



מרכז פירס | Peres Center | מרכז פרס
לשלום וחדשנות | for Peace & Innovation | לשלום וחדשנות

MAGAZINE

Peres Center for Peace & Innovation

Cracking the challenges of the future

Israel's leading innovators pick the most promising stars of tomorrow

An overview of Israel's futuristic verticals:
FoodTech, Digital Health, Smart Cities, IoT and AI

In partnership with:





“You're as young
as your dreams,
not as old as your calendar”

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BENJAMIN NETANYAHU
PRIME MINISTER OF THE STATE OF ISRAEL



ראש הממשלה
PRIME MINISTER

October 2, 2018

Distinguished Guests,

The future belongs to those who innovate.

Israel is among the leading innovation nations in the world. We are a leader in information technology, cybersecurity, digital health and more. Benefiting from the nexus of big data and artificial intelligence, we are also rapidly developing new industries.

Despite our small size and population, Israel's free markets, world-class universities and research institutions have helped create a boom of entrepreneurship. Millions of people around the world benefit from Israeli innovations including life-saving drugs, medical devices, mobile phones, navigation systems and agro-technology.

Our technological prowess has brought us many new friends. Every day, delegations and representatives from around the world come to Israel to learn about ways to cooperate with and learn from Israel's experience in technology and entrepreneurship. The possibilities are endless.

It is in this spirit of hope and possibility that I welcome you to the opening of the new Innovation Center at the Peres Center for Peace and Innovation. I believe it will give us opportunities to seize the future.

Sincerely,

Benjamin Netanyahu

Jerusalem, Israel



The Israeli Innovation Summit is a unique event held by the Prime Minister in collaboration with the Peres Center for Peace & Innovation, as part of Israel's 70th anniversary celebrations.

As part of the summit I am pleased to inaugurate Israel's Innovation Center at the Peres Center. The Innovation Center will combine a meeting place for technology entrepreneurs, start-up companies and investors, with a visitors' center which will enable the public to experience the story of Israel, the Start-Up Nation.

Innovation has always been a cornerstone of Israel's heritage, throughout Jewish history and even prior to the establishment of the State of Israel. Since its foundation Israel has been a beacon of innovation, a well of creative minds exporting novel solutions and technologies for global challenges. It is therefore but natural that Israel should celebrate its 70th anniversary by hosting a summit aimed at harnessing innovation for a more promising future and a better world.

The Ministry of Culture & Sport is marking Israel's 70th anniversary with a series of cultural and artistic events throughout the country. We are proud to include among them this celebration of the Start-Up Nation for a better future for Israel and the world.

Sincerely yours,

MK Brig. Gen. (Res.) Miri Regev,
Minister of Culture and Sport.

Minister of Economy and Industry



Israel's strong link to innovation is both a unique and a well-known phenomenon.

Our researchers and start-ups generate a remarkable number of patents for new technologies, products, and services. Israel is among the world's leaders in many fields including agriculture, water, cyber, bio-tech, medical

devices, and digital health.

Our ecosystem combines entrepreneurial spirit, world-class educational institutions, and a skilled workforce. Israel is a world technological hub that serves as a home to ten different tech communities, each one bringing together the relevant entrepreneurs, investors, regulators, academics, and even customers.

The Israelis are a resourceful people, with a "yes we can" attitude, who excel at improvising and solving problems. This enables us to transform handicaps into benefits. Given the challenges of our geopolitical environment, we have built one of the world's best

defense industries. The Iron Dome, for example, was developed in just three years. Lacking water, we have become world water experts.

Our technological solutions are a perfect match for the world's most acute problems in agriculture, energy, health, mobility and even education, construction, and food. Thus, it comes as no surprise that countries around the world seek economic ties with us and over 330 multinational companies currently operate in Israel.

The Peres Center for Peace and Innovation will serve as the gateway to Israeli entrepreneurship in a wide variety of fields by presenting all the wonderful things that are happening here. The center will not only expose its visitors to all the aspects of life that are constantly being changed by Israeli innovation but will also provide them with a unique opportunity to see, touch, and even experience them personally. I am sure that the center will create a great impact with both its local and foreign visitors. The Government of Israel and the Ministry of Economy and Industry are pleased and excited to invite you to visit the Peres Center for Peace and Innovation and take part in this wonderful project.

Eli Cohen

Minister of Economy and Industry

Chairman of the Peres Center for Peace and Innovation



Photo: Reshef Yoram

In his last book, *No Room for Small Dreams*, completed several weeks before his passing, my late father Shimon Peres, Israel's ninth president and founder of the Peres Center for Peace and Innovation, wrote: "We are in transition—from one era to another ... It is the leap

from the age of territory to the age of science ... It is the first time in history that we can win, without making anyone lose."

In this new era, he believed that for the first time in history, scientific and technological advancements are more important than natural resources; that the "Super Powers" of this new era will be based on minds and not might. Never forgetting his moral compass, the one he looked to at every turn, he also importantly noted that, "Technology without morals can be dangerous, just as morals without scientific advancement may lead to poverty."

Honoring my father's lifetime of work, vision, and legacy, I am pleased to welcome you at the launch of the Israeli Innovation Center at the Peres Center for Peace and Innovation.

The Israeli Innovation Center tells the remarkable story of the state of Israel, the "Innovation Nation," and its journey to a new era. At the center we will highlight our greatest achievements, which have created a positive global human impact making the world a better place for all. Together, we will imagine tomorrow and learn about the human challenges and opportunities that lie ahead and what is being done right here and now.

As the pace of innovation accelerates, and as globalization continues, it is our duty to make sure no one falls behind. The center will encourage every girl and boy to believe in themselves, shape their own tomorrow, and continue to drive Israel to new heights, and build bridges for peace and prosperity. Here, world leaders are invited to learn about Israeli breakthroughs. Global enterprises will be able to connect to the local ecosystem, and young people from all backgrounds can reveal the entrepreneur within themselves.

Our vision is for innovation centers such as ours to be established around the world, based on our message of innovation, creativity, and the pursuit of peace that will reverberate across the globe.

I am grateful to count all of you among our friends and supporters who join us on this important journey.

Chemi Peres

ISRAEL'S HIGH-TECH AT A GLANCE

2013 - Q3 | 2018

8,300

Active Companies

Capital Raising

\$26.61 billion
in 3,651 Deals

AI



\$4.89 b
562 Deals

Cyber



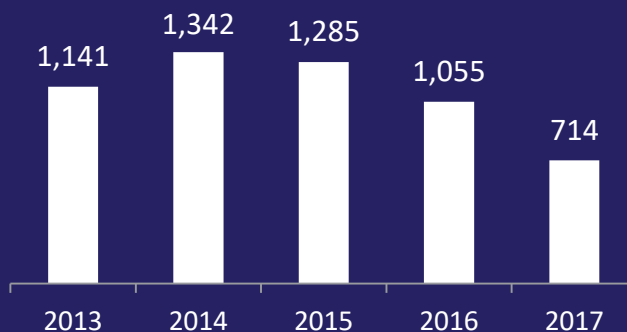
\$3.43 b
346 Deals

FinTech

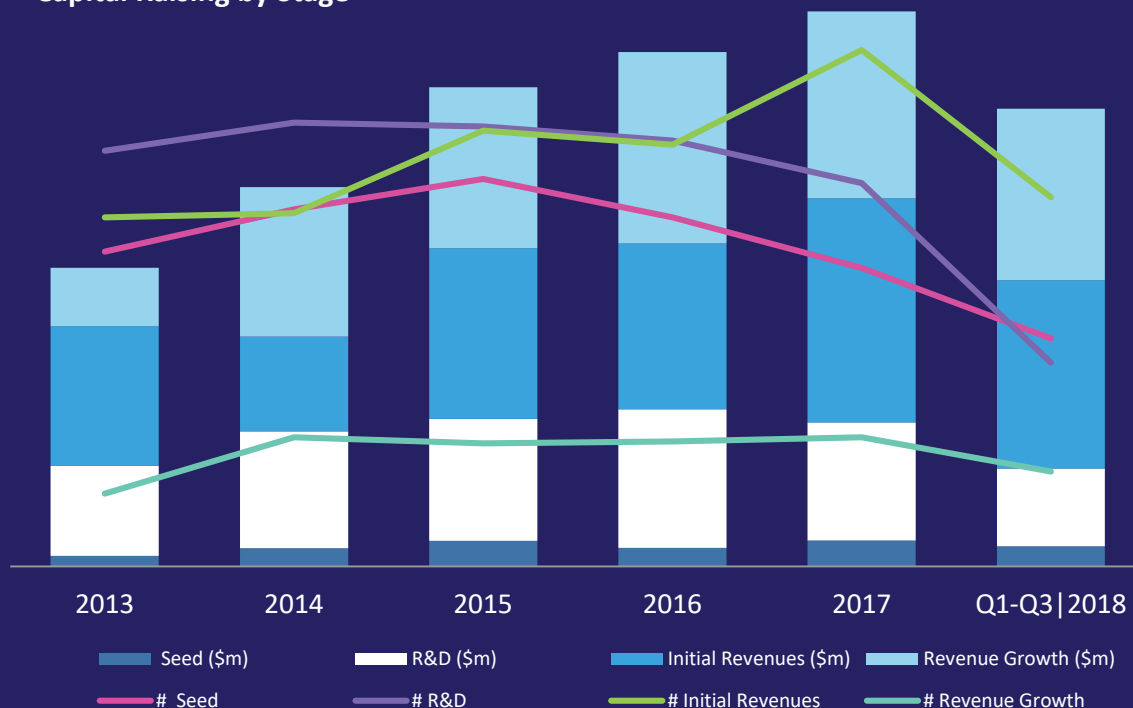


\$3.09 b
360 Deals

Newly Established High-Tech Companies



Capital Raising by Stage



362



Foreign R&Ds

57



Hubs

231



Accelerators

35

Innovation
Centers

19



Incubators

Exits by Sector

\$1.05B

Total Amount



38

CLEANTECH

\$7.54B

Total Amount



130 Deals

COMMUNICATIONS

\$9.55B

Total Amount



160 Deals

INTERNET

\$14.1B

Total Amount



191 Deals

IT & SOFTWARE

\$7.73B

Total Amount



90 Deals

LIFE SCIENCES

\$1.38B

Total Amount



43 Deals

MISCELLANEOUS TECH

\$22.3B

Total Amount



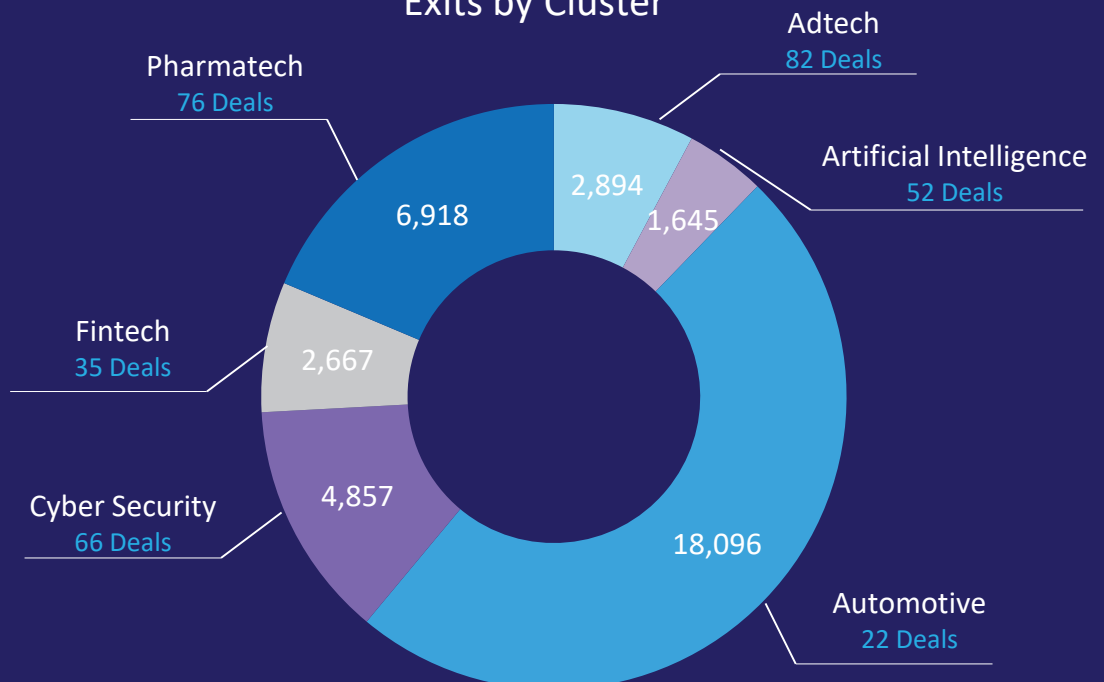
21 Deals

SEMICONDUCTORS

Exits

\$67.11 billion
in 702 Deals

Exits by Cluster



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The Home of Israeli Innovation

The Knowledge Hub at the Peres Center

2018 is turning out to be a significant year for Israeli high-tech and innovation, with impressive achievements in investments and startup acquisitions. The global industry is increasingly interested in Israeli innovation, and thousands of delegations, including CEOs and senior executives from MNCs, governmental officials, and leaders in the field are coming to Israel to discover the secret behind its innovation and identify the next opportunity.

This week marks the grand opening of the Israeli Innovation Center at the Peres Center for Peace and Innovation. This initiative, spearheaded by the late President Shimon Peres, includes over 1,300 square meters exploring the story of "Israel—the Innovation Nation," highlighting the most innovative solutions to tomorrow's challenges that are being developed in Israel today to benefit individuals and communities around the world.



Forget Everything You Think You Know

The spectacular building located on the Jaffa shore is a perfect destination for corporate delegations and senior officials visiting from around the world. Groups can customize their visit, focusing on fields such as agriculture, software, communications, medicine, and more. Information on each field is available in Hebrew, English, Arabic, and Chinese. Welcoming visitors to the center is an audiovisual display highlighting the major challenges facing the world today and the leading Israeli solutions.



Meeting Promising Startups

The continuously updated Israeli Expo exhibits cutting-edge Israeli initiatives, with each company presenting a specially built model of its product. Visitors can get a first-hand look at new Israeli developments such as the cyber network for Argos Automotive Cyber Security's autonomous vehicles, experiment with Cortica's artificial intelligence technology, peer through the lens of SpacePharma's Space Telescope, or see how the world looks to the visually impaired through Orcam's glasses. Young startups will compete for a space in the expo, with approximately 40 selected each year. (For the complete list of the first group of companies on view in the expo, see pages 16-17.)

Efrat Duvdevani, Director General of the Peres Center for Peace and Innovation: **"The Israeli Innovation Center is a unique and original model that does not exist in Israel.** We have created an experience that engages all the senses and invites visitors to see Israeli innovation from an insider's perspective and to be a part of it in a way reminiscent of the most advanced technology centers in the world. Our close relationship with Israeli innovation ensures that the best technologies will be presented, and that the space will always remain current. We look forward to receiving 200,000 visitors a year from Israel and around the world."

A Place to Dream

The message "Dream Big" is central to the Israeli Innovation Center. It is conveyed throughout the visitor's experience, including in the historic office of President Shimon Peres, which exemplifies the enormous contribution of Israel's leaders, and the understanding that the State of Israel would not have been established without their dreams and daring to make the impossible possible. A 200-seat auditorium—A Place to Dream—overlooks the Mediterranean Sea, and three adjacent workshop rooms provide space for visitors seeking to engage more deeply with the content.

Israel's most important resource is its youth, instilled with the values of learning, creativity, and Tikkun Olam, to make the world a better place. The center eagerly awaits visits from school groups, soldiers, and students, the next generation of home-grown innovators and entrepreneurs from every sector of our society.

"We already have high demand for workshops," said Efrat Duvdevani. "We have developed content that is suitable for development teams or company executives who want to connect to Israeli innovation and get an inside look into today's trends, and also content for young people who need to be inspired and empowered to see how innovation can be found everywhere, and that they have the ability to change the world for the better."



"Innovation has no limits and no barriers. Innovation enables dialogue between people of all backgrounds." Shimon Peres, at the Israeli Innovation Center's foundation stone-laying ceremony, July 2016.

The Israeli Innovation Center will lead the way for Israel to cooperate with other countries and partners around the world, and to foster the education of young innovators and entrepreneurs in Israeli society. This is a win-win situation, which shows the beautiful face of modern Israel and the big dreams of its citizens, who are creating a better world through their remarkable initiative, imagination, and innovation.

Hacking the Supply Chain: Operational Excellence Through Innovation

An interview with Sigal Mannheim-Katzovich, Managing Director, DSV Israel

What are the recent technological developments within the supply chain field? Are there new technologies?



In recent years, there were many important developments in the supply chain field, especially in the logistics field. The increase in competition across all services created a strong demand for excellence in operations along with new initiatives led by advanced technological solutions.

Our clients demand creative solutions and an exemplary work ethic. DSV emphasizes operational excellence and early adoption of new technologies, such as artificial intelligence to ease customs work and goods classification; big data for advanced analytics of operations; IoT to create links between systems, interfaces, and work processes in various departments; robotics to promote automation of work; eliminating paperwork and creating a digital work environment based on Blockchain technologies; and 3D printing to improve stock management.

What can DSV offer Israeli startups, and how do you see Israeli innovation contributing to your field on a global level?

DSV views the startup community and technology as important parts of logistics. We're very proud to lead an ecosystem here in Israel dedicated to the field called "Log Tech." We view startups as both service providers and clients.

As a global brand, DSV's activity in Israel is only natural, considering the power of industry and innovation in the country. We are planning to duplicate our LogTech ecosystem in other countries in the near future. Our work in Israel focuses on two main verticals. The first is consulting and mentoring tech companies and startups on creating and executing supply chains. Our support covers all stages of the supply chain, from customs and stock management to transportation via land, air, and sea. Our second vertical is scouting for new and disruptive technologies based on problematic issues according to DSV clients and employees. Our innovation department covers dozens of startups within the local ecosystem working on technical solutions for our clients' needs.

How does a major corporation like DSV maintain the ability to be innovative and cutting edge?

DSV, under the leadership and enthusiastic support of our CEO Mr. Jens Bjørn Andersen, has set its goal to achieve operational excellence through innovation. To fulfill this vision, we operate a number of innovation centers around the world focusing on various aspects of the supply chain: A robotics center in Warsaw focused on optimizing processes that has developed over 270 robots for various purposes; a 3D lab in Venlo (Holland) is making DSV a leader in 3D stock management; an innovation lab at our headquarters in Copenhagen is focused on finding and assimilating new technologies; and of course our Israel operation mentioned above.

To contact DSV Israel, please email Mr. Ofir Bronhaim, Business Development Manager, Innovation, Israel, at ofir.bronhaim@il.dsv.com

Is Israel Set to Become the Foodtech Valley?

Neal Sandler

Global food and agricultural companies have been stepping up their search for new technologies in recent years. The search has been triggered by global warming and its impact on the industry, the inability to meet the growth in demand, and global trend toward healthier, safer, and more natural food.

A main premise for the need of a new food-related technological revolution is the lack of sustainability of the current situation: 75% of the world's agricultural land is devoted to crops for livestock.

Israel has of late become an important destination in the quest for innovation with the focus on a growing number of startup companies and cutting-edge research in the FoodTech field.



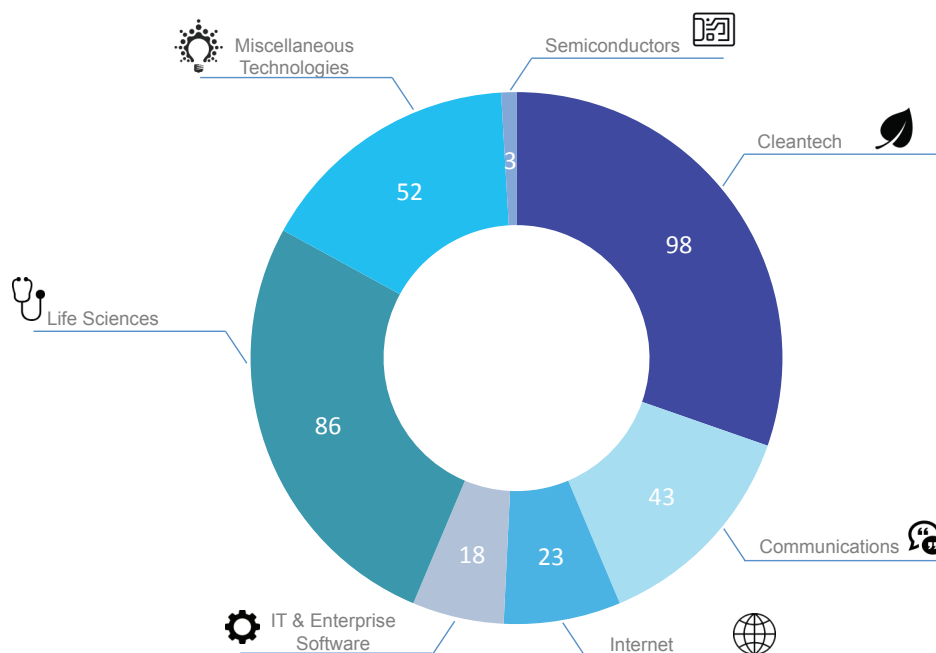
The Superfoods of Weizmann Institute

Part of the research in the Weizmann Institute labs includes projects like: increasing the vitamin levels in a range of fruits and vegetables and turning many of them into what are deemed "superfoods"; improving the shelf life and reducing toxicity of fruits and vegetables such as potatoes; and producing beneficial super ingredients like anti-oxidants.

"We are trying to determine which (research project) could have the greatest impact globally and the best chances commercially," says entrepreneur Alon Gal, who's to commercialize the FoodTech related research in the Weizmann Institute labs.

According to research company CB Insights, many US FoodTech companies are active in the B2C field, offering food delivery apps with reviews or recommendations for better food and personalized apps for specific groups, such as diabetes patients. Another evolving branch is the B2B companies that offer solutions such as sensors and tagging of goods and shipments, e-commerce logistics like blockchain solutions for supply chains, inventory management, logistics, and supply chain tools. In Israel, IVC noticed a trend for B2B and B2B2C solutions. There are clusters of more than a dozen companies developing novel ingredients like Chick P, Amai Proteins, and Next Ferm, and in the health and nutrition category, there are fifteen active companies.

Israeli FoodTech Companies, by Sector



Source: IVC Research Center

Israeli FoodTech – A Unique Combination of Academic Research and Innovative Culture

“Israel could eventually become a global FoodTech Valley in the sense that every type of food and food-related technology could be developed and or produced here,” says Jonathan Berger, co-founder of Copia, a \$30 million local venture fund that focuses on food and agtech, and CEO of The Kitchen Food Tech Hub, backed by Israel’s Strauss Foods and the Israeli government.

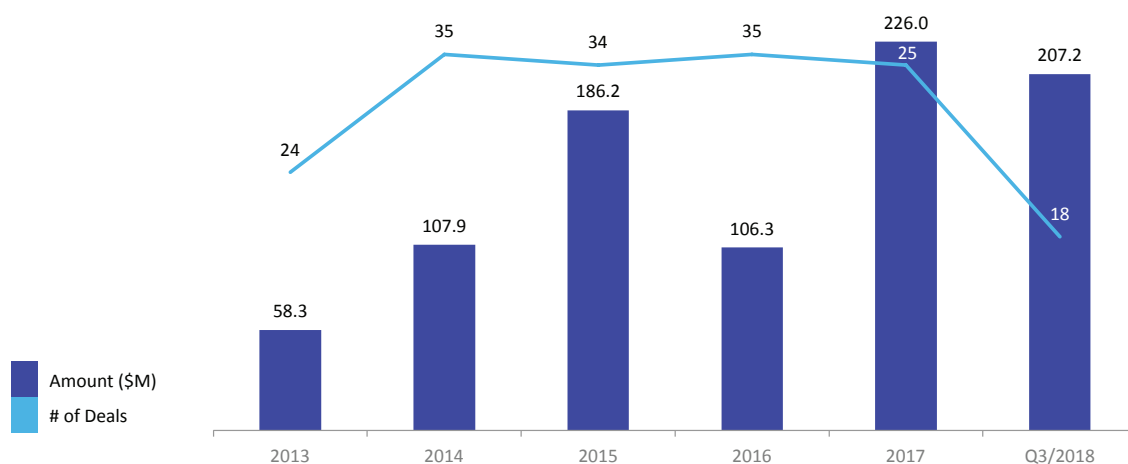
Strauss Group, the country’s second largest food manufacturer, established The Kitchen in Ashdod in cooperation with the Israeli government in 2015. “Our motto is to invest in any startup that can make the food we eat healthier,” says Berger. The incubator has invested in twelve early stage companies. **Among them we can find technologies for reducing sugar in fruit juices; a superior protein from forest fly larvae; environmentally friendly proteins with optimal taste profiles; and a non-dairy yogurt.**

Bringing in the Major Multinational & Industrial Corporations

While the ecosystem is still in the embryonic stage—less than \$100 million invested annually with an estimated 250 startups in FoodTech and approximately 500 in the related agtech sector—the food conglomerates are already here. Strauss is a local example, but foreign companies have started investing in local startups as part of their search for innovative technologies: France’s Roquette Freres made a \$4 million strategic investment in Equinom, a computational breeding company; Norway’s Nutreco invested in VIAqua, which focuses on combatting disease in the aquaculture industry; France’s Neovia made an investment in AquiNovo, a developer of proprietary materials to enhance the growth of farmed fish; and US-based FMC Corp along with Denmark’s CHR Hansen are funding a stealth-mode startup that has developed a novel bio-pesticide that works against a common pathogen in citrus and grapes.

Both Pepsico and Mondelez have, for the past year, had local representatives scouting for new technologies. In August, Pepsico paid \$3.2 billion for Israel’s SodaStream, a homemade soda and seltzer maker as part of the giant food company’s push for healthier and more environmentally friendly products. **Just weeks after the SodaStream deal, Pepsico selected three Israeli foodtech startups to join its accelerator—Yofix, a maker of non-dairy yogurt; A1C, a maker of healthy chocolate that does not raise sugar levels; and the Sprouted Grain Company, a developer of nutritionally superior, easier to digest whole grains, flours, and legumes.**

Israeli FoodTech Companies Capital Raising



Source: IVC Research Center

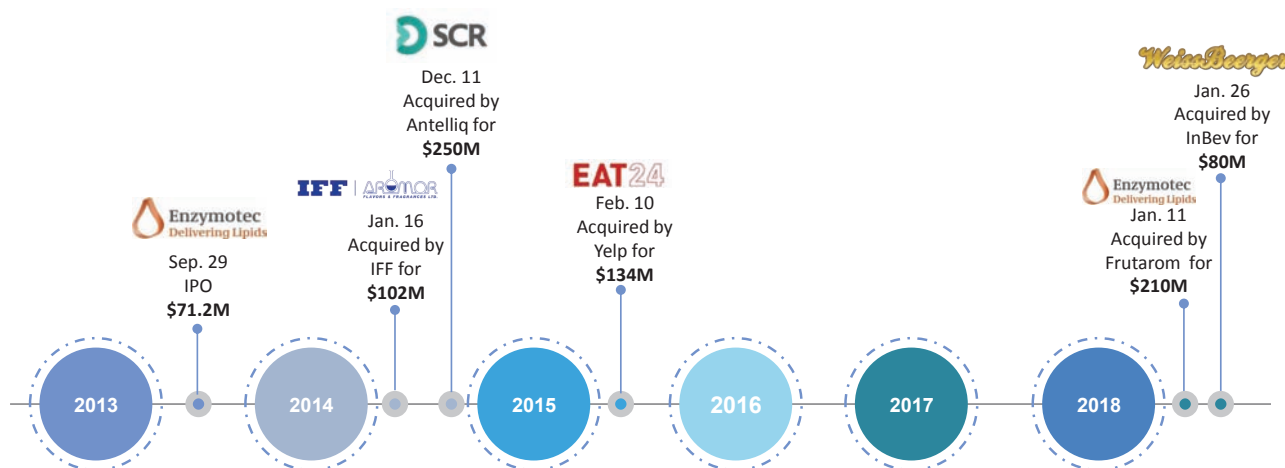
"Millions of euros will be earmarked for investment in Israeli food and agtech startups"

Until recently, only a few small, sector-specific venture capital and investment funds took any interest in the field. So, it doesn't come as a surprise to see some of them making investments in Israel and overseas, not a typical approach for Israeli tech funds. Misgav based Trendlines Group has invested in twenty-two startups focusing its efforts on seed and even pre-seed ventures. Half of the startups have emerged from Israeli academic institutions, such as the Weizmann Institute, the Hebrew University's Faculty of Agriculture, Food and Environment, the Agricultural Research Organization (ARO) in the Volcani Center, the Technion, and others from local entrepreneurs.

Another veteran food industry investor, Nadav Berger, recently joined forces with Erich Sieber, who worked for sixteen years with Nestle's strategic venture fund. The Malta based investment company, Peak Bridge Partners, plans to tap European sources of funding through the European Institute for Innovation and Technology's (EIT) Food, which already invested in fifty food startups, including eight in Israel. Four years ago, Berger founded Food Lab Capital, which has invested \$4 million in four ventures. The most advanced is DouxMatok, a pioneer in the development of targeted food delivery. The company's first product is a sugar reduction solution for cutting sugar by as much as 40% or more in a variety of food applications, without compromising on taste. "We are working closely with large European and American food companies and expect large-scale industrial use in 2020," predicts Eran Baniel, CEO and co-founder.

The race is on to find the next Israeli Frutarom by harnessing the country's startup and innovation mentality in a sector that is fast becoming a global focus.

Top Exits, 2013-H1|2018



Source: IVC Research Center

Is a Smart City a Better City?

Brian Blum

What makes a smart city smart? It can be anything from smart energy management in new buildings to sensors embedded at traffic lights and parking spots. Many of the latest tech buzzwords (including those for which Israeli startups are famous, like big data, artificial intelligence, machine learning) play a role, as well.

IESE Business School's Center for Globalization and Strategy is trying to answer the question with an annual index analyzing 165 cities from eighty countries across nine categories of smartness: human capital, social cohesion, economy, environment, governance, urban planning, international outreach, technology, mobility and transportation. New York, ranked first in the 2018 index, followed by London, Paris, and Tokyo.

Missing the Point

But all that misses the point, says Ariel Noyman, an Israeli architect who has spent much of his career studying what makes cities work, currently as part of the City Science group at MIT's prestigious Media Lab in Massachusetts. **"It's not about building a more sophisticated camera or a micro-grid control system," he explains. "The question is whether these things actually improve the quality of life in a city."**

Noyman gives an example of one of the latest trends in smart cities-connected trash containers that tell the sanitation department when the container needs to be emptied. "But let's go one level up and ask a different question," Noyman ponders. "What makes so much trash in that city in the first place? Why don't people recycle?" Using technology "to make the city better" is the true opportunity of the smart cities movement.

As a multi-disciplinary segment, the Smart Cities field is linking a wide spectrum of technologies aiming to make city-life better. The more advanced vectors to date are park-tech, water quality and monitoring, data-driven infrastructure planning, mobility, environmental sensors, waste management, and transportation.

Israeli smart cities startups during CityZoom's launch event

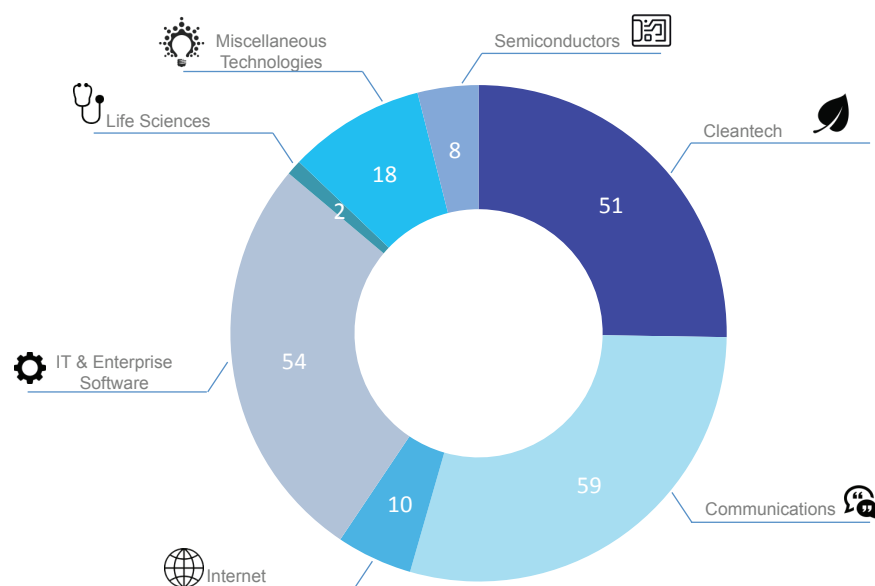


Israeli Technology Is Already Under the Hood

Take transportation, for example. Israeli technology is already "under the hood" at many of the top autonomous vehicle companies. Intel's \$15 billion acquisition of Mobileye in 2017 instantly turned the Silicon Valley semiconductor giant into a leading self-driving player. Innoviz and Oryx Vision use technologies such as LiDAR and light waves to allow self-driving cars to "see," even in bad weather. Autotalks goes one step further and allows autonomous vehicles to peek around blind corners. Argus Cyber Security and Karamba Security aim to prevent cars of the future from being hacked. Phantom Auto enables driverless cars to be controlled remotely in case of an emergency.

But self-driving cars as a shared service could backfire and add more cars to the streets. Does that make a city "better?" Noyman asks. As a result, smart city planners are now thinking about how to incorporate autonomous vehicles into a "multimodal" transportation network, with Israeli companies at the forefront.

of Israeli Smart Cities Technologies, by Sector



Source: IVC Research Center

The Smart Cities Ecosystem in Israel is Gaining Momentum

Upgrading a city's infrastructure to handle all that data can be overwhelming. That's one reason why Google parent company Alphabet is taking on a brand new neighborhood. In Toronto, Alphabet's Sidewalk Labs subsidiary is developing the city's Quayside neighborhood as a smart city. Among the innovations: sustainable skyscrapers made of timber, modular pavement tiles that can melt away ice and snow, and covered walkways inspired by ancient Greece.

Israel's ZenCity, which monitors what it calls "citizen sentiment" to help municipalities improve local quality of life, aggregates communications coming from official and unofficial channels. It then sends topic-specific alerts to specific city managers.

ZenCity CEO Eyal Feder-Levy shares an example of a city that chose not to renovate a particular park. A backlash quickly formed online which ZenCity's software picked up. It turned out that the local little league practiced at this park and now had nowhere to go. **"The sentiment was very negative and the volume of the discussion was higher than almost any other topic in the city," Feder-Levy says. The city changed its mind, and youth baseball was saved.**

With the help of other Israeli startups like Haifa-based BreezoMeter, little leaguers (and citizens of all ages) will have cleaner air to breathe. BreezoMeter monitors thirteen different types of air pollutants and provides real-time reports, neighborhood by neighborhood.

"Smart cities will emerge as major big data hubs," says Ran Korber, CEO of BreezoMeter. "This information will be used to make more informed decisions on how to improve citizens' quality of life."

While major cities around the world such as New York or London offer startups a perfect testing site and a big market, Israel's relatively small size makes it hard for local municipalities to attract innovation on their journey to becoming smarter. For that reason, Ministries of Economy, Industry and the Interior, together with the "Digital Israel" initiative, have formed a new smart city innovation community called CityZoom. **The community, jointly managed by the Peres Center for Peace and Innovation, Park Atidim and Tel Aviv University, aims to connect as many municipalities in Israel to new technology, with an emphasis on the country's northern and southern periphery.**

Avi Tamir, co-CEO of CityZoom, says that: "Our challenge is not only in accelerating and supporting startups in this sector, but to convince them that Israeli cities should serve as their beta sites, ahead of foreign cities such as New York and London".

With a total of 202 Israeli companies active in the smart cities space, according to IVC Research Center, and many millions of dollars already raised, it's clear that Israel's place in this emerging tech sector—and its role in making the cities of the future better, healthier, and more citizen-responsive places to live—is no blip of the latest buzzword.

THE ISRAELI EXPO

Israeli startups selected for 2018-2019 to exhibit their cutting edge, creative and risk-taking technologies, representing the DNA of Israeli innovation.



Selected by a professional committee of the Peres Center for Peace and Innovation, in cooperation with the Ministry of Economy and Industry and the Israel Innovation Authority.



Digitally Healthier: The Israeli Digital Health Ecosystem is Booming

Neal Sandler

More Innovative Companies, Investors, and Multinationals are Active in Israel

Israel was one of the first countries to introduce digital solutions to its health system over two decades ago. Initially, the focus was on digitizing patient health records at the two largest health funds—Clalit and Maccabi—which jointly cover around 85% of the population. In 2014, Israel's Health Ministry completed the full-scale digitalization of the country's entire health system. The trend towards digitalization has intensified worldwide as health expenditures continue to rise rapidly, particularly in developed countries.

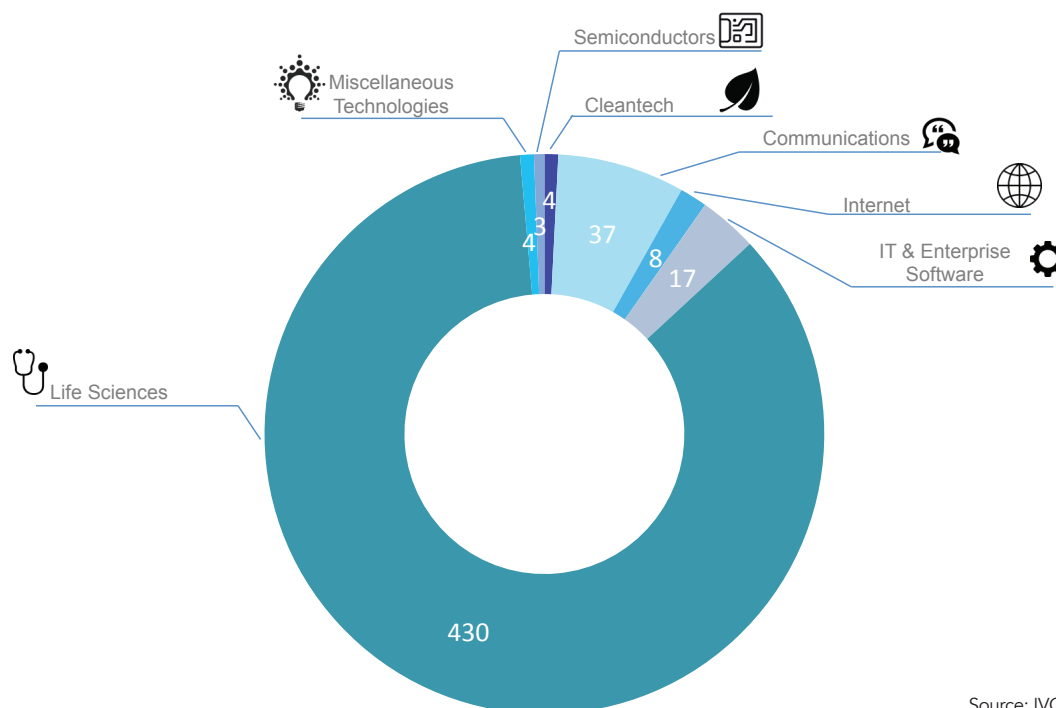
A recent report by international consulting firm McKinsey & Company noted that pharmaceutical and medical technology companies are digital laggards compared with companies in travel, retail, telecommunications and other sectors of the economy. The focus on digital health has expanded from patient records to just about segment of the multi-trillion-dollar industry.



The consensus among experts is that Israel has a lot to offer in the field. "Israel has become a global leader in recent decades in imaging, analytics, algorithm development, and video communications, which are all considered key components in digital health," says Ittai Harel, managing partner and in charge of the sector at Pitango Venture Capital. Another aspect that makes Israel suitable for digital health development is the time to market. "Unlike drug development which takes years, digital health applications have a much quicker turnaround and a relatively short regulatory approval process," notes Ophir Shahaf, director of business development at ehealth Ventures, one of three government sponsored digital health incubators.

The buzz over digital health reached new heights with the January declaration by Prime Minister Benjamin Netanyahu that Israel was planning to invest \$300 million over the next five years in a project for developing personalized and preventive digital medical technologies in collaboration with German software giant SAP.

Israeli Digital Health Companies, by Sector



Source: IVC Research Center

Israeli Digital Health Startups are Mainly in Early Stages

Startup fever hit the sector long before the prime minister's pronouncement. According to IVC Research Center data, over 300 startups were established in digital health in the past five years and nearly double that number are currently active. **The sector is still considered to be in its very early stages. Israeli startups can be roughly categorized into nearly a dozen areas many of which overlap:** point of care (POC) and accuracy of care; research, IT and workflow; telehealth; efficiency of care; personalized care; monitoring; personal health; rehab and therapy; medication adherence; and preventative care.

Israel has already had a few successes, most notably dbMotion, which was acquired in 2013 by Allscripts, in the biggest exit to date in the space. Allscripts has expanded its operations here since the acquisition and even invested in a local startup. Several of the local startups like EarlySense, a developer of patient monitoring solutions, and DayTwo with its personalized nutrition technology, are already chalking up substantial sales. "We're at the end of an R&D cycle in the digital health sector and within the next two years or so we'll begin to see substantial exits," predicts Assaf Barnea, CEO of Sanara Ventures, a joint venture between Israel's Teva Pharmaceutical Industries and Dutch healthcare giant Phillips.

Israeli Digital Health Companies, by Stage



Source: IVC Research Center

A Growing List of Investors

The startups form the backbone of Israel's expanding digital health ecosystem that have raised over \$1.3 billion in the past five years. Since 2015 investment in the sector has more than doubled.

Undoubtedly, one of the most significant developments on the investment side has been the entry of Israeli billionaire Marius Nacht into the health sector. Nacht was a co-founder in the mid-90s of Israel's most successful cyber-security company, Check Point Software Technologies. In recent years he has been focusing his efforts on life sciences including digital health. Set up two years ago, his first \$200 million fund, aMoon Partners I, has invested in sixteen early stage startups. In April, a second fund, aMoon II, was announced. The \$500 million fund will invest in mid- to late-stage companies. Most of the funds have already been raised with the largest commitment by Swiss investment bank Credit Suisse.

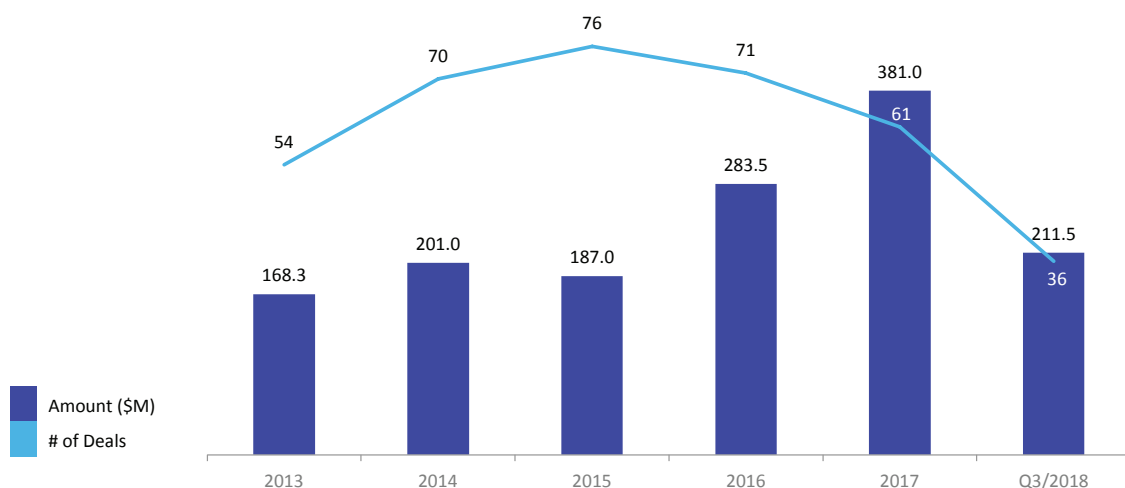
Last year, Nacht and aMoon co-founder Yair Schindel established a non-profit organization called the 8400-network aimed at turning Israel into a global healthcare powerhouse. The project plans to mobilize four hundred leading experts in the field over an eight-year period-hence the name, which is also a take on the IDF's renowned 8200 intelligence unit, where many of Israel's high-tech entrepreneurs served.

The government, through the Israel Innovation Authority, is taking an active role in cultivating the sector. The authority is partially funding three digital health incubators in which global health giants like IBM, Medtronic, Boston Scientific, Rambam Health Care - have joined forces to invest in new ideas in the field.

The Center for Digital Innovation (CDI) Negev in Beersheba has taken a different approach. The not-for-profit partnership was founded in 2015 by several entrepreneurs and Ben Gurion University of the Negev, and since then another nine have joined. There are four separate labs-Digital Health, Healthy Aging, Education, and Smart Cities-along with thirty startups under the CDI umbrella.

Israel also faces challenges in its efforts to become a global leader in digital health. "It's not enough that Israel is extremely advanced in the digitalization of health data, the regulatory environment specifically regarding privacy issues, data ownership, and intellectual property have to meet American and European Union standards," says Efrat Cohen, director of Pharma Israel, an industry trade group that represents twenty of the largest global pharmaceutical companies. Global pharmaceutical giants are stepping up their investments in the digital health field due to its potential impact on their own business and Israel is already on their map.

Israeli Digital Health Companies Capital Raising



Source: IVC Research Center

IoT: Hopes and Challenges

We asked Israeli innovation leaders about their hopes and challenges for the age of connectivity. Here are their responses:

Yaniv Garty, General Manager, Intel Israel



AI-based innovations for a better future

Here's some information you may not be aware of 90% of the world's data was generated in the last two years alone. Analysts predict that by 2025, the amount of data will grow exponentially to about 163 zettabytes (a zettabyte is equal to 1,000 billion gigabytes). How can we handle such enormous amounts of information? And more importantly-why should we?

As we meet with partners, corporations, and entrepreneurs from Israel and all over the world, we discover that despite hailing from different backgrounds and each of us having to face our own unique challenges, we all share a common goal the need to produce more value from the immense amount of data.

Today's computers produce a vast amount of data and humanity can use it thanks to companies like Intel. The interface between data and transportation is a good example for the future. The potential of saving lives by lowering the number of accidents made possible with autonomous driving is incredible. But to reduce accidents, we need a combination of technologies working together, from computer vision to end computing, mapping, cloud, and of course AI. All these, in turn, require a systematic change in the way the industry views data-focused computing and technology.

We need to adopt a holistic point of view with regard to data that includes faster data transfer and processing from the cloud to the end device. New horizons in AI bring exciting opportunities in security and transportation, medical science, education, sports and entertainment and more, with one critical element: a real-time understanding of the world around us and how we see things today-using webcams, drones, and smart phones.

We have a lot of work ahead of us before we can harness the power of data for our benefit. Today, we only use an estimated 1% of the data available to us. Imagine the value we could reap if we could utilize more of this data. At Intel, we don't only look to the future-we build it. From large, complex cloud platforms to small, mobile, low-electricity end devices, Intel extensively promotes AI-based applications via analysis, collection, and delivering data in real time. Today, it is not enough to capture data and pass it on; we need to draw conclusions from the data that enable actions to be taken, thus utilizing its full value. To do so, we need complete solutions from cloud to end-and Intel develops and produces these breakthrough solutions.

The constant stream of data is the lifeblood of future innovations and technologies. This nearly untapped resource is inspiring AI-based innovations to create a better future for us and for our children.



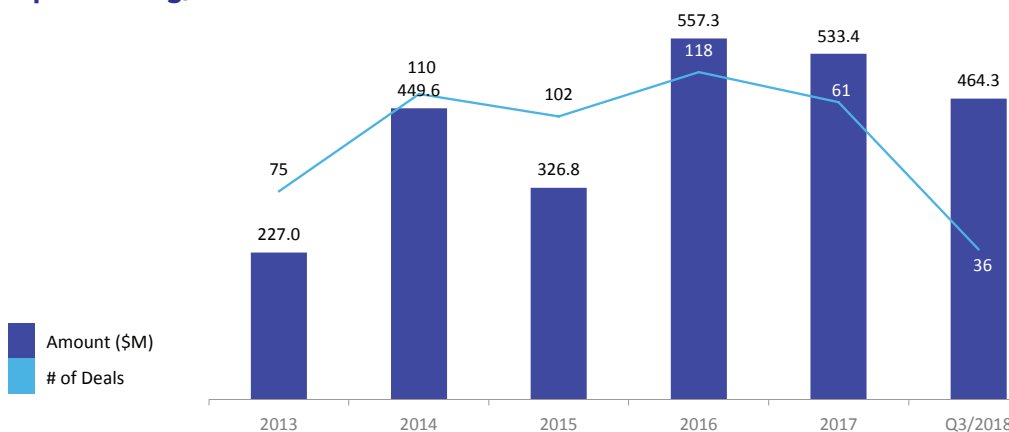
The IoT revolution in the field of supply chain

The IoT revolution has been a part of our lives for several years now and is growing daily. Recent data suggest that currently, some 15 billion devices are connected to the internet, and the number is expected to increase more than threefold to 50 billion by 2020.

The greatest concern stemming from connected devices is exposure of internal work processes via automation and the ensuing challenge of defending against cyber-attacks aimed at manufacturing, stock, shipping, and communication between suppliers and clients. It is therefore imperative to view cyber security as an integral part of connectivity.

As with every aspect of supply chain management, DSV is an innovation leader in IoT, working on various initiatives while keeping track of developments in the field, all with the purpose of maintaining the highest level of service and excellence. At present, we are engaged in a pilot for dynamic stock management, embracing open innovation in high intensity environments, as well as land, sea, and air shipment tracking aimed at offering our clients by-the-second status of their merchandise.

Israeli IoT Capital Raising, 2013–Q3/2018



Source: IVC Research Center

Merav Kenan, CEO, Israeli Hi-Tech Association, Manufacturer's Association of Israel



Creating Israeli companies that last

My biggest hope for the age of connectivity is for Israel to grow and evolve from the "startup nation" to a true innovative and industrial leader. It is well known that most Israeli startups focus on foreign markets, aiming to move the company abroad of sell it ("exit") for the highest bid. It is my hope that we'll be able to change this trend and create more startups that will become market leaders with a base here in Israel. To do so, the Israeli Hi-Tech Association is working on programs to involve more women, people over 45, and under-utilized sectors within Israeli society in the tech sector, thus creating a larger, healthier workforce and enabling companies to hire and operate locally.

One of the focal points of our activity at the Israeli Hi-Tech Association lately is the promotion of government investment in innovative technologies in the fields of quantum computing, AI, digital health, advanced manufacturing and others. We believe that investing in these fields, coupled with academic excellence and major private market involvement, could bring Israel to the forefront of technological innovation and to becoming a market leader.

Asher Levy, CEO, Orbotech



Megatrends will improve our lives, economically and socially

I predict that in the very near future connectivity will transcend into almost everything we experienced. 5G mobile networks and gigabit internet speeds will take our phones, cars, homes, and workplaces to new levels of connected performance and utility, transforming the way humans live, learn, work, and play. In addition to artificial intelligence, smart vehicles, smart homes and buildings, and AR/VR, connectivity is one of the key megatrends Orbotech is helping to transform into a genuine market trend.

My vision and hope are that these megatrends, being used for good, will improve our lives, economically and socially. Today, Orbotech is working on the transformation of the electronics industry through exceedingly innovative production processes in the areas of printed circuit boards, semiconductors, sensors, displays, and highly advanced packaging. Through process innovations like additive manufacturing, Orbotech is connecting the visions and dreams of designers and engineers with the expectations and demands of consumers.

Orly Gan, Head of Products for Threat Detection, Check Point

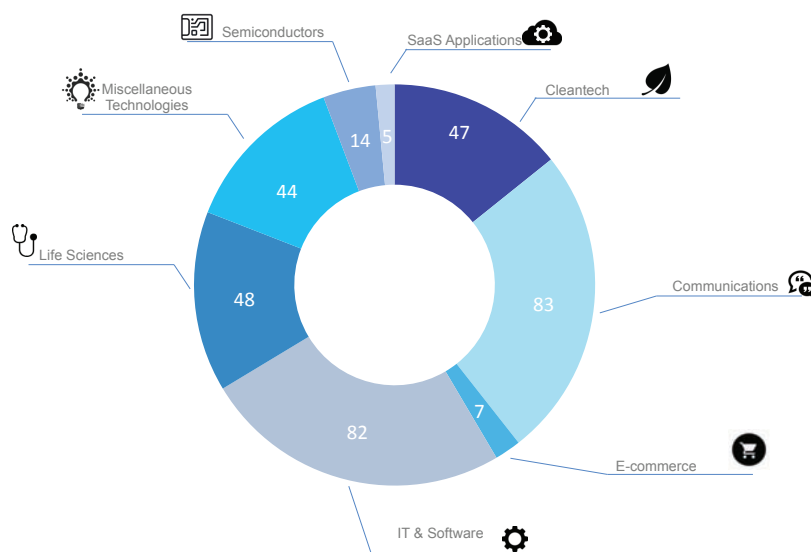


The Possibility of infiltration by harmful entities is escalating

Revolutions in information technology have historically been turning points for humanity. The internet is another such turning point, but with a platform for sharing ideas and learning from others at a far greater scale than ever before. We can make higher education reachable to anyone, anywhere in the world, enabling the bridging of gaps and the transforming of lives for the better. At the same time, an increasingly interconnected world in which AI algorithms and filters are making decisions, the possibility of infiltration by harmful entities is escalating. Most worryingly, future wars will rely heavily on cyber weapons, challenging our new found connectivity and advances in artificial intelligence. This will undoubtedly have an impact on our daily lives in unprecedented ways and on an unparalleled scale.

For 25 years, Check Point has been, and continues to work on securing the "Internet of Everything," protecting interconnected devices across all uses and applications and allowing safe access to information and services for all users, wherever and however they are applied.

Israeli IoT Companies, by Sector



Source: IVC Research Center

Innovation as a Social Force for Good

The Knowledge Hub at the Peres Center

Trickle-Down Innovation

The term “Startup Nation” has been used to describe Israel for over a decade. But is it truly a startup nation? While local ecosystems in big cities are flourishing, many who live outside of the urban centers feel the innovation culture in Israel is passing them by. At the same time, companies in Israel complain about a severe shortage of quality workers; according to Dr. Eugene Kandel, CEO of SNC, it's an estimated gap of 10,000 engineers. Government initiatives—such as incubators established in Israel's periphery and funding made available for initiatives and entrepreneurs from underserved communities—are trying to address the challenges of accessibility to capital and the gaps in knowledge and education. Nevertheless, there is still much that can be done. According to Hanan Hedar, a young Arab entrepreneur, “Most of the activity is concentrated in the big cities ... the periphery has some development, but not enough. As an Arab woman, I can testify that language is a major roadblock, as well as cultural differences and lack of knowledge as to what's happening in the major hubs.”



In an effort to remedy the situation, the Peres Center for Peace and Innovation, the **Edmond de Rothschild Foundation**, TAU Ventures, and MassChallenge Israel have taken it upon themselves to engage underrepresented communities within the Israeli entrepreneurial ecosystem and create a platform on which they can start to build their own ventures.



“Starting Up Together” is a pre-acceleration program that utilizes the knowledge and good will existing within the Israeli entrepreneurial ecosystem, and provides its participants with mentoring, workshops, bootcamps, and more. A major boon is the opportunity to meet and interact with leaders and prominent figures within Israeli innovation.

True to the principles of equal opportunity, the program accepts an equal number of men and women, and focuses on both Jewish and Arab entrepreneurs—giving them a unique opportunity for cross-cultural cooperation hand in hand with professional development.

Elnatan Golan, an alumnus of the program, is

convinced of the program's necessity: “The periphery holds the same potential for innovation as the big cities and can cater to local problems that go unnoticed. The exposure and encouragement given by the program are very much needed.”

Peacebuilding via Innovation

It has been almost a century since the publication of John Maynard Keynes's *The Economic Consequences of the Peace*, but the principles on which the book was written are still valid and relevant. In a time when the word "peace" is not often heard, it is imperative that new channels for coexistence be found.

The flourishing Innovation Nation, which Israel is known as, has much to contribute in vital know-how to the Palestinian startup ecosystem, which is gaining momentum. Many young Palestinians have the education and drive necessary to create a booming startup economy, but are lacking access to vital resources. It is important for the region to have a strong Palestinian startup-based ecosystem in order to begin creating a regional network of like-minded economies working together to promote prosperity.

"Startup-Link," co-founded by the Peres Center for Peace and Innovation, the Danish Foreign Ministry, and Palestinian partners aims to use the Startup Nation's best practices in order to assist in the creation of a Startup Region. Through the establishment of an integrated Palestinian incubator-accelerator, training the professional team that runs it, and implementing two cycles of six to eight Palestinian startups each, young talented Palestinian entrepreneurs are empowered and introduced into the local entrepreneurial community, thereby bolstering the Palestinian startup ecosystem.

While it is important to promote an innovation-driven Palestinian economy, viable progress can only be reached with the creation of strong business ties between companies and businesses on both sides. "SharakeHTech" a project co-founded by the Peres Center for Peace and Innovation and the Israel-Palestine Chamber of Commerce and supported by the EU, aims to do just that, while also catering to the Palestinian need to find new markets and the Israeli Tech sector's need for a skilled workforce, which forces it to outsource more and more.

During this 3-year program, Palestinian companies receive capacity building and match-making opportunities with Israeli companies, and are exposed to mutually beneficial business opportunities. In addition, Palestinian students and recent graduates receive work experience and exposure to the ICT industry. Guy Shemesh, Vice President of the cloud business unit at Nokia, one of the companies involved in the project, says: "There are many advantages to employing



Palestinians in the Israeli tech ecosystem, for instance a shared culture and mentality which makes for easier communication and streamlines the work process. Every year, thousands of young Palestinians graduate from universities, and are eager for work in the field. This creates an opportunity, as Israeli companies' demand for skilled labor increases. Instead of hiring from other regions such as Eastern Europe or East Asia, which many international companies do, we prefer near-shore hiring. In this case, we're simply doing what's best for both sides, not out of altruism, but to utilize the talented graduate pool in the Palestinian Authority to answer the growing need for employees."

The program is set to work with dozens of ICT companies on both sides, as well as with over 50 Palestinian students and recent graduates. "Nokia is proud to be a part of a global process of promoting a diverse work force. Multiple researches show a substantial, quantified improvement in business results when work is done in diverse teams. When companies commit to diverse leadership they succeed more, recruit better and improve customer relations, employee satisfaction and decision making, all leading to an increase in value. In this way, we create a win-win scenario for all parties," Shemesh added.

These projects, and more along the same lines, demonstrate the Peres Center for Peace and Innovation's commitment to promoting innovation as a social force for good, while using Israel's unique ecosystem and values as a springboard to success. Chemi Peres, Chairman of the Board of the Peres Center for Peace and Innovation, notes that, "This is the message the Peres Center for Peace and Innovation has set out to spread: to write a new chapter in the story of the region by turning the Middle East into a 'start-up region.' We need to look to Israel, with its Arabic-speaking community making its foray into the tech scene, as an example for the Middle East and create opportunities for the young generation region-wide. As the Middle East is home to the youngest population in the world, offering a new horizon of opportunity for the young generation, together with building sustainable cross-border ties, is the best answer to poverty and extremism."



The Next Big Thing:

Israel's High Tech Leaders Weigh In

Entering a New World of "Artificial General Intelligence"

Prof. Amnon Shashua, Hebrew University, Co-founder of Mobileye and OrCam, Senior VP of Intel Corporation



Data science, machine learning, and deep networks are part and parcel of the "rise of algorithms," also referred to as "artificial intelligence," which are data-enabled processes that mimic human decision making over a wide spectrum of tasks

including pattern recognition, language processing, machine translation, and autonomous driving.

As much as the current wave of AI algorithms is impressive with far reaching implications for society, presently, we are dealing with "narrow intelligence," where machines are becoming experts in specific, narrowly defined, tasks. Although narrow-AI is still very powerful, it cannot unleash the power of intelligence

that humans possess. The promise of AI for society is to be able to solve the big problems facing humanity from curing cancer and diseases and increasing longevity and quality of life to protecting our planet from natural disasters. Machines possessing "broad intelligence" with unlimited computing capacity could be the engine that can achieve that promise.

Consequently, the next big advancement in AI will be "artificial general intelligence" (AGI), which defines tasks that cannot be achieved without some level of broad intelligence. The kind of intelligence required to properly fathom a virtual world is beyond the current wave of narrow-AI. Advancements in reinforcement learning (a branch of machine learning) for playing strategy games such as Chess and Go and for controlling the decision-making processes of autonomous cars is a first step toward AGI, though the major challenges still lie ahead. But unlike a decade ago, when AGI was considered science-fiction, the progress of narrow-AI makes AGI a containable leap which is likely to be made in the foreseeable future.

A Potential for a Significant Boost

Yifat Oron, Leumitech



Israel's high tech industry is the crown jewel and main pillar of the country's economic growth and the force of its stability. The industry demonstrated its foresight in anticipating the world's needs and providing key solutions when it shifted

focus from telecom to semiconductors, to mobile and cyber, and now to foodtech, automotive, and artificial intelligence.

The next major challenge for Israel's high tech industry is to increase the "brain power" supporting the tech

pillar by tapping into the country's ultimate natural resource—its people. The industry needs to engage women, the ultra-Orthodox sector, and Israeli Arabs, all of whom currently are underrepresented in the start-up nation narrative, but have the potential to give it a significant boost.

The participation of these groups in the high tech industry will have a double benefit by increasing the number of workers from those sectors in the Israeli economy and as an infusion of new and diverse brainpower in the high tech industry. Studies have found that innovation thrives in an environment of diversity. The diversification of Israel's high tech industry, by bringing in all sectors of the economy, will enable it to address more effectively the needs of the ever-changing global market.

The Next Big Thing

AI and Machine Learning

Aharon Aharon, CEO, Israel Innovation Authority



According to a well-known paradox: it is very hard to predict what will happen next year, but relatively easy to predict what will happen in ten years' time. The "next big thing" is often shaped by trends, moods, and media hype, which can distract from seeing the big picture.

Take bitcoin for example. The media hype focused much more on this currency's fluctuations than on the real question: what actual problems can a blockchain-based currency solve? Whereas, the medium term (ten to twenty years down the line, any more than that and the forecaster risks ridicule) is governed by scientific and technological trends that exhibit less "noise," making patterns easier to identify.

So, while I can't offer any advice on whether to buy flashy new cryptocurrency, it's not too much of a risk for me to state that we are in the beginning of a new era. The next generation will almost certainly be the age of smart machines. Machines are all around us, but only a fraction do much more than obey a simple set of instructions. In that sense, a machine is as smart as a two year old, at best. Imagine what will happen when a machine will reach the intelligence level of a six year old, or a ten year old, or an adult. That's where we're heading. While I can see the limitation of machines compared to human thinking, I believe that one day, Artificial Intelligence will be as important an invention as electricity or the steam engine. Countries that will harness it to their advantage, by applying machine wisdom to solve crucial problems, will flourish. Those that fail to do so will lag behind. Israel has the potential to be a leader in this exciting technology. It's up to us to rise to the challenge.

The New Triangle of Digital Health

Adi Soffer Teeni, General Manager, Facebook, Israel



My next big bet in the high-tech sector is digital health. Yes, we have been talking about it for a while now, but in 2018, the pieces are lining up to take this industry to the next level. This is important since health and wellbeing are at the core of our

welfare as individuals and as a society.

When we consider the catalysts for this impending change, we see three main and interconnected trends: shifts in consumer behavior, technological leaps, and an increase in accessibility.

Consumer behavior is rapidly changing. Thanks to the internet, consumers are more informed and knowledgeable than ever before. Instead of being reactive patients who deal with illnesses after they happen, the new proactive generation looks for preventive solutions to avoid becoming sick in the first place.

Alongside the scientific developments and innovations and technological advances, machine-learning systems running on massive data sets are generating deeper and more informative analysis. These technologies are the infrastructure for personalized treatment and progressive, predictive diagnosis.

Closing the gap between technology and consumers also affects accessibility in the health industry. Most of us already carry a device that provides us with important real-time data like stress levels, pulse rates, sleep patterns, and other health metrics. This opens the door for new consumer-centric experiences and life-changing technologies. The mobile experience has raised the bar for how people consume health services - instantly, in a convenient and tailor-made way, similar to disruptive services like Netflix and Uber.

Most important, from my perspective, Israel will be at the forefront of the advances in digital health, spearheaded by more than 500 startups, hospitals, and clinics that are far more advanced than any other developed market, supported by a phenomenal ecosystem of investors and incubators.

Delivery Technology

Dr. Chen Lichtenstein, President and CEO, Adama



The immense challenges facing global life science—health and agriculture—today drive extraordinary innovation. In an age of greater focus on our personal and environmental health, we all want to maximize the benefit of goods and services, while minimizing negative impact on society and the planet.

With over 1,000 Israeli life sciences start-ups, from pharmaceuticals to digital healthcare and agricultural technologies, we are rising to the challenge to provide

a broad response to global needs, through the creation of products and solutions aimed at improving lives.

One promising solution, and a potential game changer, is the new field of delivery technologies. Life science industries are seeing an upsurge in development of cutting-edge biological, chemical, and technological systems enabling targeted, precise application of active ingredients to treat a localized ailment. Whether designed to treat malignant human cells, serve as pain blockers, or control plant disease, delivery technologies can effectively change and secure the way we protect all life forms. I believe that these technologies will be one of the next big leaps providing a sustainable solution for both the planet and humankind's future.

Maximizing the Value with Arab Women

Hanan Khamis, PhD, Clinical Applications Engineer, GE Healthcare Global, Co-founder of Arab Women in Science and Engineering (AWSc) Forum



In the year 2028, Arab women are celebrating equality in high/bio-tech industries, in academic institutions, filling senior positions, leading startups, labs, high-tier companies and high-end initiatives. This is not a dream. It is a future toward which

Arab women made initial steps years ago, to ensure they have the right technical and soft skills to lead the next big things.

While the number of Arab women in the high/bio-tech industries has increased, Arab women are still

underrepresented and they have not reached their potential.

Organizations are aiming at full engagement of Arab women in STEM fields, through empowerment, exposure to new opportunities, success stories, and tools to leave their footprints. AWSc is a great example of an Arab grassroots forum founded by postgraduate Arab women in STEM, to support women's professional career pathways in academia, industry and entrepreneurship.

It is said that the next big things are AI, blockchain, preventive healthcare, 3D-printing and the list goes on. We believe that the next BIG thing is making Arab women a major part of this journey, key players and game changers!

The Future of Medicine Begins in Israel

Dr. Kira Radinsky, Director of Data Science, IL Chief Scientist, eBay



Jewish teaching promotes the notion of Tikkun Olam—improving the world and building a model society. Israel shows its dedication to social justice through its healthcare system providing universal care for its citizens and by digitalizing

medical data at an accelerating rate. This data, which has accumulated for twenty years, is bringing about a groundbreaking change in the way healthcare is being delivered to the citizens of Israel.

For the first time in history, a medical system can statistically study its patients over long periods and provide insights originating from big data to predict diseases more proficiently. The prevention of illness is playing an ever-larger part in the Israeli medical ecosystem, as startups and homegrown initiatives of the health organizations are building digitalized solutions to protect people from chronic disease from as early as birth.

Revolutions come from need, and the global medical system is in need. Israel has the resources to lead this change for the betterment of world healthcare.

The Next Big Thing

Arab-Israeli Tech Entrepreneurs

Fadi Swidan, Director, Maof Business Incubator Center & Accelerator, Nazareth



The Ministry of Economy and Industry has indicated the untapped talent of Arab-Israeli tech entrepreneurs as the next big thing in both the Israeli and worldwide high-tech industry, a trend that has been reinforced by many scientific and economic

studies. The allure of the vibrant Israeli high-tech scene is causing more and more talented, ambitious, and motivated PhDs, scientists, researchers, and experienced Arab-Israeli entrepreneurs to join the game, creating the "startup nation 2.0."

The Maof Hybrid Accelerator invests great efforts in supporting such Arab entrepreneurs and startups that have at least one Arab-Israeli co-founder, and engages them actively with the high-tech industry, bridging the tech-entrepreneurship gap, encouraging diversity, solve real human challenges, in order to launch the next big thing.

As I like to say: Two thousand years ago, Nazareth brought the world one of the most influential miracles of all time and I believe the next big thing will be "made in Nazareth" as well.

Data Is the New Currency – Shaping Privacy Ownership and Control

Mor Assia, Founding Partner and Co-CEO, iAngels



As data is becoming the new currency, the privacy and ownership of personal data is undergoing major transformations. The new European regulation regarding data protection (GDPR) is promising to put individuals back in control of their personal data and unify data protection

and privacy laws, while amending business practices and the way companies interact with customers and promise traceable, monitored access to personal data.

Multinational corporations are coming under attack for privacy violation. Tech giants like Google and Facebook and their social media subsidiaries are being slapped with fines in various parts of the world. Companies are going to have to reinvent themselves to deal with the potential loss of revenues stemming from data monetization. They will have to review data flow on an ongoing basis, depending on AI-enabled

solutions for automatic and seamless performance. Consumer needs differ depending on age: Seniors in the developed world, who hold the greatest financial power today, are experiencing loss of trust and, as a result, are voting with their pockets, while tech-savvy millennials, often seen as sharing anything online, know how to retain control of their own data. They demand ownership of their personal data and potentially the right to be compensated for any use of it.

The amount of data will continue to increase exponentially in every sector of the economy. Autonomous cars will store data far beyond destination-related information. Smart speakers already installed in 50% of homes in the US are tracking every conversation. Israeli technological innovation is thriving in the field of data management and access solutions, with companies like PlainID, BioCatch, and Octopai focusing on this vertical. The article "Decentralizing Privacy," co-authored by Israeli and American researchers at MIT, made headlines for its description of the use of blockchain as a means of protecting personal data. The paradigm shift in the amount and the use of information will lead to innovative solutions and Israel is well poised for an active role in shaping this new reality.

New Space: The Next Big Thing

Inbal Kreiss, Deputy General Manager, Space Division, System Missiles & Space Group Israel Aerospace Industries



Humanity has been involved in a Space Race for decades now. Today, what used to be a field pursued by a few nations and often regarded as science fiction is transforming into a more accessible endeavor thanks to New Space.

Innovation, a force that has transformed multiple industries, has arrived at the space industry, with dozens of startup companies and other initiatives, including space tourism, planet colonization, medicine in space, elevators to the International Space Station, and more. As a result, our global village is expected to grow into an intergalactic village thanks to technological breakthroughs: newly-developed reusable launchers

make space launching more affordable; Smaller, more accurate satellites offer a range of new applications, from novel scientific and medical experiments to civilian and military solutions; construction under zero gravity conditions allows us to dream about building a house on Mars, and more.

Israel has not been left out of the space revolution: in 1988, Israel Aerospace Industries (IAI) and Israel's Ministry of Defense launched the first Israeli satellite called "Ofek 1". In so doing, Israel joined the exclusive club of nations with full space capabilities.

Since then, IAI has been leading Israel's space industry, nurturing the local and global New Space field with dozens of different startups. IAI's ongoing tradition of satellite miniaturization allows building unique small and nano-satellites in order to make various space services more accurate and accessible. In this way, IAI is providing the foundation for dreaming and venturing to planet colonization and daily space flights.

People say that 'The sky is not the limit'. At IAI, we say that even space isn't...



"The best way to predict the future is to create it."

— Shimon Peres