to continued growth are more investments in regional hubs with incubators, accelerators and training programmes, more veterans starting new companies, several major game launches in the near future, and the fact that we have not yet seen the effects of the several large investments and acquisitions made in recent years.

During the year, several Swedish companies celebrated anniversaries. EA DICE celebrated 30 years at the end of 2022 and both Avalanche Studios Group and King turned 20 in 2023. Swedish game developers are characterised by versatility and quality. Sweden has world-leading developers in AAA, console, PC, mobile games, VR/AR, digital distribution and specialised subcontractors.

The industry's main challenges are access to expertise and capital - the latter especially in the early stages - and laws and regulations on digital markets that are out of step with its expansion. The most important future issue is diversity, both among game creators and players. In

**44%**  
**among new recruits  
were women**

2022, the share of women among new hires increased to 44%, but much work remains to be done to achieve gender equality in the industry. In the longer term, video games have all the prerequisites for diversity and inclusion: games offer an opportunity to leave your everyday life and enter worlds where only your imagination sets the limits. The number of "second-generation companies" where experienced game developers have moved on to new projects of their own, or where entrepreneurs have created their second company, continues to grow, and much of the industry's long-term growth happens through start-ups.

# Revenue and Results

**Swedish game companies have continued to grow in 2022, increasing their domestic revenue, net sales, by 13% to EUR 3.1 billion. This is an increase of over EUR 300 million and more than double the revenue in the last five years.**

In recent years, a couple of large company groups have grown even larger, partly through investments and acquisitions, and a significant part of the acquisitions have taken place outside Sweden. Swedish companies and groups have a total revenue of EUR 5.1 billion in subsidiaries outside Sweden, and the total global revenue of Swedish companies in 2022 was over EUR 8.1 billion. Not to be confused with the total market value of sales to consumers including distribution.

In the hard global competition, the companies have successfully taken market shares, attracted expertise and, not least, created game experiences for several hundred million players worldwide. However, the low exchange rate affects revenue in an international perspective. In Swedish krona, domestic net sales increases by 18% to SEK 32.5 billion, and total global revenue to 86.5 billion. In dollars, domestic revenue stays at USD 3.2 billion, and increases by 23% to USD 8.4 billion including foreign subsidiaries.

With 104 new companies, the Swedish industry is growing steadily and in the last decade has increased its revenue from just over EUR 800 million to over EUR 3.1 billion in Swedish companies and EUR 8.1 billion when foreign subsidiaries are included. In 2022, the revenue of Swedish-owned foreign companies was higher than the revenue of Swedish-registered companies for the second year in a row, an effect of the many large acquisitions outside Sweden.

Eight of the Swedish companies had a revenue of over EUR 100 million during the year. The ten largest companies

account for two thirds of the total revenue and beyond the EUR 100+ million companies, 31 companies have a revenue of over EUR 10 million. Swedish companies have had a record year in terms of profitability, which can partly be attributed to a couple of large dividends. The ten most profitable companies have paid EUR 245 million in pure tax and the largest employers have paid over EUR 130 million in social security contributions.

A couple of companies stand out in terms of increased revenue. Stunlock Studios went from a revenue of just over EUR 250K in 2021 to over 40 million in 2022, which can be attributed to a successful release of *V Rising*. Coffee Stain Publishing, Sharkmob and Resolution Games are three other companies that grew significantly last year.

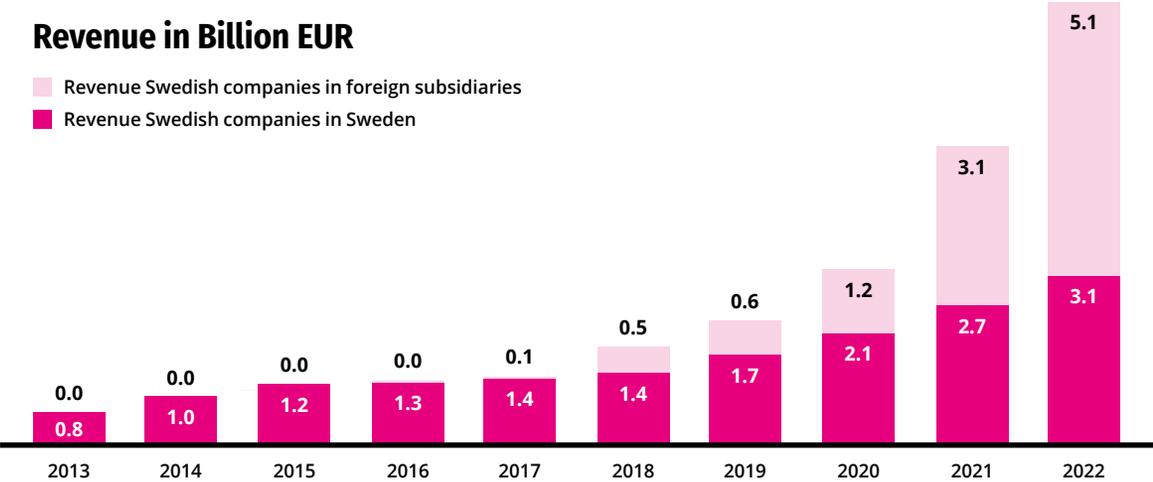
## Revenue and Result Globally

In 2022, the revenue of the Swedish-owned subsidiaries abroad was higher than the revenue of the Swedish companies, an effect of the large acquisitions made over the past two years.

An example of this is Embracer Group, with net sales 2022 over EUR 3.5 billion, which means that the Karlstad-based company continues to be the country's largest game development group and one of the largest games groups in Europe. Stillfront Group and MTG also account for a significant share of global sales in Swedish-owned game companies.

# Revenue in Billion EUR

- Revenue Swedish companies in foreign subsidiaries
- Revenue Swedish companies in Sweden



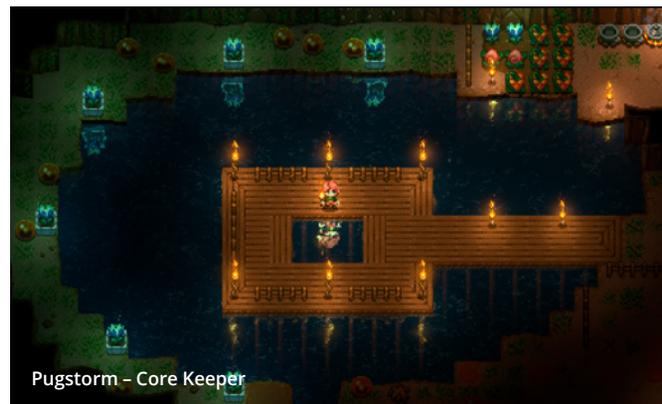
Stunlock Studios – V Rising



# Highlights

The number of Swedish games released varies from year to year, but the industry has reached a size where individual titles do not directly determine the overall outcome. Here are some examples of major events in 2022 and early 2023:

- **Avalanche Studios Group** celebrated twenty years of open world-games in 2023 with the release of their roguelite *Ravenbound* and the console release of the fishing game *Call of the Wild: The Angler*, which reached over 1.1 million monthly players (MAU). *Generation Zero* reached over 1.3 million MAUs and *theHunter: Call of the Wild* surpassed revenues of over EUR 140 million since its launch in 2017.
- **EA DICE**, founded in 1992, celebrated its 30th anniversary at the end of 2022 and the 25th anniversary of the successful *Battlefield* series. As part of the celebrations, *DICE at the Opera* was organised, a musical performance in collaboration with the Royal Opera and the Royal Court Orchestra. The studio continues to work on the *Battlefield* series. In Stockholm, the EA SEED research department has been recognised for development progress in AI and machine learning.
- **Embark Studios** is working on two major titles: *ARC Raiders* and *The Finals*. The latter has conducted two closed beta tests during the year, which garnered a lot of attention.
- **Embracer Group** continued to expand its portfolio in 2022 with acquisitions including **Crystal Dynamics**,



Pugstorm – Core Keeper



Frictional Games – Amnesia: The Bunker



Paradox Interactive – Europa Universalis IV: Lions of the North

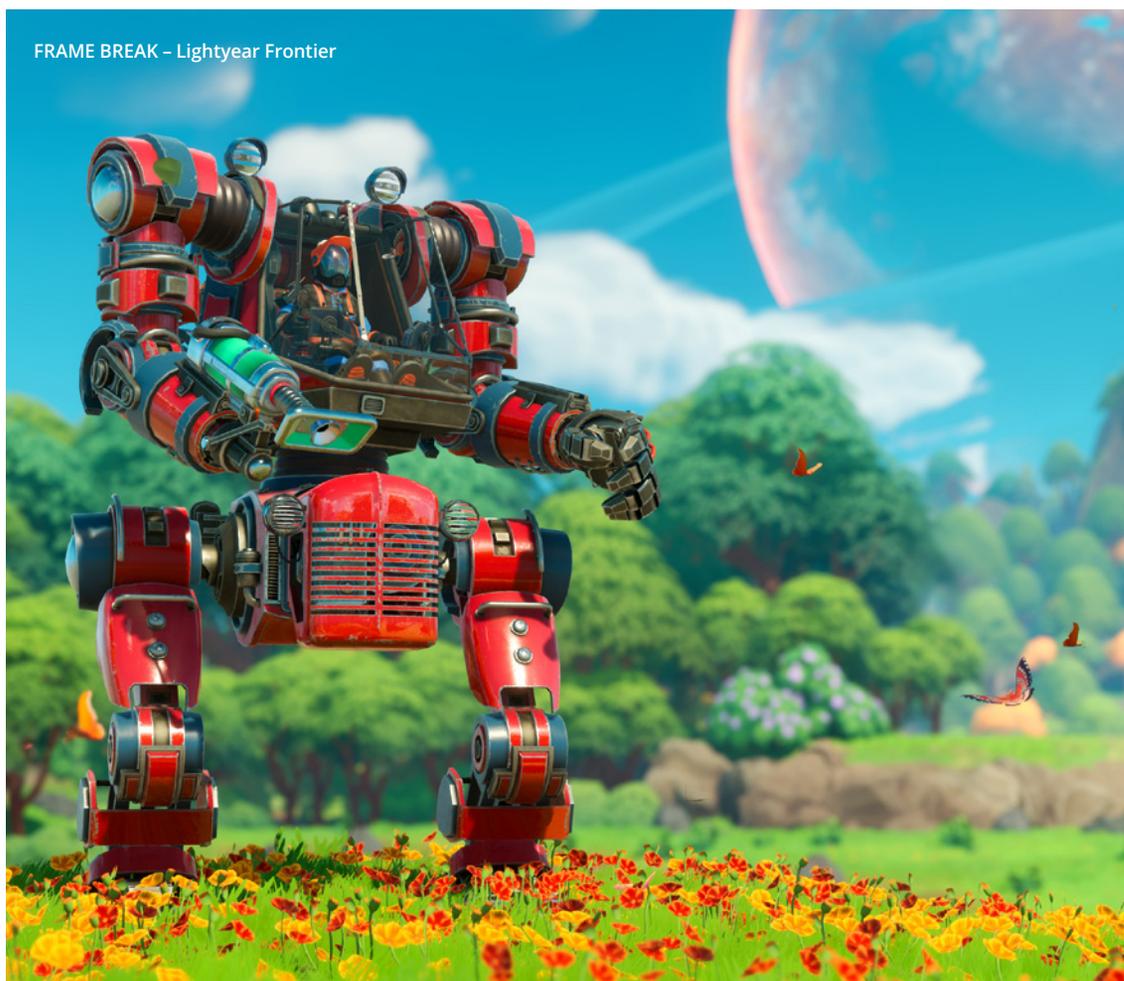
**Square Enix Montréal, Tripwire Interactive and Middle-earth Enterprises.** In June 2023, as part of an extensive restructuring, management communicated its intentions to shift focus to strengthen cash flow, prioritise operational efficiencies and launch more games for PC and console. The group has also entered into an agreement with **Amazon Games** to develop and launch an MMORPG based on J.R.R. Tolkien's *The Lord of the Rings* and *The Hobbit*.

- **G5 Entertainment** continued to hold a strong position in the mobile games market with a revenue of over EUR 130 million. Their in-house developed games, especially *Sherlock: Hidden Match 3 Cases*, show strong growth and account for an increasing share of total sales.
- **King** turned 20 years old in 2023 and *Candy Crush Saga* entered its 11th year on the market, with over \$20 billion in revenue and 15,000 levels released as of September 2023. In the past five years, *Candy Crush Saga* players have swiped the equivalent distance of the circumference of Earth seven times over, and the *Candy Crush* franchise as a whole has been downloaded over five billion times. Across all titles, King has 238 million monthly players.
- **Maximum Entertainment**, formerly Zordix, appointed Christine Seelye as CEO and head of the group in early 2022. In 2023, the group has released several games, such as Swedish-developed *Bramble: The Mountain King*. In February 2023, the group presented its corporate structure where internal development is located in studios within the Modus Studios group, and publishing is divided between Just for Games, Merge Games, Modus and Maximum Games.
- **Mojang** has continued to expand the popular *Minecraft* franchise with a fifth title, *Minecraft Legends*, an action-strategy game developed in collaboration with Canadian studio Blackbird Interactive and released for PC and consoles in April 2023.
- **Paradox Interactive** released the long-awaited grand strategy game *Victoria 3* in October 2022. The game sold half a million copies in its first month and was nominated for *The Game Awards* award for the best simulator/strategy game of the year. Paradox's Dutch subsidiary Triumph Studios released *Age of Wonders 4* in May 2023. Paradox Arc was announced as a new label aiming to publish small and experimental games, along with the release of *Across the Obelisk* in August 2022.

- **Resolution Games** continued to expand and diversify its business with the acquisition of Swedish VR studio Zenz VR and the founding of Resolution Games Inc. in Austin, Texas. Resolution also released the VR game *Ultimechs* and the MR game *Spatial Ops* in beta.
- **Stillfront** has shown steady growth in both the number of employees in the group and the group's total net sales due to the success of previously acquired studios.
- **Stunlock Studios** saw continued success with the vampire survival game *V Rising*. The game, which is still in Early Access, passed three million copies sold in January 2023.
- **Thunderful Games**, with studios in Gothenburg, Malmö, Karlshamn and Skövde, launched highly

anticipated titles in 2022 such as *Hell Pie* and *LEGO: Bricktales*, *Viewfinder* and *Planet of Lana* were launched. In August 2023, industry veteran Martin Walfisz was appointed CEO of Thunderful Group.

- **Ubisoft Entertainment** is still the country's largest employer with 850 employees and 57 represented nationalities. The company has continued to work on *Star Wars Outlaws* in collaboration with LucasArts while Malmö studio Massive announced in 2023 that it is working on *Tom Clancy's The Division 3*. In December 2023, *Avatar: Frontiers of Pandora* will be released, developed together with Lightstorm Entertainment and FoxNext Games.





The below list is not exhaustive, there are many more examples of successes for Swedish companies in the past year.

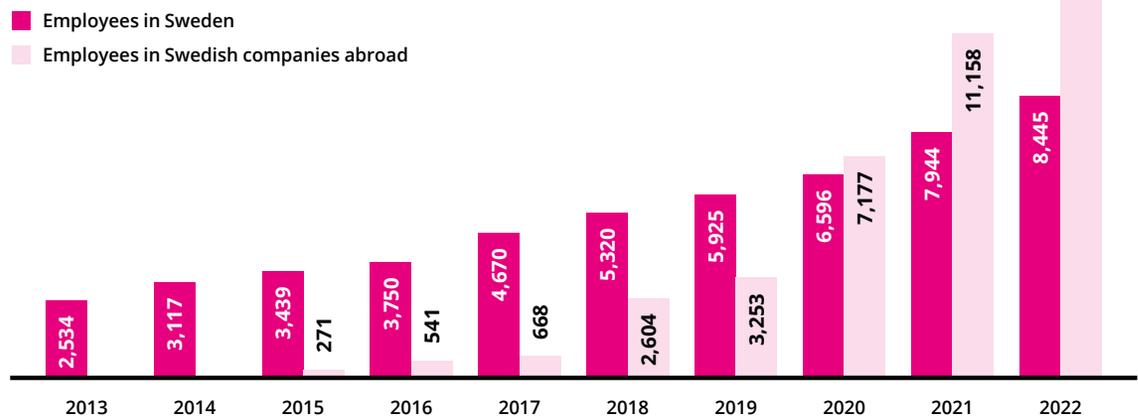
## Notable Achievements and Awards

- Over the past year, Swedish computer games have taken prizes around the world. **The Outsiders'** rhythm FPS *Metal: Hellsinger* was named the *GamesCom Awards'* most anticipated PC game and best action game, best design at the *Nordic Game Awards 2023* and best and most innovative sound and music by the *Golden Joystick Awards 2022*, *MCV/DEVELOP Awards 2023*, *Nordic Game Awards 2023* och *NAVGR 2022*.
- Karlshamn-based **Something We Made's** first commercial title *TOEM* won the *BAFTA* award for Best Debut Game 2022, and the already award-winning *It Takes Two* by **Hazelight Studios** picked up additional trophies as *BAFTA's* Best Multiplayer Game and Original Title in 2022.
- *Goat Simulator 3* by **Coffee Stain Studios** won the *Golden Joystick Award* for Best Trailer in 2022.
- **Flamebait Games'** anticipated sequel *Passpartout 2: The Lost Artist* won Best Visual Art at *Taipei Game Show 2023* and two more awards at *China Joy 2023* for best casual and single player games.
- *Payday 3* by **Starbreeze** won Best PC Game and Most Entertaining Game at the *2023 Gamescom Awards*.
- At the 2022 edition of the *NYX Game Awards*, *Demeo*, developed by **Resolution Games**, was named Grand Winner in the AR/VR category and in 2023 the studio's VR shooter *Spatial Ops* won in the Best Innovation category. Resolution was also named one of Sweden's and the world's most innovative and fastest growing tech companies by Breakit and Fast Company, among others. In 2023, Swedes were also on the *NYX Game Awards* top list, with *Bramble: The Mountain King* by **Dimfrost Studio**, *Vaudeville* by **Bumblebee Studios** and *Mortal Online 2* by **Star Vault** winning in several categories.
- Swedish games also won big at the *Nordic Game Awards 2023*, with five out of nine awards going to Swedish studios. Among them, *Source of Madness* by **Carry Castle** won Best Small Screen Game, *Virtuoso* by **Really Interactive** was named Best Technology and *Raft - The Final Chapter* by **Redbeet Interactive** won Best Debut.
- Closer to home, the surrealist horror game *Eclipsium*, developed by the **Housefiregames** team studying the Game Creator programme at Yrgo in Gothenburg, was named Game of the Year in the *Swedish Game Awards 2023* student competition organised by the Swedish Games Industry.

# Employees

The number of employees in the Swedish game industry is increasing and several companies are hiring. In 2022, the number increased to 8,445 employees.

## Employees in Swedish Companies



The number of employees in the Swedish game industry increased by 6% in 2022 to 8,445 people. This corresponds to 501 new full-time positions. The largest employer in Sweden is Ubisoft Entertainment, which employs around 850 people. 19 companies have over 100 employees in Sweden. 121 companies have ten or more employees.

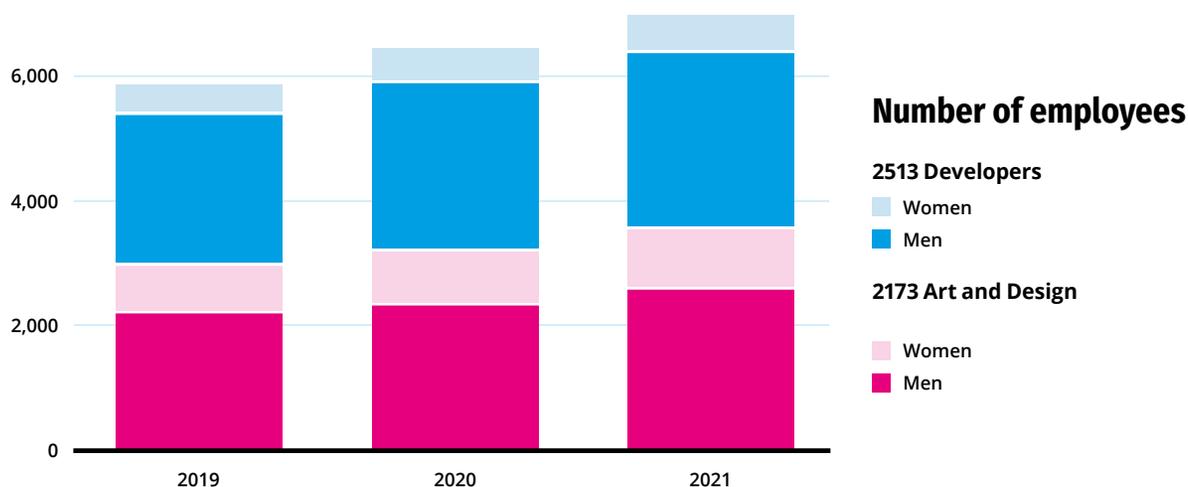
In addition to employees in Sweden, over 5,000 full-time positions were added abroad in Swedish-owned companies, mainly through acquisitions. In 2022, Swedish-owned companies had around 16,500 people employed around the world outside Sweden. This means that a total of 25,000 people were employed by a Swedish-owned game company during the year. More about this in the chapter *Swedish Game Companies Around the Globe*.

The number of employees is based on the annual reports' average full-time employment throughout the entire financial year. This means that the actual number

of people working in the industry is in many cases higher, as many companies that expanded in 2022 had more employees at the end of the year than at the beginning of the year. Where information was available, the number of employees in December of 2022 has been used as a reference to better reflect the development during the year.

In addition to the reported number, there are people in other types of companies, people in companies that have not submitted annual reports, and freelancers and consultants who are not shown as employees in the companies' annual reports. In view of these hidden figures, the real figure is higher. For example, there are 432 sole proprietorships registered under computer games. In the survey *The south Swedish game development industry 2022* (Game Habitat), 87% stated that they had a permanent full-time job. Almost no one works part-time.

## Number of Employees in Occupation Codes 2173 & 2513



### Higher Turnover in the Job Market

In 2023, several game companies reported a deteriorating economic situation, with layoffs and in some cases closed studios around the country. To some extent, this follows the recession and the global market, which has not least affected listed companies. 2021 was a year of strong growth throughout the industry, and in terms of key figures, the increase has slowed somewhat in 2022.

For individual locations, it has been a turbulent year. Umeå is one such example where several established studios, for completely different reasons, closed down their operations in the city in a short time. This has led to several new independent game studios starting up and hiring some of the staff who had to leave the closed companies.

As a sector, the game industry has fared well and the trend is still steadily upwards. In a review of the major companies in the industry, and with the reported closures and redundancies included, there is an increase even in 2023 and in September there were over 8,600 employees in the industry in Sweden.

Another trend noticed during the year is that more companies are offering more organised consulting services fully specialised in games expertise, and that more studios are so-called co-dev studios, companies that work on game production on behalf of other major game studios. The IT consulting company Netlight, for

example, has 170 employed game developers who work in studios across the country.

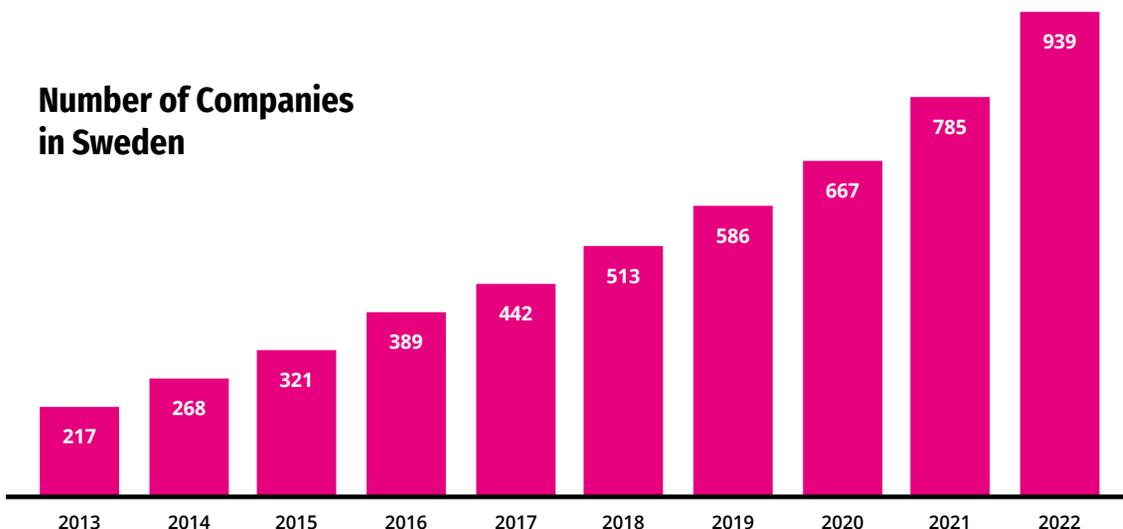
In the long term, skills supply remains a challenge of major proportions, combined with stable conditions for smaller companies to grow.

### 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). These are occupation code 2173 *Designer in games and digital media*, which covers several jobs in graphics and design, and 2513 *Developer in games and digital media*, which covers occupations in game programming. In addition to these, there are game developers in various specialisations under other occupational codes, and employees in the occupational codes may also work at companies in industries other than 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. Statistics Sweden also keeps statistics on gender distribution. In 2021, 16% of all game programmers were women and 27% of all graphic 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.

# Number of Companies

In 2022, 104 new game companies were registered. At the end of the year, a total of 939 limited companies were active in game development, an increase of 19% from the previous year. Of these, 200 companies are now more than ten years old.



## Other Types of Businesses

In 2022 there were 432 sole proprietorships, 45 partnerships and eight economic associations registered under *NACE 58.210 – publishing of computer games*.

Of the sole proprietorships, 164 reported revenue in 2022. 29 companies reported revenue of over half a million SEK, of which 11 companies had a revenue of more than one million. 30 firms were run by a woman, 14 of these reported revenue, of which two companies exceeded half a million SEK. Of the trading companies, 15 reported revenue.

This is a large increase compared with previous years, not least in terms of the number of sole proprietorships and the proportion of these with economic activity. More people are setting up companies registered in game development, and there is a threefold increase in the

number of companies that have such a high turnover that it is not just a side business.

As with limited liability companies, there is a lack of accuracy among the companies that have registered with *NACE code 58.210* and those that actually operate in game development. For trading companies and sole proprietorships, we have not examined the actual activities, and in several cases it may be a question of secondary activities that change over time. Some companies in the sample group of which we have direct knowledge can be found on the *Game Developer Map*.

Data on companies comes from Statistics Sweden's business register, game development companies that we become aware of by, for example, contacting us, and a manual review of all companies that have registered operations under *NACE code 58.210 – publishing of computer games*.

## Number of Employees and Revenue by Company Type

The list of Swedish game companies has been growing steadily for a long time, but far from all companies have active operations with revenue and employees. This can partly be explained by the fact that some companies are run as holding companies to manage ownership in other game companies, while others have transitioned from active game development to becoming dormant companies with no operations. One reason why inactive companies are sometimes left dormant instead of being wound up is that the sale of released games can provide passive income to the company with minimal effort even long after the games have been released.

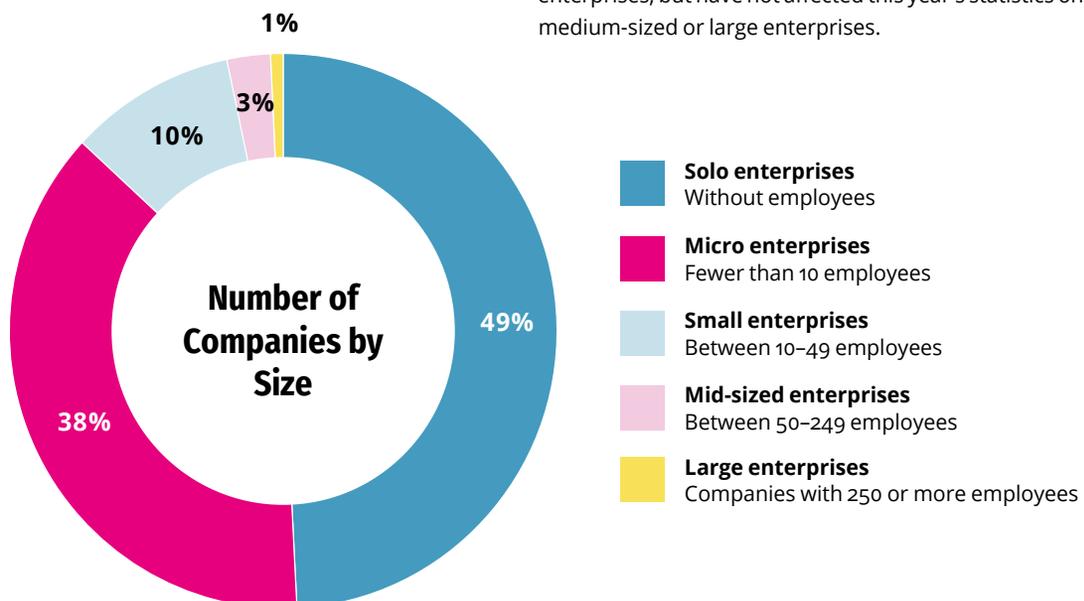
Among the 939 companies, almost half are solo companies, i.e. the company has no registered employees. Note, however, that companies owned and operated by a single person may be reported as having no employees, regardless of whether the owner receives remuneration. In other words, solo enterprises can refer to limited liability companies that are run by a single person or that simply have no activities.

Just over a third of the companies had at least one and no more than nine employees in 2022. The number of employees is based on the average number of full-time jobs for the year, regardless of the number of individuals. The statistics are taken from Statistics Sweden and are based on employer contributions registered with the Swedish Tax Agency.



The number of companies with 50 or more employees has increased from 28 in 2021 to 31 companies in 2022. As in previous years, entire groups are not counted in this review, but each parent and subsidiary separately.

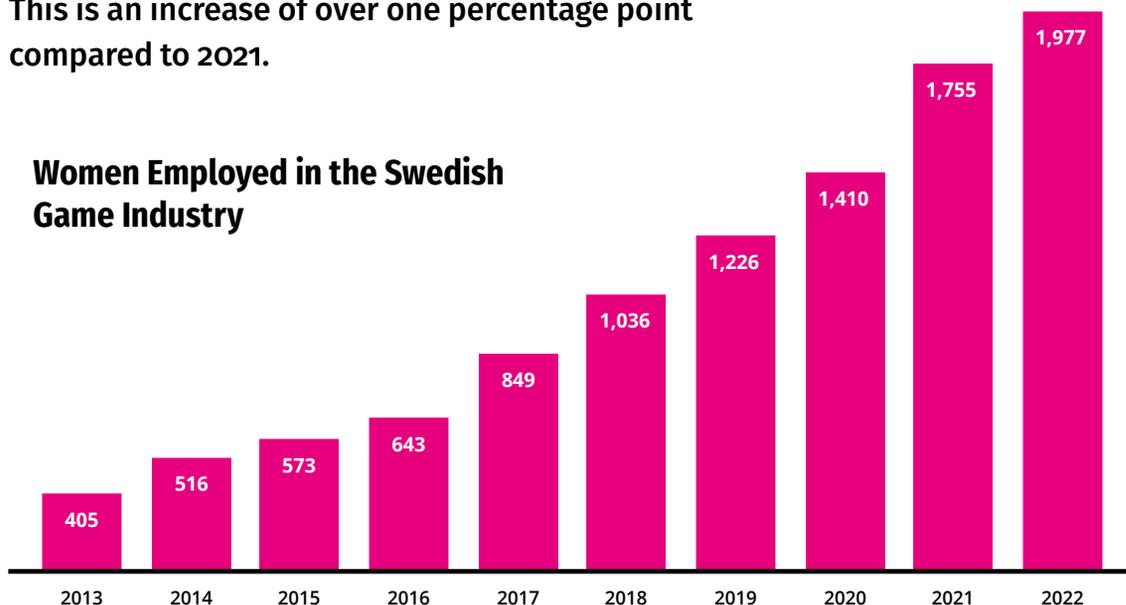
Note that the categorisation has changed slightly from previous years. The categorisation is based on the EU's definition of company size, which is based partly on the number of employees and partly on the companies' revenue and balance sheet total. This year, the companies are categorised solely on the basis of the number of employees in the companies, for greater clarity. In addition, the category of medium-sized enterprises has been updated from under 200 employees to under 250 employees, in line with the EU's definition of small and medium-sized enterprises (SMEs) in terms of number of employees. Overall, these changes have contributed to a marginally different distribution of solo, micro and small enterprises, but have not affected this year's statistics on medium-sized or large enterprises.



# Inclusion and Gender Distribution

In 2022, the entire Swedish game industry grew in terms of the number of employees, including the number of women. In total, 1,977 women were employed in Swedish game companies in 2022, representing 23.4% of all employees. This is an increase of over one percentage point compared to 2021.

## Women Employed in the Swedish Game Industry



This year's statistics are particularly noteworthy in terms of the gender distribution of this year's additions. Of the 500 people who joined the industry during the year, 44.3% was a woman. The difference from the previous year may seem marginal in terms of the overall statistics, but in a historically male-dominated industry, this proportion shows a trend of increasingly equal recruitment. In September 2023, over 2,000 women worked in the Swedish games industry.

Analysing gender distribution in Swedish companies presents several challenges. Listed companies, which have a greater obligation to provide transparent statistics, represent only a small proportion of employees. For smaller companies, there is no requirement to report the gender of employees in the annual report. In cases where

other companies have not reported themselves, information from company data from Statistics Sweden is used, which is not complete and also involves certain margins of error. For one example, the statistics do not currently take into account gender identity, trans or non-binary employees, as the data is based on social security numbers and legally registered gender. To the extent that information has been available, the gender distribution is based on gender identity according to how each company has reported data.

While the figures can never be considered exact, they do give us a better idea of how the sector is evolving and whether we are moving towards greater or lesser gender equality. The work of nurturing non-male interest in technology and making room for it in education and the

workplace continues, thanks in large part to non-profit initiatives and movements working to promote inclusion, equality, diversity and tolerance in higher education, gaming culture and the workplace. More information on these initiatives can be found below.

A few companies in the country report a third category in their gender breakdown, sometimes as explicitly non-binary, and sometimes under another designation in their annual reports. Among the Swedish companies that reported this figure, the share of companies that did not report gender as male or female was 1.5% in 2022, a slight increase compared to previous years. However, this is a comparative figure that is likely still underreported.

## Initiatives in the Industry

**Game Dev Force** was founded in early 2019 with the vision of uniting different initiatives within Sweden that all aim to create a more inclusive and diverse game development industry. In July 2023, the fourth edition of *Valkyrie Game Jam*, a gender separatist game development event in northern Sweden, was organised.

**Women in Games** is an international, non-profit organisation with the goal of combating discrimination in the game industry and game culture. The organisation has grassroots around the world and consists of companies, members and ambassadors. In September 2023, the largest Women in Games event ever was organised at *SPACE* in Stockholm.

**The Swedish Internet Foundation** organised the event *Tidsvåg* in connection with the Science Festival in Gothenburg in spring of 2022 and again in 2023. *Tidsvåg* is a game festival that highlights and celebrates female, trans, and non-binary role models in the game industry with the aim of inspiring the next generation of game developers.

**Wings** was founded in 2018 and invests in indie games developed by teams where women and marginalised gender hold key positions at the companies. In 2023, *Wings Elevate* was organised, an accelerator initiative where ten selected mobile studios from around the world received grants for development and were coached to finally pitch their prototypes.

Starbreeze – Payday 3





**GEM**, the *Game Empowerment Movement*, is a local initiative that aims to support a gender equal and inclusive culture in the southern Swedish game industry. In 2023, GEM organised a mentoring programme for women and non-binary people.

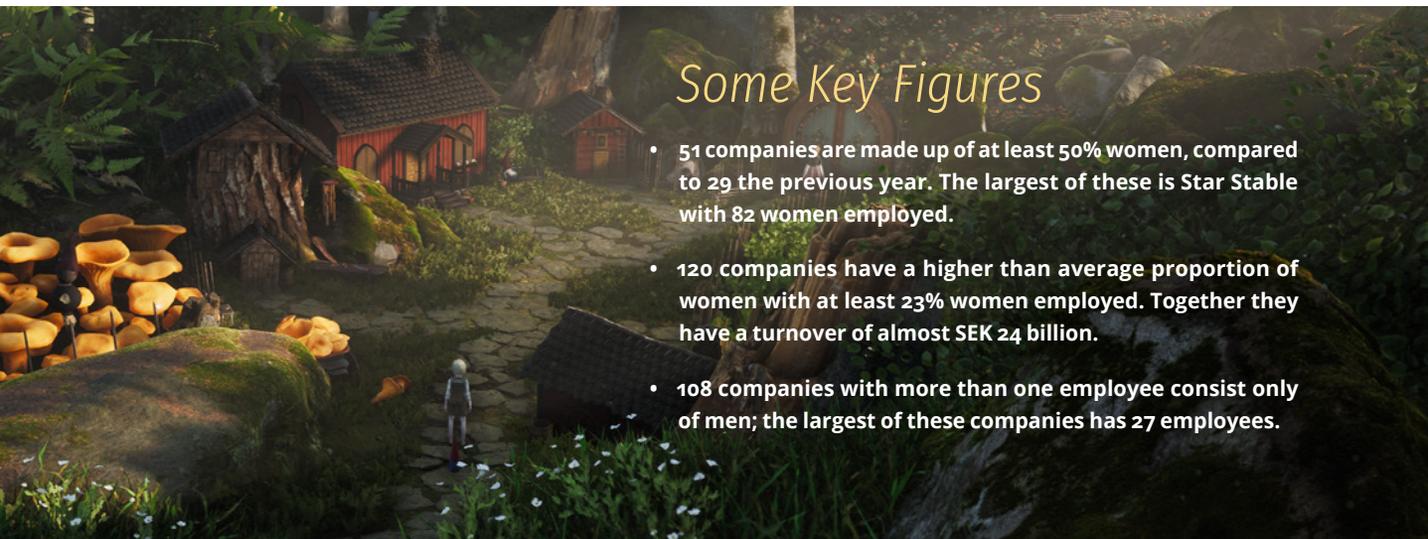
**DONNA** is an interest group based at the University of Skövde that has worked with gender equality issues in game development and game education since 2011. In 2022, the mini-conference *DONNA DAY* was held for the sixth year in a row, where about a hundred students and alumni could meet peers and mentors from the industry in connection with the *Sweden Game Conference*.

**Equal Play** is a network with roots in *East Sweden Game* that works to promote diversity and inclusion in the game industry in Östergötland by spreading knowledge and

organising both separatist and open events for everyone interested in game development.

**All In** is a project run from 2023 to 2024 by *Science Park Skövde* as part of Vinnova's investment in development projects in incubators. Together with other game incubators in the country, the project will, among other things, map the obstacles and challenges that exist for non-binary and female game developers' entrepreneurship.

In June 2023, **PlaygroundSquad** organised a free game developer camp for girls, transgender and non-binary people aged 13-17 with an interest in game development. The camp gave young people a basic overview of what graphic artists, designers and programmers do. In addition, participants had the opportunity to develop their own game ideas.



## Some Key Figures

- 51 companies are made up of at least 50% women, compared to 29 the previous year. The largest of these is Star Stable with 82 women employed.
- 120 companies have a higher than average proportion of women with at least 23% women employed. Together they have a turnover of almost SEK 24 billion.
- 108 companies with more than one employee consist only of men; the largest of these companies has 27 employees.

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## THE INDUSTRY VOICE **JENNY BRUSK**

Innovation Manager, Science Park Skövde and founder of DONNA

*“Diverse teams lead to a better culture, and more sustainable and dynamic companies”*



**Hi Jenny – you are the founder of DONNA and have worked in the games industry for over twenty years. What is DONNA, and what has changed in this time?**

Today, there are far more women working in the games industry than when I started. Over the years, the issue of gender equality has also been raised, and with each crisis the industry has endeavoured to improve. We founded *DONNA* in 2011, which is a network for game developers and game students who identify as women, non-binary or trans. Through the network, we work for a healthy job market and for more marginalised people to apply for game education. In 2017, we also started the *DONNA DAY* conference to give students the opportunity to meet and be inspired by professional game developers who are role models from the industry.

**Can you tell us about the All In project?**

*All In* is a project that, in collaboration with other game clusters, will develop methods and tools to get more women, non-binary and transgender people to start their own companies. Research indicates that women currently take part in less than one percent of venture capital investments. Both women and non-binary people's

motivation to start their own companies is about creative freedom and the power to create a diverse and inclusive work environment. An important aspect of the project is how we distribute support financed by public funds in an equal way when the majority of founders are men. Initially, we are working on surveying the various obstacles women face when starting a company and have identified the importance of support structures that welcome and help them into the industry.

**How do you think the tools developed through the project will lead to increased diversity in the games industry?**

Based on our work with *DONNA*, we know that it is possible to create change through increased awareness. Some companies are comfortable with a homogenous team and find it difficult to bring in someone from outside, but that's the whole point. Diverse teams lead to a better culture, and more sustainable and dynamic companies. Our work affects the entire industry as we collaborate with other clusters in the country. This affects both how many more different types of entrepreneurs we get, as well as how startup companies are formed.

# Largest Companies

Swedish companies are growing. Eight companies reported revenues over 100 million EUR, and 19 companies had more than 100 employees. 37 companies had a revenue of more than 10 million EUR. About 40% of the companies showed positive results, 60 companies reported a profit of more than a million EUR and 135 companies had ten or more employees.

Only the net sales of Swedish-registered companies are included below. A list of the largest Swedish companies' global revenue can be found in the chapter *Swedish Game Companies Around the Globe*.



Aurora Arts –  
Fae & Fauna

## Swedish Revenue in M EUR

Company	Net Sales M EUR 2022/2023
1 King	598
2 Mojang	516
3 Paradox Interactive	187
4 EA DICE	155
5 Coffee Stain Publishing	155
6 G5 Entertainment	132
7 Toca Boca	131
8 Ubisoft Entertainment	96
9 Avalanche Studios Group	85
10 Sharkmob	84

## Employees in Sweden

Company	Employees in Sweden 2022/2023
1 Ubisoft Entertainment	850
2 EA DICE	696
3 King	621
4 Embracer Group	588
5 Paradox Interactive	474
6 Avalanche Studios Group	441
7 Sharkmob	329
8 Embark Studios	250
9 Fatshark	196
10 Thunderful Group	172

\*The key figures for revenue are from the last reported fiscal year starting in 2022. The key figures for employees from Embracer Group, EA DICE, King and Paradox are from their last reporting period. Others were confirmed with the respective companies in September 2023. The figure for Thunderful includes the subsidiaries in game development. All are reported at group level in Sweden, except for revenue in Embracer Group where the largest subsidiary is listed.

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## THE INDUSTRY VOICE **NATALIA KOVALAINEN**

Chief Archivist at Embracer's Games Archive



*“Games are an important and central cultural expression. Because games are history and culture, they are part of what we leave behind as a civilisation”*

### **Hi Natalia, you work as Chief Archivist at Embracer's Game Archive. Why is your job important?**

The archive started with the private game collection of Lars Wingefors, co-founder and CEO of Embracer Group. Today we have games from many more private collectors and our ambition is to have as comprehensive an industry archive as possible of all physically released games for the consumer market. This includes the games, computers, consoles and all accessories. Being the chief archivist in a game archive that is being built from scratch is an extensive job. Today, there are over 80,000 items in the archive. An important part of the work is to establish collaborations with archives, museums, researchers and others who can spread knowledge about the cultural treasure that we manage.

### **How do you actually save a game? Do you need to think about anything in particular?**

What makes the archive unique is that the objects in the archive will be used. We make sure that the objects have a good life but at the same time we want them to be useful. With the help of the archive, knowledge can be kept alive.

We catalogue the objects in iterations. The first iteration is a very simple list to create an overview of the objects, what we have and where they are located.

### **Who has access to all the games? Can you donate your game collection to the archive?**

The archive is aimed at anyone involved in games in any way. For example, we have had visits from game and hardware developers who have used the archive to test and create new products, researchers studying games, and high school classes learning about games and the history of e-sports. Collaboration with heritage institutions and organisations is important, because together we can preserve more games.

We have received a few donations. One of my big goals is that all game developers send us a copy of their physically released games.

### **What cultural and historical value do you see in this archive? Could the archive be useful in the future?**

The cultural and historical value of the archive is huge. Games are important and central cultural expressions. Because games are history and culture, they are part of what we leave behind as a civilisation. Just like film or music, games tell us about the time in which they were created and provide insights into human nature. We see the archive as an important resource for future generations as much as our present. Our ambition is to create history today and in the future!

# Company Groups and the Stock Exchange

**In recent years, an increasing number of groups with foreign subsidiaries have emerged or gained market shares while retaining their headquarters in Sweden.**

The Swedish stock market has generally been favourable to the game industry and several foreign companies are listed on the Swedish stock exchange.

Some groups, such as Embracer and Stillfront, have a large part of their operations outside Sweden. Together, the two companies own a significant part of the German game industry. THQ Nordic, PLAION and Goodgame are some examples of Swedish-owned companies in Germany. This report's world map of Swedish-owned game companies illustrates where Swedish companies are buying up studios around the world.

## Listed Companies

Today, 23 Swedish game companies are listed on the Stockholm Stock Exchange. MindArk was listed on Spotlight Stock Market in January 2023.

Eight of the listed companies reached a revenue of more than EUR 100 million in 2022. Together, the listed companies' revenue amounted to EUR 6 billion, a three-fold increase since 2020 (EUR 2 billion) and almost twice as much as in 2021 (EUR 3.6 billion). Embracer Group accounted for more than half of the list's turnover in the past year. The stock market table includes the entire Thunderful Group despite the fact that a large part of the turnover comes from the company's mission as a Nordic Nintendo distributor.



The total market capitalisation in December 2022 was EUR 13 billion, slightly lower than the previous year (EUR 14 billion), reflecting the increasingly cautious economic situation.

In addition to the game companies listed on the next page, M.O.B.A. Network, a service provider to the game and e-sports industry, is also listed in Sweden.

## Swedish Listed Companies

Company	Year of (first) listing	Listed on	Revenue 2022 M EUR
Adventure Box Technology AB	2019	Nasdaq First North Growth Market	0.5
Beyond Frames Entertainment AB	2018	Spotlight Stock Market	2
Embracer Group AB	2016	OMX Stockholm Large Cap	3,543
Enad Global 7 AB	2017	Nasdaq First North Growth Market	180
Fragbite Group AB	2021	Nasdaq First North Growth Market	25
G5 Entertainment AB	2006	OMX Stockholm Large Cap	135
Game Chest group AB	2021	Nordic SME	0.7
Gold Town Games AB	2016	Nordic SME	2
Goodbye Kansas Group AB	2017	Nasdaq First North Growth Market	6
Jumpgate AB	2016	Nordic SME	28
MAG Interactive AB	2017	Nasdaq First North Growth Market	3
Maximum Entertainment AB	2018	Nasdaq First North Growth Market	118
MindArk PE AB	2023	Spotlight Stock Market	9
Modern Times Group MTG AB	1999	Nasdaq Stockholm Large Cap	534
Paradox Interactive AB	2016	Nasdaq First North Growth Market	190
Qiiwi Games AB	2017	Nasdaq First North Growth Market	3
Safe Lane Gaming AB	2010	Nordic SME	5
Sozap AB	2021	Nasdaq First North Growth Market	2
Star Vault AB	2007	Nordic SME	2
Starbreeze AB	2000	Nasdaq Stockholm Small Cap	12
Stillfront Group AB	2015	OMX Stockholm Large Cap	681
Thunderful Group AB	2020	Nasdaq First North Growth Market	293
Wicket Gaming AB	2021	Spotlight Stock Market	0.7

# Game Developer Map – Sweden

Game studios can be found in all Swedish regions, from Skåne to Norrbotten.



Embark Studios –  
ARC Raiders

Stockholm is still by far the largest region in terms of the number of companies and employees, but most companies are evenly distributed across the rest of the country in proportion to the population, with a clear bias towards cities with some form of incubator or cluster offering support or business development.

The majority of companies located in clusters are generally relatively small and newly started, resulting in lower turnover and fewer employees. The regions where larger clusters and hubs have been established are reported separately. These statistics also include companies founded in 2023 and may therefore differ slightly from the key figures. All of the hubs have seen an increase in the number of member companies. In some newly started companies there are more employees than listed, as their key figures have yet to be reported and registered. The game developer map primarily lists the Swedish limited companies that are active in the game industry and where in the country they are located, but some active companies in other corporate forms are also included in the list. Note that the statistics are based on the number of full-time positions reported in the companies' annual reports. The total number of people working with game development in each location should be considered to be significantly higher. In addition, the figures for employees in locations other than the head office have been adjusted as far as possible.

Arctic Game is active in Västerbotten and Norrbotten. Game Habitat and Gameport work together with companies in Skåne and Blekinge. Sweden Game Arena works with Västra Götaland and East Sweden Game is active in Östergötland.



Aurora Arts –  
Fae & Fauna

Regional Hubs	No. companies	No. Employees
Stockholm	409	5,245
Västerbotten & Norrbotten	84	276
Skåne & Blekinge	149	1,706
Västra Götaland	142	793
Östergötland	56	81

The purpose of the map is to illustrate, as accurately as possible, where in the country game development takes place and which companies are behind it. Thus we have used studio names rather than company names when such information was available. For the same reason, administrative company divisions are generally not included in the map.

*Is your company missing from the map? Please contact us with a description.*

## NORRBOTTEN 1

### Boden

5 Fortress AB  
921 Studios AB  
Aurora Punks  
House of How Games Sweden AB  
Less is More  
Miracle Bread AB  
Nethash AB  
Northify AB  
October8 AB  
Previous AB  
Salt light studio  
Sparrowland Aktiebolag  
Synical Studios AB  
TNTX in Boden AB  
Tyrant Films AB  
Wanderword i Sverige AB

### Kalix

eelDev AB

### Luleå

Bazooka Game Studios AB  
Blamorama Games AB  
Pixadome  
RDY Arena AB  
UNIGIL-SUPPORT AB  
Volatile Frameworks AB

### Piteå

Aurora Punks  
Baldheads Creative AB  
Digital Awakening AB  
Frozen North Studios AB

## VÄSTERBOTTEN 2

### Skellefteå

ChillChat Studios AB  
Cold Sector AB  
Creative Crowd AB  
Cubetopia AB  
DANIEL LEHTO AB  
Feral Flame Studios AB  
Flat Tail Studios AB  
Frigol IT & Media AB  
Gold Town Games  
Gold Town Games AB  
Grand Pike AB  
Gumlin Games AB  
Lazer Wolf Studios AB  
Mind Detonator AB  
Mindforce Game Lab AB  
Natural User Interface Technologies AB  
Nordsken Handlingskraft AB  
NORTH KINGDOM DESIGN & COMMUNICATION AB  
Northplane AB  
Spinoff Games AB  
Streiff Studio AB  
Throw away company AB  
Triolith Games AB  
Vavel Games AB  
Vorto Gaming AB  
White Warlock AB  
Windswept Interactive  
Yalts AB

## Umeå

Allscope AB  
Aurora Punks  
Blast Bit Enterprises AB  
Cassius Creative AB  
Crypto Rouge Games  
David Marquardt Studios AB  
Frostspektrum Interactive AB  
Game Boost Sweden AB  
Level Eight AB  
Mattias Wiking Development AB  
Morningdew Media AB  
Moxville AB  
Musikmedel Future Vision AB  
Nostop Horses AB  
Oddgames Umeå  
ORYX SIMULATIONS VERKLIGHETS-MODELLER I SVERIGE AB  
Parrexion Games AB  
RankOne Global AB  
Rusty Pug Entertainment AB  
Sam & Frida AB  
The Fine Arc Nordic AB  
Turborilla AB  
TWO 58 PRODUCTIONS AB  
Twoorb Studios AB  
Windup AB  
Ånyo Studio AB

## VÄSTERNORRLAND 3

### Kramfors

Duck Tape AB  
Grey Tower AB

### Örnsköldsvik

Northern Ice Handelsbolag  
WHYMAC AB

### Sundsvall

A bit ago AB  
AtomicElbow AB  
Caeiro AB  
Corncrow Games AB  
Datacraft Holding AB  
Good Decision AB  
Gr IT AB  
KONUNGER GAMES AB  
Molintuss Spel AB  
Mixxus Studio  
Neozoo Creative  
R&P Games AB  
Romeo Invest AB  
Saber Interactive Sweden  
Sideline Labs AB  
SideQuest Sweden AB  
Simtarget  
SPACELOOM STUDIOS AB

### Timrå

Edym Pixels

### Viksjo

Simtarget

## JÄMTLAND 4

### Åre

Hindelid Development AB

## Östersund

JN Programutveckling AB

## GÄVLEBORG 5

### Gävle

Early Morning Studio AB  
Virtual Beasts AB

## DALARNA 6

### Borlänge

Quiz Anytime AB  
Zoikum Games Aktiebolag

### Falun

Aktiebolaget Adit Studios  
Giron Software AB  
Kolesterol Cät Interactive AB  
MEGAFRONT AB  
North Concept ArtStudio AB  
Tension Onsite Sport AB  
TENSION technology AB  
The New Branch AB  
Wogglawooh Entertainment AB

### Hedemora

Clifftop Games AB  
Killmonday Games AB

### Malung-Sälen

North Modding Company AB

## REGION UPPSALA 7

### Enköping

Yoger Games AB

### Håbo

aMASE AB  
Rennert Games AB

### Knivsta

Outlean AB  
Studio Knick-Knack AB

### Sala

Everlight Studio AB

### Uppsala

Aegik AB  
BigMood AB  
Bitfix AB  
Chizu AB  
Dinomite Games AB  
Disir productions AB  
Doctor Entertainment AB  
Ember Trail AB  
Epic Games  
Frojo Apps AB  
Gnomad Games  
Javva  
MachineGames Sweden AB  
Matematikspel i Uppsala AB  
Nena Innovation AB  
Neon Giant AB  
Nexile AB  
Night Node AB

Red Cabin Games AB  
Semiwork Studios AB  
Think First AB  
Tretton Adam AB  
Wicket Gaming AB  
YemSoft AB

## VÄSTMANLAND 8

### Köping

LS Entertainment AB

### Surahammar

Walrus Game Studios AB

### Västerås

Bumble Byte AB

## VÄRMLAND 9

### Forshaga

Insanto Studios AB

### Hammarö

Jonatan Röjder Delnavaz  
Mystik AB

### Karlstad

Agera Games AB  
Clear River Games AB  
Embracer Group AB  
Firma Noah Molteberg Lundén  
Forgebyte Studio AB  
Frostglade AB  
Isak Liljengren Enskild firma  
Concepting  
Mirage Game Studios AB  
Nimble Giant Sweden  
Nine Lives Game Studio  
Nuttery Entertainment AB  
Omniscapes Interactive AB  
Plucky Bytes AB  
Studio Malosi AB  
Team Velocita AB

### Kil

Philosophic Games

## REGION ÖREBRO 10

### Degerfors

ORBIT Productions AB

### Hallsberg

vibynary Aktiebolag

### Lindesberg

AC GAMES AB

### Nora

Toasty Leaf AB

### Örebro

DANJO CREATIVE AB  
Elder Grounds AB  
LOYD Studios AB  
NBrigade Music AB  
Shemshem Design AB

## SÖDERMANLAND 11

### Eskilstuna

AL Spelutveckling AB  
ananas studio AB  
AppsAlliance AB  
DVapps AB  
MythoLogic Interactive AB  
Todys Games AB

### Nyköping

SOZAP  
Sysiac games AB

### Strängnäs

Agile Softworks AB

## REGION STOCKHOLM 12

### Botkyrka

Beadhead Games AB  
Counterspell AB  
ngine technologies AB  
Stringent Ljud AB

### Bromma

Exertis Ztorm AB

### Danderyd

bNosy AB  
Planeshift Interactive AB  
Solvarg AB  
Tinto Consulting AB

### Ekerö

chillbro studios AB  
Mr.Ws Development AB  
Playstack AB

### Haninge

Gamatron AB  
Pretty Fly Games AB  
Rain of Reflections AB

### Huddinge

Bright Gambit AB  
Holmgång AB  
Inzanity AB  
Moon Mode AB  
Razzleberries AB  
Strawberry Hill AB  
Typosaurus AB

### Johanneshov

Stockholm VR Center AB

### Järfälla

Ashkan Namousi AB  
Cresthelm studios AB  
Merrybrain AB  
Smojo AB  
Unleash the Giraffe AB

### Lidingö

Mount West Music AB  
My Left Head Entertainment AB  
PIXEL TALES AB  
The Froghouse AB

### Nacka

2Play Studios AB  
Colin Lane Games AB  
Dejan Dimic AB  
Domoore AB  
Game Advisor Sweden AB  
Kroonatus AB  
LeadTurn Gaming AB  
Liquid Swords AB  
LootLocker AB  
Polygongruvan AB  
Puzzlebox Studios AB  
Shellander Games AB

### Norrköping

Argent Realms AB  
Dovora Interactive AB  
Tomlin Studio AB  
Space Plunge AB

### Österåker

Ringtail Interactive AB  
Sprint1 Productions AB

### Sigtuna

GraphN AB  
Svantech Studios AB  
Usurpator AB

### Södertälje

Diffident Games AB  
JN Interactive AB

### Sollentuna

Almost Fantastic AB  
Short Infinity AB  
Ullbors Illustrations AB  
Vishindo AB

### Solna

BBS Games AB  
BitBear AB  
Black Voyage Games AB  
Christian Nordgren AB  
DIVR Sweden AB  
Fargo Games AB  
Frozen Dev AB  
FunGI AB  
Jona Marklund AB  
Lilla Fezen AB  
Manaii World  
Sharcoal Studios AB  
Solutions Skövde AB  
ToeDev AB  
TRB Studio AB  
TwifySoft AB

### Stockholm

10 Chambers AB  
A Small Game AB  
Acegikmo AB  
Adventure Box Technology AB (publ)  
Aktiebolaget Fula Fisken  
Amplifier Boot Camp AB  
Amplifier Studios AB  
Antler Interactive AB  
anton.games AB  
Arcmill AB  
Arrowhead Game Studios AB

Art by rens AB  
Ashes & Diamonds  
Entertainment AB  
Atlantika Interactive AB  
Avalanche Studios Group  
Axolot Games AB  
Barnacles Studio AB  
Battlecamp AB  
Bewildermill AB  
Beyond Frames Entertainment AB  
Björkman Consulting Group AB  
Blackfox Studios  
Blastronaut AB  
BloodMoon Studios  
Bodbacka:Boom AB  
Book of travel AB  
Brikk  
Burning Planet Digital AB  
Caketown Interactive AB  
Challenge GG AB  
Chief Rebel AB  
Code Club AB  
Coffee Stain North AB  
Cold Pixel AB  
Collecting Smiles AB  
Cortopia AB  
Cosmico AB  
Coulianos Studio AB  
Crackshell AB  
Creation Zero Point Holding AB  
Dark Riviera AB  
Dashy Studios AB  
Define Reality AB  
Delit AB  
Denove Service AB  
Devn Games AB  
Diax Game AB  
Digjai AB  
Digital Exception Sthlm AB  
Doomlord Interactive AB  
DorDor AB  
DualNorth AB  
EA Dice  
Effsee AB  
Ekvall Games Sweden AB  
Eldring Games AB  
Elemental Games  
Embark Studios AB  
Enad Global 7 AB  
Enember Studios AB  
Envar entertainment AB  
Epic Games  
Evergreen IT AB  
Expansive Worlds AB  
ExoCorp AB  
Experiment 101 AB  
Expertise Games Group  
Stockholm AB  
Fablebit AB  
Fall Damage Studio AB  
Fast Travel Games AB  
Fatshark AB  
FeWes AB  
Filimundus AB  
FJRD Interactive  
Flarie AB  
Flashe Gaming Group AB  
Fragbite Group AB  
Fredtob Games AB  
Frever AB

Friendly Foe Games AB  
FunRock Development AB  
Fury Studios AB  
Fuyu Games AB  
G5 Entertainment AB  
Gambit Technologies AB  
Game Chest group AB  
GAME-HOSTING GH AB  
Gameloom AB  
Gamersgate AB  
Gamescan Stockholm Studios AB  
GeoGuessr AB  
Ghetto Blaster AB  
Ghiblio AB  
Gleechi AB  
Global Impact Gaming  
International HB  
Glorious Games Group AB  
Go Maddox Interactive AB  
Goals AB  
Goodbye Kansas Group AB  
Grindstone Interactive AB  
Gro Play Digital AB  
GURATRON Industries AB  
Hamlab AB  
Hatrabbitt AB  
Hazelight  
HVNT Entertainment AB  
Hyperspeed Entertainment AB  
Hyprio AB  
Ichigoichie AB  
IdaP Studios AB  
Idun Interactive AB  
IG Consulting AB  
Ilo Games AB  
Insert Coin AB  
Jhony Ljungstedt AB  
JO Johansson Film & L Lindbom AB  
Jonas Levin AB  
Jopter Interactive AB  
Kavalri Games AB  
Keepsake Games AB  
Kickflip Digital AB  
King  
Landfall Games AB  
Legendo Entertainment AB  
Lejongrejer AB  
Lekis AB  
LERP AB  
Level Stars AB  
Light & Dark Arts AB  
Lilla Bas AB  
Lionbite AB  
LIQUID MEDIA AB  
Maadwalk Games AB  
MAG Interactive AB  
Maximum Entertainment AB  
Med Svärd AB  
Megadib AB  
Mentalytics AB  
Mibi Games AB  
Midjiwan AB  
Might and Delight AB  
Millionth Line AB  
Minoan Studios AB

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Paradox Interactive – Victoria 3

**Continued from previous page**

Miso Games AB  
 Modern Times Group MTG AB  
 Modoyo AB  
 Mojang AB  
 Moon Rover AB  
 Moreish Games AB  
 Motvind Studios AB  
 MuddyPixel AB  
 Mudpike AB  
 Mutate AB  
 Nampa Design AB  
 Neat Corporation  
 Neuston AB  
 New Galaxy Games Sweden AB  
 NFG Nordic Forest Games AB  
 Nibiru Software AB  
 NL Productions AB  
 NMBRS Production AB  
 Noid Games AB  
 Nørdlight Games AB  
 Odd Raven Studios AB  
 Off-Leash Interactive AB  
 Orion Eunix AB  
 Osivi AB  
 Other Games AB  
 Oxeye Game Studio AB  
 P Studios AB  
 Palabit AB

Paradox Development Studio AB  
 Paradox Interactive  
 Perfect Random AB  
 Petter Bergmar AB  
 PLAYCOM GAME DESIGN AB  
 Plotagon Production AB  
 Polarbit AB  
 Pole Position Production AB  
 Poppermost Productions  
 Aktiebolag  
 POTEKIN AB  
 Pounce Light AB  
 Psychogenic AB  
 Pusselbit Games AB  
 Puzzle Mill AB  
 QA Design AB  
 QDE Studio AB  
 Quel Solaar AB  
 Questadore AB  
 Rabbits Foot Studios  
 Rainbow Road AB  
 RAKETSPEL INTERAKTIVA  
 PRODUKTIONER AB  
 Rapix Games AB  
 Raw Fury AB  
 Really Interactive AB  
 Red Cup Games AB  
 Refold AB  
 Regius Group AB  
 Remedy Entertainment Sweden AB  
 Reset Media AB

Resolution Games AB  
 Right Nice Games AB  
 Rightsized Games AB  
 RimeLime AB  
 Rock A Role Games AB  
 Roro AB  
 Rovio Sweden AB  
 Rowil AB  
 Rymdfall AB  
 Safe Lane Gaming AB  
 Sagoverse AB  
 Schmugan AB  
 Scion Studios AB  
 Seidr AB  
 Shaping Games AB  
 Shelter Games AB  
 Short Circuit Studios AB  
 SHPEL AB  
 Sidres AB  
 Simway AB  
 Sleeper Cell AB  
 Snowprint Studios AB  
 Solid Studios Creative Lab AB  
 Sons of Mim AB  
 Source Empire AB  
 Spelkraft Sthlm AB  
 Square Dreams AB  
 STAR STABLE ENTERTAINMENT AB  
 Starbreeze AB  
 Sticky Games STHLM AB  
 Stillfront Group AB

Stroboskop AB  
 Suttur AB  
 Svartskägg AB  
 Systemic Reaction AB  
 Tale Maker Productions STHLM AB  
 Tappily AB  
 Ternios AB  
 The Gang Sweden AB  
 The Outsiders  
 Thriving Ventures AB  
 Tiger & Kiwi AB  
 Toadman Interactive AB  
 Toca Boca AB  
 Tomorrowworld AB  
 Toppluva AB  
 Trail Games AB  
 TROISDIM AB  
 TTK Games AB  
 Ubisoft Stockholm  
 Unity Technologies Sweden AB  
 Unordinal AB  
 Valiant Game Studio AB  
 Varia Entertainment AB  
 Villa Gorilla AB  
 Vinternatt Studio AB  
 Virtual Brains AB  
 Vishindo AB  
 Visiontrick Media AB  
 Vobling AB  
 Warm Kitten AB  
 Wayfare Studio AB

Westre Games AB  
Wild Games AB  
Wildlife Studios Sweden AB  
Wilnyl Games AB  
Wings  
Woodhill Interactive AB  
wrlds technologies AB  
Wrong Organ AB  
Xpert Eleven AB  
Ztar Games AB

#### **Sundbyberg**

Novamitech AB  
Simple Magic Studios AB  
White Imp Games AB

#### **Täby**

Frojo Investment AB  
NIALBE AB  
Polyregular Studios AB  
Sleipner Games AB  
Soundkids AB  
Synthetic Mind AB  
Tealbit AB  
Warpzone Studios AB  
Yangmei Studios AB

#### **Tyresö**

Oort Cloud AB  
Sista Potatis AB  
Spelagon AB  
Wynne Technology AB

#### **Upplands Väsby**

Fredaikis AB  
RobTop Games AB

#### **Upplands-Bro**

Bambino Games AB  
Freshly Squeezed AB

#### **Vallentuna**

Delayed Again AB  
Pixeldiet Entertainment AB

#### **Värmdö**

Blue Scarab Entertainment AB  
Elias Software  
Good Night Brave Warrior AB  
IMGNRY International AB  
Massive Shapes AB  
Spelkultur i Sverige AB

### **ÖSTERGÖTLAND 13**

#### **Boxholm**

Ioneo AB

#### **Linköping**

Adly AB  
Aftnareld AB  
Another Game Sweden AB  
Avokodo Studios AB  
Beartwigs AB  
Catalope Games AB  
Clifford Creative AB  
Graewolv AB  
Hihat Studios AB  
Holmcom AB  
Incredible Concepts of Sweden AB  
Irrbloss AB  
Landell Games AB

Laxbeam AB  
Liopep  
Lurkit AB  
Lutra Interactive AB  
Majewski Holding AB  
Martin Magni AB  
Miltonic Games AB  
My Virtual Classroom AB  
Neogon Holding AB  
Neoflow AB  
Pebble Paw AB  
Pixleon AB  
Power Challenge AB  
Pugstorm AB  
Red Nerv AB  
Resolution Games  
Screenput AB  
Simplygon studios  
SocAli Socialpedagogiska  
Verktyg AB  
Solid Core  
Strategy Mill AB  
Therese Kristoffer Publishing AB  
VISIARC Inclusive Design AB  
Worldshapers AB  
Zero Index AB

#### **Mjölby**

Jidindi AB

#### **Motala**

Campcreation AB  
Friendly Fire AB

#### **Norrköping**

AmberWing AB

Borrowed Soul Studio AB  
Caspian Interactive  
Correcture Games AB  
Dimfrost Studio AB  
Endjui Productions AB  
Gamesclub International AB  
GOES International AB  
MoIndust Interactive AB  
One Potato Kingdom AB  
Perpetuum Media Sverige AB  
Silkworm  
Skyfox Interactive AB  
StoneTech Games

#### **Söderköping**

Loud Hat Productions AB

### **VÄSTRA GÖTALAND 14**

#### **Ale**

1337 Game Design AB

#### **Alingsås**

Qiiwi Games AB

#### **Bollebygd**

Rockheart Studios AB

#### **Borås**

Gigantic Duck AB  
Manavind AB

Continues on the next page

Stunlock Studios – V Rising



**Gothenburg**

A Creative Endeavor AB  
 AB Cx3  
 Ampd AB  
 An Otter Team AB  
 Apskeppet AB  
 Atvis AB  
 Beardybird AB  
 Bitwave AB  
 Box Dragon AB  
 Bulbsort AB  
 Choofun Games AB  
 Coffee Stain Gbg AB  
 Craft Animations and Entertainment AB  
 Creative AI Nordic AB  
 Creative Vault AB  
 Curiosa AB  
 Darson Tech AB  
 Dennaton Games  
 Devkittens AB  
 EA DICE Gothenburg  
 El Huervo AB  
 Elden Pixels AB  
 Feeble Minds AB  
 Friendbase AB  
 Fully Multiplayer AB  
 Greenblade Studios AB  
 Hello There AB  
 Hiber AB  
 Humla Games AB  
 inDirection Games AB  
 Insert Coin AB  
 int3 software AB  
 Itatake AB  
 ius innovation AB  
 just some games AB  
 Kamaji Experiences AB  
 Lavapotion AB  
 Lician Games AB  
 Like a Boss Games AB  
 MindArk  
 Mistwave Interactive AB  
 Neckbolt AB  
 Oscar Makes Games AB  
 Outbreak Studios AB  
 Pax6 Games AB  
 Playcentric Studios AB  
 Radgivery AB  
 River End Games AB  
 Råven Aktiebolag  
 SkyGoblin AB  
 Snapbreak Games AB  
 Soupmasters AB  
 South North Games AB  
 SteelRaven7 AB  
 Studio Far Out Games AB  
 Studio Northshade AB  
 Swarm Creations AB  
 The Fully Arcade AB  
 Thunderful Group AB  
 TinyHill AB  
 To the Sky AB  
 Wereviz AB  
 Winteractive AB  
 Wishful Whale AB  
 Wishfully Studios AB

YCJY Games AB  
 Zcooly AB

**Göteborg**

Pronoia AB

**Härryda**

Mambo Jambo Studios AB

**Kungälv**

Brimstone Games AB  
 Dreamon Studios AB  
 SkillzWin Studios AB

**Lidköping**

Pixel Pointer Studios AB

**Mariestad**

Frostcore AB

**Mark**

EXTRALIVES AB

**Mellerud**

Vovoid Media Technologies AB

**Mölnådal**

Ball Lightning AB  
 E Games Invest Nordic AB  
 GSP golf AB  
 Heyman Ateljé & Verkstad AB  
 Mindforce Game Lab AB  
 norware AB  
 Oddiko AB  
 Pathos Interactive AB

**Munkedal**

Coilworks AB

**Partille**

Moonhood AB

**Skara**

Alega & Qiwi Learning AB  
 VaragtP Studios AB

**Skövde**

Angry Demon Studio AB  
 Aurora Arts AB  
 Babloon Studios AB  
 Bad Luck AB  
 BridgeCo AB  
 Coffee Stain Publishing AB  
 Coffee Stain Studios AB  
 Designlayout EGU AB  
 DoubleMoose Games AB  
 Draw Three Cards AB  
 Elmseld Interactive AB  
 Ember Paw Games AB  
 Flamebait AB  
 FRAME BREAK AB  
 Green Tile Digital AB  
 Iron Gate AB  
 JETEBRA Games  
 Knackelibang Productions AB  
 Let it roll AB  
 Ludosity AB  
 Nattland Interactive AB  
 Nuggets Entertainment AB  
 Palindrome Interactive AB  
 Pieces Interactive AB

Piktiv AB  
 Redbeet Interactive AB  
 Sandspire Interactive AB  
 Sonigon AB  
 Stunlock Studios AB  
 Subfrost Interactive AB  
 Three Friends AB  
 Thunderful Skövde  
 Twitchy trigger finger AB  
 Whirlybird Games AB

**Stenungsund**

Ace Maddox AB

**Tanum**

Tenstar

**Tibro**

Pretty Broken Code AB

**Trollhättan**

ActiveQuiz Europe AB  
 Easy Trigger AB

**Vänersborg**

Virtuverse AB

**REGION JÖNKÖPING 15****Jönköping**

Brandywise AB  
 Cuddle Monster AB  
 Hatokuma Games AB  
 PrettyByte AB  
 Radical Sunset AB

**Tranås**

Head Coach Games AB

**HALLAND 16****Falkenberg**

Gellyberry Studios AB

**Halmstad**

Deadghost Interactive AB  
 Eagle games Sweden AB  
 Erik Svedäng AB

**Kungsbacka**

Breaker Interactive AB  
 Nifty Apps AB  
 Oganon interactive AB  
 Snojken AB

**KRONOBERG 17****Älmhult**

Inntq AB

**Alvesta**

Wadonk AB

**Ljungby**

Bläckfisk Förlag AB

**Markaryd**

Reality Park AB

**Tingsryd**

Spelkollektivet Sweden AB

**Växjö**

Arcade Mixtape AB  
 Maboza AB  
 Nemo Studios AB  
 Universal Learning Games ULG AB  
 Wildcore AB

**REGION KALMAR 18****Hultsfred**

Plink&Plonk Studio AB

**Nybro**

Deadly Serious Media Sweden AB

**GOTLAND 19**

Eat Create Sleep AB  
 Fullscreen Studios AB  
 Glass Rock Gathering AB  
 Iterative Studios AB  
 Jumpgate AB  
 Photon Forge AB  
 Pixel Ferrets AB  
 Tableflip Entertainment AB  
 Wognum Studios

**BLEKINGE 20****Karlshamn**

Dreamwalker Studios AB  
 Mana Brigade AB  
 Noumenon Games AB  
 Pretty Ugly AB  
 Something We Made AB  
 Svelstickan AB  
 Thunderful Karlshamn  
 Virtual Tree Design AB  
 Whacky Mole Studio AB

**Karlskrona**

Blackdrop Interactive AB  
 Macaroni Studios AB  
 Shatterplay Studio AB  
 Spellscaper AB

**Olofström**

Black Tundra Productions AB

**Ronneby**

Activout AB  
 Kernel Iron AB  
 Nodbrim Interactive AB  
 Powersnake AB

**SKÅNE 21****Ängelholm**

PMABit AB

**Burlöv**

Happi Papi AB  
 Pfanne AB  
 Spiddekauga Games AB

**Eslöv**

Digital kittens AB  
MistByte AB  
Pastille AB  
Triassic Games AB

**Helsingborg**

Decemberborn AB  
Duckpond Interactive AB  
HARBOURS MOON AB  
Localize Direct AB  
Monsuta AB  
Pixelbite AB  
Playtrigger Games AB  
PTFH Development AB  
Shapefarm AB  
Sjöberg Game Consulting AB

**Höganäs**

KEP Games AB

**Hörby**

CoolBright AB

**Kristianstad**

JE Software AB

**Landskrona**

KFH Graphics AB  
Urban Binary AB

**Lund**

Abcde Entertainment AB  
Aroko Game Studio AB  
Bridgestars Technologies Sweden AB  
Desperate Measures AB  
Illwinter Game Design AB  
Jitesoft AB  
Junno Labs AB  
Pengu Studios AB

**Malmö**

Apoapsis Game Laboratories AB  
Art in Heart AB  
Avalanche Studios Group  
Bearded Ladies  
Bloom & Gloom Games AB  
Carry Castle AB  
Chimera Garden Games AB  
Chromatic ink AB  
Codeborn AB  
Coffee Stain Malmö  
Coherence Sweden AB  
Cross Reality International AB  
DeadToast Entertainment AB  
Dengu AB  
Diatomic AB  
Divine Robot AB  
Dunderbit AB  
Echo Entertainment AB  
Ernst & Borg Arkitektur AB  
Frictional Games AB  
Frogsong Studios AB  
Gameflame  
Golden Possum Games AB  
Gotterdammerung AB  
Grenaa Games AB  
Haderajan AB  
Icehelm AB  
Illusion Labs AB  
Infinite Mana Games AB  
IO Interactive AB  
King  
KoniWorx Animation AB  
Learning Loop Sweden AB  
LERIPA AB  
Linbasta AB  
Longhand Electric AB  
Magnetic Games AB  
Massive Entertainment – a Ubisoft Studio  
Mediocre AB

MU Studios AB  
Multiscription AB  
Neon Noroshi AB  
Neuron Burner AB  
nevsram AB  
Nordic Game Resources AB  
Nordic Game Ventures i Malmö AB  
Nordic Stone Studio AB  
Not My Jeans AB  
On Pixel Graphics AB  
On the Outskirts AB  
Oskar Ståhlberg AB  
Pixel Shade  
Plausible Concept AB  
ProCloud Media Invest AB  
Rashidi Interactive AB  
Rau Studios AB  
Richard Meredith AB  
Robertson Nordic Partners AB  
Rubycone AB  
Section 9 Interactive AB  
Senri AB  
Sharkmob AB  
She Was Such a Good Horse AB  
Simogo AB  
Southend Interactive AB  
Star Vault AB  
SWEDISH GAME DEVELOPMENT AB  
Sydow Production AB  
Tales & Dice AB  
Tarsier Studios  
The Sleeping Machine AB  
Thunderful Malmö  
Transmuted Games AB  
Tuxedo Labs AB  
Undone Games AB  
Velodrom AB  
Vova Games AB  
Vreski AB  
webbfarbror AB  
WhatAreBirds AB

**Skurup**

Spelmakare Jens Nilsson AB

**Staffanstorp**

Straw hat games AB  
VoDoo Studios  
WhyKev AB

**Svedala**

Binary Peak AB

**Tomelilla**

Pixilated Production AB  
Redgrim AB  
Trancers Media AB

**Vellinge**

Impact Unified AB  
Primary Hive AB

**Ystad**

VisionPunk AB

**Ängelholm**

PMabit AB

**REMOTE**

Aurora Punks  
Hadoque  
NBrigade Music AB



# Swedish Game Companies Around the Globe

Several game companies have expanded abroad. In 2022, there were 392 Swedish-owned studios around the world, of which 257 studios and branches belonged to the Embracer Group.

## Largest Swedish Companies Globally

Largest Swedish registered companies including net sales from subsidiaries

	Company	Group Revenue M EUR 2022	Employees outside Sweden 2022
1	Embracer Group	3,543	11,956
2	Stillfront Group	664	1,470
3	King	598	-
4	Modern Times Group MTG	521	1,054
5	Mojang	431	-
6	Thunderful Group	285	257
7	Paradox Interactive	185	198
8	Enad Global 7	176	634
9	EA DICE	155	-
10	G5 Entertainment	132	932



In total, there are studios in 59 countries on five continents. The largest number of companies are located in the USA, 85, and 208 studios are located across Europe, of which 41 are in the UK and 37 in Germany.

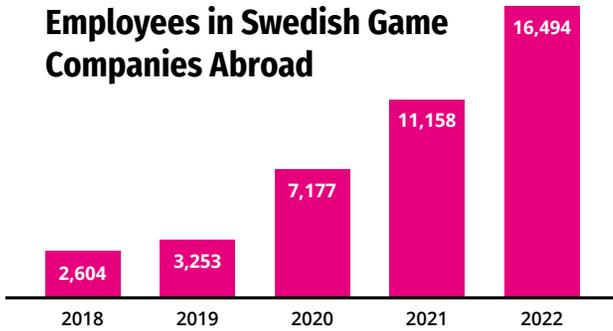
The largest outside Sweden is Embracer Group which, through its various branches, had 257 different corporate entities outside Sweden at mid-year 2023. During the year, the Group has announced a restructuring programme and divestments to strengthen the profitability of the company, which may cause the current figure to change.

A total of 23 Swedish companies have various forms of branches and subsidiaries in other countries. Of these,

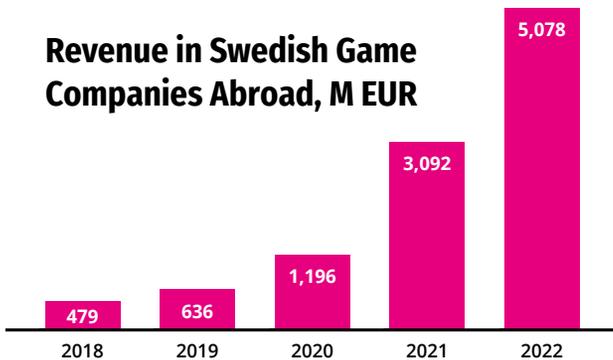
two studios, Avalanche Studios Group in New York and Liverpool, have a Danish parent company and one studio, Sharkmob London, has a Chinese parent company. Stillfront Group had a significant global presence with 53 studios in 22 countries across five continents.

During the year, Enad Global 7 has divested its entire operations in Russia. Through Saber Interactive, Embracer Group remains in the country. During the year, G5 Entertainment has significantly reduced the number of employees in Russia and relocated them to other countries. G5 Entertainment has during the year significantly reduced the number of employees in the country

## Employees in Swedish Game Companies Abroad



## Revenue in Swedish Game Companies Abroad, M EUR

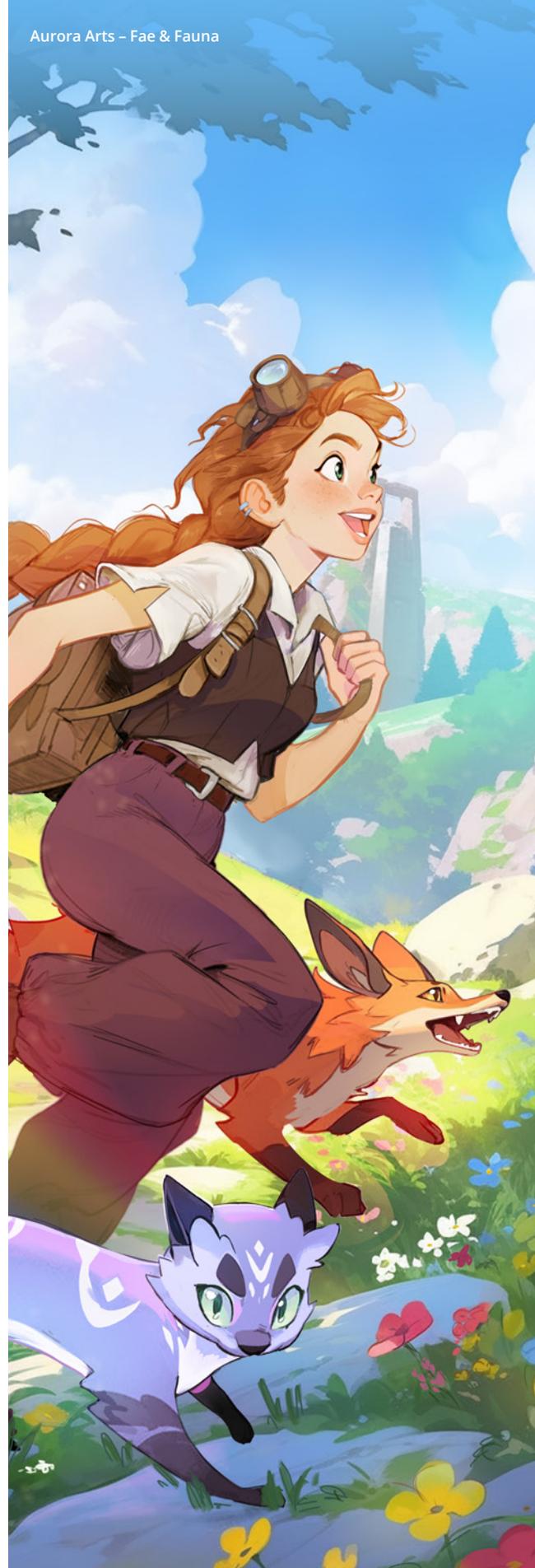


and relocated them to other countries. Both Embracer Group and G5 Entertainment have staff in Ukraine.

Together, Swedish-owned game companies employed almost 16,500 people in other countries in 2022. Of these, almost 12,000 of the employees worked for Embracer Group. Of the employees in Swedish-owned companies abroad in 2022, around 27% were women.

The current increase in number of studios and employees at home is largely driven by organic growth, while the increase abroad is largely acquisition-driven, although several of the individual studios abroad also increased in size.

Where in the world companies establish themselves depends largely on where there are game studios that have performed well in the past. In some cases, there are economic reasons for the establishment, for example Canada has generous tax rules for creative companies, and several other geographical regions attract economic incentives specifically aimed at foreign companies. To some extent, it may also be due to cultural links, such as employees or founders with a background in specific countries. An overwhelming majority of employees around the world are in countries with salary levels comparable to, or higher than, Sweden.



# Game Developer Map – Global

Swedish game companies are expanding rapidly through extensive acquisitions and investments abroad.

Below is a list of game studios around the world that are subsidiaries of Swedish game companies. Each  represents a corporate entity in the country.



## NORTH AMERICA

### Canada

Embracer Group   
  
 Enad Global 7   
 Stillfront Group

### USA

Avalanche Studios Group  
 Embracer Group   
  
  
  
  
  
  
  
  
  
 Enad Global 7   
 G5 Entertainment  
 Goodbye Kansas Group  
 Lurkit  
 Maximum Entertainment   
 MTG  
 Paradox   
 Resolution Games  
 Starbreeze   
 Stillfront Group  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Remote

MTG

## SOUTH AMERICA

### Argentina

Embracer Group

### Brazil

Embracer Group  
 Maximum Entertainment

### British Virgin Islands

Stillfront Group

### Chile

Embracer Group   


### Peru

Embracer Group

### Uruguay

Embracer Group

## EUROPE

### Austria

Embracer Group   
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Belarus

Embracer Group   


### Belgium

Embracer Group   
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Bosnia and Herzegovina

Embracer Group   


### Bulgaria

Embracer Group   
  
 G5 Entertainment  
 Stillfront Group

### Croatia

Stillfront Group

### Cyprus

Embracer Group   
  
 G5 Entertainment  
 Qiwi Games

### Czech Republic

Embracer Group   
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Denmark

Adventure Box Group  
 Embracer Group   
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Estonia

Embracer Group

### Finland

Embracer Group   
  
 Goodbye Kansas Group  
 Paradox

### France

Embracer Group  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Germany

Embracer Group,  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Hungary

Embracer Group   
  
 Maximum Entertainment

### Ireland

Maximum Entertainment  
 Stillfront Group

### Italy

Embracer Group   
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  


### Lithuania

Goodbye Kansas Group

### Malta

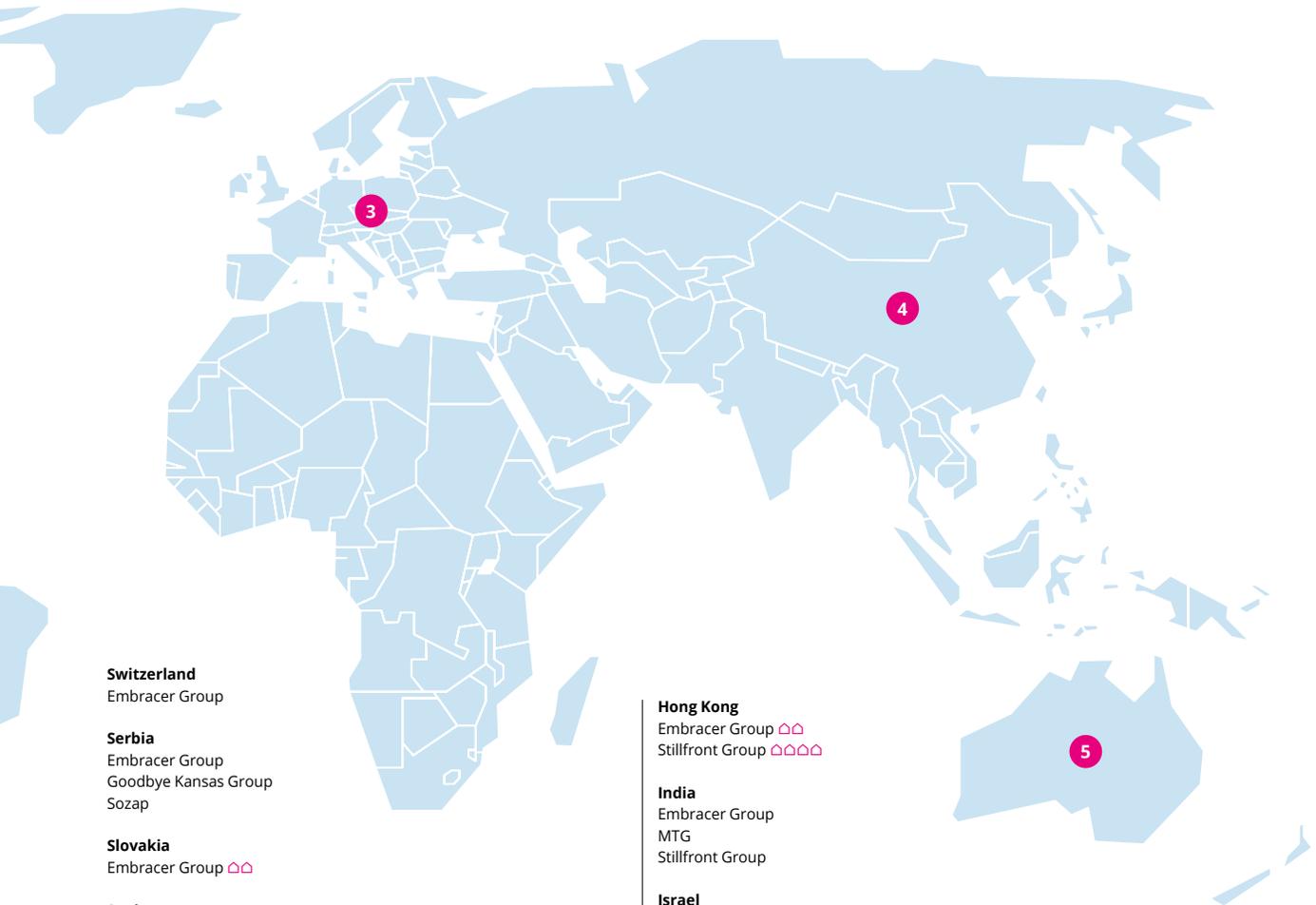
Embracer Group  
 G5 Entertainment  
 Stillfront Group   
  
  
  
  
  
  
  
  
  
  
  
  


### Montenegro

G5 Entertainment

### Netherlands

Embracer Group  

**Switzerland**  
Embracer Group

**Serbia**  
Embracer Group  
Goodbye Kansas Group  
Sozap

**Slovakia**  
Embracer Group ◻◻

**Spain**  
Embracer Group ◻◻◻◻◻◻  
Paradox  
Starbreeze  
Thunderful Group

**United Kingdom**  
Avalanche Studios Group  
Embracer Group  
◻◻◻◻◻◻◻◻◻◻  
◻◻◻◻◻◻◻◻◻◻  
◻◻◻◻  
Enad Global 7 ◻◻  
Goodbye Kansas Group  
MAG Interactive  
Maximum Entertainment ◻◻  
MTG ◻◻  
Qiiwi Games ◻◻  
Sharkmob  
Starbreeze ◻◻  
Stillfront Group  
Thunderful Group ◻◻◻◻◻◻

**Ukraine**  
Embracer Group

G5 Entertainment  
Stillfront Group

**Remote**  
Aurora Punks

**ASIA** 4

**Armenia**  
Embracer Group  
G5 Entertainment

**Bangladesh**  
Stillfront Group

**China**  
Embracer Group ◻◻◻◻◻◻  
Goodbye Kansas Group  
Stillfront Group ◻◻

**Georgia**  
G5 Entertainment

**Hong Kong**  
Embracer Group ◻◻  
Stillfront Group ◻◻◻◻

**India**  
Embracer Group  
MTG  
Stillfront Group

**Israel**  
Embracer Group  
◻◻◻◻◻◻◻◻◻◻

**Japan**  
Embracer Group ◻◻◻◻  
Stillfront Group ◻◻◻◻

**Jordan**  
Stillfront Group

**Kazakhstan**  
G5 Entertainment

**Korea**  
Embracer Group

**Pakistan**  
Darson Tech

**Philippines**  
Goodbye Kansas Group

**Russia**  
Embracer Group ◻◻◻◻◻◻

**5**

**Singapore**  
Embracer Group  
Stillfront Group ◻◻

**Taiwan**  
Embracer Group  
Stillfront Group

**United Arab Emirates**  
Stillfront Group ◻◻◻◻

**Vietnam**  
Stillfront Group

**OCEANIA** 5

**Australia**  
Embracer Group ◻◻◻◻  
Stillfront Group ◻◻◻◻

**New Zealand**  
MTG

# Acquisitions and Investments

**No deal beats the Microsoft \$69 billion deal to acquire Activision Blizzard King in October 2023. On the Swedish market major investments and acquisitions in 2022 decreased in number but maintained their scale.**

The most prominent in the list of Swedish investments is again Embracer Group, which made about half of the major Swedish investments in 2022, including full acquisitions in Sweden, the US, Canada, Japan, Germany, the UK, France and Denmark. Among other things, the group acquired the French card, board and role-playing game company Asmodee for EUR 3.1 billion and the combined companies Square Enix Montréal, Square Enix Holdings and Crystal Dynamics as well as a number of well-known IPs for a total purchase price of EUR 300 million.

In June 2022, Embracer Group raised around one billion EUR after issuing 100 million shares to Saudi Savvy Gaming Group. Earlier the same year, the Saudi group acquired e-sports company ESL Gaming and FACEIT from Swedish MTG for EUR 1 billion.

Stillfront also made a major acquisition in 2022 with the purchase of Japanese social games publisher 6waves for about EUR 200 million.

Among the, comparatively smaller, deals in 2022 can be noted Wicket Gaming's acquisition of German Wegesrand Group, Resolution Games' acquisition of the studio Zenz VR and Enad Global 7's acquisition of Canadian Big Blue Bubble. In 2023, Visby-based Jumpgate acquired the German developer Nukklear, which among other

things works on FunCom's *Dune* games, and during the year Maximum Entertainments acquired the renowned Romanian company FUN Labs.

In the majority of the deals listed below, a Swedish company is the buyer. On the international side, South Korean *PUBG* publisher Krafton has acquired Uppsala-based Neon Giant. Canadian Spin Master, which also owns Toca Boca, acquired Skövde-based Nördlight Games in 2022. In May 2023, Paradox Interactive sold its shares in Seattle-based Hardsuit Labs to Irish listed company Keywords Studios. In October 2023, Microsoft closed its \$69 billion deal to acquire Activision Blizzard King.

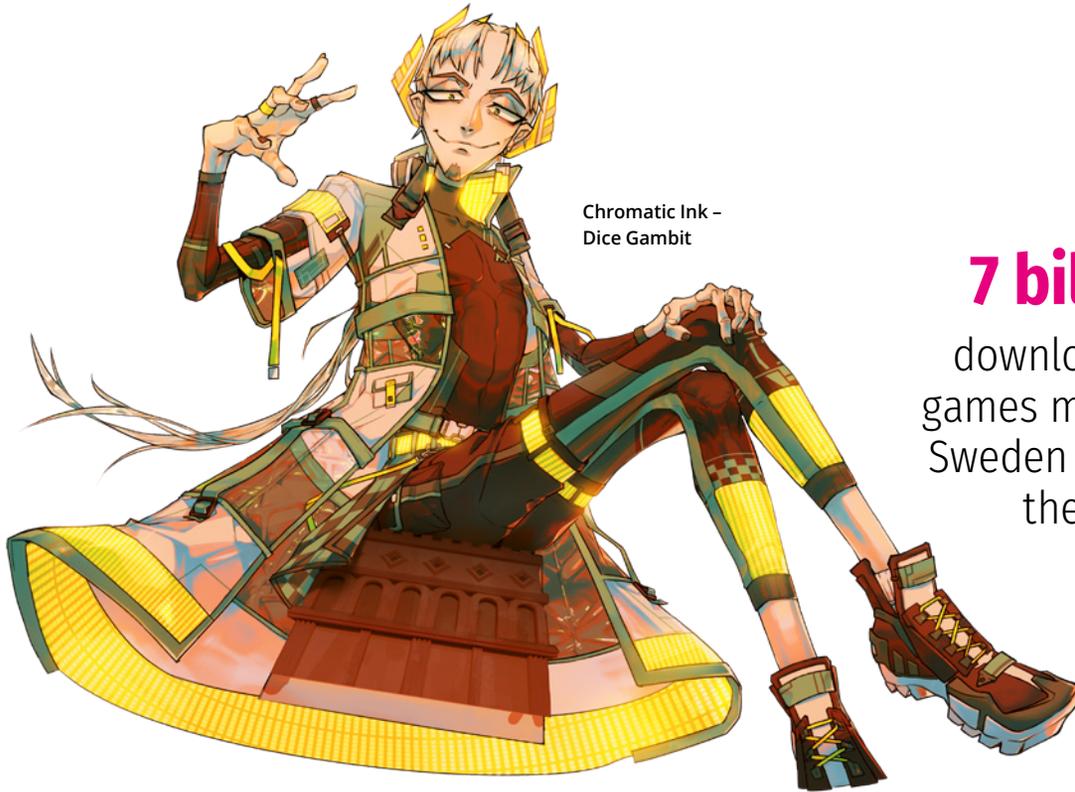
Many investments and acquisitions in the game industry are made through large groups and large international companies. But there are also deals through publishers, individual investors, funds and smaller investment companies. The list below is based on publicly available information, which does not always include information on the purchase price of the transaction, and thus usually comes from listed companies that have higher standards of financial transparency. The list is far from being exhaustive and should be seen as a selection of major deals in the past year.

## Acquisitions and Investments 2022

Seller	Country	Buyer/Investor	Country
A Creative Endeavor AB	Sweden	Embracer Group	Sweden
Big Blue Bubble, Inc.	Canada	Enad Global 7	Sweden
Crystal Dynamics (Square Enix)	Japan / Canada	Embracer Group	Sweden
Dark Horse Media LLC	USA	Embracer Group	Sweden
Eidos-Montreal (Square Enix)	Japan / Canada	Embracer Group	Sweden
Embracer Group	Sweden	Savvy Gaming Group	Saudi Arabia
Innova (Enad Global 7)	Sweden	Innova Intellectual Properties S.à r.l.	Russia
ESL Gaming (MTG AB)	Sweden	Savvy Gaming Group	Saudi Arabia
Financière Amuse TopCo (Asmondee)	France	Embracer Group	Sweden
Funatics GmbH	Germany	Jumpgate AB	Sweden
GoodBetterBest Lmt.	United Kingdom	Embracer Group	Sweden
Invisible Walls ApS	Denmark	Embracer Group	Sweden
Jumpship Ltd	United Kingdom	Thunderful Group	Sweden
Limited Run Games	USA	Embracer Group	Sweden
Lucky Kat B.V.	Netherlands	Fragbite Group	Sweden
Mane6	USA	Zordix	Sweden
Metricminds GmbH	Germany	Embracer Group	Sweden
Middle-earth Enterprises	USA	Embracer Group	Sweden
Multiverse ApS	Denmark	Adventure Box Technologies	Sweden
Neon Giant	Sweden	Krafton	South Korea
Nördlight Games AB	Sweden	Spin Master	Canada
Perfect World Entertainment	USA	Embracer Group	Sweden
Singtrix	USA	Embracer Group	Sweden
Six Waves Inc.	Japan	Stillfront Group	Sweden
Square Enix Holdings	Japan / Canada	Embracer Group	Sweden
Square Enix Montreal (Square Enix)	Japan / Canada	Embracer Group	Sweden
Tripwire Interactive	USA	Embracer Group	Sweden
Turborilla	Sweden	Mind Detonator	Sweden
Tuxedo Labs	Sweden	Embracer Group	Sweden
Wegesrand Group	Germany	Wicket Gaming AB	Sweden
Zenz VR	Sweden	Resolution Games	Sweden

# World Market

Our estimate based on download data is that at least one in four people in the world have played a game created in Sweden.



Chromatic Ink -  
Dice Gambit

**7 billion**  
downloads of  
games made in  
Sweden across  
the world

In total, Swedish-developed games have been downloaded nearly seven billion times, and major Swedish games regularly top the download and sales charts.

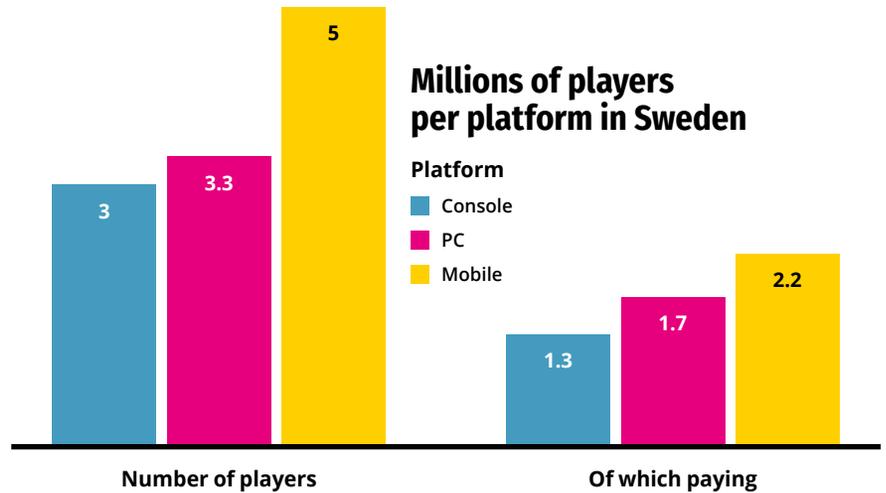
Video games are a constantly and steadily growing market worldwide. As living standards and personal finances increase, so does the demand for relaxation and entertainment, not least in the form of games. Today, more than three billion people play some form of digital game, a figure that has increased year after year.

According to research firm Newzoo\*, the total number of gamers in the world increased by 6.3% to 3,381 million

people in 2023 and the global world market is estimated to be worth USD 187.7 billion, around SEK 2 trillion. By 2026, the world market is expected to increase in value to USD 212.4 billion.

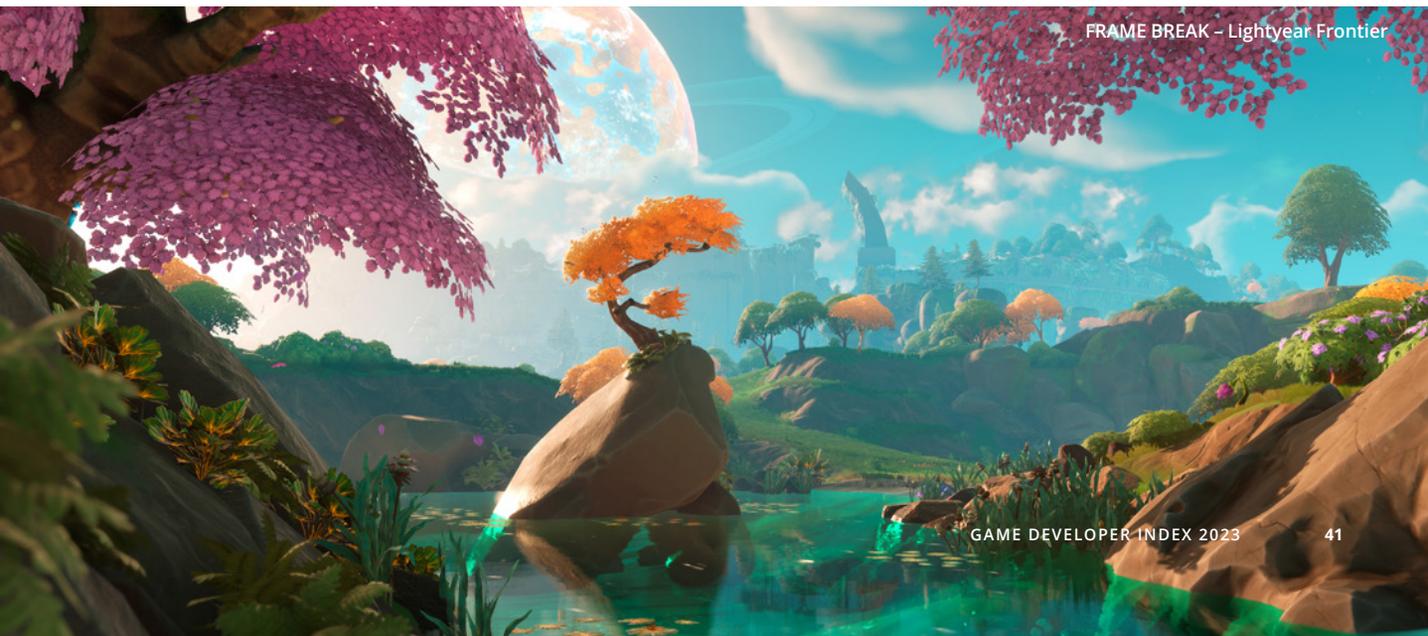
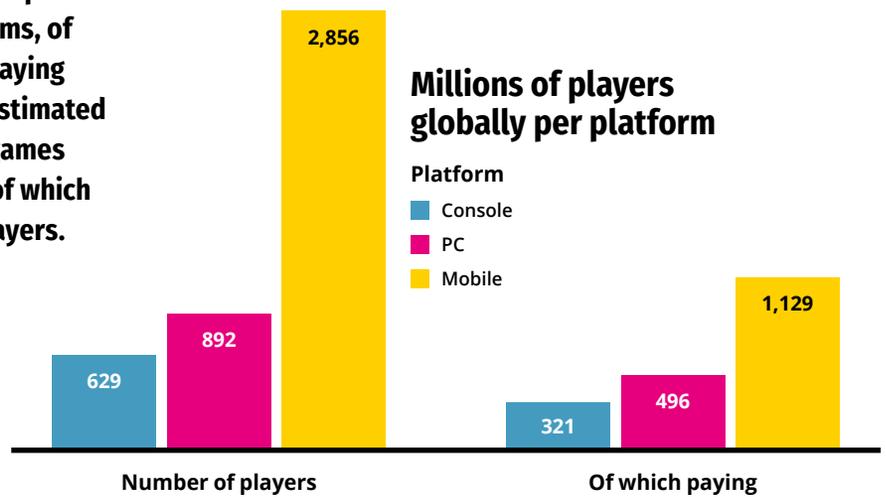
The Swedish consumer market is relatively small in size, but high in purchasing power. In 2023 it is estimated to be worth USD 803 million and grow to USD 962 million in 2026. The average revenue per user (ARPU) for Sweden is USD 198.3 compared to USD 127.1 globally.

\*Source: [Newzoo's Global Games Market Report](#)



Globally, **3,381** million people play on different platforms, of which **1,477** million are paying players. In Sweden, an estimated **6.7** million people play games on different platforms, of which **4.1** million are paying players.

Source: [Newzoo](#)



# PEGI 20 Years

The European standard for age labelling of video games, Pan European Game Information (PEGI), celebrated its 20th anniversary 2023. It was founded in the spring of 2003 by ISFE (now Video Games Europe) under the sanction of the European Commission. Over the years, PEGI has played an important role in consumer guidance by, among other things, helping parents to make informed decisions about their children's playing and thus create safer digital experiences. Within the framework of PEGI, there are both age categories and content labelling. Sweden is represented by the Swedish Media Council in PEGI.



## Record Year for E-sports

E-sports as entertainment has continued its growth trend and shows no signs of slowing down, with around 532 million viewers worldwide in 2022 and a revenue of around EUR 1.5 billion. The market is expected to grow to around 650 million viewers and almost EUR 2 billion in revenue by 2025, according to analysts at Statista. At home, the Swedish E-sports Association was voted into the Swedish Sports Confederation in May 2023. E-sports are based on big game successes that are primarily played by, and entertain, millions more regular players, which remains the most important target group for game developers. The League of Legends *LEC Summer Finals* were held in Malmö in September 2022 in front of a packed Malmö Arena and the city estimates that the event generated a tourism revenue of EUR 5 million.



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# Game Developer Educations

**Training 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 gone on to further education in the subject or related subjects – often through a post-secondary programme in art, programming or game design at one of the country's universities.**

Many colleges and universities around the country have made a name for themselves by investing heavily in game education, where students from different programmes usually collaborate in an interdisciplinary way to develop games together.

For more than 20 years, the **University of Skövde** has offered a wide range of game development programmes. Over the past five years, the programmes have received around 15,000 applications. The students are currently divided into eight bachelor's programmes and four advanced level programmes. Programmes include programming, design, animation, 3D graphics, 2D graphics, game writing, sound and music. At advanced level, three master's programmes and one master's programme are offered, all in English and open to international students. Master's programmes are available in *Games User Experience*, *Serious Games* and *Digital Narration: Game and Cultural Heritage*. The two-year master's programme offered is in Game Development with *Games User Experience* (GUX) and *Serious Games* (SG) as optional specialisations.

**Blekinge Institute of Technology (BTH)** has had game programmes since 2004 in Karlshamn. At the undergraduate level, the programme *Design of Digital and Immersive Experiences* is offered and they also have related programmes such as *Design of Digital Experiences for Learning*, *Digital Sound Production*, and *Digital Visual Production* which all teach 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 Game Graphics* was launched. The game programmes at BTH cooperate closely with **Blekinge Business Incubator** and its game component 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 areas such as 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 lecturers in the Master's Programme in *Interaction Design*.

At its Campus Gotland in Visby, **Uppsala University** runs four undergraduate game programmes and two graduate programmes. 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 programme *Game Artist* is offered in Boden, Skellefteå, Malmö and



FunRock & Prey Studios –  
MMA Manager 2: Ultimate Fight

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 also offered in Skellefteå. The programmes *Immersive Experience Creator* in Stockholm and *QA/Game Tester* in Boden, as well as *Animator and VFX Artist* in both Stockholm and Boden are also offered.

**The Game Assembly (TGA)** has three main game development programmes in Stockholm and Malmö – *Game Programming 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 distance education programme, *Linear algebra for artists*.

**PlaygroundSquad (PSQ)** has run game development programmes 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.

In Stockholm, **Forsbergs Skola** organises the programme *Game Programming*. From autumn 2023, **Nackademin** offers a course in graphics, *Technical 3D artist in games* in Solna.

The City of Gothenburg provides through **Yrgo** a programme in programming, *Game Creator Programmer*, and a

programme in graphics, *Game Creator Artist*. Game students from Yrgo won the prize for best game at the 2023 *Swedish Game Awards*.

Several folk high schools offer courses in games at both upper secondary and post-secondary level. **Höla 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, *Summertime Game Development*, in cooperation with **FCV Sweden**. 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, *Summertime* was carried out in Boden and Kramfors and all participants who completed the programme went on to study or employment.

In Luleå, **Sunderby Folkhögskola** offers a two-year post-secondary course, *Indie Game Developer*, which is located in Luleå and Boden. There is also a general course at high school level, *Gamemaker*.

**Ädelfors Folkhögskola** in Holsbybrunn offers an upper secondary course in *Computer Game Development* and a post-secondary course, *Indie Game Studio*, which focuses on game development and programming.

**Valla Folkhögskola** in Linköping, in collaboration with the *East Sweden Game*, offers a 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.

**Kristinehamn 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*.

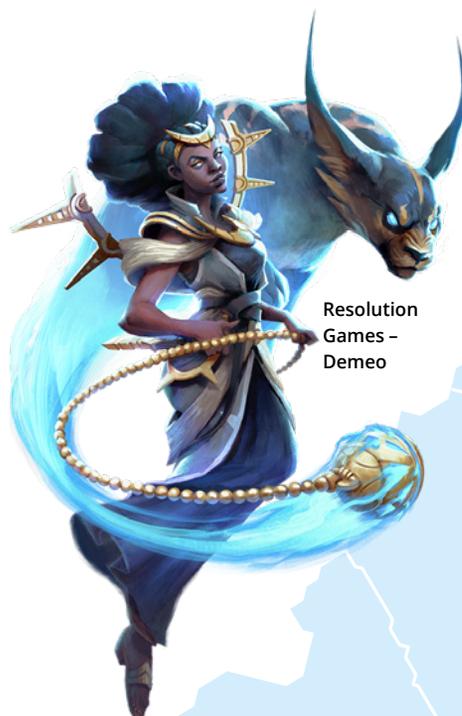
**Framnäs Folkhögskola** in Öjebyn and **Solviks Folkhögskola** in Kåge are linked to the *Arctic Game* cluster and offer courses in game development, VFX and game sound.

In 2020, **Spelkollektivet** started its game education *The Indie Quest* together with Tingsryd Municipality, where courses in programming, art and business development at upper secondary level are offered. The course is free, CSN-eligible and is held in English for both Swedish and international students.

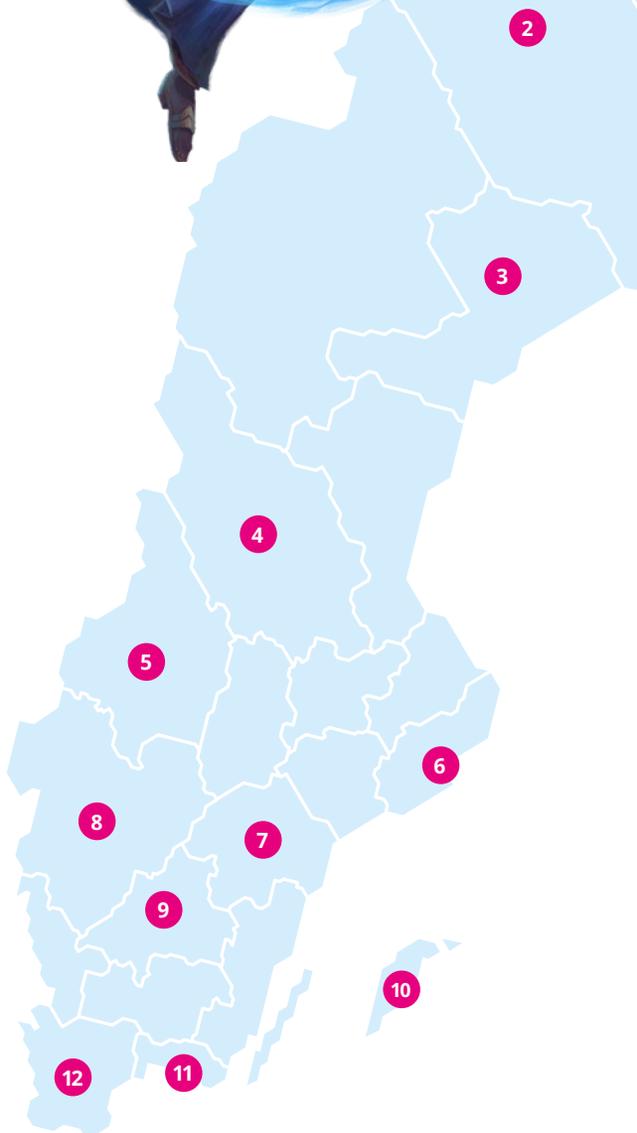
Some upper secondary schools are profiled in game development. For example, **LBS Kreativa Gymnasiet**, whose students won the *Swedish Game Awards* in 2018 and 2019. LBS conducts upper secondary education in game development at 17 different schools across half the country.

In Boden, the upper secondary education *GameDev Programme* is located at **Björknäs gymnasiet**, which is an aesthetic program with a focus on game development. The programme is run in close cooperation with Boden Game Camp and also has a national intake.

A longer review of games programmes in folk high schools and upper secondary schools can be found in the report *Talent, Education and the Art of Making Games* (2023).

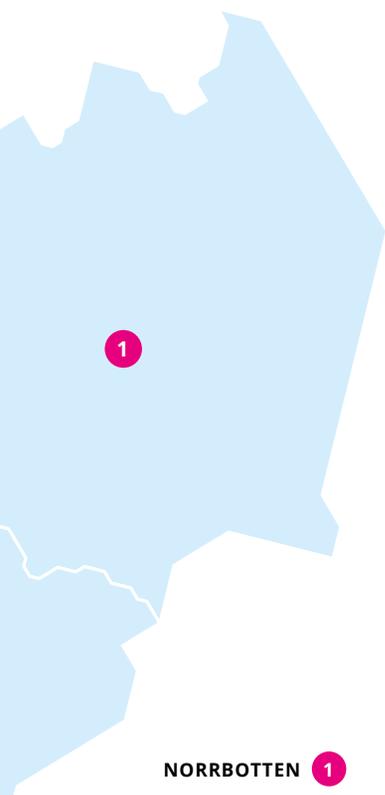


Resolution Games – Demeo



# Higher Game Educations

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



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

*Höla folkhögskola*  
Indiespelutveckling

## DALARNA 4

### Falun

*Tension Education AB*  
Playgroundsquad,  
Game Designer  
Playgroundsquad,  
Game Artist  
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*  
Forsbergs,  
Game Programming

*TGA Utbildning AB*  
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

*Gothenburg Municipality, 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  
Game Development -  
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

### Jönköping

*Ådeflors 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*  
Spelmanimator  
Spelprogrammerare  
Technical Artist  
Leveldesigner  
Spelgrafiker  
*Changemaker Educations AB*  
Game Artist  
Game Programmer

## VARIOUS LOCATIONS

*Changemaker Educations AB*  
Futuregames Animator and  
VFX Artist



Embark -  
The Finals

# Entrepreneurship and National Collaborations

**Strong ecosystems, clusters and local communities are essential for growth in the game industry, especially outside the capital. This is evident in the data on where new companies are establishing themselves, where jobs are being created and where new game successes are born.**



Kavalri Games –  
Equestrian the Game

There are three key components to a successful ecosystem. The first is a base of a few successful game companies that have established themselves in the city. The second is a game education programme that can provide both talent and new businesses. The third is a couple of enthusiasts who want to build a local community and are supported by a publicly funded independent organisation. Around the country, the ecosystems look different. In Skövde, the base is the municipality's Science Park. In Malmö, a non-profit organisation. In Linköping it is a municipal real estate company.

Not all companies in a town are active in the ecosystems and there may be different incentives for different companies to get involved. But companies coming together in the same place and building something on site is favourable both in terms of attracting investment from global players and creating a safety net in times of

uncertainty. A very large part of the industry's underlying growth comes from start-ups. Some are started directly after training, others by experienced game makers who want to test their own ideas on the market.

At present, there are no reliable formal structures for start-ups in the sector. Many other European countries offer support for developing new game ideas into playable prototypes, deductions for labour costs and generous incentives within the framework of various innovation programmes. Several Swedish game companies have set up development offices in these countries. In Sweden, there is no financial support or deductions for game development.

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## EXPERT VOICE BJÖRN FLINTBERG

Researcher, RISE

*“The game hubs are an important part of the ecosystem and act as greenhouses that can provide game entrepreneurs with the right soil”*



### **Hi Björn, you are a researcher at RISE – can you tell us about entrepreneurial ecosystems?**

The research talks about entrepreneurial ecosystems that arise when a geographical environment has a mix of actors, networks and conditions for new companies to be formed, grow and thrive over time. It is the relationships and interactions in the networks between these actors that make the ecosystem work and not just individual companies that are the engine of growth.

Ecosystems need three main components: cultural factors (which help start-up entrepreneurs to invest in their business), social factors (such as networks, access to skills and mentoring) and physical factors (such as support actors, physical environments and local and regional policies that support the industry).

### **How do ecosystems work in the game industry?**

Within an ecosystem, it is not uncommon for certain actors to act as coordinators or bridge builders. They form a link between different actors such as education providers, research, local decision makers and can provide physical spaces to help networks emerge or be a link to or part of an incubator activity.

In Sweden, that role has come to be assumed by the regional game hubs. The game hubs are an important part of the ecosystem and act as greenhouses that can provide game entrepreneurs with the right soil, the right access to water and sunlight. This means that more companies can be created when developers dare to invest, and that there are networks and a culture that also helps them on the way to find staff, investments and provide them with knowledge. They are a link between incubators, investors, marketing initiatives and local decision-makers and often become important drivers for the industry as a whole in a geographical area.

### **What about other industries?**

No industry can survive without support actors, and for traditional industries such as the automotive and food industries, it is obvious to have structures in place. Exactly how the game hubs have affected the Swedish game industry has not yet been clarified in the research, but many entrepreneurs and companies testify that they have played a major role for growth.



# Key Events in Swedish Game Hubs

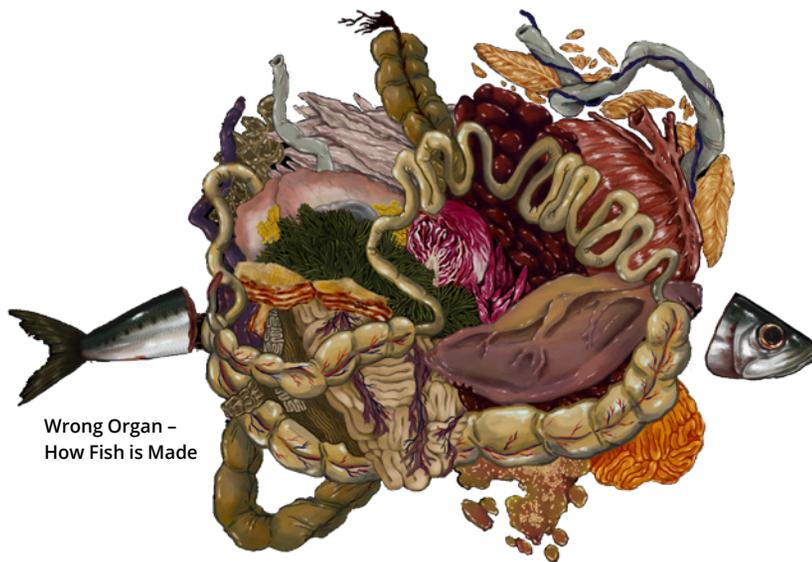
**Arctic Game** is a game cluster with a common platform for the development of new game studios, establishment, education, meeting places and investments in Norrbotten and Västerbotten. In 2017, the region's first game incubator, Boden Game Camp, was launched and today supports 15 local studios. Every year, the cultural event Nordsken is organised and the game conference Arctic Game Week, which, after a break during the pandemic, returned in spring 2022 for its 10th anniversary.

**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. Two successful studios that have emerged in the community are Pugstorm in Linköping, which launched the hit game *Core Keeper* on Early Access in 2022, selling a million copies in just a few months, and Dimfrost Studio in Norrköping, which released the critically acclaimed *Bramble: The Mountain King* in April 2023.

**Spelkollektivet** is an ambitious project involving collective living, education, game development, publishing and events, all started without external funding in the middle of the countryside. Preparations to launch the collective began back in 2016 with the Castle Game Jam, which aimed to create a network of game developers from around the world. Less than a week after the project was

announced, the collective was fully booked for the next two years. In 2018, the organisation moved to new larger premises with around fifty bedrooms in Väckelsång in Småland. In 2022, the first publishing agreement was signed, and in 2023, eight games were in development by different teams with Spelkollektivet as publisher. Only about 20% of the residents on Spelkollektivet are from Sweden, and more than 25 different nationalities are represented in the community. In 2022, Spelkollektivet reported its first positive result since its founding in 2017.

Over the past year, **Uppsala University's Campus Gotland** in Visby has invested in building a viable community for game developers in collaboration with the local game industry and private actors, with the aim of eventually promoting entrepreneurship, research and commercial game development through coordinated business development. Campus Gotland also hosts one of Sweden's oldest game conferences, the Gotland Game Conference, with over forty student projects and a jury of around thirty industry experts who test, give feedback and judge the games. On the last day of the conference, a prestigious awards ceremony is organised where the jury's choice for best game in different categories is announced. A highlight every year is the first-year students' arcade game projects with unique and creative solutions to physical input with self-built levers, buttons, sensors, cameras and other technical solutions that enhance the digital experience. The arcade games have been nominated several times for the Swedish Game Awards, Tokyo Game Show and Alt.Ctrl.GDC, an expo for alternative game controllers in San Francisco.



Wrong Organ -  
How Fish is Made

**The Great Journey** is the heart of the Värmland game industry since 2016. The hub is based in Karlstad, where a number of game companies have been started and gathered to take part in activities, meetups, game jams, counselling 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. Members are offered, among other things, an accelerator programme with business development support to help them start game companies. In addition to the established game education programmes in the region, The Great Journey also organises its own Fasttrack programme, which gives developers the opportunity to work on their game projects for nine months with CSN support. One of the highlights of the year is the annual Great Summer Pitch, where local teams compete for the best business pitch with the chance to win SEK 100,000 to fund their future game development.

**Science Park Skövde** has since 2004 successfully managed incubator activities for game companies in Skövde and since 2016 also in Gothenburg. Over the years, the game incubator has given birth to hundreds of companies and is also the base for the innovation arena Sweden Game Arena, which offers a unique environment for game companies and brings together education, research and entrepreneurship, with the goal of creating a thriving game industry. Coffee Stain Studios, Stunlock Studios, Iron Gate, Flamebait, Pieces Interactive, Redbeet Interactive and Ludosity are just a few of the successful game companies that are part of

Sweden Game Arena's community. As a further effort to strengthen the Swedish computer game industry, Science Park Skövde, together with the University of Skövde, RISE and Lindholmen Science Park, has initiated two projects: *Level Up Regional Game Industry* and *Level Up Swedish Game Industry*. Through the Level Up initiative, the Swedish game industry will gather strength and "level up" the industry regionally and nationally, thus contributing to greater influence and more sustainable economic conditions for Swedish computer game companies. In 2022, Skövde Science Park launched the Interlink initiative together with Arctic Game, The Great Journey and The Game Habitat to support start-up game companies in their journey towards an international market. The project was partly financed by the Swedish Agency for Economic and Regional Growth.

**Mid Sweden Games** brings together and strengthens the ecosystem for game developers, companies, game education and the public sector in Västernorrland. The cluster organises monthly networking meetings for game companies and regular workshops with industry players that increase the companies' business competence and create exchanges between game developers and academia. In June 2023, a delegation of twelve game studios travelled to Helsinki to meet with successful Finnish game and technology companies. Member studio Atomic Elbow, which released its second commercial game *Sir Whoopass* in 2022, was one of the companies to be accepted by SpielFabrique's European accelerator programme for game companies (EVA). The region also runs High Coast Game Lab, a game village in Nordingrå

in Kramfors municipality. There, about ten companies share space and develop their games with the support of various training programmes, investors and other game companies. 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)** has focused efforts on the ERDF project Game Accelerate South Sweden (GASS), a collaboration between BBI/ Gameport, Game Habitat, Ideon, Minc and Blekinge Institute of Technology. As part of the project, the Game Startup programme was launched, offering several game startups in Blekinge and Skåne knowledge in the form of lectures, workshops and mentoring. In 2022, Gameport received funding from Region Blekinge to establish Blekinge Spelkonsulent, a project with the goal of introducing game development to children and young people in the region through various practical activities. In May 2022, the Creative Coast Festival returned after a break during the pandemic, with speakers, a conference, workshops and the annual Game Concept Challenge competition. In spring 2023, the Creative Coast Festival was organised on an even larger scale. Gameport has also revitalised the local game jam scene Jamport, which had been forced to lay low during the pandemic.

**Game Habitat** in Malmö celebrated a grand 10th anniversary in the autumn of 2023, and DevHub celebrated its fifth year as an office hotel and coworking hub for Malmö's game developers. Since 2013, Game Habitat has worked for the growth and sustainability of the regional games industry through a wide range of projects, collaborations, conferences and events, including the EU-funded Game Accelerate South Sweden (GASS) project, which

aims to establish a sustainable process and methodology for establishing more profitable and growing game companies in the region. The three-year project ended in the summer of 2023 and the work to develop an incubator-like programme for game companies in southern Sweden continues in collaboration with other actors in the regional innovation system. In autumn 2023, Game Habitat decided to put even more focus on its work for increased gender equality, diversity and inclusion. This includes working with regional game studios, universities and organisations to bring more underrepresented game developers into the labour market and into leadership positions – for example through targeted initiatives.

In spring 2023, Xbox Game Studios organised **Game Camp Sweden**, a 12-week developer programme filled with workshops and practical 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.

**BSG-Go!** is an EU-funded project run through Interreg Baltic Sea Region with the aim of developing models and methods to create strong networks and increased conditions for young game developers and entrepreneurs in the Baltic Sea region for the long-term benefit of the participants' game industries. The project, which has so far been granted EUR 3.33 million, is run by various innovation actors in Sweden, Denmark, Finland, Germany, Poland, Estonia and Lithuania. In Sweden, Invest Stockholm, Arctic Game, East Sweden Game and Game Habitat are participating, with each actor responsible for different project packages that, after completion, will be made available to the industry to solve various needs or challenges in the industry.

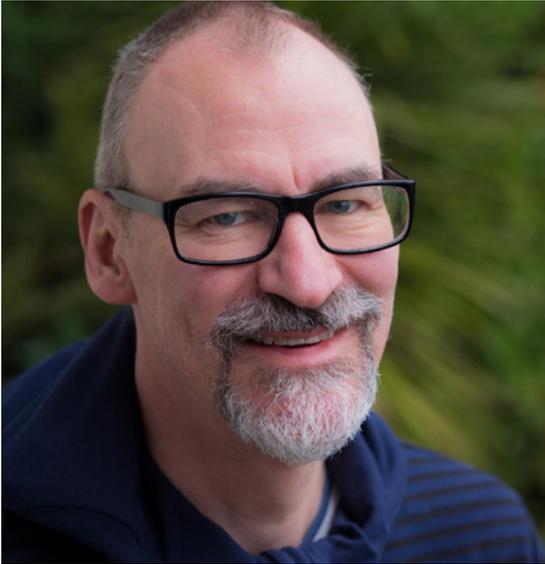


Chromatic Ink – Dice Gambit

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## THE INDUSTRY VOICE **TIM PONTING**

Chief Executive, CODE New Zealand



*“Money combined with support is much better than money, and the easiest path to sustainability is to avoid unsustainable decisions in the first place”*

### **Hi Tim, you are Chief Executive at CODE NZ – can you tell us about CODE NZ?**

The grandly named “New Zealand Centre of Digital Excellence” is an agency funded by the government to support the growth of a sustainable game development ecosystem in Aotearoa New Zealand.

### **What are some of the ways that CODE helps the national games industry grow?**

We have three main pillars: grant funding for prototyping, production and studio growth acceleration to a point where the studios can attract external investment or publishing partnerships, but our secret sauce lies in the capability work we do – supporting teams with mentorship, workshops, masterclasses and so on – and our pathways work with education, especially uplifting underrepresented groups in the industry by employing and engaging directly with the communities.

### **Can you tell us about any examples of successful use cases from your work?**

A good example would be Deep Field Games who recently announced a publishing deal for their game *Abiotic Factor*, but the thing that makes me most proud is the

work where we take teams who have been unsuccessful in the initial applications but work with them to refine and develop their skills so they get funded in later rounds. Money combined with support is much better than money, and the easiest path to sustainability is to avoid unsustainable decisions in the first place.

### **CODE also works to create opportunities for Māori and Pacifica in game development, what do these efforts look like in practice?**

Working in partnership means not going to a community with answers but questions that will draw them in to tell you what will work for them, not you. Employ indigenous people if you want to build a credible indigenous support programme. That’s what we did. It builds their trust, and your own understanding and capability.

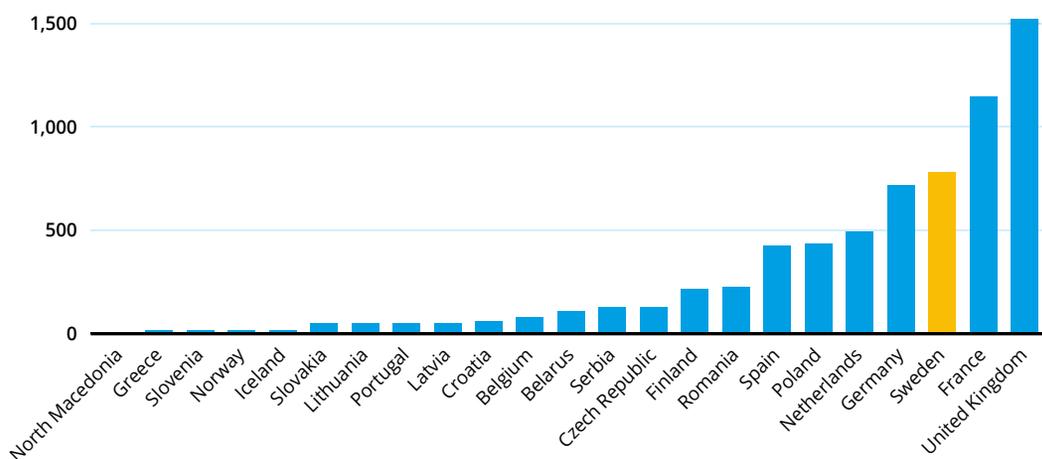
### **What can other countries who want to grow a healthy industry take away from these support systems that CODE offers?**

Don’t just give people money! Support is equally valuable. Also, remove the decision making from the grant management team and give it to external assessors so they can truly help teams without having to stay free from conflicts of interest.

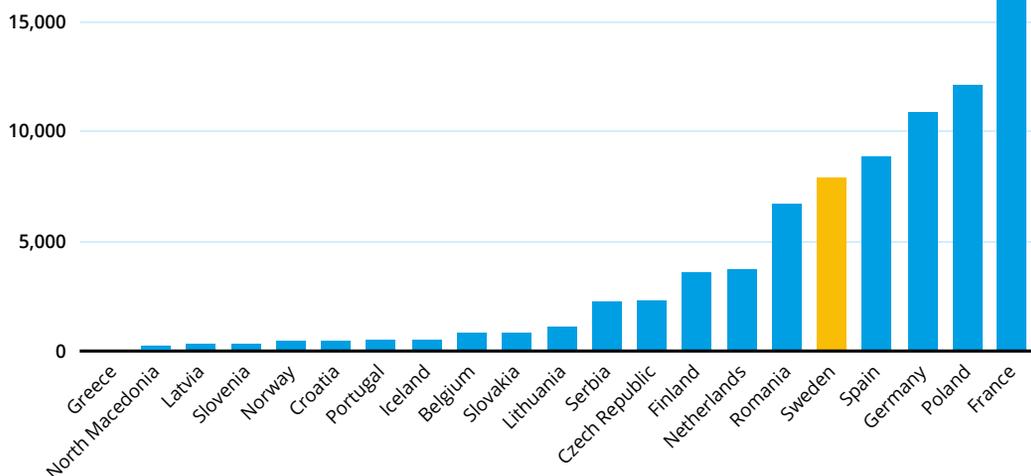
# The European Games Industry

The European Game Developers Federation (EGDF) and Video Games Europe produce the annual [\*European Video Games Industry Insight Report\*](#). The report published in 2023 is a compilation of the various countries' industry reports from 2021, with some reports based on surveys and some on data collected from official records.

## Number of Game Developer Studios

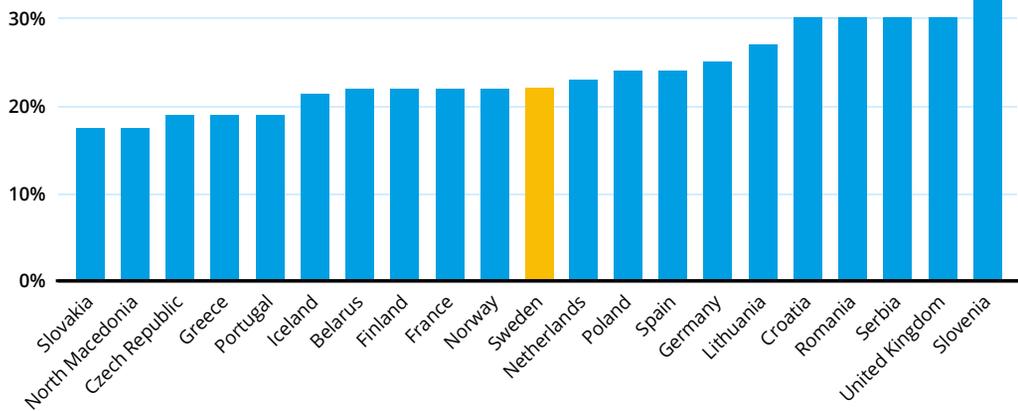


## Number of People Working in the Video Games Industry

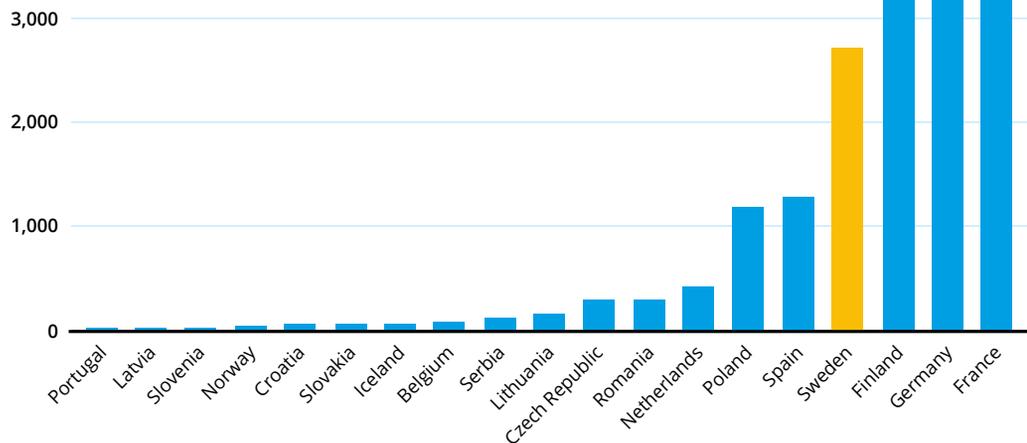




### Percentage of Women Working in the Industry



### Revenue by Country in M EUR



Data for number of employees and revenue are not available for the UK in 2021.

# No Games on a Dead Planet

**There are many industry initiatives to tackle the environmental challenges facing humanity. These include both reducing their own emissions and contributing to positive change in general.**

Within a few years, the world is likely to pass the target of keeping global warming below 1.5 degrees centigrade. This implies a high risk of threshold effects that further increase warming as well as consequences for society that cannot yet be foreseen. This is a serious situation where industry approaches and initiatives can be part of the solution.

The ongoing shift to digital distribution leaves a lower carbon footprint than physical products. However, server operations and hardware still require resources, often beyond the control of game studios. The major Swedish game companies' emission calculations show that emissions referred to as *Scope 3\** account for over 99% of the companies' emissions.

How *Scope 3* should be calculated for games is not entirely clear or simple, but some initiatives to clarify exist. The Finnish industry organisation Neogames has developed a calculation model to measure emissions in game development companies, and in France a major project is underway to develop an environmental impact calculator adapted for game studios. Here in Sweden, the Swedish Energy Agency granted funding in 2023 to the *GameOn* project, a collaboration between KTH and Uppsala University to investigate environmentally sustainable development paths for video games.





## EXPERT VOICE BJÖRN HEDIN

PhD at the Royal Institute of Technology KTH

*“An interesting possibility is cloud gaming, where all the heavy computing and graphics is done on a central server”*

### Hi Björn, you are a PhD at KTH and research sustainability and energy, how is the planet doing?

One might say not so good. The use of energy and natural resources is at a clearly higher level than what is sustainable in the long run.

### You are also working on the GameOn project, which received funding from the Swedish Energy Agency last spring, can you tell us a little about the project?

We will look at different aspects of video games from an energy and climate perspective. Through this, we hope to gain a better understanding of the different practices that exist for playing, and to be able to develop models of the energy and climate footprint for different forms of playing and related activities such as E-sports.

### What are the main climate challenges and opportunities in the game industry?

Greenhouse gas emissions, energy and material consumption for computers, networks and servers is a major challenge. One interesting possibility is cloud gaming, where all heavy computing and graphics are done on a central server and the player only needs a thin client. This leads to less need to change hardware, and server halls can be located in places with good access to fossil-free energy.

### What do you think the game industry could do more for the climate?

Get more people to play! Although games have their own sustainability challenges, video games are often much less climate-impacting than many other leisure activities.

### \*Greenhouse Gas Protocol

*The Greenhouse Gas Protocol (GHG Protocol) is an international public and private sector standard used to measure and report greenhouse gas emissions. Emissions are divided into three 'scopes'; see below.*

#### Scope 1

*Direct emissions from own operations, for example from a company car.*

#### Scope 2

*Indirect emissions from purchased electricity, heating and cooling, such as energy consumption of computers and appliances in the office.*

#### Scope 3

*All other indirect emissions in a company's value chain that the company does not own itself. This applies both upstream, such as purchased computers, office supplies or employee travel, and downstream, such as energy consumption for servers and when games are downloaded and played. In the game industry, this scope is estimated to account for over 99% of emissions.*



## High Ambitions Among Swedish Game Companies

Several Swedish companies have taken concrete steps to collect data, set targets and reduce their emissions in 2022. For example, Embracer Group reports in its sustainability report that it has set group-wide sustainability targets, including reducing its *Scope 1* and *2* emissions by 45%. The operational groups will develop their own customised targets for their work during 2023-2024. To ensure that the emission reduction targets are in line with the Paris Agreement, Embracer Group has sent a commitment letter to *Science Based Targets initiative (SBTi)\**.

Stillfront reports that they are committed to setting science-based targets for reducing emissions, also with the ambition to join the SBTi. They also plan to launch projects

and partnerships to reduce emissions while playing their games. In 2022, they produced a handbook to provide their studios with strategic and practical guidance on sustainability in their daily operations.

Several companies are also developing games that inherently address sustainability challenges. Examples include Lutra Interactive's work on visualising ecosystems, Eat Create Sleep, who are developing a knowledge-enhancing game about restoring water ecosystems, and Gro Play, which is creating educational games for children with a sustainability theme. Other management games are also created on topics such as community building and resource management.



### \*Science Based Targets

*Science Based Targets initiative (SBTi)* launched in 2015 in the context of the Paris Agreement. It is a collaborative project between several major stakeholders, such as CDP, WRI, WWF, We Mean Business and the UN Global Compact. An SBT represents science-based targets that companies can set to reduce their greenhouse gas emissions. These targets are defined on the basis of research on what is

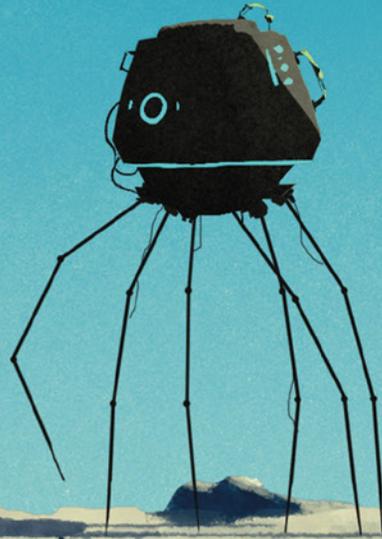
required in each industry and business to collectively achieve the world's goal of a maximum temperature increase of 1.5 degrees Celsius. In order to have their SBTs approved, companies must set targets for all of *Scope 1* and *2*. If *Scope 3* emissions account for 40% or more of total emissions, as is the case for game developers, the organisation is also required to set a *Scope 3* goal.

## Creative Game Innovations for a More Sustainable World

In the report *PowerUp Games Industry (2023)* RISE states that game creation drives development and innovation and provides added value as a catalyst for technological change and digitalisation in other industries such as manufacturing, health and education. This includes everything from visualisation and digital twins to communication and pedagogy.

Development and testing environments in VR have grown to become an important tool for many other industries where collaboration with game development companies has taken place. A concrete example is the game engine Unreal Engine, which has been used for everything from creating digital twins of mines to visualising large infrastructure projects such as the East Link. Virtual environments developed for game production have also been used in collaboration with other industries, contributing to faster technological development in the field. Life science, space technology, mining and textiles are all industries that have interacted with the game industry in various forms.

The great strength of the games industry lies in all the innovation and growth happening in the realm of intangible creation. A growing value shift from physical production to digital services can contribute to a long-term sustainable way forward for both the economy and the climate.



Wishfully - Planet of Lana

# More Initiatives for Sustainability

There are several initiatives and collaborations within the industry both internationally and nationally to address sustainability challenges. A few examples:

## Global – Playing for the Planet

*The Playing for the Planet Alliance* is a global initiative launched in 2019 during the UN Secretary-General's Climate Summit at the UN headquarters in New York. The Alliance consists of game companies, industry organisations and other industry actors who have made voluntary, ambitious, specific and time-based commitments to people and the planet. The Alliance's goal is to support companies in sharing learning and tracking progress on the environmental sustainability agenda.

[playing4theplanet.org](https://playing4theplanet.org)

## Europe – Sustainability Nexus

*Sustainability Nexus* is a European initiative 2023 by SpielFabrique, a new hybrid conference based in Cologne and across Europe, serving as a dynamic international meeting place to come together and address challenges around environmental impact, social issues, inclusion and diversity. In 2023, two of the conference's physical meeting places will be in Sweden – one in Stockholm and one in Malmö.

[spielfabrique.eu/Thunderfox/nexus](https://spielfabrique.eu/Thunderfox/nexus)

## Nordics – Play Create Green

*PlayCreateGreen* is an initiative founded in October 2020 by several major Nordic game companies together with the Swedish Game Industry. The network supports efforts to create and spread knowledge about the environment and climate in the game industry, and provides practical guidance, examples and inspiration for activities related to positive climate impact.

[playcreategreen.org](https://playcreategreen.org)

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## THE INDUSTRY VOICE **EM PRIETO**

Site Manager, Mind Detonator

*“Everyone who lives here interacts and helps each other in an absolutely fantastic way”*



Photo: David Wiksten

### **Hi Em, what is Game Village Jörn?**

We are a place for aspiring game developers. Because we are in the countryside, we can offer cheap workspaces, we become minority owners and invest in the company. Then we work together to leverage the money so they get a start with good conditions. We go in with expertise from both the game industry and support from people with broad start-up experience and support for admin. Then we have the network. Working side by side with like-minded people helps the studios to solve problems, advise each other and utilise each other's strengths. Sometimes it's expertise, sometimes it's moral support. Quite simply, we are strong together!

### **Why Jörn in particular?**

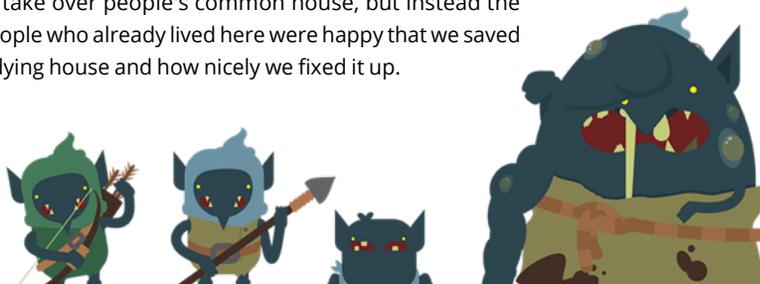
There is a kind of magic here. Jörn is a place where many more people once lived and worked, and there have been all sorts of businesses here. Nowadays Jörn is depopulated, there are lots of empty houses and premises. There are few of us and everyone who lives here collaborates and helps each other in a fantastic way. We ourselves are sitting in what used to be the people's house. I was afraid when we arrived that we would come and destroy or take over people's common house, but instead the people who already lived here were happy that we saved a dying house and how nicely we fixed it up.

### **What have been your greatest challenges?**

We are supposed to help start-ups, but we are a start-up ourselves. The first year is always a bit of a 'guinea pig' – we learn at the same time as them. On top of that, we had a tragic fire. No one was hurt, but our newly renovated and fixed premises and equipment were damaged by smoke. I had to act quickly with temporary solutions, initially offices in Skellefteå while we made a temporary solution back in Jörn until all the clean-up, insurance matters and renovation were completed. It was hard to see everything we had built up fall apart. At the same time, the cohesion among us became stronger than ever. I can proudly say that we are now back and stronger than ever.

### **What do you hope Jörn's game industry will look like in ten years?**

We hope that the studios will want to stay. Build their own company and thus help to rebuild Jörn into something new and good, almost like the old days but nerdier. The countryside offers great conditions to do almost anything. You don't have to build new. It is both cheaper and more environmentally friendly to use what we already have. This is something we enjoy and intend to continue doing.



Perfect Random – Sulfur

# Threats and Challenges

**Swedish game companies have continued to grow during the year, increasing both revenue and the number of employees, and as such have proved resilient to several external threats such as the pandemic and previous economic fluctuations. However, there are several challenges that the industry needs to address in order for growth to continue.**

## Skills Supply

In 2022, 501 people were newly employed in Sweden. This is a lower number of newcomers than in the previous year, but there remains a major shortage of skills, especially in the longer term. There are comparatively few game developers graduating from the country's education programmes, and employers are largely recruiting from other countries.

It is estimated that at least a third of the employees in the industry have moved to Sweden to work here, and in several of the larger companies it is up to half. At the same time, it is difficult for newcomers to find accommodation and obtain work permits. The processes and waiting times for work permits were made even more difficult during the year as many employees risk being banned from working if a permit is applied for, and the Swedish Migration Agency only grants six-month work permits for probationary employment.

Coordinated efforts to increase diversity and gender equality in the sector has meant that more women have been employed and the recruitment base has increased. But this work, as well as skills development for existing staff, needs to be further developed if the industry is to continue to grow.

## Financing Capital

Access to capital has been affected by the macroeconomic situation. The number of investments has fallen and if we look at the investments made in the Swedish market, as in the previous year, a clear majority are from companies that are established in the industry. The

inflow of new capital can be improved, and not least in the early stages it is still remarkably difficult to find financing. This particularly affects companies that do not have an existing strong network of contacts, and risks becoming a long-term obstacle to innovation and diversity in the industry.

In competing countries such as the USA, Canada, the UK and Finland, there are long-established financing structures, tax breaks and other forms of support to give start-ups a head start in international competition. For Swedish companies, the lack of a national equivalent means in practice a trade barrier to the outside world. There is also a need for greater business expertise in the sector, not least in small and new companies.

## Artificial Intelligence

Artificial intelligence (AI) is a broad concept, and certain types of implementations have existed in games since the beginning of the industry – from self-playing chess to reactive behaviours in game characters. The latest developments in generative AI, with the ability to generate text, images, video, music and other material based on the interpretation of data, presents the industry with both a challenge and an opportunity. One clear challenge is how the legal rights and obligations around AI-generated material and the technology behind it are handled by legislators. It is important for game developers to be able to control how created material is used. It is also necessary to clarify how copyright and trademark protection can be ensured in the future, and how reference material can



or should be used. At the same time, AI as a technology can contribute to new game experiences and increased productivity, for example by being able to expand and extrapolate new variations of existing digital material.

## Radicalisation and Online Hate

Managing unwanted player behaviour is an ongoing challenge. Methods used in the industry include blocking unwanted players, warnings, limiting communication between players and using AI to identify which players may pose a risk. Other measures include the cultivation of a good culture in the gaming community and the presence of moderators and editors. Apart from in-game communication and self-run forums, there are third-party channels where companies do not have a mandate and where the games industry faces the same challenges as any other actor in society. Radicalisation differs from online hate and bad behaviour in the intention to influence players' opinions and actions. The actors who engage in radicalisation can have different motives and ideologies, such as right-wing extremism, disinformation, misogyny or Islamism. The method is usually to contact players in game and then move to a closed forum where the radicalisation itself takes place. These forums generally also include more opportunities to share material, such as links, images and videos than in game communications. Counteracting radicalisation requires cooperation, not least internationally as games reach a global audience. The secretariat of the Swedish Games Industry works actively on the issue of radicalisation together with authorities, researchers, organisations, member companies, international industry associations and others.

## Ukraine

Several Swedish companies had hundreds of employees in Ukraine when Russia attacked the country again in early 2022. During the year, several industry initiatives

were implemented to help Ukrainian game developers. Several large companies with employees in the country donated money to aid organisations, relocated employees from both Ukraine and Russia to safer regions, or offered jobs in other countries where possible. In some cases, companies have completely divested their Russian operations.

There was a global initiative where over 700 game developers joined forces and sold their games in a bundle on Itch.io that included over 1,000 games. By March 2022, it was reported that 450,000 copies had been sold and over USD 6 million had been raised.

The European Game Developer Federation (EGDF), of which the computer games industry is a member, has been active in supporting the country's game developers both practically and through a clear message condemning the invasion.

In their annual reports, many companies have taken Russia's invasion of Ukraine into account in their risk analyses, but largely state that it does not or has not had any impact on their day-to-day operations.

## Work Environment

One long-term challenge is the work environment. The industry as a whole is constantly working to improve working conditions, but it does not always get all the way there. The game industry is not exempt from occasional poor leadership, corporate culture and problems in the workplace. At the same time, there are challenges with many young new employees, culture clashes with employees from different backgrounds in an international environment, and creative projects where many strong wills need to come together. Discouraging problematic behaviour, actively managing the workplace and detecting potential problems early are some of the measures to create attractive workplaces. After the pandemic, the industry has largely moved back to offices, but hybrid solutions and remote work are more common, bringing their own set of challenges.

# Methodology

**This report is a compilation of annual reports from the Swedish Companies Registration Office's Business Register and data from Statistics Sweden's company register, from limited companies that have game development, publishing or specialised subcontracting functions as a significant part of their operations.**

Examples of subcontractors include companies offering game-specific services in translation, motion capture, programming or music production. Companies mainly specialising in gambling games such as poker, betting or casino games are not included.

For all figures pertaining to a company's sales, the term revenue has been used to refer to the net sales of the company, i.e. the net sum generated from sales of products or services after deducting taxes, fees, discounts, returns, etc.

Financial figures have been converted in this translated version of the report, from SEK to EUR. In instances where an exact EUR sum has not been reported, a manual conversion from SEK to EUR was made based on the 2022 average exchange rate, 10.6317, as reported by the Riksbank (Swedish central bank).

As with last year's compilation, we chose to report domestic group revenue based on the parent company and Swedish subsidiaries, instead of relying solely on the consolidated accounts. Group revenue including foreign subsidiaries is reported separately in the global revenue. This gives us a better idea of how Swedish companies are doing and gives a comparable report both with other industries and the same industry in other countries.

Part of the data collection is done with the help of Statistics Sweden's data, primarily for limited companies under *NACE code 58.210 – Publishing of computer games*.

At the beginning of October 2023, there were 1,158 active companies registered under this code, but after manual review, 419 companies have been removed from the list as they had their main operations in other industries, mostly casino games or other software development. Some game companies, such as EA DICE, choose instead to use *NACE code 62.010 – Computer programming*. In total 252 manually included companies from this year's report have been registered under other NACE codes.

The main focus of the report is on limited companies. A brief overview of other forms of businesses, such as partnerships and sole proprietorships, is available in the chapter on the number of companies.

Several companies have broken financial years. For these, the latest available annual report has been used and for several larger companies, a reconciliation has been made for the number of employees in December 2022 to get as up-to-date a picture as possible of the overall industry.

Data from Statistics Sweden's company register was collected on 22 June 2023 and includes key data from 2022.

The chapter *Number of Employees and Revenue by Company Type* presents a summary of the number of companies by size category. This type of summary is typical in the EU context and is therefore based largely on the EU's definition of company size, which traditionally takes into account the number of employees and the company's



Embark –  
ARC Raiders

revenue. This year, we have elected to remove the revenue criterion from the definition and instead use only the number of employees, seeing as game studios (especially small ones) can vary enormously in terms of revenue. This is projected to have a marginal impact on the distribution of micro and small enterprises. In addition, the threshold for large companies has been increased from 200 or more employees to 250 or more employees, in line with the EU definition of a large enterprise. This makes no difference to the number of large and medium-sized enterprises but may have some impact in future reports.

Due to the fact that the boundary between business owners and employees is sometimes somewhat blurred, it can be difficult to distinguish between solo and micro enterprises with a single employee.

The methodology as a whole has several shortcomings. There may be more companies that should be included in the report but are not included because we are not aware of them. The manual selection opens up for mistakes, and there is a grey area with companies that are difficult to categorise. The strength of the method is that the data is audited and made public through the agency's publication. The manual selection allows us to ensure that all major companies are included and the industry gets a more representative data base regardless of NACE code.

For companies that have no registered revenue or employees in Statistics Sweden's company register,

annual reports have not been obtained from the Swedish Companies Registration Office. Data on the number of employees and gender distribution from the business register has been supplemented with annual reports when available.

In some cases, the annual report was submitted late in the year, a recurring pattern which, combined with the authorities' processing times, means that we do not receive all reports on time. In these cases, the annual report is reported for the most recent available year. These companies amount to 0.5% of this year's total revenue, which means a small margin of error. The largest company where this applies this year is Niburu Software AB.

More details on the selection and method of the key figures can be found in the respective chapters.

# Glossary

**AAA:** Reads "Triple A". Popular term for bigger games with large budgets and staff. Typically published by the industry's largest publishers.

**AI:** Artificial Intelligence – basic use cases include computer controlled characters using, for example, "pathfinding" algorithms. More modern AI using technology such as machine learning is a growing area in computer games.

**Alpha:** The phase in software development where key systems and features are implemented and ready for software testing.

**AR/Augmented Reality:** Direct or indirect viewing of a physical environment whose elements are enhanced (or supplemented) by computer-generated sensory input (audio, video, graphics or GPS data).

**Beta:** Takes place after alpha. At this point the product is largely complete, but may contain bugs or require polishing. In some cases the game is made available for closed or public software testing by so-called beta testers.

**Casual games:** Simpler games, typically with minimal storylines, shorter learning curves and designed to be played for short periods of time.

**Cloud gaming:** Also known as gaming on demand, is a type of online game that allows the

streaming of a game to a computer stored on the operator's or game company's server without the need for a console or advanced computer performance.

**Co-development/Co-dev:** Subcontracting production work from other game development studios, often for limited parts of a project as a complete team. See *outsourcing*.

**Core:** Term used to describe games made for a dedicated, self-identified gamer audience.

**CPM:** Cost Per Mille; cost of a thousand ad impressions.

**Crossplay:** Making it possible to play the same game together on different platforms.

**Crowdfunding:** Financing a project through crowdsourcing. In recent years, this has been popularly expressed in various web platforms that collect funding support for various projects from interested individuals or companies.

**DAU:** Daily Active Users; The number of unique users per day.

**Digital distribution:** Sales of digital software through digital channels.

**DLC:** Downloadable Content; downloadable additions to video games, oftentimes with less content than classic "expansions".

**Early Access:** games released for sale in an early development phase before official release.

**Freemium:** Collective name for business models where a product or service is offered for free but where the player can unlock additional content through micro-transactions such as buying virtual items or skip waiting times.

**Free-to-play/free2play:** Games that offer users to play the game for free in their basic version monetisation occurs through other means, such as ads or additional paid content.

**Game Jam:** Shorter events where game developers meet and create games together for a limited time, often with a specific purpose or theme.

**Gold master:** A traditional term for the final and finished version of a software, ready for wide distribution.

**Hyper casual:** Games under the casual category with an even greater focus on stripped-down interfaces to allow spontaneous game for very short moments, such as in public transport.

**IAP:** In-App Purchases, directly accessible in the app/game, rather than through external payment systems. The goods purchased can consist of additional levels,

equipment, experience points or subscription services.

**Indie:** From "independent".

A prefix that characterises games by independent developers, usually smaller games with small development teams.

**IP:** Intellectual Property, a type of intangible asset, often referring to game concepts, brands, trademarks and other assets.

**MARPPU:** Monthly Average Revenue Per Paying User.

**MARPU:** Monthly Average Revenue Per User.

**MAU:** Monthly Active Users; the number of unique users over a 30 day period.

**Middleware:** Software used to develop games. Middleware acts as a "glue" between two already existing software components.

**Micro Transactions:** A small online transaction. The term is used to describe transactions that pay, among other things, DLCs and in-app purchases.

**MMORPG:** Massively Multiplayer Online Role-Playing Game, a type of role-playing game where thousands of players exist in the same digital world, such as *World of Warcraft*.

**MR/Mixed Reality:** A type of game that combines the real-world environment with digital elements, for example (but not necessarily) using a headset with a built-in camera.

**Multiplayer:** Games that can be played by multiple people at the same time, online or on the same device.

**Outsourcing:** General term for hiring external human resources and specific skills from other companies and delegating production assignments to other companies. See *co-development*.

**Premium:** Revenue model where a digital product is purchased for a fixed price, unlike, for example, free-to-play where the game is free to acquire.

**Retail:** Games sold in physical stores.

**Roguelike/Roguelite:** Collective term for a genre of games characterised by procedurally generated levels, turn-based decisions, grid movements, and/or permanent endings if the game character dies, meaning that the game is played over from the start.

**Serious games:** Games with a primary purpose other than entertainment. It can be simulators, exercise games, games for learning, games for rehabilitation, or advertising games.

**Singleplayer:** Games played by only one person at a time.

**Social games:** Collective name for games on social networks, such as Mobage and Facebook.

**Soft Launch:** Releasing a game in limited markets to evaluate engagement.

**Streaming:** Direct playback of digital content while transmitting it over the internet.

**Studio:** Game development company or division of a game development company, for example, in a specific location.

**VFX:** Visual Effects in digital media, including particle effects, animations, motion capture and physics simulations.

**Virtual goods/items:** Term referring to digital objects that exist in games in the form of, for example, puzzle pieces, weapons, or other items.

**VR/Virtual Reality:** A way to visually immerse yourself in a game experience using some kind of headset (or "Head-mounted Display").

**XR/Extended Reality:** Collective term for all technologies that extend/change the user's perception of their surroundings, such as AR and VR.





[swedishgamesindustry.com](http://swedishgamesindustry.com)