Swedish Game Developer Index

2017-2018

DATASPELSBRANSCHEN
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Summary

The Game Developer Index analyses Swedish game developers' operations and international sector trends over a year period by compiling the companies' annual accounts. Swedish game development is an export business active in a highly globalized market. In a few decades, the video game business has grown from a hobby for enthusiasts to a global industry with cultural and economic significance. The 2017 Game Developer Index summarizes the Swedish companies' last reported business year (2016). The report in brief:

- Revenue increased to EUR 1.33 billion during 2016, doubling in the space of three years
- Most companies are profitable and the sector reports total profits for the eighth year in a row
- Jobs increased by 16 per cent, over 550 full time positions, to 4291 employees
- Compound annual growth rate since 2006 is 35 per cent
- Small and medium sized companies are behind 25 per cent of the earnings and half of the number of employees
- More than 70 new companies result in 282 active companies in total, an increase by 19 per cent
- Almost 10 per cent of the companies are working with VR in some capacity

Game development is a growth industry with over half of the companies established post 2010. The games are launched directly onto an international market, which also creates a global labour market. Factors pointing towards increased growth include: more focus on regional clusters (with incubators, accelerators and education programmes), more serial entrepreneurs starting game companies and the fact that we have not yet seen the full effects of the many big investments and acquisitions over the past few years.

Swedish game developers are characterized by their range and quality. Sweden has world-leading developers within AAA, PC, mobile games, VR, digital distribution and specialized subcontractors. The biggest challenges of the sector are indirect. They are access to skills as well as laws and regulations around digital markets. Many of which are currently out of kilter with reality.

Preface

More Players Create Continued Growth for Swedish Games

The sensational growth of the last few years has created an unusual situation for Swedish game developers, one where the rest of the world expects perennial record-breaking progression. Few businesses, if any, have such growth or expectations. But reporting the 2016 accounts of Swedish game companies, we are pleased to present another record year. Growth was seven per cent, a number that in most other circumstances would be seen a great result, but for games it is rather modest in comparison with preceding years. Though a sales record was set, what constitutes modest growth for video games would elsewhere be viewed as a cause for celebration.

What lies behind the numbers? Simply put: there are many large companies that influence the key figures. Mojang with *Minecraft* accounts for a large part of the result. King and *Candy Crush Saga* generate a fifth of the overall revenues. But beyond these, there are a substantial number of profitable and growing companies that are active in many different verticals: PC Games, mobile games, consoles, VR, technology, services etc. The strength of the Swedish video game boom is its remarkable range.

The global market carries on growing, whilst the Swedish industry continues to grow even faster. Swedish games stand for a significant part of the of the overall global sales. For instance, The Guardian recently named the eleven best games at Gamescom 2017 (the world's biggest gaming trade fair) - four of these were developed in Sweden.

Video games are now entertainment for everyone. Thanks to the growing number of genres, styles, hardware, delivery methods and more, there is an abundance to choose from - even for those who may not consider themselves gamers. Worldwide there are more players of all ages. This means that the days when game developers created games for players who were like themselves, with the same frames of reference and same relationship with gaming, are long gone. Today, game developers make games for players from all kinds of backgrounds, with all kinds of personal tastes and preferences and in all kinds of cultural contexts. There is a fundamental difference between developing a game intended for someone like yourself and for someone who is completely different.

This is one of the reasons why the game developers themselves are changing. Most reflective is the sizable increase in the number of women active in game companies. In 2016, the number increased by over 20% compared to the previous year. The number of women employed is increasing 50% faster than it is for men, relatively speaking. The increase starts from a low base and there is still a lot of work to do before we reach a gender distribution anywhere near equal. However, it is part of a bigger cultural change of what video games are and can be. Variety and equality is thus a question of competitiveness in a growing, global games market.

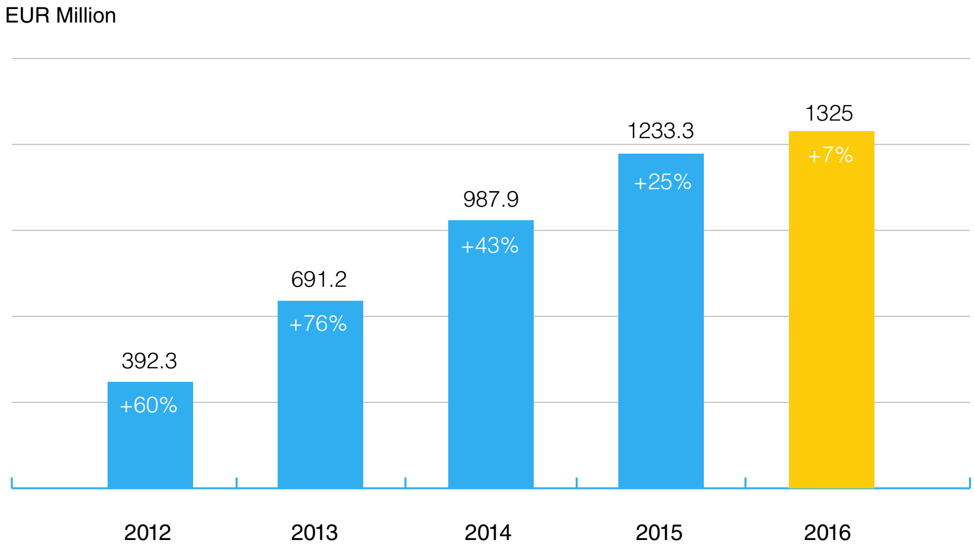
If the tendency towards growing numbers of new gamers is driven by accessibility and simplicity, then there are other trends that emphasize depth and skill, namely virtual reality and esports. Esports is a competitive gaming discipline requiring lots of practice. Since 2016, an esports qualification is offered at Sweden's Strömbäck's community college (no relation). Virtual Reality is something of a strength in Sweden and there have been several high-profile foreign investments in Swedish companies. Nearly 10 per cent of the companies in the report are developing VR games in one way or another.

Lastly, a raft of promising developments in the last few years has led to further stock market activity. Several companies have made public offerings (IPOs). Many of these have buoyant share prices; outpacing the stock market and faring better than incumbent video game businesses listed in other parts of the world. This means small investors can share in the progress. Several established financial institutions and funds have also started to increase their holdings in video game companies. In other words, the companies' access to funding and capital is moving in the right direction.

The only thing that can seemingly threaten continued growth and new records is the availability of skills and competency and the companies' ability to create new games.

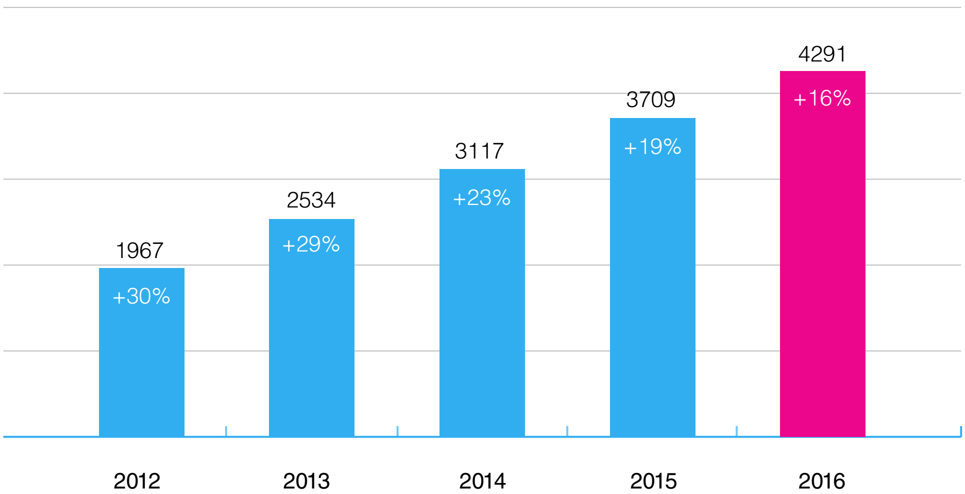
Per Strömbäck
Spokesperson, Swedish Games Industry

Revenue


EUR Million
392.3
+60%
691.2
+76%
987.9
+43%
1233.3
+25%
1325
+7%
2012
2013
2014
2015
2016

Employees

Number of Employees



Revenue & Profit

As the leading contemporary cultural expression, Swedish game development is becoming a world-renowned export

With growth of seven per cent to EUR 1.32 billion, 2016 was yet another strong year for Swedish games. Against global competition, they have successfully gained market share, attracted skills and competence and not least created gaming experiences for several hundred million users the world over. With almost 80 new companies and 558 new employees, the sector is witnessing its biggest ever number of newly established companies. In a world where Swedish games reach every tenth person* on the planet (based on sales and download figures for games developed in Sweden), Swedish game makers have effectively nurtured and refined their relationship with the users. With total profits of over EUR 800 million, the industry has now been profitable for the last eight years. As the leading contemporary cultural expression, Swedish game development is becoming a world-renowned cultural export. The industry's compound annual growth rate since 2006 is 35 per cent.

Although the production pattern for AAA development is less dominant today, game development is still a cyclical business in many aspects. Regardless of the industry's transition from products to services, several companies secretly work on a game for several years and then launch it on the market. Some years there a lot of published games, other years there are fewer. If Sweden had a smaller number of developers this tendency would have shown in the numbers. As it is, it is hardly noticeable, since we have sufficient studios with a variety of productions underway and the release window is always open. Here is a small selection of the companies' activities in 2016:

As usual, Mojang is behind a large share of the revenues (approximately 30 per cent). With last year's 18-month revenues of EUR 452 million revised to the 2015 calendar figures of EUR 389 million, the company's revenues increased to EUR 401 million in 2016. The *Minecraft* developer has continued working on the server solution Realms, as well as various brand tie-ins with companies such as Lego, Jinx, Mattel and Egmont. The United Nations project UN Habitat is also in full swing.

King increased its stance as one of the world's leading mobile game developers, with two of the ten most profitable games in the American app stores top charts for the fifteenth consecutive quarter. Since Activision Blizzard completed its acquisition of the company in February 2016, it is worth noting that the financial statements quoted in this report follow the reporting principles of international groups and can therefore not be directly compared to the statements of previous years. King has 314 million monthly active users (MAU) with a continuously growing engagement rate.

DICE grew 28 per cent with 80 new employees. The studio released the blockbuster game *Star Wars Battlefront* and *Mirror's Edge: Catalyst* in 2016. Likewise, there were additions to the DICE family in

The Hunter: Call of the Wild, Avalanche Studios

Sweden. The sister company Ghost Games were already developing racing games in Gothenburg and now they have been joined by the Uppsala company Uprise, which develops support functions to games belonging to the EA group. By the third quarter in 2016, Star Wars Battlefront had sold over 13 million copies.

Avalanche Studios released two AAA games in the past year, including a cooperation with international giants Square Enix and Warner Bros. respectively. They also initiated an expansion for *Just Cause 3* and an new version of the hunting simulator *The Hunter*.

Malmö-based developer Massive Entertainment greatly consolidated their position as the biggest game developer in southern Scandinavia, by acquiring real estate property 'Eden' in central Malmö. The investment was a clear sign that the owner Ubisoft has a lot of confidence in the company. The relocation will take place in 2019. The company's first in-house game since 2007, *The Division*, has performed well and helped the firm grow by 49 per cent. There are also plans to take the game to the silver screen.

Paradox Interactive had a very busy year, with an IPO and several marque game releases – including titles from other developers. Each month, over one and a half million people played one of the company's games. The space explorer game *Stellaris* sold 200,000 copies on the day of release and the flagship title *Europa Universalis IV* has sold more than a million copies to date. Paradox is listed as the number one medium-sized company on the rating site Metacritic. It is behind no less than five of the top hundred selling games on the distribution platform Steam. Two of their original titles, downloadable material and the successful publishing of other developers' titles contributed to the strongest year ever for the company. The IPO has given Paradox better access to the capital markets and the opportunity to use the shares as a purchase instrument. Paradox traded at 54 per cent above the listed price before the end of the year.

Stock-traded Starbreeze reports excellent growth to over EUR 53 million. The company has also announced it is to collaborate with Korean Smilegate to develop a western version of *Crossfire* – one of the most popular PC games in the world. In 2016, Starbreeze bought the rights to the *Payday* series, acquired Orange Grove Media, Indian Dhruva Interactive, a French VR company and the Belgian VFX studio Nozon. It commenced collaborations with Lionsgate and Tobii, and organized PaydayCon - a trade fair for the *Payday* series. As a publisher, Starbreeze has launched the horror game *Dead by Daylight*, which proved an enormous success and contributed a third of the company's earnings in 2016.

In August 2016, Nordic Games changed name to THQ Nordic. With

Key Figures

2012-2016	2012	2013	2014	2015	2016
n.o Companies	145 (+24%)	170 (+17%)	213 (25+%)	236 (+11%)	282 (+19%)
Revenue EUR M*	392.3 (+60%)	691.2 (+76%)	987.9 (+43%)	1233.3 (+25%)	1325 (+7%)
Underlying Growth EUR M**	120.2 (+23%)	165.8 (+38%)	221.4 (+34%)	324.6 (+47%)	419.9 (+29%)
Profit EUR M	35.7 (+164%)	262.2 (+635%)	354.6 (35+%)	520.7 (+47%)	871.6 (+67%)
Employees	1967 (+30%)	2534 (+29%)	3117 (+23%)	3709 (+19%)	4291 (+16%)
Men	1674 (85%)	2128 (84%)	2601 (83%)	3060 (82%)	3491 (81%)
Women	293 (15%)	405 (16%)	516 (17%)	651 (18%)	800 (19%)

2007-2011	2007	2008	2009	2010	2011
n.o Companies	91 (+34%)	104 (+14%)	101 (-3%)	106 (+5%)	117 (+10%)
Revenue EUR M*	101 (+49%)	122 (+21%)	102 (-17%)	124.7 (+22%)	244.7 (+96%)
Underlying Growth EUR M**	41.4 (+36%)	43.7 (+6%)	38.8 (-11%)	49.9 (+29%)	98 (+96%)
Profit EUR M	-1.6 (+33%)	-19.9 (-1121%)	3.9 (+120%)	1.58 (-59%)	13.5 (+747%)
Employees	1153 (+42%)	1353 (+17%)	1102 (-19%)	1203 (+9%)	1512 (+26%)
Men	1034 (90%)	1217 (90%)	993 (90%)	1082 (90%)	1300 (86%)
Women	119 (10%)	135 (10%)	109 (10%)	121 (10%)	212 (14%)

*See page 39 for notes on currency conversion.

**Underlying growth is found by removing the five biggest companies for each individual year. The compound annual growth rate for the industry's underlying growth is 30 per cent.

offices in Karlstad and Vienna, the company controlled four development studios at the end of the year; two in Sweden, one in Germany and one in the United States. In November, the company were successfully listed on the stock market. Notably, THQ has continued success with physical distribution, which corresponds to 51 per cent of the group earnings. THQ Nordic grew by 42 per cent during the 12-month period.

2016 was a crucial year for Sunlock Studios with the launch of the arena game *Battlerite* as a so-called ‘early access’ release in September. The game exceeded expectations both critically and sales-wise. The income from the advance release has secured further development of the game to a full launch at the end of 2017. The company increased its revenues by some 800 per cent to nearly EUR 6 million.

With several successful ventures on board, Arrowhead grew by 23 per cent. The company was working on secret projects in 2016 and preparing for a move to new Stockholm offices.

With development offices in both Stockholm and the United Kingdom, the mobile games designer MAG Interactive grew by over 50 per cent to EUR 30 million. In addition to *Ruzzle Adventure*, the company has developed a follow-up to the word game *Wordbrain*.

A Sweet Studio has grown and recruited several people for several projects. The company more than doubled its revenues to EUR 644 000.

Hello There in Gothenburg have worked on their own mobile games, but also on VR projects and console games. They previously collaborated with brands such as *Kung Fury* and the artist Avicii. Gothenburg is also home to MindArk who have branched out to the mobile games market, launching *ComPet*, in addition to their online game *Entropia Universe*. Additionally, MindArk grew by 34 per cent to EUR 5.8 million.

Rovio in Stockholm has created a sensational long-tail success with *Angry Birds 2*. From initial strong download figures to an ongoing success with a stream of new material released and new game modes introduced. The game has developed from a strictly casual game to one with more core elements, requiring more dedication. *Angry Birds 2* is a good example of the increasing lifecycle of mobile games.

Robtop Games, the developers behind *Geometry Dash*, is among the successful small stand-out companies. Another company with a stellar repertoire is Axolot Games, behind Steam and YouTube favourite *Scrap Mechanic*. Mobile games developer Apprope has had a colossal triumph with games such as *WordBubbles* and *WordWhizzle Search*. The games have been topping the American charts with over 55 million downloads. The company more than doubled its revenues to close to EUR 9.5 million.

Palringo, previously Free Lunch Design, shut-down in 2016. Many of the key team members – among them the founder Magnus Alm – moved on to create the mobile game studio Lavapotion, also based in Gothenburg.

The Josef Fares led game studio Hazelight tripled their revenues to EUR 2.53 million. This was a clear indication that the work on the company’s then unannounced project had come a long way, partly with support from the EA Originals programme for smaller developers, led by Swedish executive Patrick Söderlund.

Growth is driven by direct income from real consumers in a growing global market

To signal that the company now works with a broader product portfolio beyond the web game *Stardoll*, they changed name to Glorious Games Group in 2016. Glorious Games increasingly focus on mobile games and the title Stylista started to generate income in September. The decreased popularity of browser games has negatively affected Stardoll.com, but the company sees a bright future in the growth area of mobile games.

Star Stable Entertainment's revenues increased by almost 50 per cent and growth continues in 2017. With 56 per cent female staff, the company has a near unique position in the industry.

Gothenburg-based Image & Form's robotic escapades in *SteamWorld Heist* were very well received by both critics and players on every platform that the game entered. The company also launched its first physical game release – *Dig Collection* for Wii U and PS4. It also released the DLC-package *The Outsider* for SteamWorld Heist, one of the highest ranked games at MetaCritic for PS Vita and 3DS. The company's revenue grew by over 100 per cent. Gothenburg neighbours Zoink doubled their number of employees to 18 staff members and worked on the game *Fe* in collaboration with EA.

The Swedish games industry is represented from north to south and among the northernmost companies is Umeå-based Zordix. In addition to motor sports games for consoles and PC, the company also works on developing interactive safety education for the mining industry.

Notwithstanding several large and successful companies, the Swedish video game boom is built on reciprocity where all companies and individuals are valuable. Looking at the history of Swedish game development, the success has been sown with a red thread between start-ups, indie developers, small, medium and large companies. Swedish game developers make games of all genres and for all platforms. There is a robust synergy that creates the right conditions for small developers to grow. A connection between incubators, education, a do-it-yourself attitude and global goals. In Sweden, some of the world's largest developers and some of the foremost indie developers can be found, and a growing number of companies in between.

Growth is driven by direct income from real consumers in a growing global market, not speculation on future profits. On the contrary, the level of venture capital is low relative to the companies' performance. Games are adaptable to modern technology and new platforms and not even times of recession or financial crises has had any major effect on growth. Projections in the gaming sector are realistic, often underestimated.

ON LAST YEAR'S NUMBERS

Due to an extended fiscal year, primarily for Mojang but also Starbreeze (18 months), the 2015 financial statement made a bigger impression on last year's report than what the real revenues represented. For this reason, revenues of EUR 1.3 billion has been adjusted down to EUR 1.23 billion, to reflect the companies' calendar year. Mojang's revenues for the calendar year 2015 were EUR 389 millon. A similar adjustment has also been made to Mojang's revenues in 2014, where revenues were revised to EUR 272 million.


Immortal: Unchained, Toadman Interactive


SteamWorld Dig 2, Image & Form

Number of Companies

Like the growing number of employees, the number of newly established companies proves that the industry continues to expand. We have never had as many start-ups than now. This is largely thanks to successful incubators whose concepts have spread to other parts of the country, but also due to a growing number of industry veterans starting up their own studios after long careers with the best game developers in Sweden. Another contributing factor is the founding of numerous VR operations. A VR experience is not necessarily a game but the companies included in the report are deemed to have enough interactive elements in their products to be such. New VR studios this year include Neat Corporation, Logtown Studios, Svrvive, Fast Travel Games and Enterspace.

Some 20 companies have left the industry. Many are in a process of slow dissolution or a change of direction. Companies that have been liquidated have decreased their operations over time and many are still dormant. Other companies not included in this year's report are typically app developers or diverse types of media agencies that tend to increase or decrease their involvement in game-related activities ad hoc. Ustwo is an example of this type of company, developing popular games such as *Monument Valley* despite it not being its core business. One of the more well-known companies to go bankrupt was Goo Technologies.

There is also a significant and growing number of trading companies and sole proprietorships developing games. In 2016, there were 121 of these. They are important for the industry but for accounting reasons cannot be included in this report. One example is Elden Pixels which released the critically acclaimed *Alwa's Awakening*.

Employees

The number of employees increased by 15 per cent, or 558 full time positions. The number of jobs is in many ways as important a parameter as increased earnings and the industry's steadfast expansion is highly evident here. Newly established companies have created more than 50 new jobs. The number of employees is calculated using the average number of full-time employees in the companies' annual accounts. However, many game development workers are not counted. Many act as freelance consultants to game companies and are not listed as employees. Taking these undisclosed numbers into account the real figure is likely to be 5-15 per cent higher. This gives an estimated 5,000 currently involved in the Swedish games industry.

Another 400-500 new employees are estimated to be entering the industry in both 2017 and 2018.

Biomutant, Experiment 101 (published by THQ Nordic)

Gender Distribution

The number of women working in the industry increased by 23 per cent, compared with 14 per cent for men. The total share increased to roughly 19 per cent.

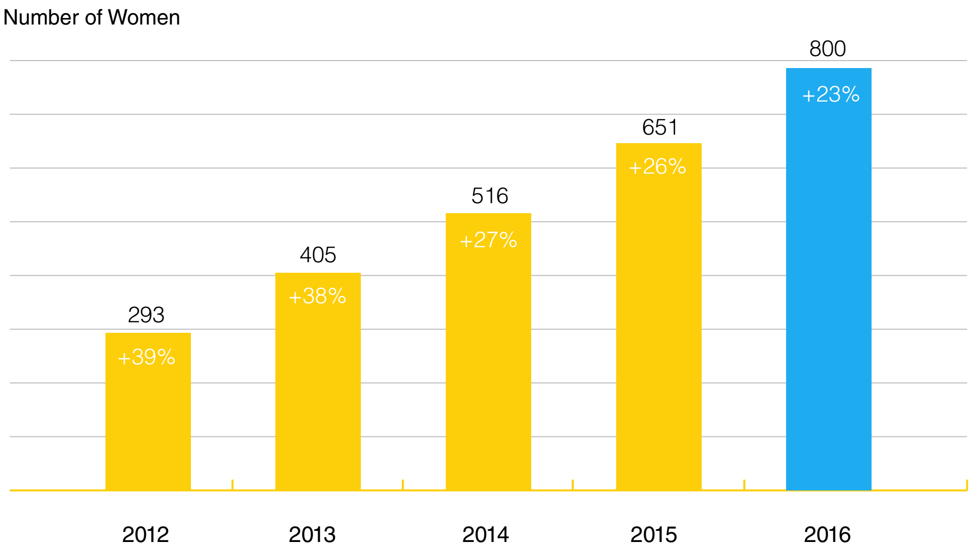
Factors hindering a greater increase can be traced to the industry's general skills shortage and the fact that many companies recruit internationally to fill vacancies. Even fewer women in the global industry makes an equal recruitment base more of a challenge and long processing times for work permits also deter and hamper recruitment from overseas.

In addition to efforts to attract more women to game development and game companies, the drive for equal opportunities is just as important in the game industry as in the rest of society. It is essential in order to secure the best skills and to widen the target groups of the games. Women in game development work mainly in medium-sized and large companies. A challenge is to have smaller studios and start-ups include women from the outset, and have more women establish companies. Today, the bigger mobile game companies employ the highest number of women. A challenge and an opportunity in attracting more women to the industry is that many tend to have cross-industry roles to a higher degree than their male colleagues.

Still, it is a rapidly developing industry; the number of women working in the industry today is higher than the number of men that worked in the industry ten years ago.

ABOUT DIVERSI

Diversi was created in 2013 as an initiative to highlight and strengthen the diversity in Swedish game development. The goal is to make more people feel at home in gaming, in communities, education and companies. Games are not just for the few, they are an important part of society – creatively, socially, pedagogically and economically. Equality is important to allow the industry to grow and to further develop. More information about the initiative can be found at diversi.nu. Swedish Games Industry supports many other initiatives to do with diversity, equality and inclusiveness; several have gained international attention.


Number of Women
800
+23%
651
+26%
516
+27%
405
+38%
293
+39%
2012
2013
2014
2015
2016

Employees & Revenue per Company

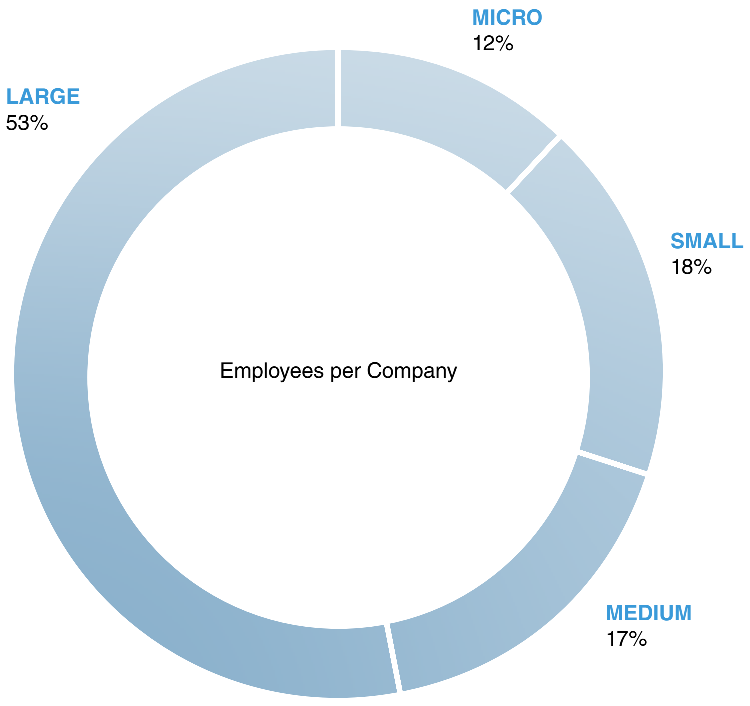
This compilation is made according to the EU definitions of small and medium-sized companies.

Micro: Fewer than 10 employees or maximum revenues of EUR 2 million

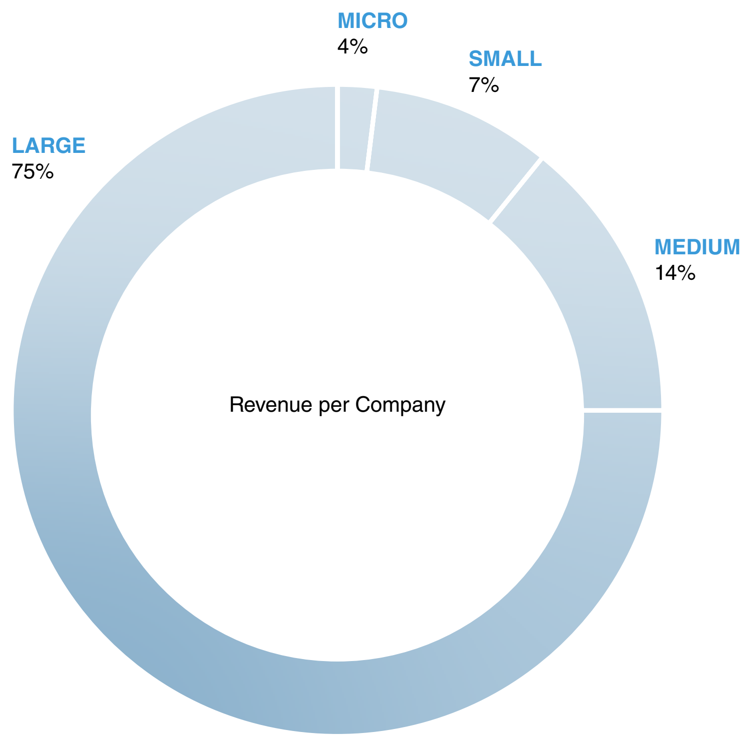
Small: Between 10 and 49 employees and revenues not exceeding EUR 10 million

Medium Between 50 and 249 employees and revenues not exceeding EUR 50 million

Large: Companies that have greater revenues or number of employees than a medium-sized company



To qualify as a certain type of company it is sufficient to fulfil just one of the criteria. Mojang, for example, is defined as a large company because of its revenues, even if the number of employees matches that of a small company. Ubisoft Massive does not quite reach the revenues of a large company, but counts as one because of the high number of staff. Since 2015, Starbreeze has qualified as a large company and Starstable Entertainment, Stillfront and Robtop Games as medium-sized. A widespread entrepreneurship also contributes many micro companies, with initially small earnings, that are vital for the industry in the long term. See page 24-25 for a geographical distribution of the companies.



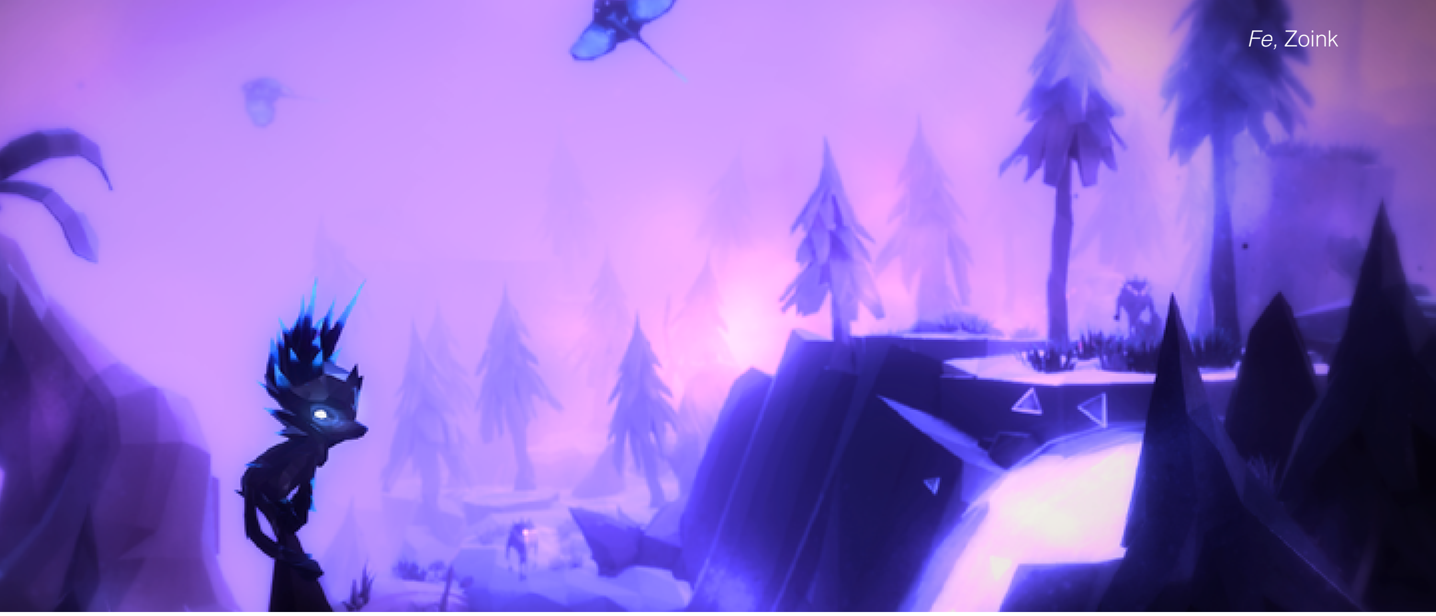

A Way Out, Hazelight

Biggest Companies

This year's list includes ten companies in each category for the first time. It is obvious that the industry is not just driven by the larger companies as more than 60 companies report revenues exceeding EUR 1 million. Discounting the five largest companies, the industry grew by 29 per cent.

COMPANY	Revenue M EUR
1. Mojang	401
2. King	255.5
3. DICE	124.3
4. Paradox Interactive	69
5. Starbreeze	55.2
6. G5 Entertainment	54.6
7. THQ Nordic	36.6
8. Massive Entertainment	35.4
9. MAG Interactive	29.9
10. Avalanche Studios	26.2

COMPANY	Employees
1. DICE	640
2. King	584
3. Massive Entertainment	377
4. G5 Entertainment	284
5. Avalanche Studios	216
6. Paradox Interactive	194
7. Starbreeze	151
8. MachineGames	100
9. Stillfront	96
10. THQ Nordic	68



Fe, Zoink

Star Wars Battlefront 2, DICE

GoNNER, Art in Heart (published by Raw Fury)

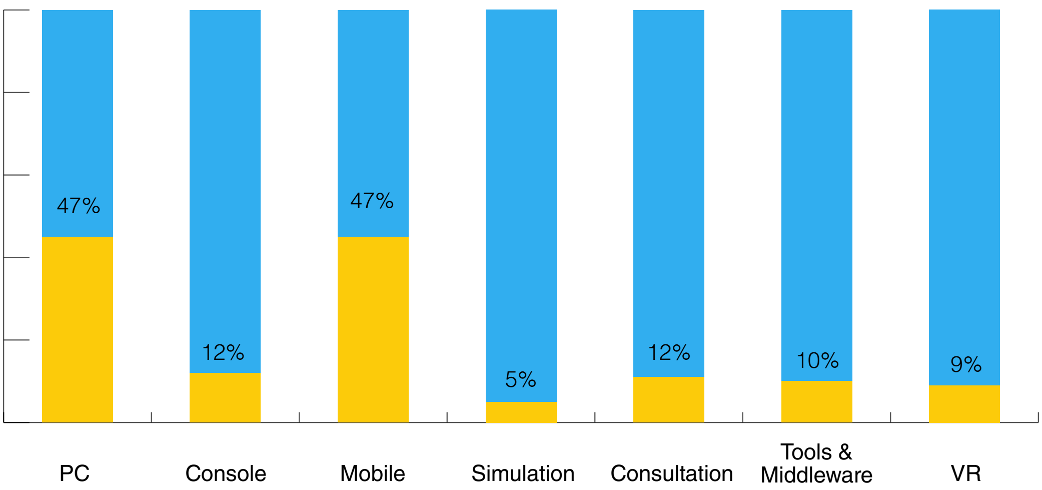
Platforms

One of many features of Swedish game development is its wide range. It might seem obvious to focus on the biggest formats (PC, console, mobile), but few countries have companies winning in all segments. Sweden is world-leading on all commercial platforms, and it looks good for the future promise of VR. A number of Swedish developers have adopted the VR platform and secured investments along the way.

Whilst range is one of the cornerstones of the Swedish video game boom, the industry is not as dependent on hardware platforms as it once was. The launch of new game consoles in 2013-2014 had a relatively minor impact on Swedish game developers. Each one simply became another digital store window for an audience with money to spend. Many games can be efficiently converted between different formats and it is mostly AAA games that have been dependent on a strong console market. The question is where the upcoming audiences are found today, and the answer is usually more than one.

The diagram below gives an overview of the types of platforms developers are working with. A developer can appear in two or more categories if they have focussed on several formats. Information about the platforms the companies work on has been collected principally from home pages and annual reports. The share of companies that work as consultants is likely to be much higher than the 12 per cent stated here.

Share of Companies



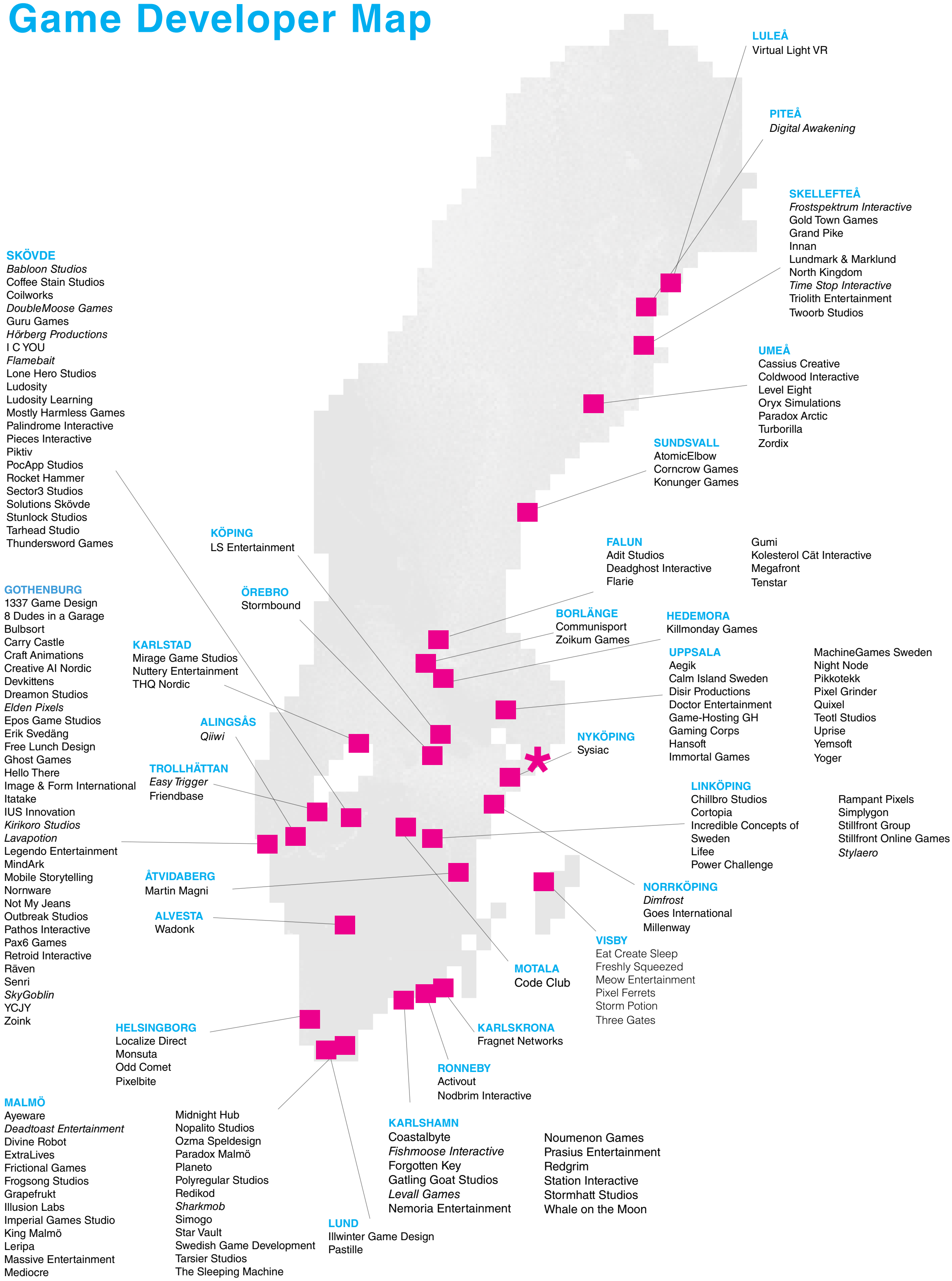
Actual Consumer Sales Value

When it comes to Swedish game developers, there are primarily two kinds of large companies. One type is DICE (EA) and Massive (Ubisoft). Their games have high retail revenues, but belong to a value chain with several middlemen (retailers, wholesalers, distributors) and, moreover, are part of international groups with parent companies located abroad. The games from these developers earn much larger sums than those appearing in the annual accounts that form the basis of this study.

The other type is represented by Paradox Interactive and Starbreeze, who report most of their sales in the Swedish companies. One of the biggest challenges in illustrating the enormous success of Swedish game companies is showing the actual income from a company's sales. In some cases, most of a company's activities is included in the Swedish annual accounts. Mojang is a good example of that. However, it is more difficult to distinguish revenues for games such as *Star Wars Battlefront* or those *The Division* create just by looking at the game developer's annual report, because income is apportioned among the operators in the supply chain, and is to some extent accounted for in the foreign parent company. If we loosely calculate the proceeds at the consumer stage for a theoretical example (presupposing that 10 million people bought the game, without including other income such as DLC) that would be ten times an average price of EUR 50 or roughly EUR 500 million total.


Star Stable, Star Stable Entertainment

Game Developer Map



REGION	Employees	% of Total	Companies	% of Total
Stockholm	2596	72	123	44
Malmö	551	15	22	8
Gothenburg	287	8	29	10
Uppsala	233	6	16	6
Skövde	131	4	19	7

Above is a table of the biggest regions ranked by number of employees and number of companies. The table follows the sum of the percentages and does not consider the revenues of the companies. Stockholm consists of Greater Stockholm and neighbouring regions. Although most of the employees are based in the capital, there are significantly more companies outside the city. Some Stockholm companies like King, Paradox Interactive and DICE have offices in several parts of the country.

Companies in italics are not limited or have not yet published their first accounts and are therefore not officially included in the calculations of the report.

***STOCKHOLM**

2Play Studios
Advrty
A Small Game
A Sweet Studio
Ace Maddox
Apprope
Aptitide
Arcticmill
Arrowhead Game Studios
Avalanche Studios
Axolot Games
Bambino Games
Beadhead Games
Bitzum
Blackfox Studios
Black Studios
Blackbeard
Bodbacka:Boom
BoldArc
Brain Harbour
Bridgeside
Bublar
Casual Games FK
Claimony
Clifftop Games
Codarica
Collecting Smiles
Commited Gaming Thule
Crackshell
Daikon Media
Deadbreed
Defold
DICE
Diffident Games
DorDor
Ekvall Games
Elias Software
Enterspace
Expansive Worlds
Experiment 101
Fablebit
Fall Damage
Fast Travel Games
Fatshark
FEO Media
Filimundus
Foxglove Studios
Frojo Apps
Frosty Elk
Fula fisken
Funrock Development
G5 Entertainment
Gleechi
Glorious Games
Gone North Games
Good Learning
Good Night Brave Warrior
Grindstone Interactive
Gro Play Digital
Happi Studios
Happy Graveyard Productions
Happy L-Lord
Hatrabbit
Hazelight Studios
iGotcha
Imagination Studios
IMGNRY International
Interactive Productline
Isbit Games
Jajdo
Kaludoscope
KEP Games
King
KJ Interactive
LandFall Games
LeadTurn Gaming
Light & Dark Arts
Like a Boss Games
Lionbite
Liquid Media
Logtown Studios
MAG Interactive
Midjiwan
Might and Delight
Mimerse
Mojang
Mojang Synergies
Morgondag
Mutate
Neat Corporation
Nekomata Games
Neuston
Nialbe
Nuday Games
Oxeye Game Studio
P Studios
Paradox Interactive
Peppy Pals
Photon Forge
Pixel Tales
Pixeldiet Entertainment
Polarbit
Poppermost Productions
Quel Solaar
Quizye
Raketspel
Raw Fury
Really Interactive
Resolution Games
Right Nice Games
Rigid-Soft Studios
Robtop Games
Rovio Sweden
SimWay
Skeleton Crew
Snowprint Studios
Spelagon
Spelkraft Sthlm
Spelkultur i Sverige
Star Stable Entertainment
Starbreeze
Stockholm App Lab
Strange Quest
Stringent Ljud
Svantech Studios
Svrvive
Talawa Games
Tealbit
Team Psykskallar
That Brain
The Outsiders
Tiger & Kiwi
Toadman Interactive
Toca Boca
Tomorroworld
TwifySoft
Unity Technologies Sweden
Whirlybird
Villa Gorilla
Vinternatt Studio
Visiontrick media
VisualDreams
Warpzone Studios

Globally

The global game industry is growing steadily. There are now over 2.2 billion players worldwide with consumer spending growing by 7.8 per cent to USD 108 billion in 2017 (source: Newzoo). That equals a 56 per cent growth figure in the last five years. With a strong predominance of digital distribution in some of the bigger regions, its share is now 87 per cent of the market. The mobile segment is growing the most and represents 42 per cent of the total market. The largest single market is China, with a quarter of the world's games consumption, while East Asia boasts nearly half.

Growth is supported by several emerging markets; mainly China but also Eastern Europe, South America and the Middle East. More smartphone users sees more people discover games, and new consoles from Nintendo, Microsoft and Sony nurture this ever-popular core segment. Analysts DFC Intelligence arrive at a similar conclusion, forecasting sales of USD 102 billion, based on growth of 8 per cent.

Game companies are in many ways unique amongst media and entertainment industries. Unlike other industries, it is more reliant on direct earnings rather than advertising, and when media companies struggle to create interactive components in their products, it is the very backbone of the game industry. It gives gaming a unique position and a head start in creating and harnessing future innovations and paradigm shifts.

MOBILE

In June 2017, iPhone celebrated its tenth anniversary. It was the catalyst of the smartphone era and an important milestone in the explosive development of mobile gaming. Today, two in every three people in the world owns a mobile phone and 80 per cent of the earnings from apps is from games. Although the market is signified by a horde of game releases that never reach profitability, it also transpires that mobile games have very long lifespans; contrary to what many experts forecasted. In the top ten highest earning mobile games of 2017, over half were released several years previously.

Despite the segment's robust growth, it has very little overlap with PC. It is still marginal and primarily relates to browser-based social games, as those games are increasingly launched solely for mobiles.

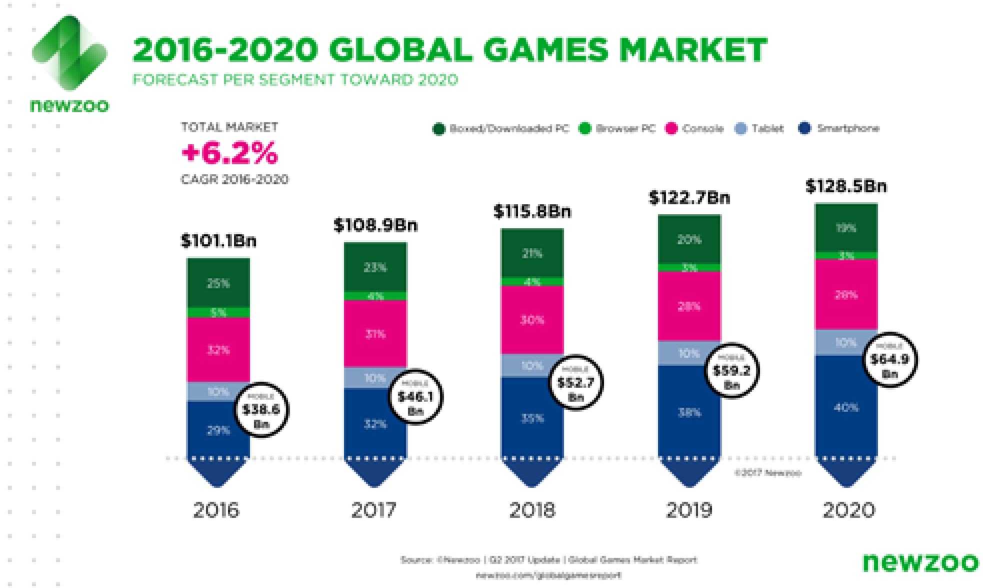
CHINA

Chinese gamers seem to be the key to real global success, which titles like *Rocket League*, *Overwatch* and *Minecraft* have shown. At the same time, an increased offensive from Chinese publishers to launch their games in the West is to be expected, although that is likely to remain a tough sell. A more successful strategy for Chinese companies seems to be to approach Western players through acquisitions and investments in Western game companies. China also stands out as a region of hard protectionist measures, in stark contrast with the EU and its Digital Single Market project. It is also difficult for Western companies to publish games in China without cooperating with one of the country's internet giants.

China is a huge market for PC games, taking 51 per cent of the total share. The sales platform Steam reports that no less than 17 per cent of its earnings come from China, Japan and South Korea. An enormous leap compared to previous years, not least because the total earnings of the platform continue to rise.

SWEDEN

Sweden has been voted among the best European game developer nations for several years running. When Steam, the world's biggest market place for digitally distributed PC games, introduced awards for the best games sold through the platform, 11 out of 100 games had a Swedish connection. Nintendo launched its console Switch in March 2017, a hybrid console that can be played both stationary and on-the-go. When the famous Japanese company produced a trailer showing the upcoming indie games on the platform, nearly a third of those were developed or published by Swedish companies. Amongst others, *Flipping Death* by Zoink, *SteamWorld Dig 2* by Image & Form and *GoNNER* by Art in Heart (published by Raw Fury). When IGN listed the 11 most promising titles of the E3 trade fair, three were developed in Sweden.



In 2017, three Swedish games received prizes at IMGA, the world's biggest mobile games awards. These accolades are fast becoming the norm for Swedish games. When IMGA, IGF, BAFTA, DICE Awards and other renowned award ceremonies nominate and award winners, Swedish games are always present. Considering the country's performance, both in terms of number of citizens and the size of the local industry, Sweden's achievements are almost incomparable. More than ten AAA games were developed in 2016 and things continue in the same vein.

THE WORLD'S BIGGEST GAME COMPANIES

Among the ten listed companies with the biggest game-related earnings in 2016, only Activision Blizzard, EA, Namco Bandai and Nintendo are pure game companies. Companies that stand out are Apple and Google, clearly showing the influence wielded by strong platform owners (App Store and Google Play respectively). Other companies are entertainment groups such as Warner Bros., hard- and software companies such as Sony and Microsoft and the Chinese internet giants Tencent (biggest game-related earnings) and NetEase. Togehter, the biggest companies grew 25 per cent compared to previous years, significantly more than the market average. As the selection only includes listed companies, big private companies like Valve are missing. This could also be a reason why fewer out-and-out game companies can be found in the list.

TRENDS

Today's games often offer three things: the opportunity to play, create and view. A clear trend that has developed over the last few years contains a new group of game consumers – the growing legions of games enthusiasts. An enthusiast likes to view, read about or engage in themselves in games and gaming culture without necessarily playing that much on their own. To view games has also invited back many ex-gamers that now lack the time to play or to become masters at them (something that was often quite central for former generations of gamers). Instead, they can watch others who have mastered various games. One example is the Games Done Quick live event where skilled players play through a number of games as quickly as possible.

The Nordic Game Industry

Revenue	Million EUR
Denmark	156
Finland	2518
Iceland	76
Norway	38
Sweden	1325

Companies	Number
Denmark	151
Finland	250
Iceland	12
Norway	180
Sweden	287

Employees	Number
Denmark	770
Finland	2750
Iceland	443
Norway	599
Sweden	4267

Please note: Due to the varying methods of measuring the size of the industry, the numbers are not directly comparable

With Sweden and Finland leading the way, the Nordic countries have developed into one of the world's foremost regions for game development. There is little competition between the individual countries, on the contrary, they are thriving from a growing labour market and additional businesses that attract international talent to neighbouring areas. Good collaboration is visible in both work and education, to which people from other Nordic countries can also apply. Finland has a dominant position in terms of domestic revenues and Sweden in the breadth and scope of the brands. Still, our neighbours in Norway, Denmark and Iceland are clearly driven by an endeavour to strengthen and diversify the Nordic game metropolis.

On paper, Denmark is not a big gaming nation. There are some notable successes however including international graphic engine company Unity which was founded in the country and the mobile hit *Subway Surfers* that was developed by Danish Kiloo and Sybo Games. The base for Lego's entire digital venture is in Denmark and the country has a burgeoning indie scene with Napnok Games, Copenhagen Game Collective and Lyst Summit.

Icelandic game development is primarily signified by CCP and *EVE Online*. The game is one of the more profitable in history and the company is still contributing the lion's share of the Icelandic revenues. A growing number of smaller companies, particularly within the mobile segment, are expanding and achieving stability.

Not wholly unlike Iceland, Norway's gaming scene has historically been dominated by one company, the developer and publisher Funcom (*Conan* etc.), However, Norway has successfully established several operators within the core segment on PC. One of last year's most vaunted indie games was the universally celebrated *Owlboy*, developed by the Bergen-based D-Pad Studio.

The Finnish success story has run parallel with the Swedish. Finnish game developers possess a relatively broad selection of companies with fine tradition, such as Housemarque, AAA studios like Remedy and Bugbear and many smaller-sized game developers. On the other hand, the country's enormous successes in the last few years are rooted in mobile game development in the Smartphone era, headed by big companies like Rovio and Supercell. Supercell's advancements are well-documented and the company represents 92 per cent of the total revenues of the Finnish industry.

Battlerite, Stunlock Studios

Future

Although the days of hyper growth with 40 per cent annual increases may be over for now, the future continues to look bright for Swedish game developers. Swedish game companies are active in a global field that makes it difficult to present a holistic picture of growth solely based on the companies´ annual accounts. It is important to also look at other growth parameters such as employment and entrepreneurship, and this is where the growth continues unabated.

Today's Swedish industry is healthy and stable, with enormous potential for growth in future innovation cycles and paradigm shifts. Another rapid growth period is to be expected when many of the heavily-funded companies start to grow organically. The same can be said for our listed companies, that have no doubt only just begun their journeys, and more IPO's are to be expected. VR is another future prospect, and the intention of the domestic companies to invest and merge offers still more potential.

In 2017, IGDA – International Game Developers' Association – was resurrected in Sweden. IGDA is an international organisation with over 8000 members, whose purpose is to improve, inform about and protect the role of game developers worldwide. In Sweden, the organisation wants to make it easier for developers to share their experiences and imporve in their aspects of games creators. IGDA Sweden is starting branches in Malmö, Karlshamn, Skellefteå, Skövde and Stockholm. Networking takes place within the official Facebook group, at game jams, conferences, bars and workplaces.

2017 also marks the third year running for the non-for-profit games accelerator Stugan.

2017 AND BEYOND

The bright future of Swedish game development was brilliantly summarized at trade fairs like GDC, E3 and Gamescom, where as in previous years, the Swedish representation is notable at press conferences, in media reports and news feeds.

DICE has released the critically acclaimed Battlefield 1 which has currently reached over 21 million players. The graphic engine Frostbite is becoming irreplaceable for the EA group and is also seen in BioWare's much-hyped space adventure *Anthem*. The Stockholm firm has also presented the *Battlefield 1* expansion *In the Name of the Tsar* and *Star Wars Battlefront II*. Gothenburg-based sister studio Ghost is working on its upcoming racing game Need for Speed Payback and Josef Fares' *A Way Out* is published via EA Originals. EA have also announced the new, secretive company branch SEED, a form of internal incubator, focussing on high-tech innovation. The team is based in Los Angeles and Stockholm and will work on science fiction-esque subjects such as deep-learning, neural networks and virtual humans.

Mojang releases the fiction novel *Minecraft: The Island* by *World War Z* author Max Brooks. They also announce Minecon Earth, an online version of their *Mincecraft* convention. Mojang has also advertized a noteable Minecraft update, which will include cross play and the possibility to play in 4K.

The Malmö success story Massive Entertainment has hinted at mouth-watering plans: the company has signed a contract with the director David Cameron's Lightstorm Entertainment to produce several games based on *Avatar*, the most successful film in the world. For this, Massive will need to employ hundreds of people in the

Deep Rock Galactic (published by Coffee Stain Studios)

next few years. Ubisoft, Massive Entertainment's French owner, also opened a new studio in the Swedish capital. Ubisoft Stockholm will be led by Patrick Bach, former Studio Manager at DICE. With over 30 offices around the world, Ubisoft is one of the world's biggest game developers and publishers. It is not yet known what the Stockholm studio will work on. Initially it will assist in Massive's work with *Avatar*. One of Patrick Bach's first tasks will be to recruit around a hundred new employees. In addition to the planned recruitment of 200 persons in Malmö, Ubisoft will create 300 new jobs in Sweden. Massive's self-developed graphic engine Snowdrop can be seen in gamesas far apart as *Starlink: Battle for Atlas*, *Southpark: Fractured But Whole* and *Mario+Rabbids Kingdom Battle*. Super Mario himself has now been rendered in a Swedish graphics engine!

Among many high-profile career changes, Daniel Kaplan, Mojang's first employee has gone on to join Coffee Stain Studios. The publisher Raw Fury has recruited well-known names such as Karl-Magnus Troedson (formerly of DICE) and Callum Underwood (formerly Occulus Rift). Among others, Coffee Stain Studios is working with the Danish-developed *Deep Rock Galactic*, the first ever game the studio signs as a full-fledged publisher.

Paradox Interactive held its own fair, PDXCon in Stockholm. The company has also acquired Triumph studios, launched *Steel Division; Normandy 44* on PC, and *Cities: Skylines* on Xbox One. The group has also opened a mobile studio in Malmö. At Gamescom in August 2017 Paradox presented several expansions to existing games like *Crusader Kings II* and *Tyranny* but also brand-new titles such as *BattleTech* and *Surviving Mars*. Other companies presenting games at the Cologne trade fair were Toadman Interactive, which is working on a Dark Souls inspired shooter entitled *Immortal: Unchained*, and Goodbye Kansas' newly formed studio Experiment 101 that announced the Kung Fu fable *Biomutant* (with THQ Nordic as publisher). THQ also reported their acquisition of the German developer Black Forest Games. In addition, Zoink's *Fe* received plaudits and several Best in Show awards from journalists. In late-August 2017 THQ Nordic acquired the Skövde-based developer Pieces Interactive.

In Uppsala, MachineGames are developing *Wolfenstein 2: The New Colossus*, the follow-up to the studio's acclaimed Wolfenstein reboot.

Starbreeze released *Dead by Daylight* on Xbox One and PS4. The company is also publishing *Psychonauts 2* by renowned Double Fine Productions and *System Shock 3* by Otherside Entertainment. In Barcelona, a mobile game version of Payday is in development.

With continuous support, physical launches for consoles and a stream of new content, Fatshark has sold over 1.5 million copies of the Warhammer game *Vermintide*. The company is expanding, building the brand and attracting more players. The studio has also invested in various new projects. In August 2017 *Warhamer: Vermintide 2* was announced.

Fall Damage is the latest in the long line of newly established companies with a star-studded roster. The founders share a background at DICE and are supported by funding from Goodbye Kansas' investment branch Game Invest. Another example of a company with an impressive background of renowned developers is Malmö's Midnight Hub. The company is working on their first game, the


Statik, Tarsier Studios

story-driven mystery *Lake Ridden*. Armin Ibrisagic, formerly PR Manager at Coffee Stain Studios, has formed the studio DoubleMoose together with the Swedish YouTube star PewdiePie.

Landfall are working on the promising *TABS*. Before even being released, the game has become a YouTube favourite with over 200 million views.

An increasing number of game ventures in southern Sweden have consolidated in Malmö. Frictional Games, most known for horror games *Amnesia* and *Soma*, are also opening an office in the city.

Tarsier Studios bravely greeted 2017 as the biggest ever year in the history of the company. The Malmö studio launched two games, the acclaimed - *Statik* and *Little Nightmares*. The first one launched as a VR game in collaboration with Sony and the latter together with Namco Bandai.

Malmö is also home to Divine Robot, who not only develop children's games but also work with VR simulation and have increased their revenues by 54 per cent to EUR 665 000 in the past year alone.

On the mobile front, MAG Interactive have two games in soft launch. Snowprint Studios opened a new office in Berlin. Filimundus boast existing collaborations with Apple, Google and Amazon while Samsung will distribute the company's apps in various bundles in 2017. The game app market for kids is still in the initial stages and will offer huge opportunities for growth.

King released the news that many have waited for since Activision bought the company; that the *Candy Crush* creators are currently working on a mobile version of *Call of Duty*, one of the world's biggest game brands.

Ruckus Rumble is the world's first ever PlayStation 4 game developed by students at a vocational college; and was made as part of the education at Playground Squad in Falun. The school collaborates with PlayStation First – a division within Sony that supports a few select educational programmes with an exchange of skills and hardware.

GAME DEVELOPER CLUSTERS

In a growing industry, the need for regional support and engagement as well as cooperation with higher education and the local economy soon develops. Arctic Game Lab is an initiative aiming to gather the game industry in Norrbotten and Västerbotten counties and develop a cluster of successful companies in northern Sweden. The project was launched in Skellefteå in 2014 but flourished in 2016 and 2017 when the municipalities of Boden, Piteå, Umeå and Luleå joined the initiative as partners. They have organized multiple game jams and the collaboration has resulted in a unique two-year indie game developer education in Boden – a collaboration between Sunderby community college and Changemaker Educations.

East Sweden Game was inaugurated in August 2017 as a co-working space for game developers in East Gothia. Game companies and entrepreneurs can meet, inspire each other and realize their projects. The initiative is led by the industry veteran Tomas Ahlström and is situated in Ebbepark in Linköping.
The Game Incubator has been behind the successful and long-running incubator for game developers in Skövde. In 2016, it expanded to Gothenburg and has

Little Nightmares, Tarsier Studios

contributed to strengthening the western parts of Sweden as a game development region. During the year, STING launched a game incubator in Stockholm, the capital's first.

In southern Sweden, Gameport runs a successful incubator in Karlshamn, a part of Blekinge Business Incubator, and MINC established a game incubator in Malmö. Both cities are supported by Game City, an association for game companies located in the south.

INVESTMENTS

In the past year, the Danish publishing company Egmont formed the new business entity Nordisk Film Games, whose purpose is to invest in Nordic game companies. Behind the wheel is Martin Walfisz, one of Massive's co-founders and CEO of Planeto. Nordic Film Games (NFG) plan to initially invest more than a hundred million Kronor and mainly concentrate on core titles on PC and consoles. Since NFG's inception, EUR 1.3 million has been invested in Danish company Flashbulb Games and EUR 10 million in Avalanche Studios, situated in Stockholm.

Beyond the widely publicized acquisitions involving Mojang and King, the trend of foreign investors acquiring Swedish game companies continues. In January 2017 Microsoft bought the 3D company Simplygon. For Simplygon, whose technology can be seen in numerous blockbuster games like *Resident Evil 7* and *Player Unknown's Battlegrounds*, it remains business as usual under the Microsoft banner. However, the limited company Donya Labs will be liquidated, meaning that they can not be included in future Game Developer Indexes.

Meantime, there are indications that the acquisition trend is moving in the opposite direction – from a seller's to a buyer's market. Companies like THQ Nordic, Starbreeze and Paradox Interactive show that there exists the will and the financial muscle to consolidate in Sweden, with an increased ownership of foreign companies.

For more information, please visit the Swedish Games Industry page at Nordic Tech List for more information about different investments (the site is still in beta): swedish-games.nordictechlist.com.

ESPORTS

Although esports is often mentioned as one of the more important and biggest growth areas in the industry (in many ways correct) it is generally not as central for developers. After all, relatively few developers are making games focussing on esports. Rather, it is the tournaments, teams, prize money and organizations around esports that require development. This is demonstrated by the many esports related companies started over the last few years. Despite its modest population, Swedish teams and players are at the forefront of competition and boast a high percentage of most professional players, the biggest prize money and the highest number of victories per country.

Intellectual Property Infringement

Digital markets pose specific challenges for content creators. Video games have one big advantage compared to its fellow creative businesses: music and film. That is, the content is interactive, lending to it some potential to prevent piracy or the distribution of the games via pirate channels for monetary gain. Some developers choose to issue frequent updates to thwart the hackers and pirates; it is clear, however, that the piracy market is alive and innovative. The developments can almost be described as a race between those who create the content and those who want to take advantage of, or unlawfully distribute it.

In addition to traditional consumer piracy, such as filesharing, this race has led to new forms of infringement. It cannot always be described as intellectual property infringement, often it is hacking or fraud. A few examples:

Clone Apps – a popular game is copied and published by the counterfeiter. Title, brand, content and code is much the same as the original but the clone is often poor. The clone reaps full benefit from the investment in and marketing of the original. In such cases, the developers must enlist the the internet platforms or the digital market places where the clone apps are distributed to enact enforcement. It is normally difficult to reach the actual infringer.

Fake Home Pages – many games are sold directly via the developer homepage. A pirate can set up a similar home page with a deceptively similar domain name and sell a hacked version of the original game. The consumer is led to believe that it is the real game but often run into problems when it comes to updates.

Non-Authorized Keys – Many games are distributed via several different channels but it is the "key" – an encrypted number series – that unlock the game. The key is accessible after payment but there are also free keys, handed out by media and distributors. Through hacking or other methods, criminals can lay their hands on such keys and sell them, often through market places whose official business is to enable gamers to re-sell used games.

These are but a few examples. The conclusion remains that, unfortunately, video games are not spared from illegal competition and the problem cannot be solved entirely by the industry alone. Interventions are required in the form of legal action, international co-operation between law enforcement services and internet agents such as telecom operators and digital market places, and through consumer information as well as technical protection measures to counter trademark infringement.

Battlefield 1: In the Name of the Tsar, DICE

Threats & Challenges

Competition and access to capital and personnel are among the threats and risks to a positive future for Swedish game developers. The fiercest competitors can be found in countries like USA, Canada, UK and Finland. Several of these countries have very generous subsidies aiming to give domestic companies advantages to compete internationally: tax rebates, “soft” loans to start-ups and various cash allowances. In comparison, Swedish public investment in the competitive edge of the games industry is very limited. This sometimes leads to less foreign equity investment compared to Finland. Issues regarding digital competition, such as infringement (data, copyright and trademark infringement) and legal rights in a digital market also need more focus. Game developers often have a weak negotiating position relative to the digital market places which are, in practice, the only way to reach an audience for many of them.

Unfortunately, sometimes the remarkable success of the Swedish games industry is given as a reason why no further investments in games are needed, but the Swedish companies have succeeded despite the lack of support - not because of it. Looking at the few investments made, these have turned out well, and helped build new independent companies. Tarsier Studios with the award-winning *Little Nightmares* is a good example. But the lack of alternative financing opportunities and the lack of capital makes it difficult for a small company to stand on its own feet. It also makes it harder to explore new game concepts and raise the level in the culture form to which games belong.

The access to capital is a fateful question for entrepreneurs in many sectors and in this regard the game sector is no exception. It is a well-known fact that the access to funding in Sweden is difficult, particularly for deals in the region of EUR 0.5-5 million.

The access to skilled labour is another factor that threatens to hamper the growth of Swedish game companies. Further education and research initiatives are required, but also shorter processing times for work permits. Long term, the industry is calling for focus on coding and aesthetic subjects in schools. Access to accommodation poses real problems for those employers recruiting in metropolitan areas.

Lastly, digital developments can challenge established structures, like double VAT on apps in 2011 as a recent example. These kind of “bureaucratic glitches” can arise unexpectedly and must be resolved quickly. A threating cloud at the time of writing are the deliberations of the EU on proposals for a digital single market and the implications new regulations will have on small and medium-sized game developers. Another worry is the national Swedish chemicals tax that will strike at the Swedish retail sales of game consoles without helping the environment. As shown, most threats are political in nature, and they can often be easily remedied with policies that would quickly result in increased employment and higher tax revenues. The companies are successful, but with political aim, success can be even bigger and longer lasting.

Game development is an intellectual, artistic, technical, and many times a business-oriented profession. You do not have to mine ore or invest in big machinery for the industry to grow. It is about the interaction between the individual’s creative abilities and the conditions for effective enterprise that can compete in a global arena. With relatively small funds, the Swedish decision-makers can be involved in making Swedish game development into the global sensation of the century. Without much external help, game developers are already well on their way.


Wonderglade, Resolution Games


Mario+Rabbids Kingdom Battle, Ubisoft (with Massive's Snowdrop engine)


Minecraft, Mojang

Zlatan Legends, Isbit Games

Totally Accurate Battle Simulator, Landfall

Steel Division: Normandy 44 (published by Paradox Interactive)

Conclusion

Swedish game development is driven by strong trademarks created by a rich mix of companies, making games for all commercial platforms on the market. Gaming is a maturing market in which several early developers have moved on to create new companies, with some of these reinvesting in new games. Coffee Stain Studios' publishing venture, Snowprint Studios, Fall Damage, Hazelight Studios, Hatrabbit, 10 Chambers Collective, the Outsiders, Warpzone Studios and Lavapotion are all good examples.

The growth of Swedish game exports is fuelled by a growing demand from large parts of the world, not least because brand new target groups are added, and because existing audiences become more valuable. This trend shows no sign of abating in the foreseeable future and the Swedish companies have a very strong competitive position in the global market. Overall, this provides a good basis for further growth. Game development is sometimes mentioned as a future industry - a future hope for the Swedish economy. It is true of course, but the numbers speak for themselves: Swedish game development was relevant for the Swedish economy yesterday, is undoubtedly very important today, and represents an unlimited opportunity tomorrow.

Method

This report is a summary of annual accounts from the industry register of the Swedish Companies Registration Office, from companies with game development or specialized subcontracting as a major part of their operations. Examples of subcontractors are: Simplygon (3D optimization), Game Hosting (servers and hosting) and Localize Direct (localization/translation of games). Not included are game companies focusing on poker, gambling or casino games. Retailers or pure distributers (for example, the Swedish offices of Bandai Namco, Activision and EA) are also excluded, despite their importance for the industry. The method has several flaws: corporate forms other than limited companies fall outside the scope of the data, as do companies active in Sweden but registered in other countries. This results in a grey area, and key figures such as revenue and employment are slightly higher than those stated in this report. The strength of the method is that the data is audited and published by the authorities.

Non game-related parent companies also pose difficulties, more precisely when a company's game development operation is reported in the parent company, which means it cannot correctly be identified for the Game Developer Index. Unfortunately, some companies are therefore excluded from the report. A problem shared by many industry organizations. In those instances where annual accounts have been unavailable, last year's figures for profit/loss, revenues and number of employees are used. These companies are: Sector3 Studios, Tarhead Studio, Three Gates, and Toca Boca.

The companies' group accounts are used, to the extent that these have been published and all group companies are active within game development.

The annual reports are in SEK, bur for translation purposes the currency has been converted into Euro. EUR 1 = SEK 9.47 (2016 annual average).

Timeline

2017
The game accelerator Stugan opens its doors for the third year in a row

2016
Massive releases *The Division* and breaks several records

2015
Swedish game developers dominate industry trade fairs (E3, Gamescom etc.)

2014
The Swedish Industry breaks growth records for the fifth consecutive year

2012
King's *Candy Crush Saga* is one of the most played games in the world

2011
Minecraft is launched and becomes one of the most sold games ever

2010's
Mobile games become a big part of the industry. Companies like King and Starbreeze are listed

2000
Paradox releases the first *Europa Universalis*

2000's
AAA development lays the groundwork to the modern gaming boom. Indie development booms as well

1997
Massive is founded in Ronneby, then moves to Malmö

1995
Aniware releases Backpacker, the biggest game series of the multimedia era

1993
Unique Development Studios (UDS) is founded in Norrköping

1992
Digital Illusions (DICE) is founded in Växjö

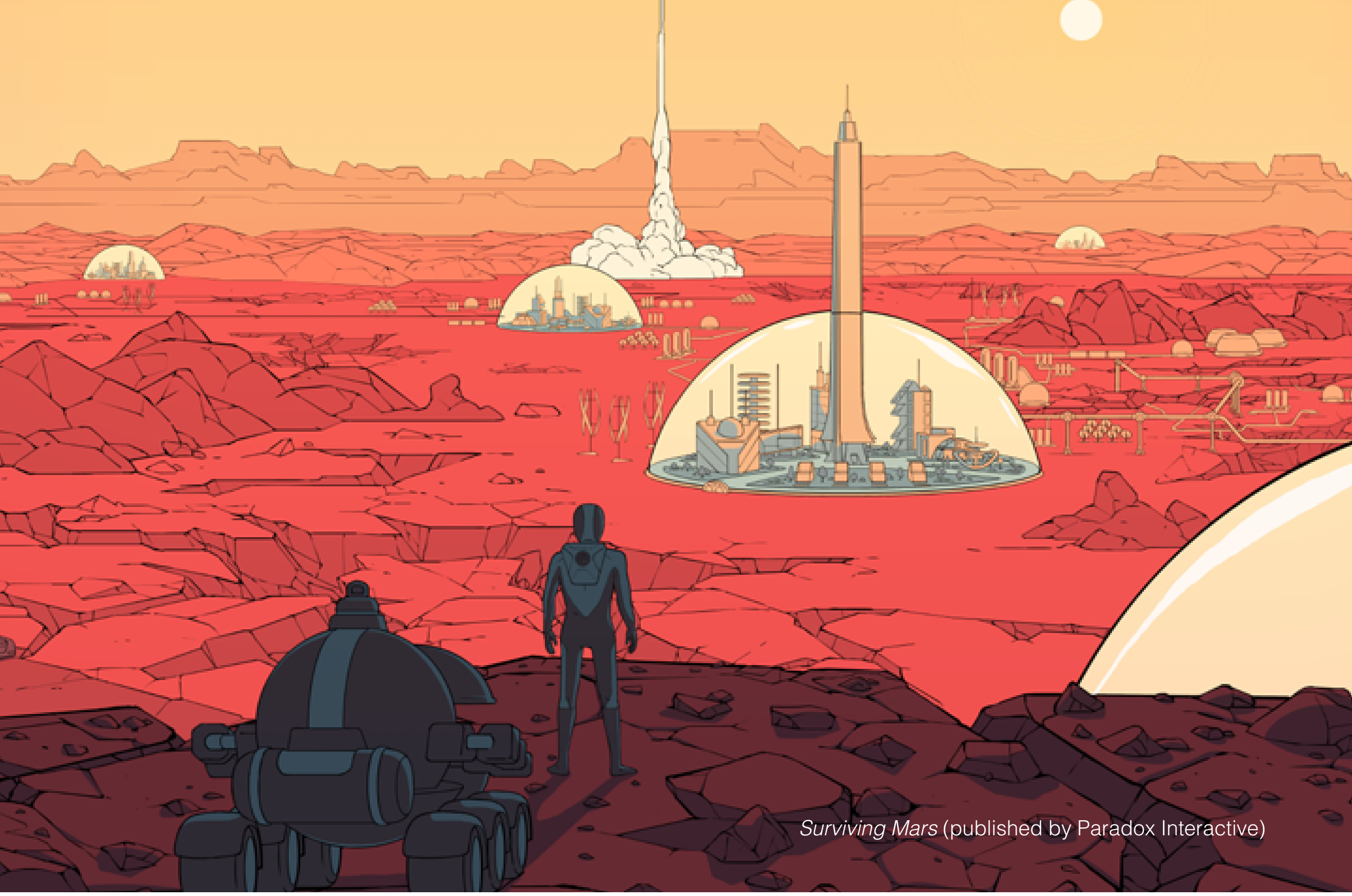
90's
The demo scene creates the first big companies. Halycon days for "multimedia"

1983
Space Action is released, one of Sweden's first commercial games

80's
Commodore 64 makes way for the demo scene

70's
Atari enters the living rooms. The game *Stugan* began development

50's-60's
The Swedish defense develops prototypes of what can be termed computer games



Surviving Mars (published by Paradox Interactive)

Crusader Kings II: Jade Dragon, Paradox Development Studio

Glossary

AAA: Popular term for lavish games with a big budget and high staff turnover. Normally released by the biggest publishers in the business, primarily via physical distribution

Alfa: Signifies the phase in software development in which the product is ready for software testing

AR/Augmented Reality: Direct or indirect observation of a natural environment whose elements are amplified (or supplemented) by computer-generated sensory input (audio, video, graphics or GPS data)

Beta: Follows the alpha phase. This is normally the phase available for software testing for other than those developing the software. These external users are called beta testers

Casual games: Games of the simpler kind. Often with a minimal storyline, shorter learning curves and designed to be played for a shorter length of time

Cloud gaming: Also known as gaming on-demand, a type ofonline games allowing streaming of a game onto the servers of an operator or a gaming company. This allows you to play a game without requiring a console or high performance computer, since all processing is carried out elsewhere.

Core: Term for games that are made for self-conscious players or "gamers"

CPM: Cost per mille or cost of a thousand advertisement impressions

Crossplay: To make it possible to play the same game across multiple platforms
Crowdfunding: Financing of a project through crowdsourcing. In recent years this has been expressed through various web platforms that collect their financial support for various projects from interested private individuals or companies

Streaming: Live internet broadcasting of digital video

Crowdsourcing: Outsourcing to an undefined group of people, rather than paid employees

DAU: Daily Active Users

Digital Distribution: Sales of digital software through digital channels

DLC: Downloadable content; add-ons for computer games, often on a smaller scale than traditional "expansions"

Early Access: Buying and playing a game in early development, before the official release

eCPM: Effective cost per mille; effective cost per thousand ad impressions

Freemium: Collective term for a business model where the a product or service is offered for free, but where the player has the possibility to unlock advanced functions and virtual objects or bypass waiting times, by means of micro transactions

Free-to-Play/F2P: Games that offer the user to play the game for free in its basic version, but where the income is instead generated through for example adverts, or the option to unlock the full version for a fee

In-App Purchase: A purchase made in an app or game, rather than externally or through a linked payment system. The goods purchased usually consist of new runs, equipment, experience points or subscription services

Indie: From "independent". A prefix characterizing games from independent developers, usually of the smaller kind, with fewer involved in the development process. Lately, indie represents the stream of developers that have reached a wider audience thanks to digital distribution, which has made them financially viable

IP: Intellectual Property, a company's immaterial rights

MARPPU: Monthly Average Revenue Per Paying User

MARPU: Monthly Average Revenue Per User

MAU: Monthly Active Users

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

Micro Transactions: A transaction involving smaller sums, carried out online. There are different definitions of the amount of money they can consist of, but in the gaming business the term is used to describe payment of for example DLC and in-app purchases.

Off-shoring: Outsourcing internationally

On-shoring: Outsourcing domestically

Outsourcing: To hire external personnel and specific competence from other companies

Retail: Games sold at retail

Serious Games: Games with a principal purpose other than entertainment. It can refer to simulators, exercise games, learning games, rehabilitation games or commercial games, so called advergames

Smartphone: Collective term for cellphones with a large computing capacity, touch screens and an internet connection. Popular operating systems are Android and iOS

Social Games: Collective term for social network games, for example Mobage and Facebook

Soft Launch: To preview release a game in certain markets to evaluate engagement

Tablet: Devices like the Ipad

Virtual Goods/Items: Term referring to virtual objects, such as those existing in computer games in the form of puzzle pieces, weapons or other items

VR/Virtual Reality: A way of being visually emerged in a gaming experience, often with the help of a goggle-like accessory