

# Innovation Insider

Q1/2019



LIVES SAVED: 500,330

SCORE: 103,650

SOLAR POWER: |||||

> Carbon Emissions |||||

> Energy Use |||||

> Waste |||||

> Clean Water |||||

> Greenhouse Gas ||

> Health |||||

YOU  
WIN

Startups Making  
a Global Impact

> Pollution |||

> Poverty Level |||||

> World Hunger |||||

> Gender Equality |||||

> Safety |||||

> Recycling |||||





Cover Illustration: Amitai Sandy

- 06 Doing Well by Doing Good
- 10 This is Not a Sausage
- 16 5 Trends in AI Making an Impact
- 20 Flower Power
- 24 Can Startups Fix Broken Accounts

Airobotics (p.3, 4, 19), Appdome (p.3), Arbe (p.3), BOL Pharma (p.23), Beyond Meat (p.11), BioCatch (p.3, 19), BrainQ (p.5), Broadmann17 (p.18), Celeno (p.5), Centaur Analytics (p.13), Consumer Physics (p.13), Convexum (p.4), Corephotonics (p.3), CropX (p.8, 13, 17), DouxMatok (p.13), DreamMed (p.18), EdenShield (p.23), Edgybees (p.4, 19), enVerid (p.3), Global Kinetics (p.5), INSIGHTEC (p.3, 5, 23), Innoviz (p.3), Intuition Robotics (p.3, 5, 8, 19), Lemonade (p.3), MedAware (p.18), Missbeez (p.27), mPrest (p.3), Nexa3D (p.3), NSLComm (p.2), Ossio (p.3), ReWire (p.25), Sight Diagnostics (p.8), Surgical Theater (p.3), Syqe Medical (p.23), TAPPP (p.25), Taranis (p.17), Tevel Aerobotics (p.18), TytoCare (p.5), UPnRIDE (p.5, 9), VAYAVISION (p.3), Zebra Medical (p.18), Zipline (p.18)

#### Contributors:

Eric Brand, Liz Cohen, Dan Fishel, Jonathan Fuchs, Sian Goldofsky, Kfir Kachlon, Friederike Kaiser, Avital Landman, Sarah Lavin, Saul Levin, Josh Liggett, Yakir Machluf, Kalia Natan, Richard Norman, Avital Pessar, Zachary Spiera, Betina Tabah, Alon Tal  
**Design:**  
 rubinfeldesign.com

#### OurCrowd

28 Hebron Road, Jerusalem 9108001, Israel  
[www.ourcrowd.com](http://www.ourcrowd.com)  
 bizdev@ourcrowd.com  
 Phone: +972-2-636-9300



## Making a Global Impact

The theme of this quarter's Innovation Insider is "Making a Global Impact," which reflects the incredible power of breakthrough technologies to make real and lasting impact on the lives of individuals and society. This idea also reflects the theme of the 2019 OurCrowd Global Investor Summit on March 7, 2019. Startups are taking on challenges such as easing the ravages of aging, helping paralysis, curing incurable diseases, making our planet greener and societies more equal. Phenomena that seemed like miracles only a short time ago are quickly becoming reality through innovation fostered by a global network.

We are proud to be a major player in this global phenomenon. Having reached the milestone of \$1 billion

raised, OurCrowd is now the most active venture investor in Israel. Our vast network of investors, multinational corporations, venture capitalists and, of course, entrepreneurs, provides us a unique ability to identify and support startups with the capability to have a positive impact and be disruptive.

Making the world a better place is not a cliché — it is the daily reality of hundreds of visionary entrepreneurs and the millions of people who benefit from the groundbreaking technology they develop. By working together, we can all have a lasting impact on our world.

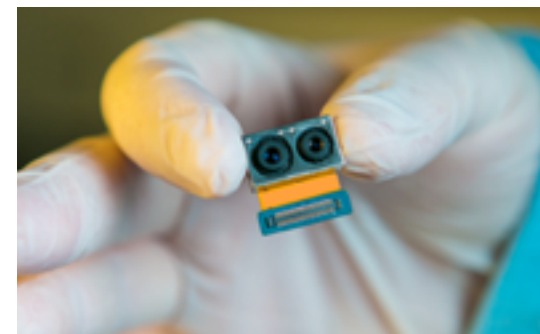
**Laly David**  
 Partner, Business Development



**On February 22 history was made** with Israel's first launch to the moon of unmanned spacecraft "Beresheet" (depicted in circle). If successful, Israel will be the fourth country to land on the moon following the USSR, US and China. Beresheet is the smallest spacecraft ever sent to the moon, and it is not alone: In early May, Israeli startup NSLComm will launch its own nano-satellites into space. NSLComm developed "shoe box" satellites that can be launched, 30 or more, on a single launcher and open to full size once in orbit. This nano-satellite system is estimated to be 10 times more cost efficient than existing satellites, and answers the growing industry need for greater satellite communication capacity.



## OurCrowd Portfolio News



↑ **Samsung bought Corephotonics**, which developed a camera with dual lens technology for smartphones. The new technology allows for a real optical zoom lens, rather than a digital zoom that manipulates the image.

→ **Lemonade Inc., an AI-based online insurer**, ended 2018 with more than \$57 million in sales. It grew from 100,000 insured homes in 2017 to 425,000 in 2018.



↑ **Arbe launched its automotive 4D** imaging radar beta product at CES 2019. Phoenix provides an image 100 times more detailed than other top industry radars, offering superior separation of stationary and moving objects in real time — an industry first.

→ **VAYAVISION launched VAYADrive 2.0**, a software-based autonomous vehicle environmental perception engine. It fuses raw sensor data together with AI tools to create an accurate 3D environmental model of the area around self-driving vehicles.

→ **mPrest and Southern Company**, one of America's largest energy companies, announced a collaboration to

develop and implement a solution to further enhance the resiliency, efficiency and flexibility of Southern Company's distribution system. These distribution technologies result in energy and cost savings and the reliable integration

of distributed energy resources. **mPrest also partnered with San Diego Gas & Electric** (SDG&E) to deliver intelligent Underground Residential Distribution (URD) cable analytics.

→ **Innoviz and HARMAN have partnered** to deliver LiDAR to automakers. Innoviz's LiDAR will enhance HARMAN's existing ADAS and Automated Driving initiatives, helping deliver superior driver assist features today and Levels 3-5 automation tomorrow.

→ **Intuition Robotics opened ElliQ**, an AI-powered social companion robot for older adults, for pre-order. ElliQ won the coveted CES "Best of Innovation" award in the Smart Home category in January 2018 and successfully completed beta testing with seniors in the Bay Area this past year.

→ **Nexa3D unveiled the fastest large-format 3D printer** at CES 2019. This new category maker prints up to 6 times the speed and 2.5 times the build volume of all other comparable products. It reduces the time to produce functional prototypes and production parts from hours to mere minutes.

→ **ePlus joined forces with Intel and Surgical Theater** for 360° virtual reality surgical imaging. Together with its partners, ePlus will help customers bridge the knowledge gap between doctors and patients with Surgical Theater's Precision VR® technology.



↑ **Ossio's integrative mineral bone pins** for orthopedic surgeries have been approved by the FDA. They secure broken bones during the healing process while leaving no permanent hardware behind.

→ **enVerid won product of the year** at the 2019 AHR Expo for its enVerid HLR 1000E module, which is lauded for energy savings, better indoor air quality and comfort, significant credits towards green building certifications and smart building technology.

→ **BioCatch launched a new behavioral biometric** offering to combat against phone scams known as vishing. It detects subtle changes in user behavior

that suggest the victim is under the influence of a criminal, unwittingly taking instruction to conduct fraudulent money transfers.

→ **Airobotics obtained Australia's first and only official approval** to operate automated multi-rotor drones from its Remote Operations Center (ROC) beyond visual line of sight (BVLOS) — with no aircrew needed at the client site.

→ **INSIGHTEC announced that the first glioblastoma patient completed** chemotherapy cycles in a clinical trial to investigate the safety and efficacy of focused ultrasound for disrupting the blood brain barrier (BBB). Glioblastoma is the most common primary malignant brain tumor in adults.

→ **Appdome launched its Appdome for MFA**, which enables developers to deploy two-factor authentication and MFA to Android and iOS apps in seconds. It is a no-code multi-factor authentication integration for mobile apps.



# Time for the Anti-Drone?

Since rogue drones shut down major airports recently, it has become clear there is a need for technology to defend against them



Airobotics. Still the good guys

In the past several months, over 200,000 passengers have been inconvenienced by rogue drone sightings at Gatwick, Heathrow and Newark airports — with Gatwick shutting down for 36 hours.

These incidents showed that while drones have the potential to improve emergency response (*Edgybees*), and provide a new dimension of insightful aerial data for perimeter security, mapping and real-time monitoring for mining and other industries (*Airobotics*)—recreational and unauthorized drones may present a new kind of terror.

The growing prevalence of drones provides a serious potential threat for government facilities, infrastructure, enterprises, stadiums and airports. A drone flying into an airplane's engine could pose a devastating threat. Threats may be malicious, deliberately launched by terror organizations, or they can be innocent — like inexperienced holiday goers searching for aerial photo-ops in the wrong air space.

While counter-drone solutions exist in the market, they have largely been developed for military purposes and may not be appropriate for civilian environments. Electronic solutions such as jammers interact with communication systems, for example. Weaponized solutions such as lasers and missiles pose obvious safety issues and kinetic solutions put more drones in the air, increasing the risk of collateral damage.

As a result, new anti-drone solutions focus on the specific needs of enterprises that exist in urban environments. OurCrowd-partnered early stage fund *F2 Capital* has invested in *Convexum*, a fully automated, surgical drone prevention solution. It overtakes invading drones by using cyber hacking technologies and then flies it safely to a pre-defined location in order to mitigate the drone threat to people or property. The solution even prevents drones from taking off within nearby public access areas, ensuring that tourists in pursuit of the ultimate selfie don't shut down airports.

**Alon Tal, Director, Investor Relations**



Convexum. Overtakes invading drones



Tesla Model S equipped with internal and external sound boost

## The Eargasm Effect

Car is too quiet? Manufacturers pump engine roars through the speakers

In search of the perfect engine sound, car manufacturers have poured considerable money and research into a psychoacoustics battle. But in a strange turn of events, in newer cars, these noises are mostly fake.

Modern automotive OEMs face paradoxical consumer demands. On the one hand, they are looking to buy quieter cars that filter undesirable noises like road, wind and rattling interiors, while also keeping emissions to a minimum. On the other hand, they are looking to beef up exhaust sound.

Why? Because there is a correlation between certain car sounds and feelings of power and pleasure.

As a result, Engine Sound Enhancement (ESE) is a controllable system that pumps fake sporty exhaust notes through the speakers while using active noise cancelation for better filtration of road noise.

Besides the eargasm effect in cars like BMW's M5, Lexus LFA and Ford's Mustang GT, engine noise has many practical roles — namely warning pedestrians that a multi-ton hunk of metal is approaching.

With the development of engines featuring superior efficiency coupled with lower emissions, the use of artificial sound is imminent, both in and out of the car. Don't be surprised if instead of your V8 roar, you get Beethoven.

**Yakir Machluf, Mobility Lead**

Soon in a museum near you: The roaring engine



# New Tech Tackles Old Age

The aging population of the world is larger than ever before and growing. Yet, the ailments of old age may become a thing of the past due to the rise in groundbreaking technology



## Alleviating Loneliness

*Intuition Robotics* redefines the relationship between humans and machines. The company's cognitive AI platform enables devices to become context-aware, proactive, personalized and adaptive. Their first product, *ElliQ*, is an award-winning social robot for the elderly that encourages an active and engaged lifestyle.



## Treating Alzheimer's

*INSIGHTEC* develops tech that uses sound waves to ablate deep brain tissue (see page 23). Together with WVU's Rockefeller Neuroscience Institute, a new breakthrough clinical trial for Alzheimer's is underway. Ultrasound waves are used to temporarily open up the blood brain barrier, to potentially facilitate the clearing of the plaques.



## Detecting Falls

*Celeno* develops innovative Wi-Fi solutions that turn the home router into a Doppler imaging sensor (or simply put, a radar). It can accurately detect falls behind walls and closed doors, eliminating the need for and privacy concerns of cameras.



## Combating Strokes

*BrainQ* helps stroke patients get back on their feet. Its medical device identifies spectral patterns in brain waves and translates them into a non-invasive, low intensity electromagnetic treatment that facilitates neuro-connectivity and enhances recovery.

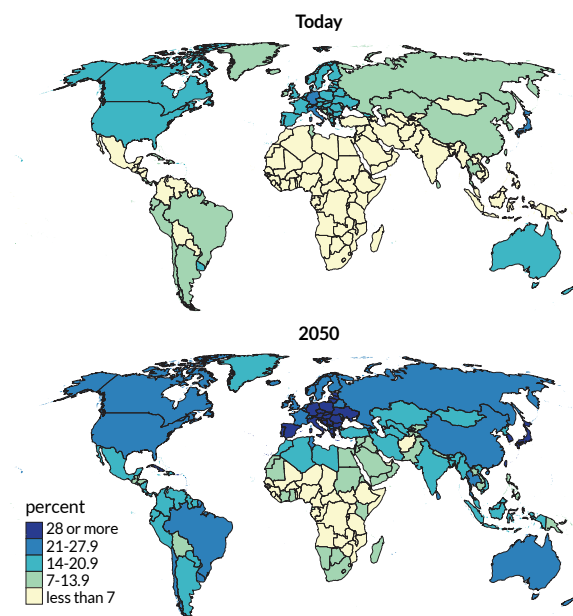


## Restoring Mobility

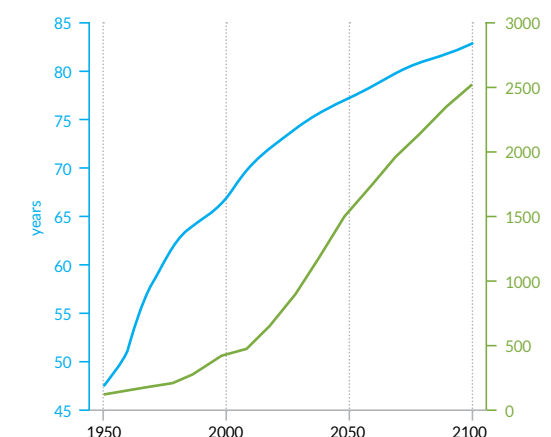
*UPnRIDE* develops an all-terrain electric wheelchair that enables stable standing and mobility for handicapped individuals (see page 9). Advancements in telehealth will dramatically reduce visits to physicians. *TytoCare* transforms primary care by connecting people to clinicians with remote tools to provide home examination and diagnosis solutions. *Global Kinetics* develops a wrist-worn sensor that automatically records movement data to assist doctors in the diagnosis and treatment of movement disorders such as Parkinson's Disease.



## Percentage of Population Aged 65 and Over



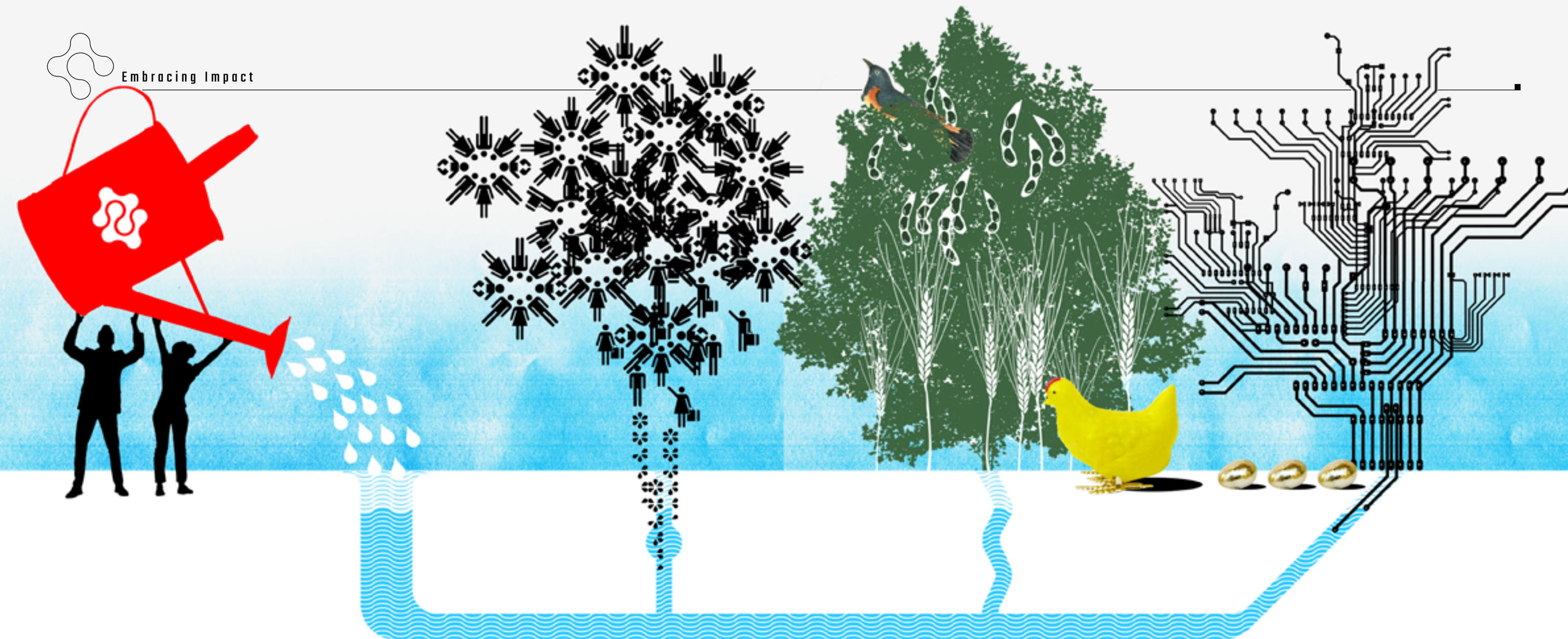
## World Life Expectancy at Birth vs. Total Population Over 65



Sources: United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision. U.S. Census Bureau

**Betina Tabah, PhD, Life Sciences Lead**





The heart of social entrepreneurship is developing ideas that can solve problems and turn a profit. The global impact ecosystem is starting to take shape



**Richard Norman**  
Co-Head, Funds  
Illustration Yael Bogen

# Doing Well By Doing Good

Investments can be powerful. When successful, they can benefit both investors and the invested. Money poured into a business that takes off provides job opportunities and helps the economy grow while investors recoup their money and make a profit too.

If that is the capital of investing, then why not use it to improve not only the lives of people involved in business, but everybody else as well? Investment can help solve

problems facing communities, regions and the world. Impact investing is a way for investors to use their capital to bring about positive social and/or environmental change, coupled with a financial return — and it is a type of investment that OurCrowd embraces and promotes. With impact investing, we hope to use the power of investing to bring about positive change for many of the issues facing humanity. And given demographic trends, government

cutbacks and a greater need than ever for solutions, we believe impact investing will have a major effect on the economy in the years to come.

Issues that impact investing will affect are manifold. Climate change, growing financial inequality, lack of access to education for billions and lack of food and water security are among the problems that plague society. Each of them has global implications; climate change caused by pollution in developed

countries is linked to the melting of the polar ice caps; income inequality has the potential to disrupt society; food and water insecurity is responsible for death, war, disease and a slew of other woes; and lack of education holds back societies and countries, preventing them from fulfilling their potential.

Problems like these are supposed to be dealt with by governments and state institutions — but despite tons of money thrown at issues like

poverty, education and health, the problems persist and even worsen. Between 2000 and 2015, for example, spending on education in the US grew 15%, but test scores have been stagnating. Spending on medical care reached an astounding \$3.5 trillion in 2018 alone — with spending rising every year since 1970 — but obesity is worse than ever, and four million more people got cancer in 2018 than in 2012.

## The third way

Where governments fall short, philanthropy is supposed to step in to fill the gaps, but that hasn't solved our problems either. In 2017, charitable giving in the US reached a record \$410 billion, but even that has had



a minimal impact on solving the problems we face.

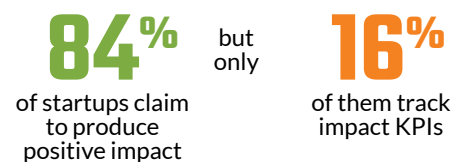
There is a “third way.” Problems can be solved beyond governments and charitable donations through social entrepreneurship, where people who run or work for companies consider making positive change at least as important as making money. And as it turns out, the rising generation — millennials born roughly between 1980 and 1996 — are making their mark as perhaps the most socially conscious entrepreneurs ever.

Millennials are all-in when it comes to trying to make the world a better place. A 2015 study shows that 91% of millennials would switch brands to one associated with a cause they supported; 62% are willing to take a pay cut if they could work for a company whose values they supported; another study shows that 81% of millennials “expect companies to make a public commitment” to good corporate citizenship; and 90% of MBAs from the cohort who studied in business schools in Europe and North America would, if they had a choice, work for a company that takes its responsibility to improving society seriously.

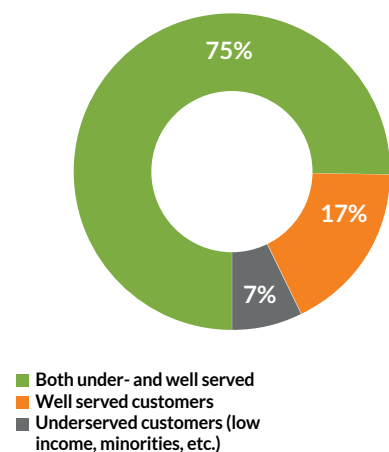
Millennials are also very interested in entrepreneurship. A 2016 study showed that on average, entrepreneurs 35 and under had already started 7.7 companies, compared to 3.5 for over-50 baby boomers. And millennials who have set up businesses of their own have been successful, according to the study. Their annual turnover outperformed that of businesses started by boomers by 43%. Add to that social consciousness and entrepreneurial drive the fact that millennials will make up some 75% of the workforce by 2025, and it's clear that social

## Unlocking Impact Potential

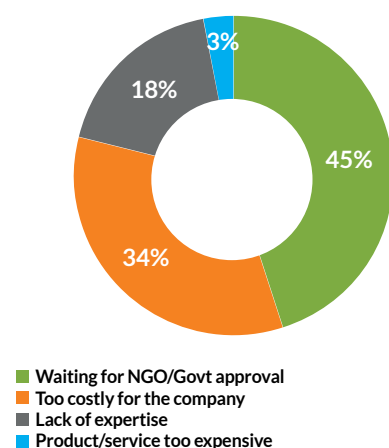
An OurCrowd survey reveals that while many startups produce positive impact, very few actually track it, and many face obstacles trying to reach underserved populations. These challenges can be solved.



While most startups are reaching underserved customer populations...



...they face a variety of obstacles reaching more.



Some of these obstacles can be solved. OurCrowd Impact Fund aims to bridge these gaps by



entrepreneurship — funded by impact investing — is going to be a major force in the economy.

### Rise of the social entrepreneur

Based on their philanthropic history, millennials are likely to be the most generous generation in history, researchers believe. But it is important to differentiate between social entrepreneurship and charity — without profit, no business, as well-intentioned as it is, can survive. The heart of social entrepreneurship is developing ideas that can solve problems and turn a profit. That's what will attract impact investments thus leveraging the power of investing to change the world.

As it turns out, this idea doesn't just sound good on paper. There are already examples of this system at work. Since its inception OurCrowd has invested in many impact-driven businesses, backing social entrepreneurs with bold visions. Entrepreneurs like Tomer Tzach (*CropX*), Dor Skuler (*Intuition Robotics*) and Yossi Pollak (*Sight Diagnostics*) embody what it means to make measurable positive change in the world.

Each of these companies, and many more in OurCrowd's growing portfolio, epitomize the essence of impact investing. These companies have products and services that help people live measurably better lives, but are also strong financial businesses that earn money for their investors.

As investors, we have a social and environmental responsibility as well. We live in a world where we have a “carbon footprint,” after all. We utilize resources that need to be renewed/replaced. Furthermore, the disruptions the world faces, whether social, economic, health or education-related, affect us all. Walling

ourselves off from these challenges is not, and has never been, the answer. By supporting social entrepreneurship with impact investing, we're not only doing the “right thing,” we are doing the smart thing by leveraging our capital to ensure that the world we leave to our children — and the one we ourselves hope to inhabit for a long time to come — is a place that survives and thrives.

### Going all in

Thus, OurCrowd's sharpened focused on Impact. We are putting the word out: social entrepreneurs have great ideas and can bring about positive change, and we want our network to support them. This support, we are realizing, is so crucial to unlocking the impact potential latent in the Israeli innovation ecosystem. We recently surveyed 82 Israeli startups to better understand their relationship with mission-driven impact and discovered some fascinating facts. 84% of the respondents claim their company is producing a positive social and/or environmental impact, but only 16% of them are actually measuring this impact! Just as any business must track financials if it wants to maximize its profit potential, it must also measure its impact if it is serious about maximizing positive outcomes for the world.

We were excited to see that 83% of companies reported that their product/service can reach underserved populations —

again underscoring phenomenal impact potential. That said, 46% of CEOs cited lack of expertise and/or lack of appropriate partnership as the reason for not reaching more underserved populations.

Impact measurement, market expertise and strategic partnerships are all solvable problems. At OurCrowd, we have decided we want to be at the forefront of helping startups find those solutions. We are uniquely blessed to be in a position to do this, to provide help to some of the best and brightest entrepreneurs in the world today, and at the 2019 Global Investor Summit we are embracing this idea and showing our support for a rapidly growing industry.

We are excited to be hosting an entire track dedicated to impact investing content. We're proud to be partnered with Social Finance Israel, a global leader in impact advisory. And we are thrilled to announce, in partnership with Social Finance Israel, the launch of our own OurCrowd Impact Fund to invest in mission-driven companies aligned to the UN's Sustainable Development Goals, that will further our commitment to the idea that we can do well by doing good. There is no end of problems for our innovation ecosystem to solve and we are just getting started.



## Mobility Miracles

With UPnRIDE, Adir can stand upright

“Still today I have no idea how I lost control. The car turned over three times. I got out of the car fully conscious, telling everyone I feel great, but I just can't feel my legs.”

For centuries, paraplegics like Israeli software engineer Adir Siman Tov, 27, had one option for mobility: wheelchairs, which can have damaging psychological, medical and financial effects. Twenty years old at the time of the accident, Adir felt a “giant black cloud” hanging over him.

Then came UPnRIDE Robotics. Founded by Dr. Amit Goffer, a quadriplegic, the company is passionate about changing the lives of mobility-impaired individuals. UPnRIDE's wheeled robotic device brings the user from sitting to standing position, providing upright and seated mobility, indoors or outdoors, over a variety of surfaces and slopes.

Adir met his wife six years after the accident and dreamt of standing up at their marriage ceremony. After some research, he found UPnRIDE and sent them a message. Determined to help the disabled, UPnRIDE delivered. “I got to the chuppah, to her... bending over towards her, looking her in the eyes, this time from top to bottom... The smile did not come off of my face. It made my wedding holy and special. It felt like I reached a new peak.”

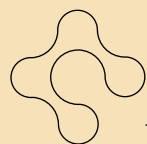


Adir on UPnRIDE on his wedding day



Sight Diagnostic. The first complete blood count device for point-of-care





# This is not a sausage

Startups creating plant-based proteins are upending the meat industry by appealing to vegans and omnivores alike, while dramatically cutting energy, water and greenhouse gas emissions



The plant-based Beyond Sausage. Sizzles and tastes like real meat

**T**he numbers don't lie. Meat-free, meat-less, "flexitarian" eating is filling stomachs across the globe. So much so that investors who hedge their bets on the next big thing are having a hard time arguing with a 20% growth margin in one year alone.

A recent report from the plant-based foods industry claims sales topping \$3.3 billion in 2018. A new report out of the UK notes that it added an additional 200 million vegetarian and "meat free" dinners in the past year. In Australia, "vegan" was one of the country's most searched Google terms in 2019.

In the US, six to eight million Americans have completely eliminated meat, according to a recent Harris interactive poll.

So what is behind the craze? Did the UN's alarming 2018 report on climate change strike fear in the heart of the average consumer, raising awareness of the catastrophic effects of cattle-produced greenhouse gases? Did binge-worthy Netflix documentaries about the meat industry turn stomachs? Either way, it is impossible to ignore that advances in FoodTech are providing tasty, cost-effective meat alternatives — and driving exponential change. Meatless

patties don't taste like cardboard anymore.

## Not just for hippies

Sleek startups developing faux meats that smell, sizzle and even bleed are proving that the year's most transformative venture-backed technologies are not about AI, drones, or robotics — they are about food. Startups leading this march, like OurCrowd portfolio company **Beyond Meat** (which recently filed for an IPO) and **Impossible Burger** (soon to reach \$400M in funding), are becoming household names. Even Walmart and Target carry these brands. Furthermore,

these meat-free alternatives are no longer relegated to the tofu and soy cheese sections, but are increasingly found next to the corn-fed chicken and rib-eye steaks. And it's no wonder: between August 2017 and August 2018, dollar sales of these alternative protein products grew 23%, according to Nielsen data.

It's not all about burgers either. Startups are creating new tastes and textures to match every animal protein, driven by food geniuses like **Good Catch**, famous for its seafood alternatives, and pulled "pork" from cult favorite **No Evil Foods**.

These new kids on the block

are no longer competing for the tiny group of Americans who identify as fully vegetarian or vegan, according to a 2018 Gallup poll. They are going for the omnivores. Led by **Beyond Meat** — which tripled its production capacity in 2018 — ambitious startups are rolling out unprecedented flavor and brilliant in-your-face marketing targeted toward meat-eaters too.

Beyond Meat could barely keep its product in stock at Whole Foods, and had to postpone its UK launch because it couldn't keep up with demand. In June, Dutch firm Vivera sold 40,000 vegan steaks within a week of hitting the shelves.

These flexible meat-eaters are opening up to the idea of meat alternatives for health, sustainability and environmental reasons. According to Vox, turning to plant-based alternatives can be an economic decision. Earners making under \$30,000 a year are more likely to follow a semi-vegetarian diet, presumably to reduce grocery budgets. With millennials earning significantly less (~20%) than their predecessors, startups creating budget-friendly, craving-satisfying options are banking on a long-term generational shift.

## Look-alike markets

Investors have every reason to rejoice in the FoodTech revolution: many have already reaped the rewards of the un-dairy market. Finding soy milk used to be a chore and milk alternatives captured less than 1% of the market a decade ago. Now, they represent 13% of the market, and come from everything from peanuts to peas. These products are not replacing, but being consumed along with, traditional dairy. Oat lattes are now as common as skim

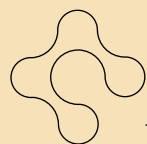


Scio by Consumer Physics can scan and analyze the chemical makeup of food



**Friederike Kaiser**  
Associate, Portfolio Management





cappuccinos in big cities like New York.

### Plant-based vs. lab grown

Startups in FoodTech dare to go even farther. Though still not cost-effective, there have been real breakthroughs in lab-grown or “cultured” meat. San Francisco startup **JUST** offers cell-based, lab-grown chicken meat. Early-stage companies are hedging their bets that those unmoved by vegetarian options may still opt for meat that skips environmentally exhaustive cattle rearing and contamination in favor of slaughter-free, equally tasty stuff. **Aleph Farms**, an Israeli startup, is setting its sights on the first steak grown in a lab using animal cells.

Naturally, these startups are inspiring hand-wringing in the traditional meat industry. Giants like Tyson and Cargill are facing flack for some of their less-than-sustainable livestock practices.

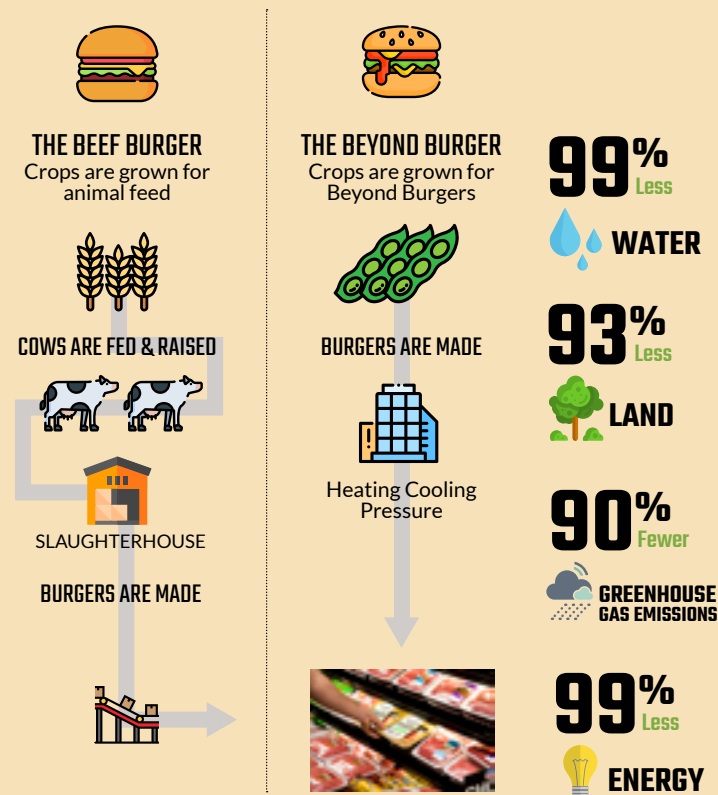
While some Big Meat companies are investing in their soon-to-be competitors (Tyson Foods purchased a 5% stake in Beyond Meat), others are looking to use their multi-billion-dollar platforms to crush upstarts under the weight of regulation. The North American Meat Institute is arguing if cultured meat wants to bill itself as “real” meat, it must be subjected to the same US Department of Agriculture rules and regulations.

### Ever the wonder kid

Far from California, the Israeli FoodTech industry boasts a 300+ company strong ecosystem. There are high levels of investment in the space, as startups raised \$164 million in 2017 and \$72 million in Q1 2018 alone. Like most FoodTech startups, the majority of these

## Cow vs. Plant

The future of PROTEIN



companies are still young (reporting less than \$10 million in annual revenues). Still, investment has been steady. According to Forbes, there have been 19 to 33 venture-backed investment rounds in the country annually since 2014, and an

overall yearly increase in total funding.

The race is on to get the flavors right. American company International Flavors & Fragrances announced it was acquiring Israel's **Frutarom**, flavor and extract specialists, for



Beyond Burger. The company could barely keep its product in stock



The DouxMatok lab. Reducing sugar by 40% without affecting taste

over \$7 billion in 2018, Israel's second largest exit in its history. The famously innovation-savvy government is planning a FoodTech incubator near Samed with an investment of over NIS 100 million (USD \$28 million) projected over eight years.

### Making room for the next crop

Many startups outside the alternative meat space are also expanding. Breakthroughs in AgriTech, Food Safety Tech, Health & Nutrition and Restaurant Tech are attracting investment. **Consumer Physics**, a company that first joined the OurCrowd portfolio in 2012, has developed a pocket-sized micro spectrometer device that analyzes the chemical makeup of animal feed, commodities, meats and dairy products, ensuring

a cheaper way to regulate food and food production. Another OurCrowd portfolio company, **Centaur Analytics**, uses real-time data sensors to reduce waste in crop growing, moving with commodities throughout the entire supply chain. A recent addition to the OurCrowd mix, **DouxMatok** is challenging the notorious sweetener space with patented technology that reduces sugar by 40% without affecting taste.

### Opening the meat market means impact

Eating processed and red meat in large quantities is linked to the prevalence of over a dozen cancers and obesity. One theoretical study projected that a “vegan” world could cut greenhouse gas emissions by two-thirds, possibly hedging climate change. With grim predictions of food shortages and natural resource depletion as soon as the next 20 years, the impact of real investment in FoodTech could ensure profits and a better future. As the new proteins movement has shown, consumers are ready for the change.

Sarah Lavin contributed to this article



## Honing Harvest

With CropX, Kendall can water crops with precision

Born and raised in Colorado, Kendall Nye has been farming as long as he can remember. One of the greatest challenges is determining when and how much to water crops without a real-time indication of the plants' needs. “The hardest thing was to see what the results were two days after you watered, to see if you were leaching things down or if you were actually applying enough.”

Founded in Netanya, Israel in 2015, CropX developed an integrated hardware and software system for measuring soil moisture, temperature and conductivity. The CropX device scans fields and sends that collected data to the cloud where it can be accessed by the farmer, providing optimal irrigation suggestions. Precisely watering crops according to their needs allows farmers to increase yield while substantially decreasing water usage.

“CropX has given confirmation into what you have done 48 hours previously now,” Kendall says. “[It] gives me more confidence in our watering techniques.”

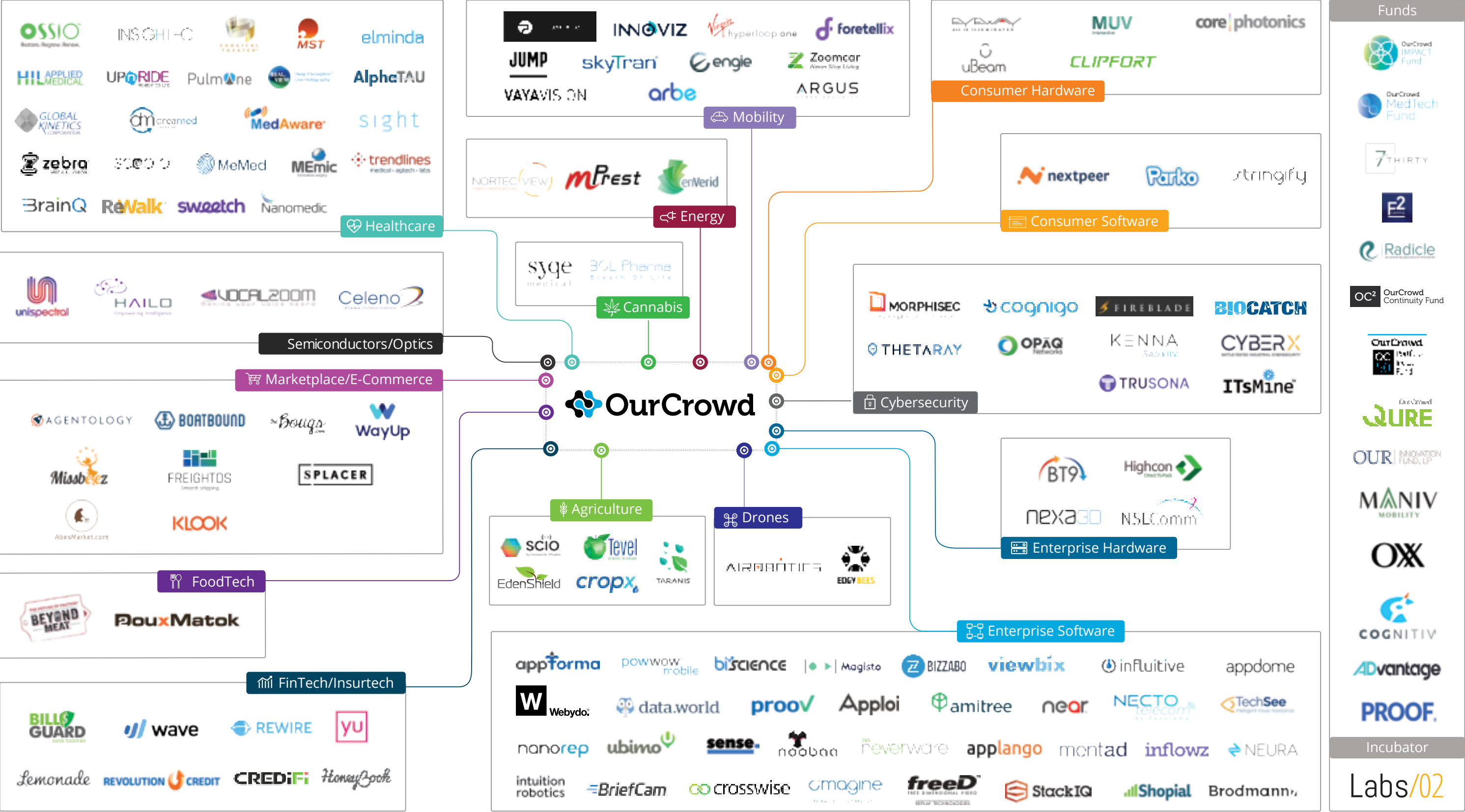
Through widespread use of its sensors, CropX intends to collect the world's largest database of soil data, allowing the technology's advanced algorithm to analyze network effects in the soil, further optimizing productivity and efficient use of resources. Tomer Tzach, the company's CEO believes “the ‘Internet of Soil’ is the key to precise agriculture; it is likely to solve the shortage of water, the shortage of food, and hunger, while saving energy and significantly reducing pollution.”



Kendall Nye (above) and CropX sensor. Decreasing water usage

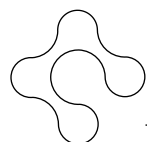


# OurCrowd Portfolio



For more info about the OurCrowd portfolio: [BizDev@ourcrowd.com](mailto:BizDev@ourcrowd.com)





# 5 Trends in AI Making an Impact

From drones delivering medication to rural clinics to smart sensors helping farmers save water, here are the ways artificial intelligence is effecting positive change in the world



**Sian Goldofsky**  
Senior Analyst, Cyber & AI Lead  
Illustration **Moran Barak**



**Saul Levin**  
Research Analyst

**T**hroughout time, depictions of Artificial Intelligence have inspired mixed feelings, driving us to wonder if we truly want intelligent systems in our lives.

An evil swarm of robot soldiers set out to destroy humanity ("SKYNET" from Terminator): BAD. A robot that takes care of all of our household needs ("Rosie" from the Jetsons): GOOD. Waking up after getting married only to find out your better half is a robot ("Fembots" from Austin Powers): BAD. A genius sidekick to help your fleet at all times ("Data" from Star Trek): GOOD. The systems we have created in our imagined world showcase our love-hate relationship with the concept of intelligent machines.

But what once existed only in fantasies is quickly being

catapulted into the vanguard of our very existence — from unprecedented disaster response and major revolutions in agriculture, to drastic increases in the accessibility of healthcare and mobility.

Due to the advent of cloud computing tools, higher performance processing and sensor proliferation, AI has become more affordable and accessible than ever before. Simply put, AI is a system's ability to interpret data, learn from it,

and then use its knowledge to perform certain tasks. Here are five AI trends changing humanity for the better.



## Agriculture

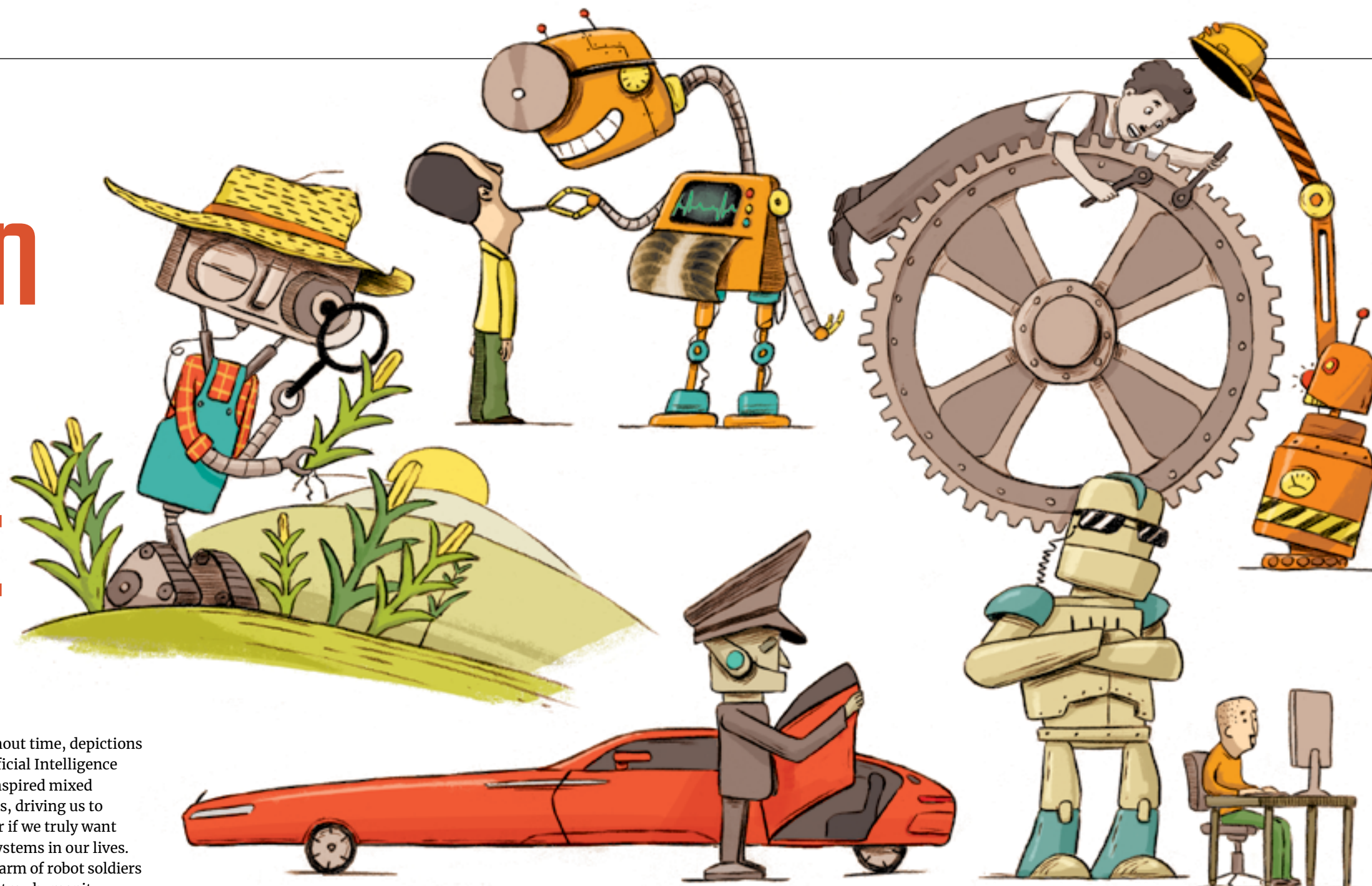
**1** Agriculture is an industry tasked with ensuring food security while simultaneously plagued by crop diseases and pests,

unpredictable weather patterns, and the constraints of resources. As the data available to farmers becomes both richer and more robust, it is clear that large scale adoption of AI in agriculture is on the horizon.

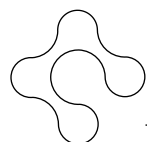
Companies like **Taranis** are making it possible for farmers to have access to sub-millimeter crop imagery that is so detailed they can detect and react to threats like diseases and parasites before they occur, tackling food security in the process.

AI is also helping farmers glean unprecedented insights into their soil. **CropX**, for example, uses a vast array of smart sensors to analyze soil, providing each crop with the exact amount of water needed until the next round of irrigation. This predictive technology helps to eradicate unnecessary waste of scarce resources.

AI also helps alleviate one of the major challenges of modern agriculture — the shortage of fruit picking labor. →







**Tevel Aerobotics** is developing a fleet of cost effective autonomous flying robots for fruit picking, thinning, and pruning. The company aims to transform traditional manual fruit picking into a state of the art autonomous process for enhancing farmers' productivity.

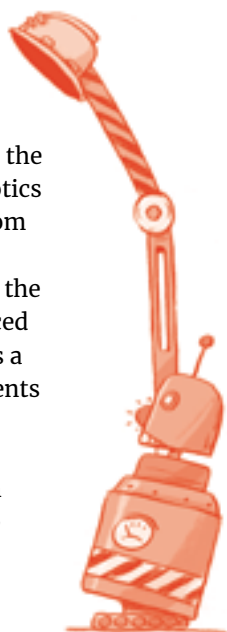


### Healthcare

**2** In the medical field, the promise of AI and robotics has been unleashed from the realms of science fiction into the lives of the disabled, who have experienced what can only be described as a paradigm shift in the treatments they receive.

While images are one of the largest sources of data in healthcare, they are also one of the most difficult sources to analyze accurately. This analysis has relied on the trained human eye and resulted in misdiagnoses and slow processing times of threatening diseases. The rise of AI in medical imaging is changing that process.

Companies like **Zebra Medical Vision** allow radiologists to have the extraordinary ability to receive digital assistance for the detection of various medical issues including diseases of the bone, liver, lung, and cardiovascular system. Thanks to deep learning algorithms, it is now possible to differentiate between cancerous and non-cancerous cells much more accurately. This technology can lead to the automated diagnosis of diseases in places that were completely lacking access to properly trained and qualified medical professionals in the past.



**MedAware** uses AI and Big Data to eliminate prescription errors, as medical errors are estimated to cause the death of more than 200,000 patients in the US per year. Patients with diabetes can count on **DreaMed** for its machine-learning solution for diabetes management, facilitating daily management and patient-doctor communication.

AI has been changing the medical landscape in areas with limited access to healthcare as well. Rural clinics in Rwanda, a country that can have washed out roads and impassable mountains, often do not have access to vital medical supplies in time to save the lives of patients that could otherwise have been easily treated.

With the advent of AI and computer vision, Silicon Valley based startup **Zipline** guides autonomous winged drones carrying critical medical items like blood and vaccines to rural hospitals that order via text.



### Autonomous Vehicles

**3** Driven by immense advancements in AI, the advent of autonomous vehicles will offer a new form of mobility to those who were previously restrained from driving. Their arrival will not just improve lives, but will save them too. As they begin to occupy our roads, they will make them safer for passengers and pedestrians by fusing real-time and surrounding data with an always alert, automated, split-second decision-making mechanism that cannot be inebriated, distracted, or exhausted.

Companies like **Brodmann17**

are creating technologies that provide autonomous vehicles with the ability to understand their surroundings. As vehicles become capable of visually recognizing objects more quickly, they will need to be looped into imperative life-or-death decision-making in real-time, without access to the internet. By rapidly detecting surrounding objects and recognizing faces, the autonomous vehicle's logic will have to calculate difficult philosophical decisions. In an accident, whose safety is prioritized? The passenger, the civilian, the elected politician, the disease-combating scientist, the children?

Not only will autonomous vehicles be able to see what is happening around them, AI will assist them in fusing all the data they gather from different sensors to provide a full environmental model of the driving scenario — essentially replicating the situational awareness function of a brain.



### Industrial Sector

**4** Countless solutions have brought major progress to industrial markets with increased automation and decreased skilled labor. Still, the rapid detection of hazards, defects, mistakes, and damaged equipment on industrial sites remains expensive and requires trained personnel. The adoption of AI-based solutions in industrial facilities has the ability to revolutionize the industry the way automation has in the past.

Much like the tech found in autonomous vehicles,

drones have been programmed by innovative startups like **Airobotics** to monitor pipelines for leaks at industrial sites across the globe — protecting projects and the environment along the way. These solutions further provide industrial facilities with vast aerial data while delivering insights to support operations across the site.

In many cases industrial solutions are extending insights beyond direct project or product outcomes and providing information regarding human resources as well. For example, there are startups using AI to analyze photos fed to them from job worksites to detect whether workers are wearing the correct safety equipment. Others ensure only qualified professionals are performing dangerous tasks to mitigate risk on projects and accountability concerns.



### Cybersecurity

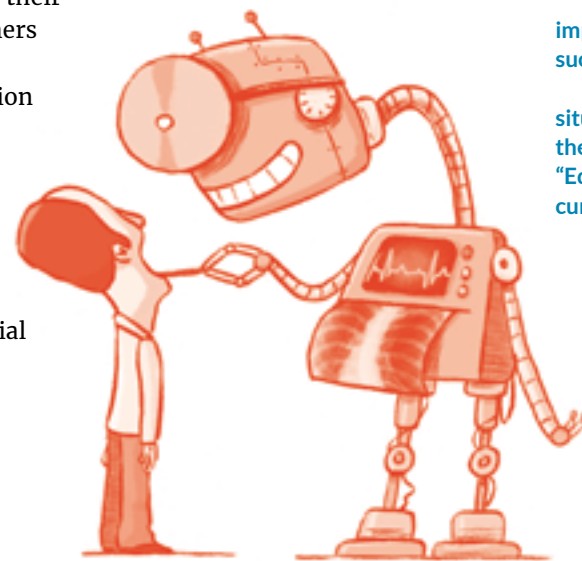
**5** Crucially, industrial sites are further leveraging the immense benefits of AI as a key weapon in the fight against cyber criminals. The vast onslaught of attacks happening over networks today continue to put businesses, their infrastructure, and consumers at risk. As attacks become more sophisticated protection is growing into a massive challenge and manually fending off attacks is no longer possible.

AI is being leveraged in the monitoring of IT networks as well as industrial networks and automobiles for attacks derived from malware, insider threats, critical vulnerabilities, etc.

This kind of extended ability enables organizations to protect themselves from the usual damage as well as to prevent costly production outages, catastrophic safety and environmental failures and the theft of corporate intellectual property.

In addition to enterprise and large industry protection, AI is being used to protect individual consumers as well. For example, **BioCatch** has developed a way to authenticate online users based on their unique behavior by analyzing a wide variety of indicators to determine you are who you say you are and catch imposters.

Artificial Intelligence is swiftly penetrating all aspects of our existence and demonstrating its vast potential to improve our world. With applications extending far beyond use cases possible by digital assistants such as Siri, Cortana, and Google Assistant and into even more advanced assistants like **Intuition Robotics'** ElliQ, it is clear that AI is poised to make an immense impact on life as we know it. Despite our love-hate relationship with intelligent machines, it is clear that this technology can be used for good and tackle major challenges like food scarcity while saving lives and providing protection.



### MY WIN

## Augmented Rescues

With Edgybees, Garret can save lives

*"An elderly lady called in. She had fallen down and hurt herself, and she didn't know where she was. Nobody could find her," says Garret Bryl, a U.S. Airforce Veteran and aerospace engineer with over 1,200 hours flying unmanned aerial systems (UAS). "We would not have known where to send the paramedics if we weren't able to use Edgybees."*

Founded in 2017, Edgybees' breakthrough technology overlays valuable information onto the aerial view of a drone. It then provides emergency response teams with the location of distress signals, team personnel and power lines, as well as street names, wind indications and routing options. This information transfers to smartphones and command centers, facilitating critical communication.

Edgybees' technology combines computer vision, multi-sensor data analytics and 3D video generation to provide a simple visual layer of highly accurate, real-time information on top of any real-world scene captured by standard video. Originally intended for gaming, the company quickly realized the technology's potential to save lives by applying its capabilities to public safety uses.

Edgybees First Response further proved its impact by saving lives during natural disasters such as hurricanes Michael, Florence and Irma.

"When you have to have your utmost situational awareness is when we'll use the Edgybees software," explained Garret. "Edgybees, their augmented reality, is the current and future."

Edgybees overlays valuable information onto the aerial view of a drone







Israel's Bud Boom

# Flower Power

As the rest of the world catches on to the positive impact of medical marijuana, Israel is ready to hit 'go' on CannabisTech – and impact lives around the world



**Kfir Kachlon**  
Investments Principal, CannabisTech Lead

Israel recently joined the ranks of a very small global club. It is now only the third country in the world to legally export medical-grade cannabis, joining Canada and the Netherlands.

Finalized in January 2019, the new law unlocks a potential billion-dollar industry for Israel annually, not to mention a global market valued to reach \$56 billion by 2025, according to a market forecast from Grand View Research.

Historically the research of cannabis in the United States, and globally, has been limited due to its categorization as a Schedule 1 narcotic (alongside the likes of heroin and ecstasy).

The Ministry of Health in Israel, on the other hand, has

been researching cannabis since the 1960's and monitoring medical cannabis since 2001, making it one of the first countries to do so. As a result, it has played a starring role in the rise of medical cannabis.

Hardly a novelty, the use of cannabis is common for both physical and psychological illnesses. The army has used THC to treat soldiers with PTSD and Israelis have long been convinced of the benefits of cannabis. Over 27% of the population aged 18-65 consumed the drug in 2017, the highest rate in the world by a margin of 9%.

While innovation in the field is not new in Israel, the recent legalization of export is expected to spur an exponential rise in CannabisTech startups in

Israel. With a significant boom projected in the industry, many companies are clamoring to get into research and technology for the advancement of growing and specification of the plant for prescription use. Israel is leading the way, with medical cannabis approved for nearly two decades, world class R&D with backing from the Ministry of Health and a strong biotech and startup ecosystem. It is becoming the destination for companies seeking a stake in the future of medicine.

## Pioneering cannabis research

The fact that Israel has been so well-positioned to thrive in CannabisTech may well be because of the role of one man: Professor Raphael Mechoulam of the Hebrew University. He is

credited with single-handedly legitimizing the study of the medicinal benefits of cannabis. He first discovered THC in 1964 and his major contribution was the study of the endocannabinoid system — the largest receptor system in the body. He asserted that the brain produces its own cannabinoids, the very same compounds found in marijuana, which opened up the field for serious medical study. Scientists currently believe that manipulating this system may have implications for schizophrenia, diabetes, cancer, multiple sclerosis and others.

## A shift in public opinion

The upward trend in legalization is not just for notoriously liberal Canada

Cultivating, researching, and producing medical cannabis at the BOL Pharma facility in central Israel

anymore. Many states in the US are reexamining their relationship to cannabis, recognizing the medicinal benefits of the flower in a variety of ails.

This has not always been the case.

As the leading economy in the world, US policies have often determined global response. But in the last decade, states have begun to decriminalize and approve the use of cannabis in some form.

This tide shift may be in part due to public opinion. Over the years, support for legalization has gone from 25% in 1995 to 64% in 2017, according to Gallup polls. By 2018, a Quinnipiac University poll found a stunning 93% approval rate for medical cannabis legalization.

That said, the role of the opioid crisis cannot be ignored. As a result, cannabis is being looked at as an “exit drug” for powerful addictions like prescription pain relievers, fentanyl and even heroin. High death tolls are motivating the medical community to step away from them for fear of abuse. The economic burden of the crisis is now being estimated by the CDC at \$78.5 billion a year.

States that have legalized medical cannabis are being monitored for its affects on the number of opioids prescribed. In a promising study following 2,897 patients with medical cannabis prescriptions, 68% said they successfully substituted it for opioids.

## The world catches up

While not explicitly a pain management drug, medical marijuana is proven to help with conditions like epilepsy, multiple sclerosis and nausea from cancer treatment. In Thailand it was long used as a pain-relieving herb before



it was banned. The unanimous 2018 vote for legalization is a welcome return to ancient practice. Even South Korea, a deeply conservative culture, approved medicinal uses. These recent legalizations have brought the number of countries where medical marijuana has been approved to over 30, contributing to the upward market predictions.

Still, all eyes currently rest on the World Health Organization (WHO) for a full recasting of a recreational drug into a medical miracle. The long awaited “Critical Review” from the WHO’s Expert Committee on Drug Dependence was finally released in part last year. The findings allowed for more leniency, particularly for CBD. It also removed cannabis as a Schedule IV drug, which is a step in the right direction for such an austere body.

Europe has been the most progressive when it comes to the parameters of legalization, with a potential EU vote in the works. The medical world has yet to fully embrace the marijuana trend, however, for fear of liability and the lack of research on its side effects. Still, hearts and minds are changing, and research is badly needed in this budding industry.

## Patients influence drug laws

Cultural and legal shifts in legitimizing marijuana use is being led by patients who have first-hand experience with its benefits. With social media as the vessel, heart-wrenching stories are actively shared, changing conceptions about cannabis. Many of these patients and their families are becoming lobbyists for the drug.

Potential patients are also more willing to try medical cannabis. In Germany in 2017,



The Syqe Medical inhaler uses raw cannabis in preloaded cartridges to provide metered-dose delivery

there was a jump in users from a few hundred to over 15,000, partially because of a 2016 supreme court decision that made getting a prescription easier. Numbers across Europe are expected to grow as soon as insurance reimbursement and legal regulations are set.

## Garnering investments

The infrastructure is in place for Israel to be an international research center on marijuana, with respected universities, government backing and a robust biotech ecosystem. More than 500 companies applied for licenses after the January export law passed.

There are currently 110 active research studies in Israel, with much more to come. About 50 American companies set up R&D centers in the country, and \$250 million was invested in the Israeli cannabis industry in 2018.

## The Startup Nation grows

Most Israeli tech companies are focused on growing the plant, with a handful of companies making up the majority of the market. Despite relative lack of funding until now, CannabisTech produced 68 companies, with 10 new ones annually. An IVC report found that most were early stage companies focused on processing to delivery, storage and IoT.

From 2013 to 2017, only \$76.4 million was invested into these startups, creating a lean field employing around 900 people. Yet the quality and innovation are remarkable.

With many R&D headquarters headed to Israel, and the attention it is receiving as a potential exporter, there is a real opportunity to jump forward — and investors recognize it. Recently, OurCrowd partnered with the **7thirty Opportunity Fund** from Boulder, Colorado, to create a \$30 million fund for cannabis related MedTech, AgriTech, retail, e-commerce, marketplace, SaaS solutions and DeepTech.

**Syqe Medical** recently raised a \$50 million round. The product, already in use at certain Israeli hospitals, is an inhaler which can accurately control patient dosages. The vaporizer is a major milestone towards transitioning medical cannabis from an inexact drug to a prescribed medication; physicians may be able to adjust dosage remotely with these “smart inhalers.”

Another company, **BOL Pharma**, is an Israeli-based medical cannabis company poised to become a global leader. BOL Pharma has been creating vertically integrated cannabinoid therapeutics operations to remedy the main challenges medical cannabis faces (lack of research, inconsistency of cannabis products). The company is unique in that it

owns its entire supply chain — from cultivation, to a robust pipeline of clinical trials as well as extraction and production. Plus, it is in full compliance with the strictest standards (GAP, GMP) and certification by Israel’s Ministry of Health. The company controls a vast part of the Israeli market under the new regulation and has one of the largest cannabis production capacities globally.

The future is green.

Market predictors indicate a major boom ahead. Technology will transform the industry by

legitimizing it through accurate and precise dispensing while also industrializing through growing and processing breakthroughs. Israel is an ecosystem ripe for cash infusions to push R&D above and beyond.

At OurCrowd, we continue to invest in companies like **EdenShield** and Syqe Medical, and create opportunities for funders, like the 7thirty Opportunity Fund, to be part of the impact this industry will soon have on the world stage. 🌱

*Sarah Lavin contributed to this article*

## Israeli Medical Cannabis Strains



**Sapir**  
Daytime Use  
THC: 15%  
**Treats:** Stress, Depression, Migraines  
**Flavors:** Cheesy, Sweet, Coffee  
**Grower:** BOL Pharma

**Shira**  
Daytime Use  
THC: 20%  
**Treats:** Insomnia, Migraines, PTSD, Depression  
**Flavors:** Citrusy, Cheesy, Earthy  
**Grower:** Tikun Olam

**Ella**  
Daytime Use  
THC: 17%  
**Treats:** Tourette Syndrome, Depression, Stress, PTSD  
**Flavors:** Spicy, Lemony, Citrusy  
**Grower:** IMC



**Black Label**  
Both Daytime and Nighttime Use  
THC: 19%  
**Treats:** Muscular Dystrophy, Pain, Migraines, Nausea  
**Flavors:** Sweet, Citrusy, Earthy  
**Grower:** Seach

**Odem**  
Nighttime Use  
THC: 20%  
**Treats:** Insomnia, Stress, Lack of Appetite  
**Flavors:** Coffee, Sweet, Spicy  
**Grower:** BOL Pharma

**Jericho**  
Nighttime Use  
THC: 15%  
**Treats:** PTSD  
**Flavors:** Cheesy  
**Grower:** Better



## Calming Tremors

With INSIGHTEC, Alexandra can lift a cup without shaking

Alexandra Lebenthal, 54, developed essential tremor when she was only three years old.

From writing to holding hands to swiping a credit card, simple motions that healthy individuals take for granted are associated with immense frustration for people living with essential tremor. “You walk into an event and there is a tray of sparkling water glasses. For anyone with tremor, seeing that tray is like hearing suspenseful music playing in the background,” she says. “Can I take the glass without having my hand shake or jerk and knock them all down?”

Alexandra, former CEO of Lebenthal & Company and over 30 years on Wall Street, has battled the physical and emotional burdens of this neurological disorder for 50 years.

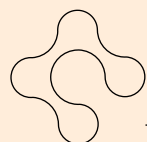
Then she heard about INSIGHTEC. Founded in 1999, INSIGHTEC envisions making its cutting-edge focused ultrasound technology a standard of care, replacing invasive surgery with incisionless, outpatient treatments. About 80 medical centers around the world offer focused ultrasound treatments for a broad range of debilitating disorders including essential tremor, tremor-dominant Parkinson’s Disease and uterine fibroids. Over 20,000 patients worldwide have been treated and the company continues to expand its sights, with an investigational device to potentially treat Alzheimer’s Disease and brain cancer.

Alexandra says she saw immediate results after the focused ultrasound treatment. “The ability to change your life instantaneously... Watching my hand lift this cup with no shaking at all was mind boggling... I remember repeatedly just lifting up a cup to see it not shake.”



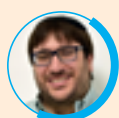
Alexandra Lebenthal. “Life changed instantaneously”





# Can Startups Fix Broken Accounts?

Billions of people around the globe do not have access to a bank account. New digital startups offer financial services to underbanked populations — from migrants to millennials — and improving quality of life along the way



**Josh Liggett**  
Senior Analyst, FinTech Lead

Life without banking and credit cards in 2019 can feel like a real stretch of the imagination, but for many across the globe — from the developing world to the United States — it is very real.

No credit score means no financial history. No financial history means no lease. No lease means no mortgage, ever. No credit card means no e-commerce. No bank account means high fees for every cash checked. The obstacles go on and on. As the saying goes, it is expensive to be poor.

The unbanked and underbanked are people who mostly use cash because they either do not have access to banking services or choose to steer clear of them.

These groups are composed of all kinds of people. There are nearly 1.7 billion people in the world who are unbanked, or 31% of adults. Most of this group is found in the developing world, where many adults have limited access to smartphones, computers, or internet connections and thus often do not have access to financial services either.

The underbanked, on the other hand, are more likely to live in developed nations like the US. According to a 2017 FDIC study, while only 6.5% of US households were unbanked, over 18% — or over 48 million adults — were considered underbanked.

Though the underbanked may not have bank accounts, many do choose to use financial

products, including payday loans and prepaid cards. However, many of these services charge high fees. Payday loans are considered among the worst abusers of predatory lending, with the average interest rate coming in at 391%. Similarly,

Green Dot, a prepaid debit card sold at Walmart and CVS, charges nearly \$8 if a user doesn't load \$1,000 a month onto the card. If someone is using a prepaid card at Walmart, chances are they are doing so because they do not have enough to open a bank account.

Enter FinTech startups.

Much attention has been given in recent months to new

challenger banks like N26 and Revolut entering the US market. With hundreds of millions of dollars in funding and valuations in the billions, many are excited to see how these “digital only” banks will change the US banking ecosystem. But although these are digital startups, they're still traditional banks. So the millions

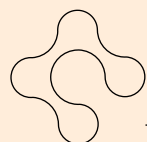
of un- and underbanked in the US will face the same problems they dealt with the day before these digital banks launched. But two such companies solving the underbanked problem are **Rewire** and **TAPPP**.

## Rewire is born

Rewire started as a remittance company that provided migrants with low-cost services to send money back to their families. Remittances are a huge source of income for many across the globe. In a 2011 speech to the G20, Bill Gates spoke about the importance of lowering fees on remittances: “We must continue lowering the transaction costs of remittances, so that this growing pool of money has as big an impact as possible on the poorest. Reducing these costs to an average of 5% (compared to the current average, which is roughly







twice that) would save \$15 billion.” The worldwide average is still above 7%, with banks charging 10.99% on remittances.

Rewire soon began to notice that a large number of its customers wanted to leave money in their Rewire accounts from month to month for one simple reason: They did not have access to a bank account. Many of these migrants — living in the EU, US, or UK — could not open bank accounts for myriad reasons, including lack of identification and/or funds, no credit history and no permanent address.

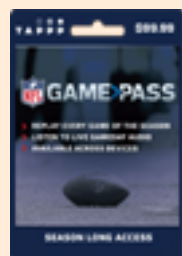
Thus, Rewire evolved into a digital banking solution that provides underbanked internationals with digital wallet and debit card services to complement their low-cost remittance product. And the incumbents are starting to take notice. The company has secured investments with strategic investors including Standard Bank South Africa, the largest bank in Africa.

### Empowering the customers

But more importantly, Rewire is making a difference in the lives of the underbanked.

“We’re providing advanced financial services for underbanked people which is a key factor in their financial growth and in materializing their potential,” said Rewire CEO Guy Kashtan. “Access to advanced services through technology empowers our customers to significantly save time and money to be able to focus on what is important. Rewire customers, and migrants in general, are often the providers for their families back in their home countries and contribute immensely to the financial growth of their loved ones and countries.”

Supporting Rewire’s impact on the world, the company



TAPPP cards. Live sports content for the underbanked

won a 2018 RemTech award for Remittances for Social Impact. Furthermore, one in three customers are referred by a friend, creating a viral effect in clustered migrant populations that are very protective of their hard-earned wages.

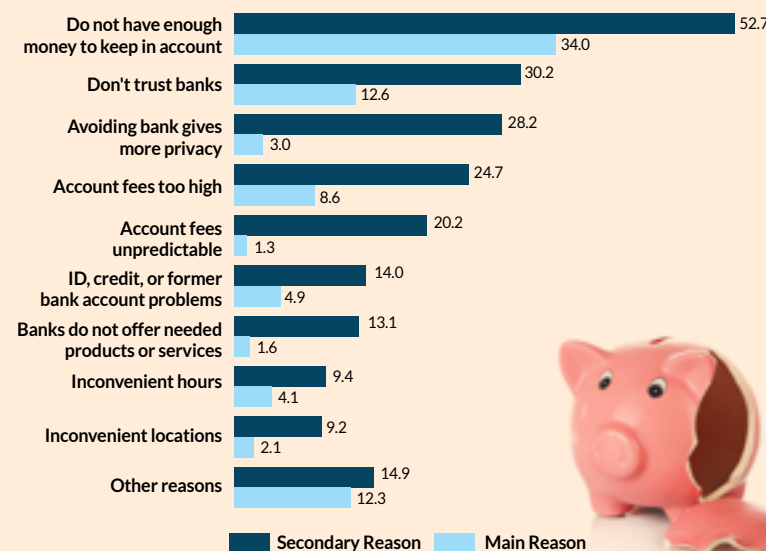
Another company dealing with the underbanked is TAPPP, the first investment from **ADvantage**, OurCrowd’s SportsTech fund. TAPPP is a pre-paid platform that provides access to premium live sports content to any consumer device.

When signing up for subscription-based online sports content, users are required to provide a credit card for recurring or one-time payments. But for

the millions un- or underbanked in the US, the requirement is a road block. In this case, the underbanked include millennials. TAPPP found that 49.7% of millennials are card-less, mostly by choice, providing the company with an underserved market ready to receive TAPPP’s service.

“Ultimately, what we are trying to do at **TAPPP** is give fans access and control over their sports viewing experience,” remarked TAPPP CEO Sandy Agarwal. “A prepaid sports streaming concept is unique and allows fans to decide when and how they want to pay for the service. Furthermore, a large portion of the US population does not have credit cards and

## Reasons for Not Having a Bank Account, Unbanked Households, 2017 (Percent)



Source: 2017 FDIC National Survey of Unbanked and Underbanked Households



therefore cannot avail these services. With TAPPP, now they can finally take advantage of these great services.”

TAPPP issues prepaid cards that are currently available at major retailers like Walmart, GameStop, and Dollar General for major US Sports Leagues like MLB and NFL. Unlike many other prepaid cards, there are no additional fees, which gives the customer fair market value for the services purchased at retail.

While there are still billions of un- and underbanked adults in the world, the numbers have been shrinking. And they have been shrinking because of digital focused FinTech startups. Still, there is much to be done before the world has financial inclusion.

The un- and underbanked is a market that must not be ignored. It is an arena in which startups can really make an impact. Furthermore, the market is large, which means that investors can expect a return on their investment while affecting positive change in the lives of underserved people across the globe.



## Balancing Acts

With Missbeez, Natalia can be a working mom

Natalia Chalkley, a beautician in London, had to quit her salon job when she became the mother of two. Her story is representative of women everywhere who struggle to maintain a balance between their professional careers and child rearing.

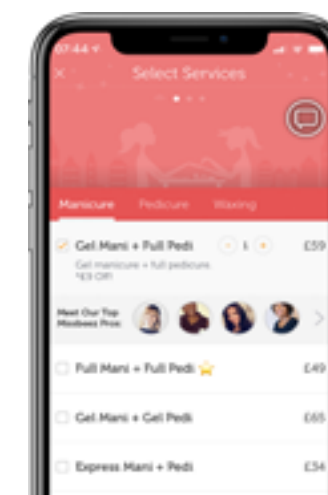
Founded in 2015, Missbeez developed its home beauty services application with the vision of empowering women to become self-employed and financially independent.

Missbeez currently operates in Israel and the UK, and plans to expand to other locations such as Madrid. The app connects customers with its 1,000 certified beauty professionals, who provide a variety of services and treatments including hairstyling, manicures, pedicures, makeup, massages, spray tans, waxing, and facials at the customer’s home.

By joining Missbeez, licensed beauticians like Natalia gain access to over 100,000 registered users and can choose exactly when and where they want to work, allowing them to manage their own schedules.

“In between the school runs I can pick and choose my hours,” she says. “It’s really good for moms trying to build a business and a career while being a mom as well. I have had the most amazing experience and I thoroughly enjoy working along with Missbeez.”

Zachary Spiera



Missbeez empowers beauticians like Natalia Chalkley (above) to become self employed and financially independent





FROM  
**\$899**

There's a new standard in the air  
**EL AL PREMIUM**  
Premium Class on the Dreamliner

- ◆ A separate cabin for a feeling of privacy and intimacy
- ◆ Spacious seats ◆ Prestigious, pampering service
- ◆ Advanced personal entertainment system
- ◆ Designated check-in counters

Experience a new way to fly to Paris, London, New York, Miami, Los Angeles, Toronto, Hong Kong, San Francisco and Las Vegas

**787** DREAMLINER™

Subject to booking class availability • Valid on selected flights and dates • fare is valid for departures until 31.12.19  
• San Francisco - departures as of 13.5.19 • Las Vegas - departures as of 14.6.19 • Aircraft configuration may change due to operational reasons, affecting class availability • Subject to the terms and conditions as detailed on the EL AL Website • While stock lasts • Errors and omissions excepted