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GameIS

The Israeli Video Games Ecosystem:
Converging Technologies, Emerging Opportunities

2021

Sponsors

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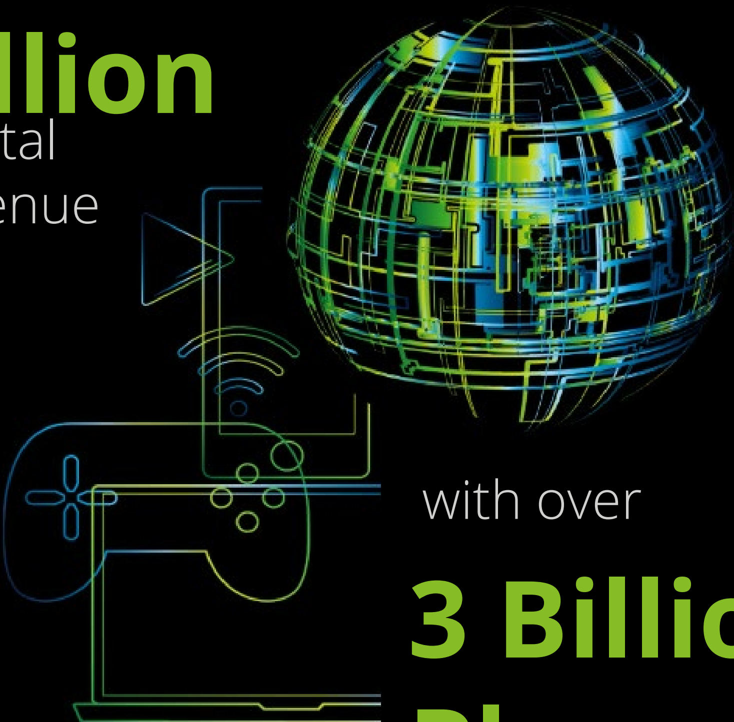
The 2021 Global Video Games Industry is worth[1]

US $175.8 Billion

in total Revenue



with over

3 Billion Players

the largest entertainment sector globally

Timeline

From ‘Pong’ to ‘Fortnite’[2]

- **1940** – First game machine presented at New York World’s Fair
- **1962** – Steve Russell invents ‘Spacewar!’ the first computer-based video game
- **1972** – Magnavox releases Odyssey, the first home video game system
- **1975** – Atari introduces its home version of Pong
- **1977** – Atari releases the Video Computer System, a.k.a. Atari 2600
- **1978** – Space invaders is released
- **1978** – Pac-Man hits the market
- **1981** – Nintendo releases Donkey Kong
- **1984** – Russian mathematician Alexey Pajitnov creates Tetris
- **1985** – The Nintendo Entertainment System (NES)
- **1987** – Fantasy Role Playing Game Legend of Zelda
- **1989** – Nintendo's Game Boy popularizes handheld gaming
- **1990** – Microsoft bundles solitaire with Windows 3.0.
- **1992** – Real-time strategy games Dune II
- **1995** – Sony releases PlayStation
- **2000** – The Sims becomes the best-selling computer game ever
- **2001** – Microsoft enters the market with Xbox
- **2003** – Valve launches ‘Steam’ - a digital distribution platform for PC gaming
- **2004** – A new handheld gaming system - Nintendo DS
- **2005** – Microsoft releases Xbox 360
- **2006** – Nintendo Wii introduces motion sensitive remotes
- **2007** – ‘Rock Band’ by Harmonix's
- **2008** – ‘World of Warcraft’ becomes the most popular massively multiplayer online (MMO) game
- **2009** – Social games like ‘Farmville’ and mobile games like ‘Angry Birds’ reshape the industry
- **2010** – The indie-game movement hits mainstream with ‘Minecraft’
- **2011** – Spyro's Adventure becomes the first augmented-reality hit
- **2012** – crowdfunding site ‘Kickstarter’ enables independent creators
- **2013** – ‘Free-to-play’ becomes a dominant business model
- **2016** – Augmented reality game, “Pokémon GO” mobile, becomes a runaway hit
- **2017** – eSports – a $660M global market
- **2018** – ‘Fortnite’ becomes massively popular
- **2019** – Hyper-casual games account for 45% of all mobile game installs
- **2020** – Global Pandemic forces people inside, seeking other ways to socialize
- **2021**

Market Size and Regions

In 2021 ~40% of the World's Population Plays Video Games[1]

According to estimates, the global video games market in 2021 comprised of over 3 billion players and generated over 170 billion dollars in revenue from sales. The Asia-Pacific region represents the largest market by far, with China responsible for nearly a quarter of global video games revenue. The Americas are the fastest growing markets since 2017.

North America

24% → $42.6B

2017-2021 CAGR: 12.08%
212M players

Europe, Middle East and Africa

22% → $37.8B

2017-2021 CAGR: 9.6%
842M players

Latin America

4% → $7.2B

2017-2021 CAGR: 13.1%
289M players

Asia – Pacific

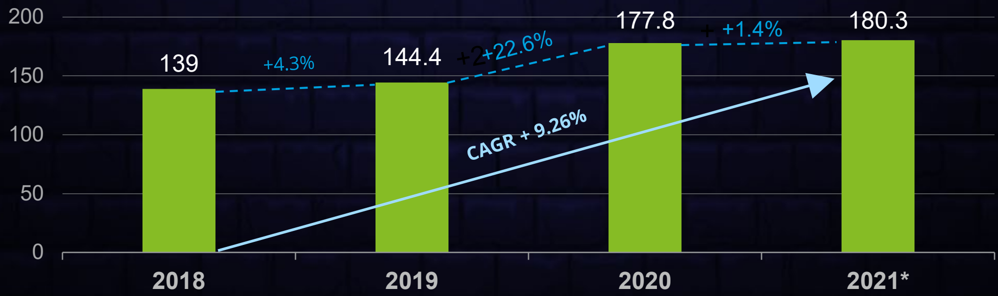
50% → $88.2B

2017-2021 CAGR: 1.56%
1,615M players

With lockdowns in 2020, the gaming industry saw major growth as more users started to engage in games as not just a method for entertainment but also to connect socially. This 22.6% growth in market size is not sustainable, and as economies begin opening up, 2021 will see a slower growth rate. This is anticipated to be a short-term correction, with healthy growth on the horizon[1].

An indication of this is the significant mobile app game spend from 2021. $89.6 billion was spent across the App Store and Google Play in 2021. This represents growth of 12.6% YoY from the $79.6 billion spent in 2020[6].

Market Size[1,3,4,5]



Covid-19 as a Growth Driver

Macro related trends

Covid-19 Pandemic

The Covid-19 pandemic helped propel the gaming industry to be the largest digital entertainment sector in the world. Starting in December of 2019, when lockdowns brought the world to a halt, increasing amounts of people started to engage with new forms of entertainment. With more down time, many sought entertainment methods that also included a social component – connecting them to other people enabling shared experiences. **These "Social Games" emphasized a social connection, whether during gameplay via messaging or integrated into social media platforms**. There are also more people prepared to pay for gaming than before the pandemic.

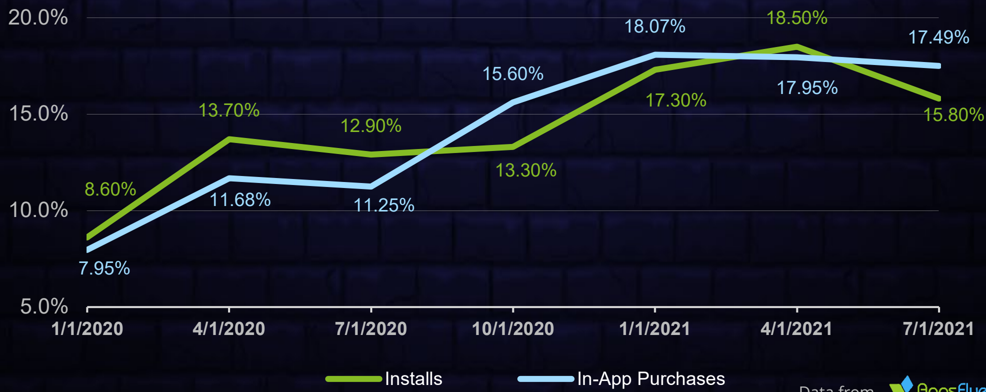
At the same time COVID- 19 has also caused challenges for the PC and Console markets. Firstly, the production of PCs and consoles is slower due to disrupted supply chains. Also, the production of games themselves have also been affected. Console and PC games tend to have bigger teams and higher production value. Because of these factors, the PC and Console markets are forecasted to decline -8.9% to $49.2 billion in 2021[1]. Despite this set-back, long term growth in these markets is anticipated.

The impacts of COVID-19, as a driver of trends, is hard to detangle from other forces moving the market. The pandemic can be seen as at least partly impacting the trends mentioned throughout this report.

Investigating Israel

As the pandemic progressed, more users started playing and spending money on Israeli games. Even as the world opened, users continued the habits developed during the pandemic

Israeli Apps Jan 2020 - Sep 2021, Normalized



Data from AppsFlyer

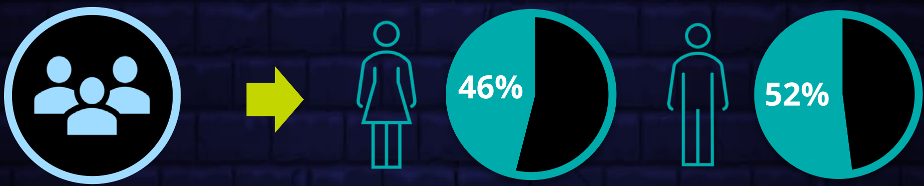
Demographics

Who's Playing?

The increase in the online population, better internet infrastructure, and affordable smartphone and mobile internet data plans are major drivers for new users entering the gaming market. These new nontraditional gamers have been captured by hyper causal & social games. This shift in the market has drastically altered the gaming industry, where now many of the largest growing companies are focusing their attention on these casual/hyper causal gaming spaces.

Number of players

Players by gender*



3 Billion Players
+36% since 2017[1]

2% increase
since 2017[6]

-4% decrease
since 2017[6]

*2% identifying as gender non-binary or opting not to answer

New Players

The stereotype that young males are the face of gaming is dissipating. Females are playing games now more then ever before. They account for 60% of new gamers, as opposed to 39% of seasoned gamers[7]. In addition, older users are entering the gaming market. In the US, the number of adults who play videogames grew to 50.6M in 2019 from 40.2M in 2016[8]. More specifically, in the US, Millennials and Baby Boomers spent 18%- and 30% more-time YoY, in their most used apps[9]. This reinforces the idea of nontraditional gamers being a major driving force in the market. 30% of new gamers are under 25 and only 21% of seasoned gamers fall within that age range[7].

Market related trends

Global Gaming Industry

Mobile Benefits from the Growth of Multiplatform Gaming

Over the past 10 years we have seen the rapid growth of mobile entertainment due to technological advancements as well as consumers desire to be entertained at any place and at any time. But recently, negative impacts of Covid-19 on the console/PC game production and the rising ability for cross platform playing have caused further adoption of mobile gaming. Due to technological advances, the lines between different gaming ecosystems – console, PC, and Mobile - are blurring. Games can now be played simultaneously across multiple platforms. Gaming companies are trying to capture as much of the user as possible, through multiple points of access. For example, friends can be playing Fortnite together, one on a mobile device and the other on a console. This ability to play from anywhere at anytime, coupled with wide accessibility to affordable mobile devices and cellular data has accelerated the adoption of mobile as a preferred method to play games.

New Game Downloads[10]

80B
+18%
YoY Growth

Daily Time Spent Per user on Mobile[9]

4.2 HRS
+20%
YoY Growth

Distribution by Revenue[1]

Data from AppsFlyer

Privacy Regulations and Policies

As in many industries, privacy changes also affect the gaming industry. **Apple's IDFA data restriction policy, which obligates users to opt into data sharing across applications rather than opt out, was implemented earlier this year.** The iOS14 update requires apps to ask users for permission to collect and share data. This policy makes it more difficult for gaming companies to exchange and gather data about player's behavior and conduct highly targeted advertising and performance analytics. The ability to collect and use data is one of the core competencies of gaming companies, making them better advertisers and monetizers. Between April and September, iOS revenue fell by 15%, while Android revenue grew 45% during the same time frame*. In addition, companies need to spend more money on user acquisition. Apps spent $78-$83 billon on user acquisition, a 40% increases YOY*. Apple's policy is just the first among other big tech to implement privacy protection changes. Other leading platforms are expected to follow Apple's actions, intensifying this challenge for gaming companies. In fact, a CTO from a leading ad tech company said these new polices are an "earthquake for companies" and significantly challenge companies in acquiring, obtaining, and monetizing users.

*Data from AppsFlyer

Global Gaming Industry Trends

Market related trends

Market consolidation

The global gaming industry has seen significant M&A activity with large players acquiring mid and small-sized gaming companies. One propeller of increased M&A activity is the previously mentioned data privacy policies. With the acquisition of other games, companies use the user data of the acquired company for advertisement and monetization improvements. **There are three main plays which we have seen in the M&A market:**

Vertical Integration

Companies are acquiring supportive technologies in addition to their core skills in order to obtain more capabilities and user data, collected from these acquired companies.

Horizontal Integration

Diversifying in the same types of games. This strategy is used to obtain the user data from the acquired company.

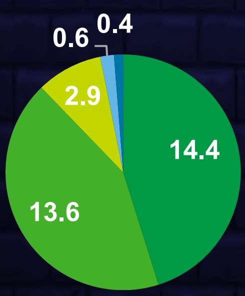
Product Portfolio Diversification

Companies use acquisition to diversify their product portfolio. It is more difficult for small gaming companies to publish and push their games through mobile platforms then it is for larger players, and since larger players can make use of their existing channels, there are strong synergies that lead high M&A activity.

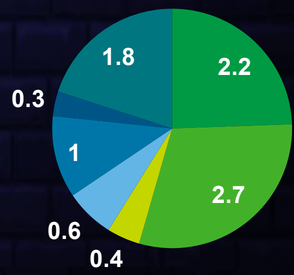
M&A and Investment Overview Q3 2021 YTD[11]

Similar to other markets, 2021 saw record levels of investment and M&A. The first 9 months of 2021 saw double the investment and M&A, in the dollar amount, then for all of 2020[11]. In addition, 2021 also saw many high-profile IPOs highlighting the strength of the market and strong consumer sentiment towards gaming companies.

M&A Deal Value by Segment YTD ($B)



Investment by Segment YTD ($B)



- 228 M&A deals announced/ closed resulting in $32B in disclosed deal activity[11]
- 493 deals resulting in $9B in disclosed private placements[11]

M&As

A Stake in the Game

M&A Scoreboard

Ranking	Transaction	EV(B)	Year
1	Microsoft acquired Zenimax	7.5	2020
2	Byte Dance acquired Moonton Technologies	4	2021
3	EA acquired Glu Mobile	2.1	2021
4	Tencent acquired Leyou	2.8	2020
5	NetMarble acquired SpinX	2	2021

Ranking	Transaction
1	Microsoft acquired Zenimax
2	Byte Dance acquired Moonton Techn
3	EA acquired Glu Mobile
4	Tencent acquired Leyou
5	NetMarble acquired SpinX
6	Zynga acquired Peak Games
7	EA acquires Codemasters Grou
8	Tencent acquired Sumo Grou
9	Voodoo acquired BeachBum
10	Playtika Acquired Reworks

IPC

Global Gaming Industry Drivers

Game genres and technology

Casual and Hyper-Casual: Diversification of experiences

The large increase in mobile gaming allows gamers to play from anywhere and at any time, whether it is on the way to work or during lunch break. Casual and hyper-casual games are perfectly suited for these occasions, to fill short time gaps, and such have started to capture a large part of the gaming market.

Hyper-casual games are easily adopted by users, because the game has low barriers to play in terms of skill and time for fun engaging gameplay. At the same time for casual games, more complex gameplay and experiences have helped with user retention and different monetization strategies. Despite this, hyper-casual games continue to rise in the charts in terms of downloads and player spending.

Hyper-casual games accounted for 5 out of the top 10 games on the charts for fastest growing games. In 2020, hyper-casual games accumulated 10 billion installs across the top 1,000 titles[10].

Metaverse: New horizon of social interaction

The metaverse is a set of interconnected digital spaces that allow users to experience, connect socially, and play games digitally utilizing AR/VR. The borders between social media, communication, and gaming are blurring.

Social media companies such as Snap, Tiktok, and Meta have started entering the gaming market. They have incorporated games into their chat functions, seeing gaming as a key form of social interaction. Games have become an extension of our world, a method for social gatherings and way to interact with others. With Facebook's announcement of their name change to Meta, the new era of the metaverse has begun. The use of VR & AR and digital avatars will be essential to enhance experiences and make the metaverse life-like. Gaming will be a large component of this broader vision.

Meta announced that Grand Theft Auto: San Andreas is in development for Quest 2, their VR headset. Many other games are also being developed and will be key for interacting in the metaverse.

Esports/Streaming

Esports are video games that are played in a highly organized competitive environment streamed for audiences to view. The types of games played can range from, multiplayer online battle arenas (MOBAs), to single player first person shooters, to survival battle royales, to sport games like FIFA or Madden. In recent years, esports stakeholders have organized around individual esports leagues and games forming a globally connected esports ecosystem. As audiences grow and new leagues and streaming develop, more developers are focusing on multi player online games understanding the importance of esports. In addition, a subsector of esports has also started to develop – providing services to streamers and viewers.

Business Models

Changing business models

Subscription

Recently, gaming companies have started to make the plunge into service-related revenues. Major console developers like Microsoft, Sony, and Nintendo each have their own subscription services for games. This model is starting to be implemented in mobile gaming as well. Eight out of the top 15 grossing mobile games in 2020 have adopted in-app subscriptions10.

Play-to-Earn

In this model, the game incentivizes the users to play and invest time in the game by rewarding them with NFT's or other crypto-style tokens that can be spent in the game or sold to other users. This in turn raises the value of the total game for the developers themselves. Every time a player buys an asset with crypto or an NFT, they indirectly increase the value of the entire game economy. The added advantage for this style of game is that users can earn real money while playing.

For example, in a game called Axie Infinity players can earn Small Love Potions which are needed to breed more Axies, but players can buy and sell these on the open market. All obtained items, while playing, represent a certain value.

Pay-to-Play

The traditional business model, players pay to purchase or play the game. This is the model for physical game sales, but it serves online games as well. This model has been adopted and used for mobile and console app/game stores.

Free-to-Play (F2P) and Freemium

A free version of the game is provided that includes offers to purchase upgrades or new features via micro payments (In-App purchases).

Advertisements

Ads are presented to players, generating revenue for the game owner/publisher. In this model, in-game advertising (IGA) – ads - appear as part of the game. The downside is that can come at the cost of user retention as players generally do not like being disturbed by ads.

Genres

Something for Everyone

The world of video games encompasses an increasingly diverse and wide range of themes, as varied as movies and TV shows. Traditionally, game categories have been defined not only by the specific content they represented but by the type of game-play they provided, for example "shooters", "roleplaying" and "social games". Below we provide some examples of leading and popular gaming categories.

Israel's Gaming Industry

Israeli Gaming Industry

A New Player Has Entered the Game

The Israeli industry is a relative newcomer to the global video games scene but has reached significant accomplishments within a short period of time. It has grown from a nascent industry in the early 2000's, to one that has produced success stories on a global scale such as 'Playtika' 'Plarium' 'CrazyLabs' 'Ilyon' and more recently 'MoonActive'.

Humble Beginnings

Companies started raising funds around 2006, with only a few companies active in the field mostly comprised of very small independent teams. Despite the fact that Israel, at this point, had already established itself as a high-tech hub, no gaming industry existed. Talented individuals, wishing to enter the field, were often, due to the lack of relevant employment opportunities, left with no choice but to look elsewhere.

Industry Redefined

Throughout the 90's and early 2000's the barriers to entry for the video games industry were getting increasingly higher, as the graphical and technological advancements in game platforms required ever larger budgets, at times reaching tens of millions of dollars for a single game title.

This situation, however, was soon to change dramatically, as the emergence of mobile phones and the advent of social media, reshaped the entire industry landscape within just a few short years. These new technologies shifted growth from the core market to the mass market, which quickly exploded from 100 million people to a market of three billion. Beyond just expanding the addressable market, these developments also served to level the playing field. In this new era, incumbent market players no longer possessed a significant advantage over new market entrants, leaving many opportunities up for grabs.

Rising to the Occasion

As this new reality unfolded, Israeli companies were quick to seize the day, leveraging their technological strengths, honed in other converging high-tech industries, to propel themselves to the forefront of these emerging market segments. Consequently, much of the focus of the local industry, in these early years, was dedicated to Social Casino and Casual games. Beyond requiring only relatively minimal resources for game publishing, these specific areas of focus offered Israel the chance to apply its expertise in such fields as data mining, analytics and business intelligence to the video games industry. **These capabilities are of critical importance as user-acquisition and player-retention and engagement are key components of successful ventures in these particular segments.** Their relevance further increased as the rise of new monetization schemes such as free-to-play (F2P) and in-game advertising, meant that even small improvements in a number of metrics could make a significant difference to the bottom line.

Accordingly, a host of startups offering supporting services and complementing platforms sprouted up locally to fill marketing, monetization and analytical needs. This growth, in turn, led to the establishment of the first academic programs offering game design and development courses. These programs attracted a growing number of interested investors.

Israeli Gaming Industry

Leading the Charge/ Entering the World Stage

In the past half decade Israel has emerged as an international leader in digital gaming with the industry experiencing unprecedented growth. Israel is home to some of the largest most successful mobile gaming companies and studios in the world.

On any given day, there are at least two games from an Israeli game publisher on the top 10 charts for downloads and grossing. Due to the high install rate of hyper-casual games and the ongoing popularity of the genre, games publishers like 'CrazyLabs' and ironSource's publishing solution ,'Supersonic Games', are constants in the top downloads charts. Additionally, one can regularly find games such as 'Coin Master' and 'Slotomania' on the Top 10 Grossing Charts. These are just some of many widely popular successful Israeli games. The success of games like these have caught the attention of large international corporations, attracting further investment and international interest in the Israeli industry.

Many international corporations and gaming companies are opening operations in Israel to access their unique talent base in performance marketing, game design, and monetization. In recent years Playstudios, Huuuge Games, SciPlay, Meta (Facebook), Google, Snap, and TikTok have all opened local Israeli gaming operations or purchased Israeli gaming studios. This is a testament to the talent and expertise that exists within the Israeli gaming ecosystem.

In conjunction with the success of the industry, technology service companies have also grown such as, AdTech and performance marketing platforms. Companies such as AppsFlyer, ironSource, Overwolf, and Singular offer a wide breath of solutions for gaming companies and work closely with them in developing and implementing monetization and marketing strategies. Many of the world leading strategies and techniques are coming out of Israel, and Israeli marketing and monetization companies have enjoyed and contributed to this growth.

In addition to the large studio success, many Israeli indie games continue to gain notoriety. For example, studios like Clover Bite, Cookiebyte, Gavra Games, and Suncrash have allow launched successful indie games. These young studios have immense potential for commercial success but are currently supported by just a loyal base.

Israel

Industry Stats

~$9 Billion in revenue

Mobile is the most popular platform for publishing

~200 Companies

12 academic programs and courses

~14,000 Employees

Social/Casual leading investment category

Large number of notable Exits and IPOs

Industry Cornerstones

Mobile, Social, Monetization, and Supportive Tech – Industry Cornerstones

The current Israeli ecosystem covers a wide breadth of segments, genres and verticals, yet can be broadly characterized according to several dominant features: **Mobile based, Social & Casual centered, strong monetization skills, and an ecosystem of supportive technologies.** These attributes can be associated with the local industry’s roots and DNA, in much the same way as industries in other countries, such as Canada, Germany, and Poland, have developed their own unique identity and focal points.

01

Mobile based Video Games
Publishing in Israel has been predominantly based on mobile and web platforms.

02

Monetization Expertise
Israel’s accumulated experience and expertise in data analytics has given the industry a huge competitive advantage. Performance marketing and monetization strategies define the success of many Israeli gaming companies.

03

Social & Casual Much of the success experienced by the local industry is attributed to F2P (free to play) casual & social games. Successful ventures in this field depend on strong monetization schemes and advanced analytical capabilities.

04

Supportive Technologies
Israel’s hi-tech ecosystem is rich with cutting edge technologies such as AR/VR, AI and machine learning, Ad-tech, Crypto & others that give Israeli gaming companies a distinct competitive advantage.

Industry Cornerstones

Expanded

Israel's rich startup ecosystem has helped pave the way for the growth of the gaming industry. Utilizing methods and strategies from other industries – Israel's unique ability to work fast, use data driven marketing, and leverage monetization expertise has helped shape and define the playing field and how Israel competes in gaming, globally.

Playing Field: Mobile gaming and Social/Casual games

Mobile gaming is the chosen playing field for most successful Israeli gaming companies. Currently there are no AAA (high budget) studios, and instead the biggest Israeli companies focus on social/casual gaming. Mobile social/casual games have a shorter development cycle due simpler game play and art & graphics. Most investors are looking for opportunities for fast and high ROI with less patience for a longer development cycle that more midcore studios necessitate. In addition, previous mobile expertise allowed entering the gaming market to be relatively frictionless. This is evident in the abundance of social/casual companies who push their games on mobile devices such as: Playtika, MoonActive, Beachbum, Supersonic, and CrazyLabs. Israeli games have a significant presence in the top 10 charts for mobile games both in downloads and top grossing.

Funding

Following the exits of 2015-2018 a new set of market-specific investors emerged including NfX, vgames, Remagine Ventures, Kaedan Capital and a slew of angel investors, adding to the growing interest of international investors in the Israeli market and investors who were active in the market like 83North and Sequoia.

How They Win: Data driven approach through Monetization and Supporting Services

Israeli companies have vast experience in data driven approaches to performance marketing and monetization. The origins of Israel's gaming industry lies in the social casino industry. This space was the precursor to the social/causal space and here, monetization was king.

Israel is world class at leveraging data to attract customers and drive revenues. Staying true to the Israeli identity, game publishers move fast to create games and stay ahead of trends in monetization techniques and business operations. They can do his by enjoying the derivatives of the hi-tech ecosystem, using best practices and experience from other industries and translating them into gaming know how.

AI and Crypto are prime examples of how other industry knowledge has spilled over, enhancing gaming data, behavioral analytics, and monetization. Gaming companies are supported by a strong ecosystem of service and technology providers furthering capabilities in marketing and monetization. Companies like AppsFlyer, ironSource, and Singular are just a few of the large tech service providers furthering gaming companies' capabilities.

Industry Cornerstones

Supportive

Content Creators' Economy

In addition to game development and publishing companies, supportive companies such as Overwolf and StreamElements have become global leaders in the creators' economy. They assist millions of content creators to grow their audiences and monetize, while simultaneously helping gamers become professional players as part of the eSports sector.

Converging Markets

As expertise grew, converging markets tapped in the processes and procedures that are typical to game publishing in order to optimize the engagement with their clients and achieve better results. Main markets include Health and Education.

Funding

Following the exits of 2015-2018 a new set of market specific investors emerged including: NfX, Vgames, Remagine Ventures, Kaedan Capital and a slew of angel investors. These new investors joined the Israeli market where international investors such as 83 North and Sequoia were already active.

- **NfX**, founded in 2015, manages $450m, out of which around 5-10% are directed to the gaming sector. NfX is an early-stage investor, investing in pre-seed and seed rounds across multiple fields.
- **vgames** was founded in March 2020. Following the initial $60M fund, vgames announced a second fund of $141M which invests solely in the games sector. Of vgames' 23 investments announced, 13 were in Israeli companies.
- **Remagine Ventures** is an early-stage venture capital firm investing in seed and pre-seed companies at the intersection of tech, entertainment, gaming, and the metaverse. Remagine Ventures manages a $35m fund of which about 50% of the capital is invested in gaming & gaming tech related companies.
- **Kaedan Capital**, Kaedan Capital, founded in 2008, has a long-standing record investing in the intersection of tech, media, and entertainment companies. Out of their portfolio, ~30% are gaming companies. Kaedan Capital focuses on Israeli related seed to early-stage software ventures in diverse technology areas.

As companies grew, there became a need for later stage investors. Insight Partners, an example of this, is very active in Israel and has invested in Moonactive, Overwolf, Joytunes, and others.

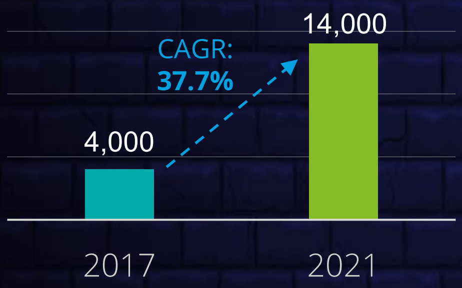
Industry Analysis

Findings

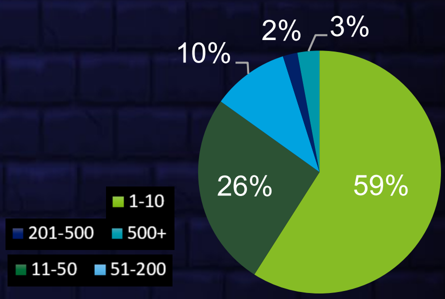
Largest Companies are Highest Employers

The gaming industry in Israel is a flourishing market with much potential. Israel is currently home to ~200 companies employing ~14,000 workers. Compared to 2017, we see a 250% increase in terms of employees while only seeing growth of 11% in the number of companies. When considering company size, most companies are small-sized, but in fact employ the fewest number of workers. The largest companies are responsible for the majority of the employment. This is consistent with the market consolidation that we have seen over the past few years.

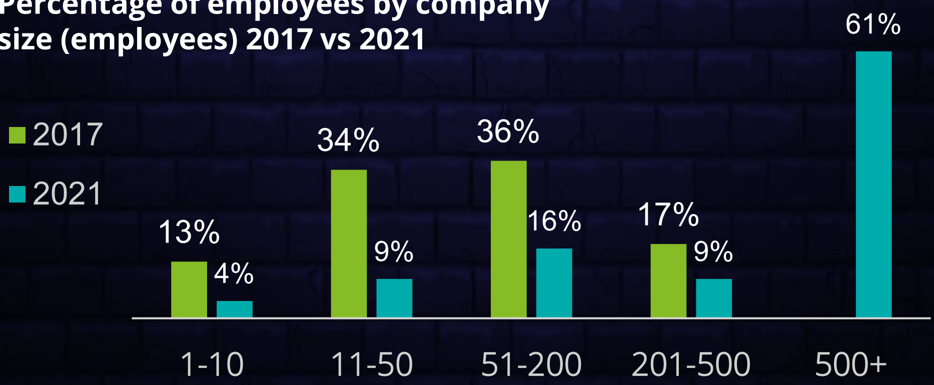
Number of employees 2017 vs. 2021



Percentage of companies by employees size 2021



Percentage of employees by company size (employees) 2017 vs 2021



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Industry Analysis

Selected list of 10 large Israeli companies and global companies operating in Israel*

Playtika

Playtika Holding Corp. is a leading mobile gaming company and monetization platform with over 35 million monthly active users across a portfolio of games titles.

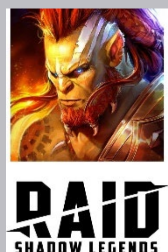
Founded in 2010, Playtika was among the first to offer free-to-play social games on social networks and, shortly after, on mobile platforms. Headquartered in Herzliya, Israel, and guided by a mission to entertain the world through infinite ways to play, Playtika has 20 offices worldwide including Tel-Aviv, London, Berlin, Vienna, Helsinki, Montreal, Chicago, Las Vegas, Santa Monica, Newport Beach, Sydney, Kiev, Bucharest, Minsk, Dnepr, Vinnytsia, Lausanne, and Warsaw.

On January 2021, Playtika raised $2.16 billion dollars in an IPO. Its market capitalization on 05.12.21 was 7.02 billion dollars and its 2021 revenues are estimated to be $2.58 billion, per management guidance.

PLARIUM

Plarium Global, which was founded in 2009, is a global leader in developing mid-core mobile and PC games with more than 400 million users worldwide. Its games offer richly detailed production value, immersive, committed player communities, and action-packed strategic gameplay. Among the games that were developed by the company are Raid Shadow legends, Vikings: War Of Clans, and the latest game Mech Arena: Robot Showdown which was launched in August 2021. Plarium employs more than 1,700 specialists at its headquarters and across nine offices and development studios in Herzliya, Krasnodar, Kharkiv, Kyiv, Lviv, Odessa, Helsinki, California and Michigan.

Plarium is part of Pixel United, the global mobile-first games publishing business of Aristocrat Leisure Limited (ASX code: ALL).



*Data is based on Start-Up nation, Crunchbase, Pitchbook and company websites.

Industry Analysis

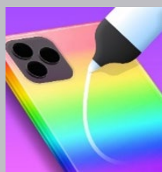
Selected list of 10 large Israeli companies and global companies operating in Israel*

MOONACTIVE

Moon Active, which was founded in 2012, is a game publishing company which develops action-filled games that are aimed to provide an engaging entertainment experience. Among the games that were developed/acquired by the company are: "Coin Master", "Family Island" and "My Cafe recipes & Stories." **Moon Active raised 10 million dollars and its revenues in 2021 were 1.65 billion dollars.**

CrazyLabs

CrazyLabs, which was founded in 2010, is a casual & hyper-casual mobile games developer & publisher, with over 5 billion downloads. Among the games developed/published by the company are "Phone Case DIY", "Acrylic Nails" and "Tie Dye", and **its revenues in 2021 were just under 200 million dollars. In August 2021 Embracer Group announced it was acquiring CrazyLabs.**



ilyon

Ilyon Dynamics, which was founded in 2014, develops free-to-play casual games across different platforms and devices. Among the games that were developed by the company and famous titles are "Bubble Shooter", "Cube Rush Adventure" and many more**. In December 2019 Ilyon was acquired by Miniclip.**

*Data is based on Start-Up nation, Crunchbase, Pitchbook and company websites.

Industry Analysis

Selected list of 10 large Israeli companies and global companies operating in Israel*

Beach Bum, which was founded in 2015, is a mobile app games company that delivers the ultimate multiplayer experience in head-to-head online evergreen games. Among the games that were developed/acquired by the company are: "Lord of the Board", "Spades Royale" and "Gin Rummy Stars". **Beach Bum was acquired by Voodoo in October 2021, before which its 2021 revenues to date were over 70 million dollars.**

Huuuge, which was founded in 2014 (opened operations in Israel in 2018), is an international free-to-play games developer and publisher of digital games on mobile and web platforms. Huuuge focuses on real-time free-to-play casual games. Among the games that were developed/acquired by the company are: "Huuuge Casino“ and "Billionaire Casino".
Huuuge has raised 100 million dollars in investment and its revenues in 2021 were 374 million dollars.

888, which was founded in 1997, provides online gaming entrainment. 888 owns and operates many of the casino, sport, poker, and bingo brands in the market. Among the games that were developed/acquired by the company are: "888casino", "888poker" and "888sport." **The market capitalization of 888 on 05.12.21 was 1.13 billion dollars.**

*Data is based on Start-Up nation, Crunchbase, Pitchbook and company websites.

Industry Analysis

Selected list of 10 large Israeli companies and global companies operating in Israel*

SciPlay, which was founded in 1997 (was opened in Israel in 2014), develops and publishes digital games on mobile and web platforms. Among the games that were developed /acquired by the company are: "Jackpot Party Casino", "Gold Fish Casino" and "Quick Hit Slots." **In May 2019, SciPlay raised 352 million dollars from an IPO and its market capitalization on 05.12.21 was 362.8 million dollars.**

Playstudios, which was founded in 2011 (operations opened in Israel in 2016), develops technologies in the field of social gaming. Playstudios Israel specializes in real-time, multi-player mobile social games. Among the games that were developed/acquired by the company are: "Vegas Slots", "My Vegas Bingo" and "PlayLABS." **Playstudios raised 361 million dollars, while its last funding was raised in 2021 from an IPO. Its market capitalization on 05.12.21 was 500.2 million dollars and its revenues in 2021 were 270 million dollars.**

*Data is based on Start-Up nation, Crunchbase, Pitchbook and company websites.

Industry Analysis

Selected up and coming companies

GIGANTIC LTD

WHALEAPP

CANDIVORE

DGN GAMES

GLIDING DEER

PAPAYA GAMING

comunix

SuperPlay

SUPER SONIC

Industry Analysis

Selected Indie studios

Clover Bite

SUNCRASH

ADVENTURE 4LIFE STUDIOS

HAPPY JUICE

GAVRA GAMES

[indistinct chatter]

We Create Stuff

FORT TRIUMPH

Cookiebyte

28

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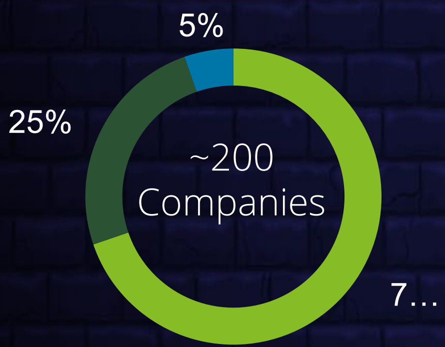
Industry Analysis

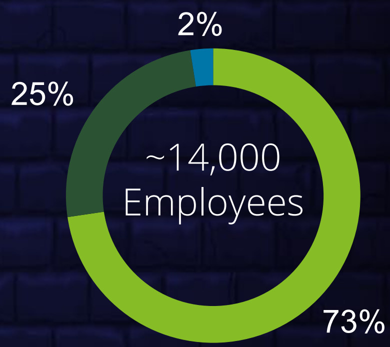
Findings

The companies in our dataset were classified according to three general categories as per our assessment of their core activities. These categories were: 1) Game Publishing, 2) Technology & Supporting services, and 3) Platform (an intermediary category referring to companies that beyond developing games also provide the means to create customizable content). When segmenting the companies across these assigned categories, the Game Publishing segment was found to be the largest, with mobile gaming being the primary focus.

Percentage of Companies by Category

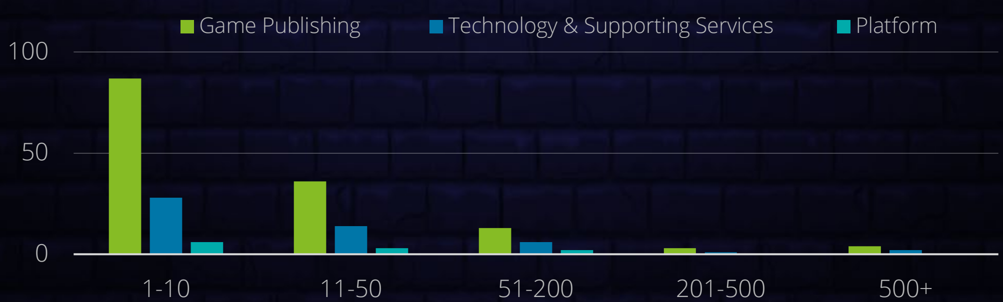


Percentage of Employees by Category



Game Publishing | Technology & Supporting Services | Platform

Breakdown of Company Size by Category



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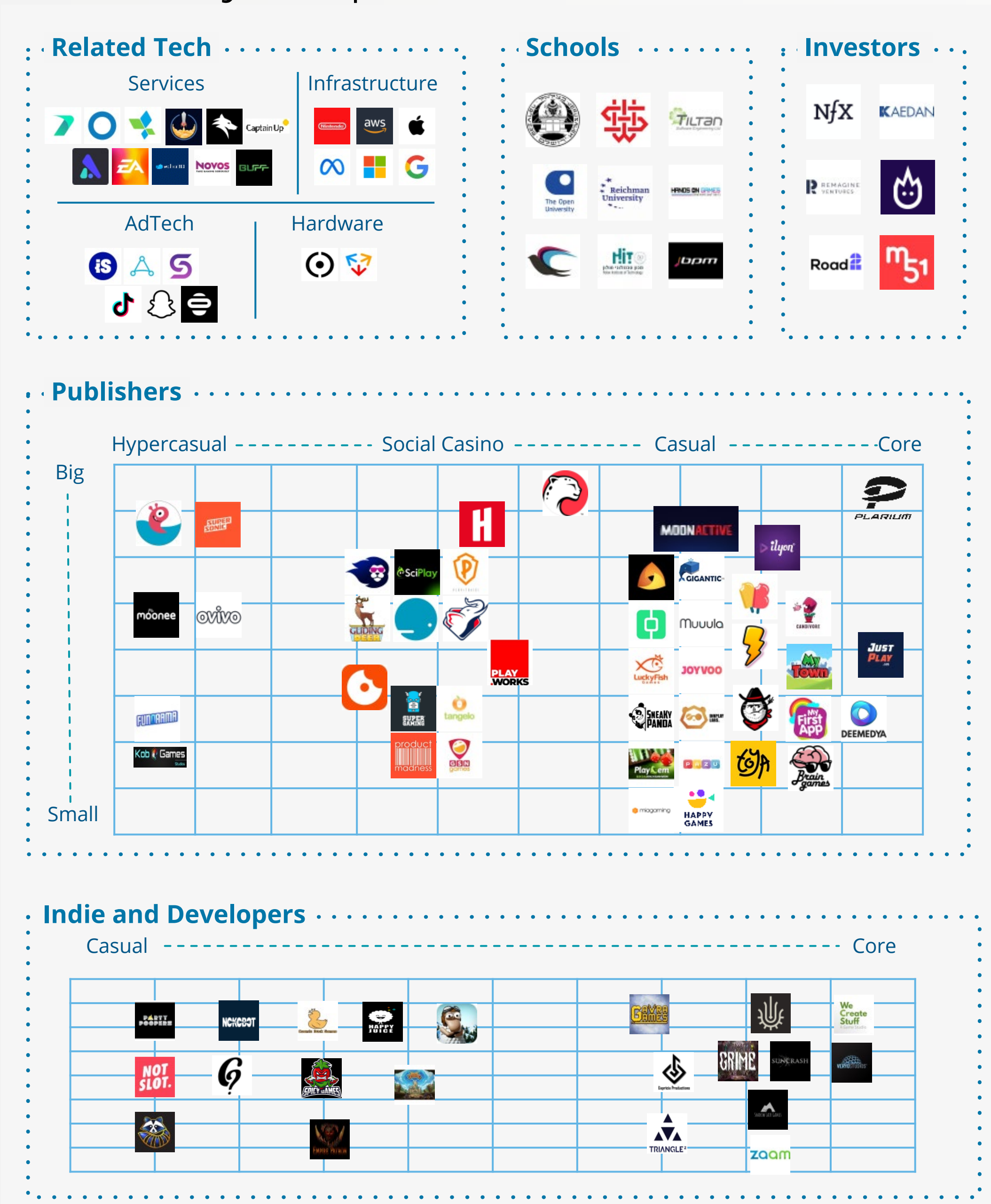
Industry Map

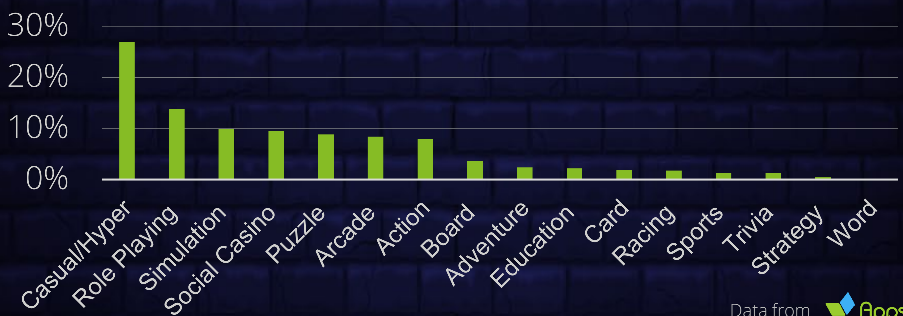


Industry Analysis

Market Size of Game Publishers

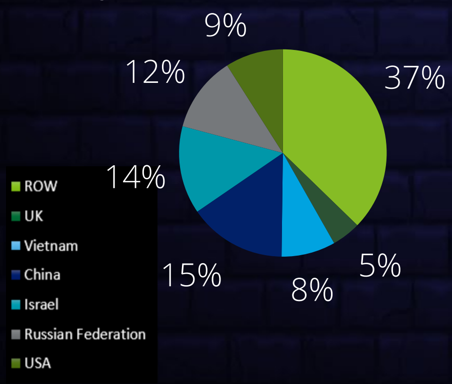
Of mobile games, casual and hyper-casual games are the most popular genre among Israeli companies. The same is true for social casino, simulation and role playing. Considering the cornerstones mentioned previously, these games allow Israeli companies to leverage numerous different core capabilities. Israeli games are being played around the globe, across different geographies, however there is not one primary market who play Israeli games. One of the drivers of this is the nature of hyper-casual games high rates of install across different areas of the world.

Israeli Apps by Genre 2021

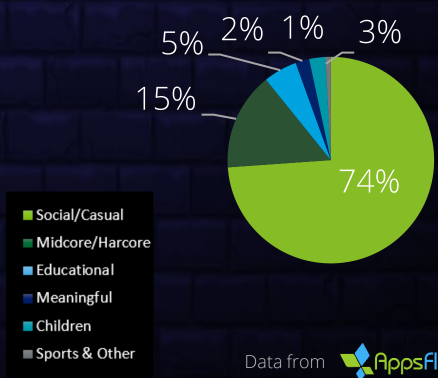


Data from AppsFlyer

Israeli Apps Installs Distribution January-September 2021 by Country



Employees by categories of game publishers across all platforms



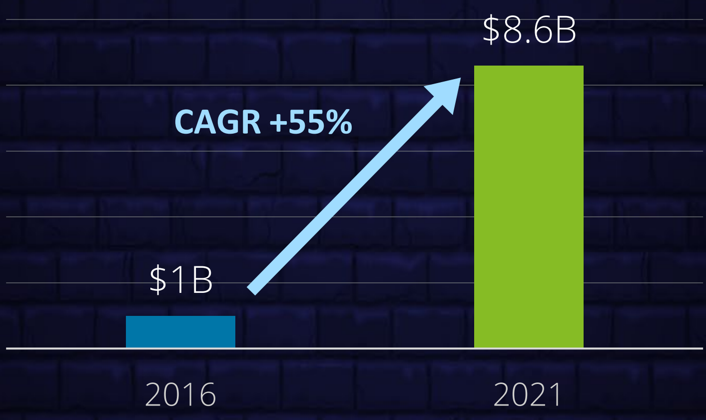
Data from AppsFlyer

Industry Analysis

Market Size of Game Publishers

Israel is home to many gaming companies operating in different segments accessing different audiences around the globe. We estimate the market size, in terms of revenue, of the Israeli market to be ~USD 9B. Compared to the total Israeli export market of USD 120B [16], this represents ~7% of the entire market. From 2016, the total revenues have increased by ~800%, which represents a CAGR of +55%. It must be noted that this market size only consists of revenues from game publishers and does not include supporting services that serve the gaming industry such as: AppsFlyer, Singular, and ironSource. Including these companies would result in a significantly larger market size. The gaming industry, through consistent investment and development, has become one of the strongest most influential industries in Israel.

Market Size (USD$)



Market Size Calculation

For 88% of the market (by number of employees) the In-App-Purchase (IAP) revenues, from January-October 2021, were taken as a base to calculate the total revenues, or for public companies, financial results up to and including Q3 were used. For the private companies, it was assumed that the IAP/Ad revenues consist of 69% and 31% respectively (Statista, average of casual & social casino). In a next step, 30% gross to net margin was added to the IAPs since 3rd party platforms, such as Android and Apple, take 30% commission.

For the publicly traded companies such as Playtika and 888, the results up to and including Q3 were forecasted for the full year. This forecast for the full year was similarly conducted for the private companies as well. Since the initial data used consisted of 88% of the market (by number of employees), 12% was added to reach the market size of ~USD 9B.

Notable Exits

Playtika

IPO

Playtika, a Herzliya based company, went public in January of 2021. At the time of the IPO it had a Market Cap of $11B. Playtika is one of the largest players in social casino and casual gaming.

CrazyLabs

Acquired

In August 2021 CrazyLabs was acquired by Sweden's Embracer Group for an undisclosed amount. CrazyLabs is a top casual & hyper-casual mobile games developer & publisher with over 5 billion downloads. CrazyLabs was the third most downloaded mobile game publisher in 2020.

BeachBum

Acquired

Beach Bum, which develops mobile games based on popular board games like backgammon, was acquired in October of 2021 by France's Voodoo for $300M.

ironSource

SPAC

ironSource a leading business platform for game and app developers , went public through merging into SPAC Thoma Bravo Advantage in June 2021. It was listed on the NYSE at a $11.1B

BUFF

IPO

Buff, in August of 2021, became the first Israeli gaming company to go public on the TASE. It went public at a $76.7M evaluation. Buff Technologies' runs on Overwolf's platform and allows users to earn 'Buff Points' through achievements in various games which can then be used for real-world purchases.

Gaming MNCs in Israel

Apples’ R&D center develops new AR/VR capabilities and image and signal processing as well as other technologies utilized by the gaming industry

R&D Centers leading the development in Snap’s AR capabilities, partnering with Gaming companies to build engaging AR experiences, and craft their camera strategy.

Electronic Arts

EA Israel is home to EA's Cloud Gaming Technology

Microsoft

R&D Center leads strategic products and services.

aws

R&D center; developing chip and cloud tech

Google

R&D centers with various areas of research across different technologies connected to gaming

intel

R&D center; developing game processors

Meta

Meta has a R&D center in Israel focusing across a wide spectrum of technologies. In addition, they focus on partnering with local companies.

TikTok

Tel Aviv hosts a Global Business Solutions team to support companies grow their presence on TikTok, including games.

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Israeli Gaming Industry Education Programs

'Tiltan', college of design and virtual communication, offers a 3-year program with two specialization tracks: one for gaming developers and the second for gaming artists. **This program enables certificate studies or European Bachelor degree studies.**

The students in this program study the different aspects of game mechanics, design, and story narratives. The college has an independent campus studio, running real-world projects ranging from mobile and Xbox, to AR/VR.

'Shenkar external studies' offers **a 13 months certificate's studies** in digital gaming design and development and virtual reality. This program covers a variety of topics such as: 3D modelling and animation, games publishing, interface-based Arduino, and VR/AR/M.

Shenkar also offers a M.Des in gaming development and design. The students in this program will learn how to research and create in order to become industry leaders, designers, writers, developers, and entrepreneurs in the field.

Bezalel offers a **Game Design specialization track as part of its 4-year Visual Communications undergraduate degree (B.Des).** Studies include courses in game design, game art, and game development.

They also collaborate with **the Hebrew University** Computer Science program, and offer a video games BSc as well as a wide variety of academic courses, studios, and master classes, led by industry leaders.

Israeli Gaming Industry Education Programs

The Digital Media Program and Lab at the Steve Tisch School of Film and Television opened in 2016. **This program offer a unique 4-year program leading to a BA and MFA degrees**. This program is aimed at hands-on intensive training enabling the creation of new forms of audiovisual digital storytelling.

The final two years of this program are dedicated to laboratory style workshops where the students work on the planning and production of their final projects.

IAC, the Israeli college for animation and design, **offers a two-year certificate's studies in gaming designing and development** for PCs and consoles. This program focuses on game development, game art, and game design. For the following programs: 3dsMax, unity software, and the #c programming language.

Reichmann University offers a **specialization in gaming development and in interactive media as part of its computer science bachelor degree**. This program includes research projects guided by faculty members and industry projects alongside lectures led by industry leaders.

Israeli Gaming Industry Education Programs

'Mentor', college of design, **offers a year and half certificate's studies in gaming design and development** which includes practical training in all the main domains of game development. These courses include designing, graphics, programming and sound, creating portfolios of work, and production of desktop and mobile games.

SV college **offers a 4.5-month certificate's studies in gaming development**, which covers the following topics: game theory, 3D games, AR & VR games, and #c. During the studies, the students create portfolios of work which includes the development of 5 games.

Hype **offers gaming workshops for kids**. Hype offers two tracks: video editing and graphic design and gaming. Through these programs kids learn how to build computer games, create 3D models, and edit videos.

Israeli Gaming Industry Education Programs

The Hands on Games gaming school was founded in Tel Aviv in 2016 and **offers professional game development training for companies and private individuals**.

A number of Hands on Games' alumni have already been integrated into some of the most exciting gaming companies in Israel and abroad. Many of the company's courses are now included in the onboarding of new employees in several gaming companies around the globe.

'Hasifa', school of communications and digital arts of the Open University, **offers an one- year program for video gaming development**, which grants academic credit points.

This program includes a wide range of topics from the gaming industry, where the main emphasis is on acquiring advanced skills in the main domains of game design or characterization, 3D, graphics engines and art, sound, screenwriting, and Photoshop. This program includes also practical studies, including game creation.

HackerU **offers a 6-month certificate's studies in gaming development**. The course trains the students in the following topics: game planning, creating content on gaming platform, using 3D models, and combining animation and visual programming. The curriculum and courses were developed by professionals from the gaming industry.

Challenges in the Industry

Although Israel has a strong gaming market, major challenges still exist and effect the growth and health of the industry.

Human Capital

Talent

A key element in the sustainability and growth in the industry is access to high quality local talent. Currently, Israel lacks key human resources in a number of different capacities that are necessary for further development of the industry. Not only does Israel not have enough developers, a common issue in the entire hi-tech market, Israel also lacks the talent in other areas necessary for game publishing such as artists, content creators, and designers. Many studios cannot find the art directors and designers that they need in order to develop games. This is partly due to the lack of AAA studios in Israel and the experienced talent which they produce. Because of this, Israel significantly lacks the expertise outside of the social/casual segment which makes it difficult to expand into other gaming segments. Without experienced personal from AA or AAA studios, it is more difficult for quality midcore/hardcore studios to be started in Israel.

Training

One reason for the talent scarcity is that there are a small number of specialized gaming programs in universities. Students who are interested in game design or development do not have sufficient access or awareness of the ability to turn their passions into a profession. Coupled with this, students who do complete the current programs have a harder time entering the workforce. Currently gaming companies have limited capabilities in hiring for junior positions and paying the expected salary as dictated by the market. As there is a large learning curve in the gaming industry, for most companies these high salaries for inexperienced workers is not worth the investment.

Immigration

In addition to the challenges mentioned above, it is also very hard for experienced developers in other countries to obtain work visas to come work for gaming companies in Israel. Just as Israel has its own unique expertise, so do many other countries as well. Without these foreign workers coming to Israel, gaming companies are significantly limited in their exposure to other markets and experience. This immigration challenge in combination with the fact that local salary costs are higher than in many other countries, is driving companies to seek out talent and build facilities and centers in other countries such as Poland and Ukraine.

Challenges in the Industry

Funding and Investment

Venture Capital

Investment around the globe is at an all-time high yet it is still difficult for Israeli gaming companies and small studios to get off the ground, in particular for midcore/hardcore games. Many VCs in Israel are looking for fast ROI and do not have the patience for longer development cycles such as what is needed for more complex and high quality midcore/hardcore games. In addition, VCs lack meaningful experience in this field and instead of focusing on gameplay, design, and story they focus on metrics about user behavior which they are more familiar and comfortable with. In addition, many VCs are not comfortable investing in early-stage studios without an existing game, a developed team, market validation, or feedback. Early-stage gaming studios abroad are much more developed than Israeli indie studios due to government funding efforts. Indie games in Israel have much potential. An example of a globally successful game, which was developed with limited funding, is GRIME developed by Clover Bite and backed by Titlan. Because of the lack of VC investment, a significant amount of the investment we see in early-stage gaming companies is coming from former gaming executives who have industry experience.

Israeli Innovation Authority

Another challenge in lack of investment is due to the inadequate gaming expertise in the Israel Innovation Authority. This body, has deep knowledge and experience in evaluating and mentoring tech companies, however gaming companies are different. If the game's selling point or differentiator is not tech related, the IIA does not hold the capabilities to assess the quality of the work. Generally, early-stage gaming companies trying to raise money focus on developing products centered around a new style of gameplay, storyline, artwork, or graphics and not on new technologies in the game.

Government Support

In addition, unlike many other countries who are trying to build this industry, the Israeli government does not offer any grants, incubators, or programs to support in the development of new games and studios. This significantly limits the ability for new companies, who would most likely not receive VC funding as they do not have a viable game, to experiment and raise capital to develop games. This puts Israelis seeking to enter the gaming industry at a huge disadvantage and severely limits the potential for invaluable experience developing a game.

Gaming Industry Benchmarks

Countries

The benefits of a strong gaming industry

In this section we will discuss a variety of effective usages of incentives and subsidies in order to help support and grow the gaming industry, using examples from three countries: Poland, Canada, and Germany. These countries serve as good examples of how successful tax schemes and incentives can encourage further growth and investment in the gaming industry. We will show, for each country, how these incentives have impacted the growth of their gaming industries and subsequently the impact on the economy and government revenue. Incentives can have a substantial impact on the gaming industry and subsequently bring considerable benefit to the state.

Incentives help create a successful industry leading to benefits for the country

Cross-sector Innovation

Promotes interdisciplinary research and development, contributing to multiple industries such as advertising and e-commerce

Financial Gains

Provides financial gains stemming from sales and income tax as well as investments in infrastructure and R&D

International Recognition and Branding

Serves as an effective medium for rebranding the country in the eyes and minds of younger generations throughout the world, bridging pitfalls of bias and stigma

New Employment Opportunities

Extends employment opportunities to new segments of society previously precluded from the hi-tech industry, such as the music and designing arts as well as opening new technological, career paths

Multi-function Applications

Provides new tools for educational, wellness and social enhancement, leveraging game play fundamentals to offer original solutions for unmet needs

Poland Gaming Industry

Overview

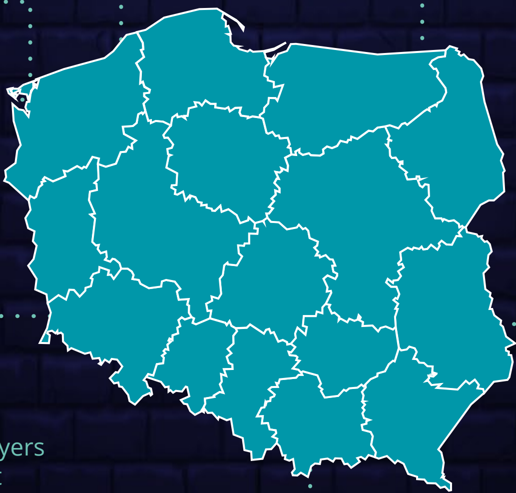
In 2020, Poland's game market was ranked 19th largest globally[17]. Poland is recognized for its young and inexpensive workforce, resulting in low costs for the gaming sector. High-budget games created in Poland, such as Dying Light by Techland or The Witcher by CD Projekt, are immensely popular globally[18]. These games contribute to shaping Poland into the innovative gaming industry which it is known as today. In fact, CD Projeck is one of the highest valued company listed on the Warsaw Stock Exchange[19].

Industry Stats:

105 exits and $1.94 billion invested capital (2021)[20]

440 Studios, 54 of which are listed on the stock market (2020)[18]

€500 million revenue (2020)[19]



16 million players with the most popular platform being PC (2020)[19]

9710 Employees (2020) [19]

Universities offer 60 courses relevant to the industry, 26 of which relate to programming and 17 of which for artists (2020)[18]

Poland Gaming Industry

Governmental Incentives

Investment

GameINN

Founded in 2016, GameINN is an annual grant for R&D offered to game and technology development companies by the National Centre for Research and Development. It was created in association with the Polish Game Association, in efforts to promote greater competitiveness within the Polish game industry[18].

Funding Statistics

So far, this program has awarded financing of over US$ 113million to over 150 projects[20]. In 2020 alone, US$ 37 million was granted to 43 projects[21].

IP BOX

A tax relief, introduced in 2019[22], aims to reduce the amount of tax paid to 5% for the sales of the products or services developed based on intellectual property law. Included in the list of requirements to meet this benefit, is that the company must conduct R&D related to the creation, development or improvement of a qualified intellectual property right. These IP rights also includes an IP created in gaming related activity [18].

Human Capital

ARP Games

The University of Silesia, in partnership with the Industrial Development Agency and The Cieszyn city, started an accelerator to support in the development of original game ideas and gaming related ventures. In addition to the accelerator, ARP games offers grants and scholarships to young game publishers twice annually. The accelerator offers financial and organizational support to game publishers who do not have the financial means or industry knowledge to produce games by themselves[18]. ARP Games offers financial support (average of US$ 12,000) and awards grants of max. US$ 24,000 and a scholarship of max. US$ 5,000 per team[23,24]. After completing the first stage of the accelerator, those who are able progress into a second stage of 'the Games', are eligible for another US$ 12,000 as well as help in promoting their game and gaining new investors[24].

Funding Statistics

In 2020, 5 new companies were founded, and 4 titles released[25].

Poland Gaming Industry

Growth of the Industry

Employees in Polish Gaming Industry[26]

4,000 — 2018

10,000 — 2019

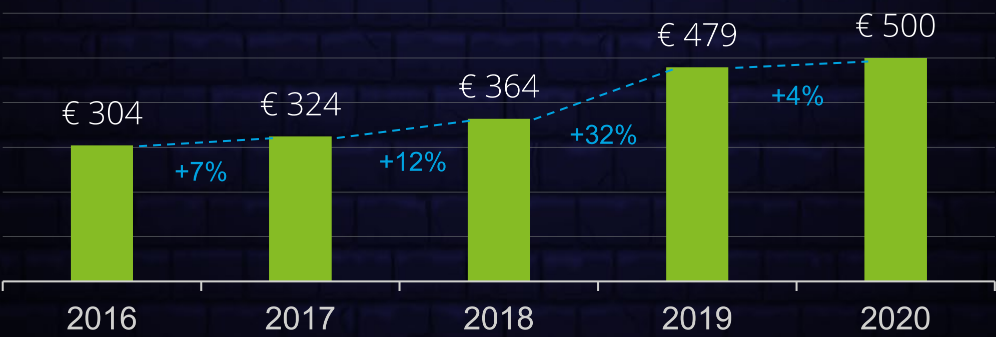
+160 new companies releasing 500 games[18,19]

2017 → 2020

2006 — 2021

In 2018, the Polish gaming industry employed 4,000 people and grew to 10,000 people in 2019[26]. From 2017 to 2020, more than 160 new studios have been founded[18], releasing almost 500 new games annually[18].

Industry Revenue in Millions[18]



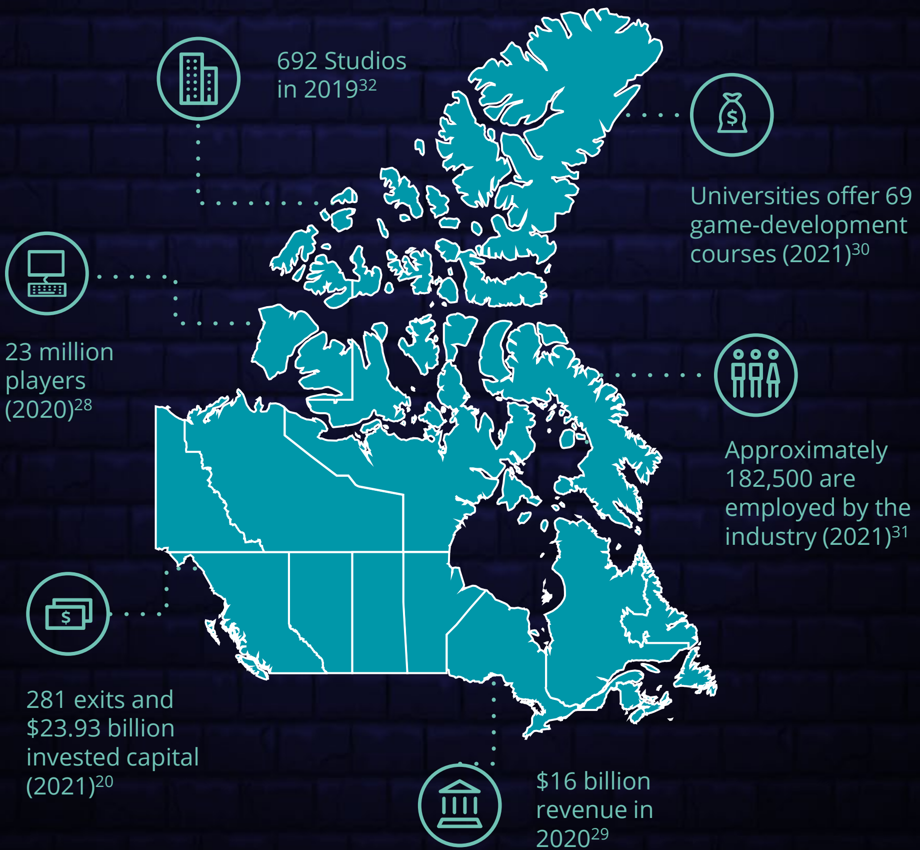
*Revenues are expected to continue to grow to nearly $850 million over the next four years, according to data from PwC[27].

Canada Gaming Industry

Overview

Canada is one of the largest sources of game publishing in the world, placing only third behind Japan and the US[28]. The gaming sector has been an economic priority for the Canadian Government[29]. Through targeted incentives, fast-track immigration programs, and funding for small-medium sized studios Canada has become a powerhouse for game publishing. Canada is home to many large studios, including three EA studios in different cities.

Industry Stats:



Canada Gaming Industry

National Governmental Incentives

Investment

The Canada Media Fund (CMF)

The CMF finances, develops, and promotes the production of Canadian content and relevant applications for all audio-visual media platforms including gaming. For funding, The CMF receives contributions from Canada's cable, satellite and IPTV distributors, and the Government of Canada[32]. The Fund provides 50-75% of project costs to a maximum of $15K-$1.5M[33].

Funding Statistics

In 2020, 1,309 projects were funded for a total of $356.8M and in 2019 1,501 projects were funded for a total of $357.4M[32]. In addition, there is an emergency fund which has distributed $100.4M in total funds to over 1,200 companies and organizations to date[32].

Impact

In 2020, the Canada Media Fund stimulated $1.5B in production activity across Canada and created more than 244,000 jobs[32]. In Ontario alone, 5,000 new full-time jobs were created since 2017, 32% more than previously recorded[34]. From 2010-2011 to 2013-2014, the CMF contributed to the creation of half of all the jobs in the Canadian television production sector and related industries, resulting in 26,150 jobs per year, on average[35].

The CanExport program

The program, introduced in 2016[36], offers support to video game studios in conducting marketing activities in foreign markets outside of Canada through grants for related projects. The program may provide up to 75% of project expenses to a maximum of $75K in grants[37].

Canada Gaming Industry

National Governmental Incentives

Investment

The Scientific Research & Experimental Development (SR&ED)

The SR&ED Program, founded in 1986, provides >$3 billion in tax incentives to more than 20,000 applicants every year, making it the single largest federal program that supports business R&D in Canada, including gaming companies. The program is run by the Canada Revenue Agency (CRA)[39]. The program provides a retroactive tax credit 4-12 months post project approval but is only eligible for completed projects. This program provides tax credits of up to 35-45% of wages, overhead, materials, and various other expenses[38].

The National Research Council Industrial Research Assistance Program (IRAP)

The IRAP is a federal government funding program, created in 1962[38], to support the R&D stage of technologies developed in Canada. The program is applicable to developers of innovative new games or software that are looking to advance their R&D. Developers may be eligible for up to 60-80% of internal labor costs and subcontractor expenses[37]. In addition, the IRAP offers funding to hire young graduates for SMBs[39].

Impact

Between 2019–2020, The NRC IRAP funded innovative projects for over 3,300 Canadian SMEs, enabling its clients to support over 11,400 Canadian jobs[40].

Canada Gaming Industry

Provincial Governmental Incentives

Investment

The Ontario Interactive Digital Media Tax Credit (OIDMTC)

This program consists of a refundable tax credit, first implemented in 1998[41], which can be used for qualified labor, marketing, and distribution costs. Companies that are headquartered in Ontario and develop interactive digital media are eligible. The OIDMTC is provided by Ontario Creates and the Canada Revenue Agency (CRA)[38]. The program may provide up to 40% of qualified labor, marketing, and distribution costs towards internal activities, with up to 35% for fee-for-service arrangements. There is no overall funding cap for this program, but funding for marketing and distribution costs are capped at $10K per product[41].

Interactive Digital Media Fund (IDMF)

Ontario Creates is an agency of the Government of Ontario which runs the IDMF to support digital media developers in growth and getting their products to market faster. They award up to $50K for concept definition projects, or $250K for digital media projects in the production stage[37].

Impact

A recent study found that incentives throughout Ontario contributed $1.4 billion towards Ontario's GDP in 2015 (up from $917 million in 2010) and supports nearly 11,000 full-time equivalents (FTE) employees (2018)[42].

Quebec's Production of Multimedia Titles Tax Credit (PMTTC)

The PMTTC for games, services the commercial market and amounts to 30% of the qualified employment costs and an added 7.5% of the costs can be sought if the game is developed in both English and French. Niche games which use non-standard technologies, may also obtain 26.25% of tax credit for the qualified labor costs regardless of the language that it is developed in[44].

Funding Statistics

It is estimated that Quebec's long lived incentive program has provided $491 million in labor tax credits to the video game industry since 1998. This encompasses $80 million this year only, covering up to 37.5% of labor expenses or $11,428 per employee[44].

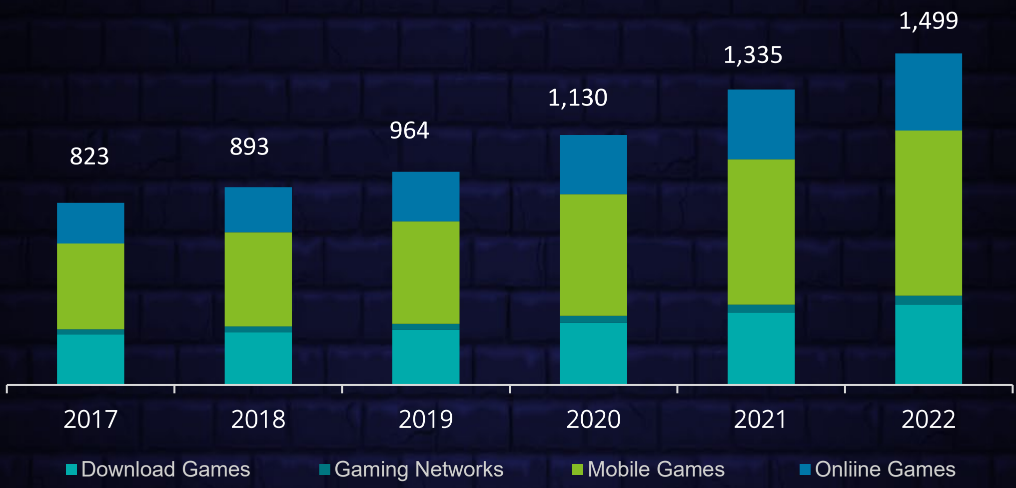
Impact

Due to much investment into Quebec's gaming industry, the market has grown by 600% since 2003. Around 50 development studios provided 5,000 jobs by 2010 and other companies in

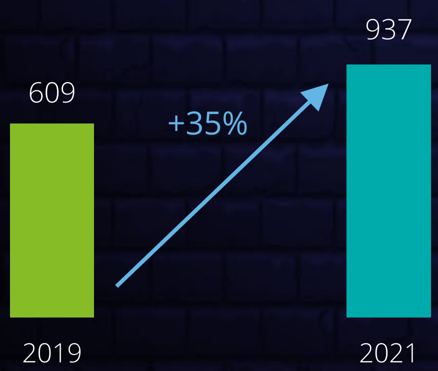
Industry Analysis

Findings

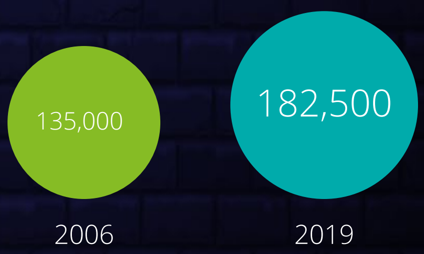
Revenue by Segment ($M)[45]



Number of gaming companies[46]



Employees supported by Canadian Gaming Industry[47]



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Germany Gaming Industry

Overview

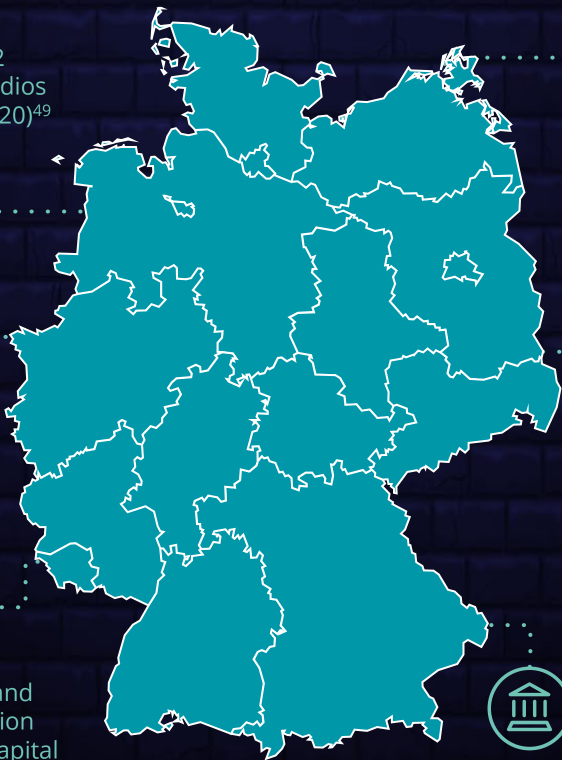
Germany is the largest gaming market in Europe and the 5th largest market for computer and video games in the world[48]. Germany benefits from being at the heart of Europe, attracting talent and companies from all over the continent. In addition to having many successful homegrown studios, Germany hosts subsidiaries of many international gaming companies such as Epic Games and id Software. In addition, some of the largest esports tournaments are played in Germany.

Industry Stats:

622 Studios (2020)[49]

34 million players (2020)[52]

219 exits and $46.66 billion invested capital (2021)[20]



€8.5 billion sales revenue (2020)[51]

Over 11,000 employees are employed directly by the gaming industry (2020)[52]

More than 50 universities and colleges offer game-related courses (2020)[50]

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Germany Gaming Industry

Federal Governmental Incentives

Investment

The German Computer Games Awards (DCP)

Started 2009, the DCP is a competition supported by The Federal Ministry of Transport and Digital Infrastructure – BMVI, the German Games Industry Association - Game, and the Digital Games Culture Foundation. For the competition since 2016, cash prizes of up to €790,000 have been awarded. One of the key conditions of entering the contest is that 80% of the game must be developed in Germany[53].

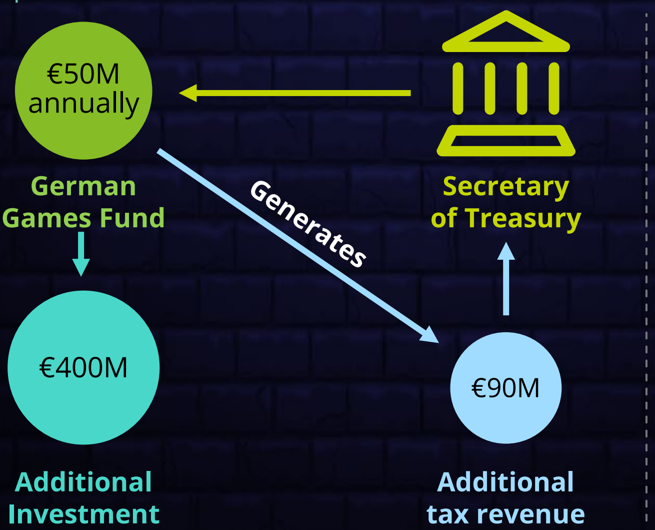
German Games Fund (DGF)

In 2019, the federal government introduced a program awarding annual funding of €50 million to promote computer game development, covering various costs of development. The DGF funds both small and large studios. An emphasis is put on adding cultural value as well as economic. Depending on the game's stage of development, the criteria for investment, and ticket size the share of funding varies[54].

Funding Statistics

In 2019, 22 projects were approved and in 2020, 49 projects were funded[55].

Impact[57]



From the €50M invested in the gaming industry in Germany in 2019, it is estimated that the investment will spark an additional **€400M** in investment and generate €90M in tax revenue[56]

Germany Gaming Industry

Provincial Governmental Incentives

Games Germany - Regional Funds and Networks is a cooperation of six funding institutions from different parts of Germany. Under the umbrella of Games Germany (GG), these six organizations are presented nationally.

Investment

Gamecity Hamburg

Gamecity Hamburg aims to support and improve conditions for gaming companies and cement Hamburg as a gaming hub in Europe. Gamecity Hamburg offers funding, and accelerator, and program & events to gaming companies and developers.

Impact

Since GameCity Hamburg was founded, Hamburg's games industry has seen continuous growth. Around 1,100 jobs, subject to social insurance contribution, have been created from 2009-2012. The number of online game publishers has grown steadily. They represent the largest group of employees from a total of 85 developers and publishers based in Hamburg (in 2012)[58].

Mitteldeutsche Medienförderung GmbH (MDM)

MDM is the public funding body in the central region of Germany (Saxony, Saxony-Anhalt and Thuringia). They aim to support the economic development of transmedia and game projects. Funds can be granted as conditionally repayable interest free loans.

Film- und Medienstiftung NRW (Nordmedia)

Nordmedia is the central media funding organization for Lower Saxony and Bremenn. Nordmedai offers funding for gaming for different stages of production including sales.

Funding Statistics

In 2015, Nordmedia supported 234 projects with a total of €11,123,408[60].

Germany Gaming Industry

Provincial Governmental Incentives

Investment

FFF Bayern

FFF Bayern provides funding for various media and game projects. FFF Bayern is a funding partner with the games industry in Bavaria and has an annual budget of approximately €40 million. The funding committee meets three times a year to decide on how to allocate funds. On this committee sit a number of industry leaders who additionally provide support to the projects that they fund.

Funding Statistics

In the second round of 2021, 10 small to medium size companies received total funding of €500,000[61].

Medien- und Filmgesellschaft (MFG)

The MFG serves the state of Baden- Württemberg in conjunction with Südwestrundfun, a public broadcaster. The aim of MFG is to promote cultural and creative industries such as gaming. MFG's first cycle of funding games was in 2020.

Funding Statistics

In 2021 they have funded 11 games with a total of €563,000. In addition, they increased there funding for games from €600,000- €900,000[62].

Human Capital

Medienboard Berlin Brandenburg GmbH (MBB)

MBB is the main institution for the film and media industry in the German capital region and supports and provides funding for media projects and companies. MBB has also partnered with The Canada Media Fund to promote German-Canadian co-developments and productions in the field of digital content. They offer additional events for the gaming industry to try and promote the further development of gaming in Germany.

Funding Statistics

In 2019, MBB supported 9 audio-visual projects with €670,000 . The single project with the most funding received, €180,000[63].

Germany Gaming Industry

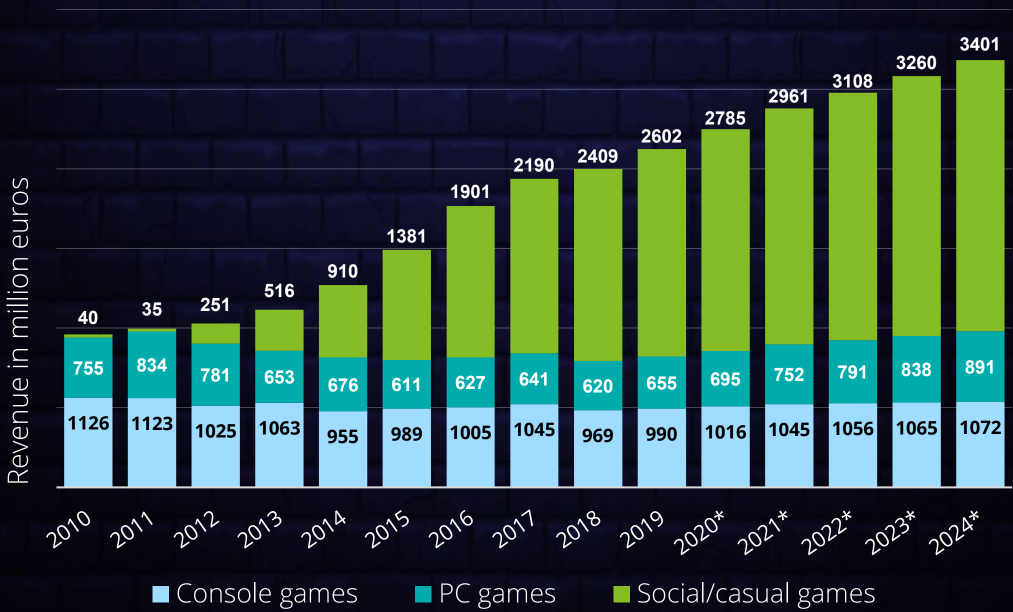
Growth of Industry

749
new companies
in 2021 YTD[65]

€8.5B
in 2020[64]
+32% compared to 2019

+8%
Employees
from 2019-2020[65]

Revenue in the video game market in Germany from 2010-2024, by segment[66]



Looking to the Future

Looking to the future

Taking the game to the next level

After speaking about the trends in the global market and the strengths and challenges of the Israeli market., we believe Israel is well positioned for the future growth in some key areas.

Casual Games

On a macro level, casual and hyper-casual games will continue to grow due to the further adoption of mobile and more complex engaging gameplay. As Israel is on the cutting edge of monetization and performance marketing, we see the hyper-casual market in Israel as well positioned for the long term. But despite this optimism, when scaling, significant bottlenecks may arise.

esports

Israel is also well positioned in terms of esports and streaming. Israel is already home to a number of companies focusing on offering services to this segment and has tremendous potential in capturing more of this market. Companies have started to expand beyond just services offered to streaming. They are focusing more on game development as well.

Crypto and Play-to-Earn

The role of crypto currencies, NFTs, and the play-to-earn models in gaming has the most ambiguous future but also the highest potential. As mentioned previously, it is the culture in Israel to be early adopters of these types of technologies and with the strong hi-tech ecosystem in Israel – Israeli gaming companies have tremendous potential.

Looking to the future

Governments' Role

Israel's rich startup ecosystem has helped pave the way for the growth of the gaming industry. Utilizing methods and strategies from other industries – Israel's unique ability to work fast, use data driven marketing, and leverage monetization expertise has helped shape and define the playing field and how Israel competes in gaming, globally.

Funding

- **Grants** – we have seen the success of early-stage grants in countries such as Germany, Canada, and Poland. These grants give early-stage game programmers and indie game publishers access to capital to design and create games that wouldn't necessarily receive funding from a VC. With more help from the government more games like this can be created, helping further develop the ecosystem. In fact, currently the IIA does not have the capabilities to properly assess gaming companies, so many of these projects cannot get funding.
- **Tax incentives** - This is a great tool to encourage more private investment, employment, and R&D in these fields. This is a good investment for the government as after these companies generate profits, they will pay corporate tax. In terms of tax incentives for employment, one way we see this being beneficial is in encouraging the hiring of young/student developers.
- **Loans** – Similar to grants, these conditionally repayable interest free loans will help fund and allow game publishers to work on creative games.

Human Capital

- **Schools and training programs** – Israel currently has limited amounts of schools and programs dedicated to game design. Having more, well funded programs will increase the amount of people entering into this industry.
- **Internships** – Currently, unless it is for school credit, unpaid internships are not allowed in Israel. With the ability to enter the gaming workforce, at a low cost for the company, young professionals can gain important skills and experience which they can leverage for future full-time job opportunities in the gaming market. This type of program would allow junior level employees to get a foot in the door, benefiting the company and the employee.
- **Accelerators** – Germany & Canada have had many successful companies birthed from accelerators. Israel has a great deal of industry knowledge that can be shared through a program like this. Mentorship is incredibly important for game publishing, and accelerators or other types of programs provide this.

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ironSource

Whaleapp

Meta

Singular

vgames

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WE ARE

GameIS

A non-profit organization that has been promoting the Israeli digital games industry since 2011

OUR GOAL

nurture the local market and ecosystem and serve as an official representative with institutional commercial, academic, and media entities.

We are in regular and direct contact with

- Startups
- Publishers
- Indies
- Studios
- Educators

We aim to assist and promote the growth of the israeli digital gaming industry, with focus on:

- **VOLUNTEERING**
- **TRANSPARENCY**
- **ENCOURAGING MUTUAL SUPPORT**
- **SHARING KNOWLEDGE**

More than **10,000** israeli professionals and enthusiasts

- Entrepreneurs
- Developers
- Investors
- Designers
- Marketing and Product Managers

Leadership

We strive to represent the Israeli game industry both locally and internationally. We constantly seek new methods to promote the community.

Opportunities

The Israeli game industry can only grow as far as its members. We run a job placement platform with various positions, among other programs.

Knowledge Sharing

We constantly organize events for the game development community to meet the industry;
some events are virtual.

Community

Over 10K members in our Facebook group! Over 7K Newsletter subscriptions! Register here

GameIS is always on the lookout for more enthusiastic volunteers!

AppsFlyer

Make good choices

The world's leading marketing measurement and experience platform

100%	65%	#1	$28B
Independent & unbiased	global MMP market share	Marketing product (G2)	Mobile spend measured annually

It's easy to make good choices when you have good insights

Measure
Get full visibility into the source of your conversions and understand your true mobile ROI
Measurement suite | Cost aggregation

Analyze
Prove the real value of your campaigns and make better, faster decisions at tvery stage of the journey
Marketing analytics | Incrementality | Predictive analytics

Engage
Create meningful conversations and exceptional customer experiences
CX and deep linking | Audience segmentation

Protect
Keep your ad budget safe from fraud by staying ahead of every threat before, during, and after install
Protect 360

Trusted by leading brands

Walmart, ebay, waze, adidas, McAfee, HBO, McDonald's
GAMELOFT, Baidu 百度, VISA, playrix, usbank, Skyscanner, OUTFIT7
TikTok, MINECRAFT, Playtika, trivago, SEGA, eharmony, Wolt

Integrated with 9000+ partners

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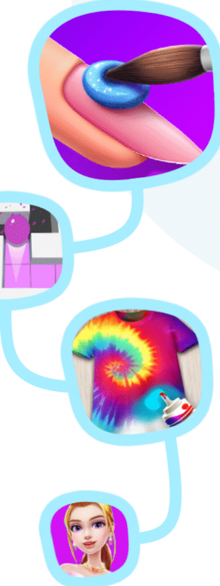

How Crazy ARe YOU?

CRAZY ENOUGH TO

create motivate lead grow
invent stretch borders thrive vision dream rock think outside the box
fantasize conquer gain be creative
spread innovate invest expand grow amplify
rock imagine help believe
fantasize diversify be creative innovate
motivate create
thrive vision expand defy rules
amplify spread

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HUUUGE
Play Together.
TRAFFIC puzzle
ROGUE LAND
Billionaire CASINO
H CASINO

You approach a mysterious door, just slightly open. Beyond it, you glimpse at a vast, peculiar-looking space, brimming with mods and apps for the world's top games - created by independent, In-Game Creators. Endless gaming possibilities, all at your fingertips.

"This is it," you say to yourself, astonished - as you hear your own heart pounding like a hammer on an anvil. "The cradle of gaming UGC."

The future of the entire industry is spreading before you, stretching to a horizon unseen, glimmering in its blissful, reassuring light.

Do you enter?

< Yes / No >

overwolf

31M GAMERS

15B DOWNLOADS

95K CREATORS

Snapchat was built for this.

Built for what matters to the Snapchat Generation.

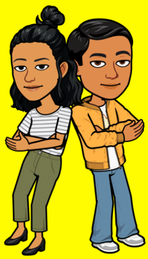
Snapchat reaches...

90% of 13 to 24 year-olds.[1]

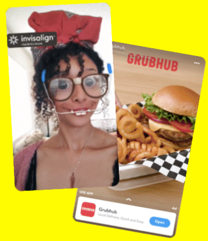
75% of 13 to 34 year-olds.[1]

Snapchatters say close **friends are over 4x more influential** than celebrities or influencers on their purchasing decisions.[2]

The Snapchat Generation is **150%** more likely than non-Snapchatters to **prefer communicating with pictures** over words.[3]



Built for your business.



Your brand lives...

In the Camera
AR Lenses • Filters

Between Content
Snap Ads • Story Ads • Commercials

For the full funnel

Awareness
↓
Consideration
↓
Conversion

Snapchat delivers

$3 ROAS[4]

That's ~20% higher than digital norms.[5]

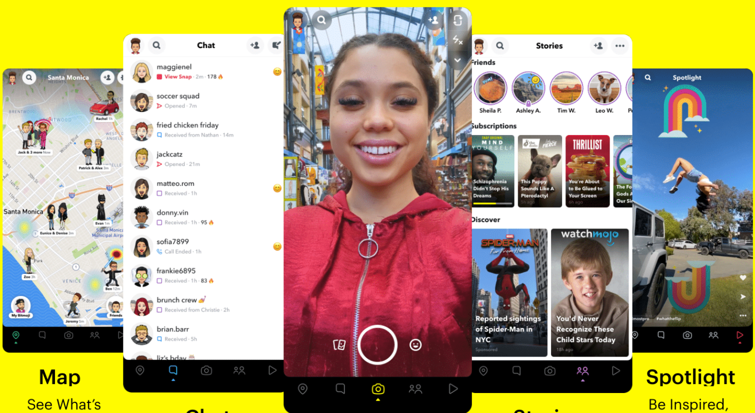
On an average day...

306M
Daily Active Users[6]

30+
App Opens[7]

5B
Snaps per Day[6]

200M
People Using AR[8]



Map
See What's Happening

Chat
Stay Close to Friends

Camera
Express Yourself, Learn About the World

Stories
Watch Great Content

Spotlight
Be Inspired, Entertained, Creative

[1] Data from Snap Ads Manager Q4 2020. Percentages calculated by dividing addressable reach by relevant census figures. [2] Snap Inc. survey of US Snapchat users June 16–19, 2020. Age and location data subject to restrictions. See https://businesshelp.snapchat.com/en-US/a/audience-size-tool for details. Question: "Which of these types of people are most influential on you choosing products to buy or trying something new?"; 787 respondents. [3] 2021 Cassandra Global Research commissioned by Snap Inc. "Say Hello to the Snapchat Generation." [4] Nielsen Catalina Reaction studies Q1 2017 - Q4 2018, N=84, Nielsen Catalina ROAS Norm $2.45. [5] Nielsen Catalina CPG Reaction studies Q1 2017–Q4 2018, N=84, Nielsen Catalina ROAS Norm $2.45. [6] Snap Inc. internal data Q4 2020. [7] Snap Inc. internal data Q2 2020. [8] Snap Inc. internal data Q4 2020.

LET'S PLAY

% LOADING

REMAGINE VENTURES

INVESTING IN PRE-SEED ISRAELI GAMING AND METAVERSE TECH

ABOUT REMAGINE VENTURES

Remagine Ventures is an early-stage venture capital firm investing in the technologies that shape how consumers spend their time and money. We invest in seed and pre-seed startups at the intersection of tech, entertainment, gaming and the metaverse.

Remagine Ventures is backed by some of the leading companies and executives from the media and entertainment space, providing our portfolio companies with real time feedback from the market and actively opening doors to the industry.

www.remagineventures.com

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LONDON

(MANANGING PARTNERS)

SELECT PORTFOLIO COMPANIES IN THE INTERACTIVE ENTERTAINMENT SPACE

NOVOS.GG
TAKE GAMING SERIOUSLY

Novos - training the athletes of the metaverse, with personalised esports training plans

echoAR

Echo3D - A 3D content management solution in the cloud

Toya - a gaming studio building female-focused experiences in the metaverse, starting with Roblox

Hour One.

HourOne - synthetic video platform, removing the need for cameras or actors

SNEAKY PANDA

Sneaky Panda - a mobile gaming studio pioneering a new gaming genre

Reb3lbots - a play-to-earn gaming company with a strong community

THESIS

A NEW INTERNET IS BEING CREATED AND GAMING IS LEADING THE CHARGE

01 New infrastructure such as 5/6G, stronger GPU chips and decentralisation change the way we interact and consume content and virtual goods

02 Consumers are spending more time and money online

03 Gaming and the creator economy are leading the way, crossing cultures, geographies and industries forming new virtual communities

04 We believe this represents new enormous opportunities and intend to invest across the value chain of gaming and the metaverse