

SPORTS TECH REPORT 2018

What impact will technology
have on the sports industry?

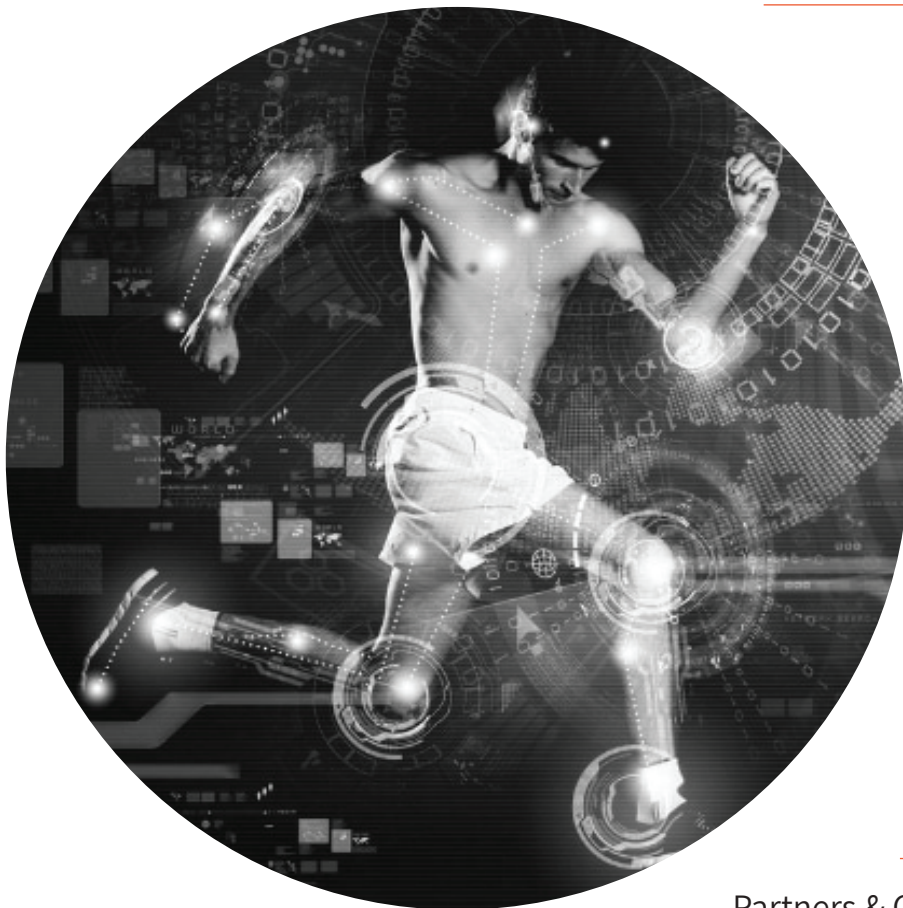


COLOSSEUM

SPORTS INNOVATION

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Global Sports & Tech

The global sports industry is undergoing more disruption than ever as a result of ongoing shifts in media consumption, the emergence of new technologies and a rapidly evolving sponsorship market.

Millennials are seeking a cheaper, more highly personalised, immersive experience;

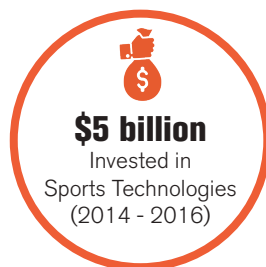
therefore, more rights holders are cutting out the middle man to deliver more content directly to the consumer through digital or over-the-top services, thereby contributing to the declining appeal of live TV in many markets.

As a result, increasing interest in sports rights among big tech companies such as Facebook and Amazon has been trending in sports media.

Facebook recently acquired streaming rights to the UEFA Champions League from Fox Sports in the US. In another acquisition, Amazon recently purchased the rights to the NFL and the ATP World Tour.

The rise of eSports is another example of the disruption currently occurring in the industry. eSports creates an environment where viewers can experience playing the game. eSports on a large scale is considered to be one of the most popular sports entertainment events in the world.

eSports is expected to hit \$905M in revenue by the end of 2018, a 38% increase from \$655M in 2017¹



There are several up and coming technologies that can and will be implemented in the sports industry. Wearables and sensor technologies serve as examples of tech that will improve the sports industry. AR/VR, frequently referred to as the 'next big thing' for the media and entertainment industry has the potential to affect a range of areas in the sector, more specifically fan engagement, virtual sponsorships, and training & performance.

1. Esports To Grow Substantially and Near Billion-Dollar Revenues In 2018; Forbes.



World Cup 2018

This year's World Cup, held in Moscow, is a prime example for the introduction of new technologies in sports, more specifically football.

For the first time in football history, on-field decision making was supported by off-site referees communicating information based on camera replays and technologies.

The introduction of the video assistant referee (VAR) in Moscow was a huge success. The system, which enabled referees to review their decisions with the support of technology, brought greater fairness to the game.



VAR is an assistant referee team that supports match officials during live competitions.²

The video assistant referee team was located in a centralised video operation room in Moscow, and had access to all relevant broadcast cameras, in addition to dedicated offside cameras. The team only provided information to the official referee on-site, and the decision remained in his hands; the whole process was largely praised by media broadcasters and commentators.

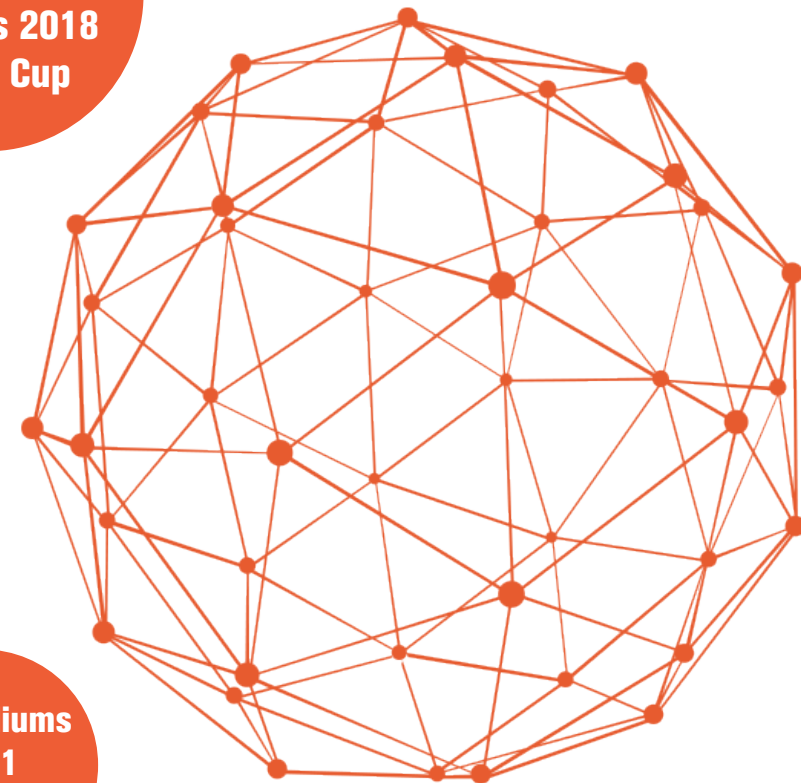
2. VAR at the 2018 FIFA World Cup

**Congratulations
FRANCE!
Winners 2018
World Cup**

**Most expensive
soccer competition
in history:
\$14B+**

**32
participating
countries**

**12 stadiums
in 11
hosting cities**



Israeli Tech Ecosystem

Israeli high tech companies raised \$5.24 billion in 620 deals in 2017, an increase of 9% compared with \$4.83 billion raised in 673 deals in 2016. The capital invested in the Israeli high tech sector has grown exponentially since 2013, and hasn't shown signs of slowing down. Israeli VC funds alone invested \$814 million in 2017, a 25% increase compared to the \$651 million invested in 2016.

Israel has a proven record of being world leading in R&D, innovation and technology.



\$24B
Total exits in 2017

There are over 300 multinational corporations with high tech research centres in the country, including giants such as Microsoft, IBM, Apple, Cisco, HP and Intel.

Intel's recent acquisition of Mobileye for \$15.3 billion in 2017 further emphasises the strength of Israel's high tech sector. Since then, the country has been overrun by investors, strategic partners and corporations in a very positive way – they all want a piece of the action!

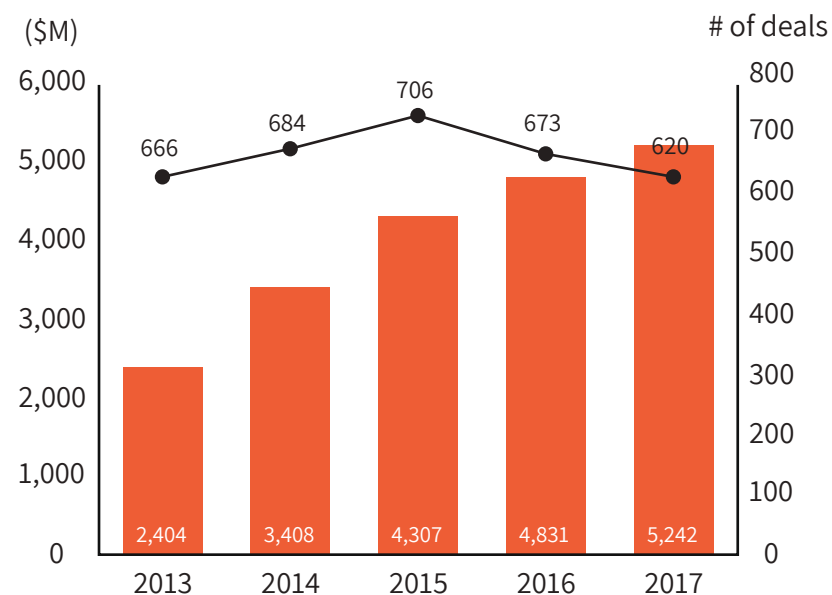
\$15.3B
Mobileye record exit in 2017

\$5.2B
Capital raised in 2017

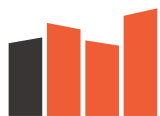
620
Deals in 2017



Total Capital Raised 2013-2017



Israel Sports Tech Ecosystem



169
Active
sports tech
startups



\$651M
Raised by
103 startups
since 2008



\$886M
Exits from 9
deals
since 2008

Israel's high tech sector offers unique expertise in a range of technological arenas, which include interactive platforms, big data analysis, computer vision, AI and augmented reality. These solutions have enabled Israel to become a key player in the sports technology market. Over the past few years, Israel has gone from around 50 to 169 startups in the sports technology sector. These enterprises are presenting new solutions in a market that is rapidly growing and actively searching for innovation around the world.

Mega Rounds in Sports Tech Startups



Minute Media
raised
\$72 million



LiveU
raised
\$50 million

Israel is second only to the United States when it comes to sports technologies.

Since 2008, Israeli startups have raised over \$650 million. These investments have led to \$886 million in exits, 76% of which coming mainly from only seven startups, further validating how strong Israel has become in the sector, in addition to displaying the extent of the opportunities present in the country.

Multinationals Sports Tech Related Companies in Israel



Nike



Nielsen



Intel



Avid Technology



EA Sports



Apple

Sports Tech Exits for MNCs

1

Intel - Replay

The purchase of a smart video startup

Replay is an Israeli startup company that was established in 2011 and employs 110 people, most of them in Israel. Replay's freeD Free Dimensional Video allows stadiums to record and broadcast live events while capturing a 360 degree view. The user can watch replays and pick up specific frames. With this technology, broadcasting companies save a lot of time, money and equipment. Replay's focus on live sports events led it to its first success in the London 2012 Olympic games; they raised \$27 Million through several rounds.

On 9.3.16 Intel announced the purchase of Replay and nominated one of the founders as the head of the sports innovation department.

2

Nike - Invertex

The purchase of a computer vision company

Invertex was an Israeli company established in 2014. Invertex developed a scan-to-fit guided shopping experience platform that combines 3D digitisation and deep-learning technology to deliver tailored solutions for in store, at home and online audiences. The application allows a customer or salesperson to create a 3D model of the feet in the physical shop before the purchase of the footwear. Invertex raised \$2 Million from OurCrowd and private angel investors, ultimately becoming a promising computer vision company.

On 9.4.18 Nike Inc announced the purchase of Invertex to strengthen its digital technology platforms and build ground-breaking innovations that help Nike consumers worldwide.

3

Nielsen - vBrand

The purchase of a sports analytics company

vBrand is an Israeli company analysing sponsorship and marketing campaigns in real time at sports events. vBrand is using artificial intelligence technology together with big data to scan social media, TV webs and internet webs in order to measure sponsorship effectiveness during sporting events and improve marketing campaigns in real time. vBrand, which began as an accelerator of Nielsen, raised \$2 Million from Nielsen Innovation. In 2017, it was purchased by Nielsen for an unknown amount.

The growth of the Israeli ecosystem of sports tech is rapid and impressive. It's not just startups that make Israel the leader in the sports tech field, but also VC, hubs, accelerators, labs and in-house innovation departments.

Sports Tech Verticals



Athlete Development

Over the last few years, the use of wearables in the professional sport scene has become necessary for athlete development. Smart wearables are projected to exceed 305 million units in 2020.

of Active Israeli Startups: 45+



Fan Engagement & Community

A rising trend to attract new fans worldwide lies in AR / VR, a sector that “Greenlight Insights” estimates could become a \$75 billion business by 2021.

of Active Israeli Startups: 20+



Media, Broadcasting & Sponsorships

These sectors are constantly innovating, and the rise of virtual sponsorships and streaming platforms such as Twitch (acquired by Amazon for \$1 billion) are disrupting the traditional media industry.

of Active Israeli Startups: 30+

Health & Fitness

The worldwide market size of the health and fitness sector is \$83 billion. Over the last decade the sector has slowly transitioned from professional to amateur, opening the door for more innovation.

of Active Israeli Startups: 35+



Gaming & eSports

Global eSports market revenue will reach \$1.65 billion in 2020. In 2017, the number of frequent eSports viewers and enthusiasts reached 143 million. This number is projected to reach 250 million in 2021.

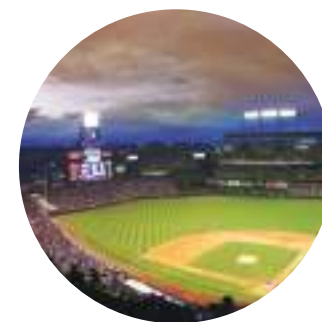
of Active Israeli Startups: 15+



Smart Stadiums & Ticketing

The global smart stadium market size is estimated to be \$4.6 billion in 2018 and is expected to reach \$12.5 billion by 2023.

of Active Israeli Startups: 20+





Israeli Sports Tech Landscape

COLOSSEUM

SPORTS INNOVATION

Fan Engagement & Community



Smart Stadiums & Ticketing



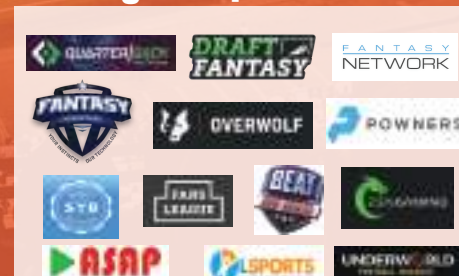
Athlete Development



Health & Fitness



Gaming & eSports



Media, Broadcasting & Sponsorships



AR / VR

“Greenlight Insights” has estimated that VR could become a \$75 billion business by 2021. Given its incredible versatility, this technology is certain to have a major impact on the sports industry. AR & VR have the potential to change the whole industry dynamic, and seem to be doing so already.

This past summer, the BBC and other TV providers broadcasted the World Cup in virtual reality. “BBC Sport VR” placed viewing units in luxury private boxes in Russian stadiums, enabling users to view matches as if they were present. Was it a success? That remains to be seen, but we believe these technologies will become a must in the future of sports streaming.

We believe that AR/VR will bring additional value to sponsors in the form of virtual sponsorships. Advertising will be broadcasted in augmented reality (virtual advertisement), which will replace the real advertising panels on the field. In addition, mass data mining and technical improvements will enable more consumer-tailored ads.

“VR and AR will bring additional value to sponsors, broadcasters, fans and properties alike. If the open questions on monetization are resolved, this is a very interesting avenue for technology and sports.”
- Antonio Ramon, COO, JS3SPORTS



Texel VR platform allows content owners to offer their viewers virtual seats for live events, creating a new stream of revenue and a virtual presence in 8K resolution with over 80% bandwidth reduction.



VRHealth develops medical solutions that utilise virtual reality environments to deliver real-time data analytics to patients, clinicians and other healthcare professionals.



Sports: The most disrupted of all industries?
PwC Sport Survey 2017

Wearables & Sensor Technologies

Wearables and sensor technologies were introduced a while back and they have already penetrated a large portion of the consumer sports equipment market. Endurance sports, such as running, have benefited most from these technologies. In the last few years, major professional sports have embraced the depth of the performance metrics generated by these technologies, and have adopted them on a large scale.

Extensive innovation in the industry has led to newer, more advanced wearable and sensor technologies that are now able to provide more accurate positioning and bio-medical data, facilitating decision making on and off the pitch. The data gathered can help in areas such as injury prevention and recovery.

Smart wearables are projected to exceed 305 million units in 2020, with a compound annual growth rate of 55 percent.

The implementation of these technologies in the professional sports scene is gaining momentum. There are several new technologies that provide player and ball-tracking identification systems, harnessing wearable devices with deep learning and machine vision algorithms to generate performance and tactics packages for analysis.

The logo for Track160, featuring the word "TRACK" in blue, a stylized blue and purple "X" icon, and the number "160" in blue, all enclosed within a thick orange circle.

TRACK160

Track160 is using a patented artificial intelligence technology to track the ball and track and identify the players through collisions and other game situations.

The logo for AROS, featuring the word "AROS" in blue, all enclosed within a thick orange circle.

AROS

AROS specialises in cutting-edge AR for outdoor activities. Their ski goggles allow individuals to augment their ride, while interacting, navigating, engaging and much more.



Security & Smart Stadiums

Sports venues around the world are vulnerable targets, as demonstrated by the 2015 bombing at the Paris soccer stadium, among other incidents. Violent occurrences such as these will not stop anytime soon, therefore fans can expect an increase in venue security to reduce the risk of threats and increase their safety.

To attract more fans, sports franchises continue to construct state of the art stadiums, otherwise referred to as smart stadiums.

These Smart Stadiums will rely heavily on digital solutions to boost their security capabilities. Advanced technologies, such as RFID tags, biometric recognition and electronic fingerprinting are being implemented to efficiently inspect fans as they enter the stadium. RFID wristbands, for instance, would allow entry times into stadiums to be reduced by 40%.

These technologies also have the ability to help evacuate and track fans promptly and safely in the event of an emergency. Surveillance cameras to monitor crowd behaviour will further provide a very safe and secure environment, as it can quickly detect quarrelsome fans.

In order to attract more fans and provide an experience like no other, Smart Stadiums are implementing new technologies and activities, such as augmented reality, interactive seats, and big screens that one simply cannot find at home. With thousands of advanced monitors installed throughout the venue, fans can watch the game not only in their seats, but anywhere throughout the stadium.

Real time access to player profiles, statistical data, and fantasy performances of teams and players is easily available on smartphones and tablets, as well as at stadium kiosks. Fans attending the game also have the ability to order food from their seats, or even go into an express line at the concession stands to grab their food in person. Options such as these will allow operators to boost concession and merchandise sales, making the stadium more profitable as a whole.

These stadiums will enable stadium operators to increase profitability, improve stadium security, and most importantly, enhance the fan experience. By harnessing technology to ensure a safe and exciting fan experience, sports franchises can potentially minimise the chance of violent incidents occurring in their stadiums, and avoid revenue loss caused by these events.



Colosseum Sports Tech Ecosystem



SPORTS TECH COMMUNITY

The Colosseum Sports community is an active association of people involved in the Israeli Sports Technology sector, led by experienced managers. The community is responsible for organising events and meetings between members and industry leaders, such as the Sports Tech Summit 2018, held in Tel Aviv at the end of July. The community currently works with 170+ Israeli sports tech related startups



SPORTS INNOVATION LAB

The Colosseum Sports Innovation Lab offers a unique program for early stage startups in the sports sector. In addition, the space will host facilities for sports technology implementation (on-site R&D). The lab will serve as the go-to site for sports technologies in Israel. The lab works closely with international corporations, organizations and leading sports teams to create value for both them and the startups.



VENTURE CAPITAL

Colosseum Ventures, the venture capital activity will focus on sports-related technologies across all verticals, and invest in early stage startups in the sector. Led by experienced partners with extensive industry know-how, the VC will seek to promote and sustain activities in the area. The VC will have strong international affiliations in order to better support and engage with the local startups.

Colosseum Summit 2018 Partners



BARÇA
INNOVATION HUB



רשות החדשנות
Israel Innovation
Authority



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