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Foreign Companies Open New R&D Centers

Medtronic Opens New Centers

US medical device giant Medtronic plc (NYSE: MDT) is set to open two new R&D centers in Israel in Jerusalem and Yokneam, which will employ 80 people.

Medtronic will reportedly invest $56 million in the two R&D centers and has asked for a government grant of $15 million, although no agreement on this matter has yet been reached. Usually the Israel Innovation Authority pays 30% of salaries over the first three years for employees of such new R&D centers.

Medtronic already has a major presence in Israel with 750 employees following its acquisitions of capsule endoscopy (a camera in a pill) developer Given Imaging, pulmonary endoscope developer superDimension for, capnography respiratory monitors and modules manufacturer Oridion Systems and hernia mesh placement developers PolyTouch. It is also a partner in the MindUp digital health technology incubator in Haifa.

Intra-body imaging company Body Vision maps lung cancer

Body Vision integrates a CT scan and X-ray in order to remove very small lung tumors that might develop into lung cancer.

We know that you are fed up with the description of every startup as the Waze of canned vegetables and the Mobileye(NYSE: MBLY) of cello-tape. In the case of Body Vision Medical, however, a startup founded by CEO Dorian Averbuch, the comparison with Mobileye is a valid one.

Body Vision is active in intra-body imaging using computer vision and augmented reality. The principle guiding the existing players in this field is reminiscent of Waze's mechanism. The vehicle can be located on a stationary map

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by calculating the distance between a cellular device and two satellites. Body Vision is more like Mobileye - it photographs the picture (the road) and the medical device, and calculates where they are with respect to each other in real time, rather than on the basis of previous knowledge about the "road."

Averbuch is well-known in the intra-body navigation segment. He was a partner in the founding of MediGuide, which started as a project in Elbit Systems Ltd. (Nasdaq: ESLT; TASE: ESLT). He was later an executive in superDimension, another company in the same niche. These two companies both achieved successful exits of $300 million each, with MediGuide being sold to St. Jude Medical and superDimension being acquired by Covidien (now Medtronic). The knowledge that Averbuch acquired in these two companies was useful to him when he founded Body Vision in 2014.

"I thought I was in the Garden of Eden"

Averbuch encountered the medical devices industry almost by accident. "I immigrated to Israel when I was 20 with $100, which was all I was allowed to take out of Russia in the 1990s," Averbuch told "Globes" in an interview. "When I arrived in Israel, I thought I was in the Garden of Eden - it was February, and I saw a palm tree."

During his university studies, Averbuch worked in the developing computer vision industry in diamond polishing. He joined a startup in the field, but left when the startup failed to raise money. "I left after the first 'no.' I wanted to work in a large enterprise in order to learn," he remembers.

He came to Elbit Systems in the late 1990s with practical knowledge in computer vision. When they suggested that he join a new Elbit medical project, he agreed. "It reminded me a lot of my childhood, when I was hospitalized for four months, and dreamed of being a surgeon in order to find a way to make operations less painful," he says. The project later officially became a separate company - MediGuide - but Averbuch and other partners in its founding were not transferred to it. Frustrated, Averbuch decided to leave the company, and left the medical devices sector for a while.

Then, however, he received a tempting offer. "superDimension was initially founded in order to develop navigation technology for games - something like Wii, but years before Wii. When the investors saw the technology, however, they suggested converting it for the developing area of intra-body navigation, in which both MediGuide and Biosense, sold at the time (1997) to Johnson & Johnson for $427 million, operated.

"The company was initially based on cooperation with Boston Scientific. Boston Scientific was to have prepared the device, while we prepared the software, but the agreement was canceled. Since then, I have learned not to trust these agreements.

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When the agreement was canceled, we went back to the same point and started over with several technological improvements that I had worked on before."

Did superDimension compete with MediGuide?

"No, because MediGuide was dealing with intravenous ultrasound at the time, and later on cardiologic navigation, for example guiding catheterization devices and pacemaker components. At MediGuide, we first developed the technology, and then looked for where it was needed," Averbuch explains.
"At superDimension, on the other hand, we came with more experience and a desire to develop a product that would conquer the market. I developed things there that they didn't ask for, and didn't think of doing at the company. People sometimes told me, 'That's impossible' when I was already seeing it happen."
superDimension decided to focus on pulmonary navigation, which was regarded as a less competitive market.

In retrospect, Averbuch admits that superDimension's first product reached the market before it was ready. "In 2006, a change took place in superDimension's management. OrbiMed Advisors LLC entered the picture and brought in a US CEO (Dan Sullivan). He first of all fired all the senior managers in Israel, and then brought in advisors from overseas - 40 advisors. When I walked in the corridor, I saw advisors instead of employees. Fortunately, both the CEO and the advisors agreed with me that the product wasn't ready. They recalled the existing product - a measure I though was a little extreme and political - but mainly, we started improving the product."

Averbuch was appointed manager of one component of the product - the catheter - even though he preferred managing the imaging software. "I told myself that if this was what the company needed now, it was all right. Because I didn't like doing it, however, I finished it in three weeks. We worked using innovative methods. One of our ideas was to put all the paperwork in the corridors in order to force everyone to work together. Eventually, I was appointed manager of the entire project."

In 2008, removing development of the project from Israel was proposed. "The company already had 140 employees here. We Israelis fought to leave at least the software and hardware set-up in Israel. This activity is still here. I recognized several managers from the team in the US. We succeeded in forging a real partnership with them, and the combined team simply thrived. We managed to raise money and increase salaries, while showing the Americans that the Israeli team was as good as they were. When the connection between Israel and the US works, it's great, because it's possible to utilize all 24 hours in a day. What is prepared here is ready for them when they wake up, and vice versa." The improved product was successful, eventually leading to the superDimension exit.

Elbit wins $40m Brazilian Marines deal

The Israeli defense electronics company will supply advanced C4ISR, Electronic Warfare (EW), radio and communication systems over a two-year period.

Elbit Systems Ltd. (Nasdaq: ESLT; TASE: ESLT) announced today that it has been awarded a $40 million contract from the Brazilian Marine Corps. The Israeli defense electronics company will supply advanced C4ISR, Electronic Warfare (EW), radio and communication systems over a two-year period.

The contract calls for the supply of cutting-edge technologies and operational capabilities, including a variety of Battle Management Systems (BMS) applications, C4I systems for artillery, latest generation of Soldier C4I suit as well as advanced EW capabilities.

The systems will be deployed in fixed and deployed command centers and in vehicles/ APCs and dismounted configurations, aiming to significantly enhance Marine Forces' operational effectiveness, and aligning the BMC with the most modern NCW (Network Centric Warfare) concept.

Elbit Systems Land & C4I Division general manager Yehuda Vered said: "We are proud of this important modernization contract, providing the BMC - an important branch in the Brazilian Armed Forces - with major core systems. Elbit Systems is a global leader in the fields of C4ISR, EW, radio and communications, and our systems are based on decades of operational use, combat proven by many customers worldwide. I trust that this unique solution will lead to other projects with the BMC, as well as with other customers."

Motorola Solutions Israel developing disaster handling system

The smart city system won a €6 million EU tender for rapid and precise management of natural disasters and extreme events.

There are not yet any technologies capable of detecting in advance signs of an approaching natural disaster and providing people with reliable and adequate warning that can save human life. A new system being developed by Motorola Solutions, however, is designed to make coping with such crises and managing them substantially easier.

Development of the system began recently, after Motorola Solutions Israel won a €6 million European Union tender for rapid and precise management of natural disasters and extreme events, based on data from sensors and indices that, when processed and analyzed, can provide the relevant forces in the field with an up-to-date status report.

Research and academic institutions in European countries are also partners in the venture led by Motorola Solutions. The pilot will take place in three cities, each of which has a problem with natural disasters: Thessaloniki, Greece, which suffers from extreme heat waves; Venice, Italy, which experiences frequent flooding; and Valencia, Spain, where forest fires are a frequent occurrence.

Although the developers of the system would have loved to develop a means of warning long n advance of a deadly impending natural disaster, at this stage, they will settle for a system able to manage the large quantity of relevant data that will enable hospital managers, police commanders, fire departments, and other initial responding rescue forces to make correct decisions, and to rapidly take control of any catastrophe with a minimum number of casualties.

The system is being developed in the framework of a project called BeAware. It will be adapted to any scenario designed for it by the end user. The system is based on special physical sensors and databases of many authorities, including data from similar past extreme events; sensors adapted when necessary to testing the level of humidity in the air, the direction and strength of the wind, weather forecasting, and temperatures in real time; the sea level; traffic light control systems in the designated cities, etc. To these are added many other indices to be gathered by the system in real time: mobile phones of residents or visitors in each area will inform the system in real time how many people are in each area relevant to an analysis of an event, the state of occupancy in hotels or leisure centers, the number of students in schools at any given moment, the level of crowding in nearby hospitals and the state of the roads, so that rescue forces can select available access routes without getting stuck in endless traffic jams at a time when they are hurrying to extinguish fires or evacuating casualties for first aid treatment.

"Statistically, in every year for the past 30 years, tens of millions of people in the world have been affected by natural disasters of various ypes. It has been predicted that natural disasters will become more frequent in the coming years," Motorola Solutions Israel VP business development Boris Kantsepolsky told "Globes." "As of now, at least, the only possible way of handling such disasters is to find a better way of minimizing them, and we can do that using the existing available technological means developed over the past decade."

The world has already been in an environment of large quantities of dynamic data. Almost every broadcasting device user can constitute a sensor in himself for such a system. Usually, however, these data are not processed or analyzed to produce an integrated and indicative picture which, if it does not prevent the next natural disaster, will at least make it its management possible. "The challenge is sharing data and fusing information," Kantsepolsky says. "The system will operate all the time, collect data, analyze them, and make correlations between them and the relevant reference scenarios for any entity that operates it. In an exceptional event scenario, it will facilitate a smooth transition from a routine situation to an emergency, in which every party involved in managing the event receives information relevant to him via a comfortable interface on the computer, tablet, smartphone, or communications devices of the initial responders in the various theaters."

Concern about flooding in Venice does not mean much to the average Israeli, who has his own troubles involving terrorism and military conflicts in one of the world's craziest regions. For Motorola Solutions, the same thing that will improve the handling of the civilian population in the event of heat waves in Thessaloniki or widespread forest fires in Valencia can also be good for a small country surrounded by enemies, rockets, missiles, and nervous terrorists with machetes.

"In an extreme heat wave, electrical infrastructure and municipal traffic light systems collapse, creating traffic jams and a great deal of chaos, and under various scenarios, a missile barrage can produce the same results," Kantsepolsky explains, adding, "Such a system, which will help manage a large-scale natural disaster, can also help manage extreme home front events, such as war or a major terrorist attack. The role of such a system ostensibly sounds obvious at such a time, but no country in the world has a system that 'views everything from above' and helps handle crisis situations: the existing command and control systems in cities are oriented towards specific categories, such as smart city systems or systems for more effective handling of criminal events that are designed to reduce or prevent crimes."

Delek completes Ithaca acquisition for $590m

The deal transforms the Israeli company, controlled by Yitzhak Tshuva, into a major international energy player.

elek Group Ltd. (TASE: DLEKG) has completed the acquisition of all Canadian company Ithaca Energy Inc's. shares. The deal transforms the Israeli company, controlled by Yitzhak Tshuva, into a major international energy player.

Delek's offer to purchase won it enough response for it to be able to forcibly purchase the entire 100% of the shares of Ithaca. The deal makes Delek worth NIS 9.7 billion and Ithaca's shares will be delisted from the London and Toronto stock exchanges. Delek will pay $520 million for Ithaca's outstanding shares in a deal that totals $590 million.

In October 2015, Delek bought a 19.99% stake in Ithaca for $68 million, at $1.05 per share, which it financed from its own resources. In February 2017, as part of its strategy to expand its international operations, Delek published

an offer to purchase for the remaining shares at $1.95 per share.

Ithaca Energy is an international energy company active in the North Sea, with operational experience, including deep water drilling, development of reservoirs, and production of oil and gas.

Delek's share price rose 4.59% in response to the news.

Israeli startups raise $450m in Q2 so far

Nearly $1.5 billion has been raised since the start of the year, 20% below last year's record fund raising.

Israeli startups have raised over $450 million in the second quarter, "Globes" has found. At the midpoint of the second quarter, and with the Passover and the Independence Day festivals reducing the number of business days over the past six weeks, it looks as though Israeli startups are on course to raise about $1 billion in the second quarter, similar to the $1.03 billion raised in the first quarter, according to IVC-ZAG. Although a handsome amount, this is 20% below 2016's record $4.8 billion raised by startups - about $1.2 billion per quarter.

Israeli startups have really got into their stride over the past few days with some $83 million raised this week - microbiome therapeutics company BiomX raises $24 million, resort suite booking company Sweet Inn raises $22 million, e-commerce search company Twiggle raised $15 million, smart car cyber security company Karamba raised $12 million, and enterprise AI company Mintigo raised $10 million.

Other major financing rounds closed in May include insurtech company Next Insurance, which raised $29 million, bone regeneration company CartiHeal, which raised $18.3 million, and smart wheel company Softwheel, which raised $10 million.

Major financing rounds in April included smart car chip developer Valens, which raised $60 million, biomed companies SteadyMed Therapeutics and Aspect Imaging, which raised $30 million each, smart car communication company Otonomo, which raised $25 million, SaaS company DaPulse, which raised $25 million, online travel company Fornova, which raised $17 million and optical chip developer ColorChip, which raised $17 million.

Israel Air Force introduces maritime drones

IAI's maritime version of the Heron 1 UAV will replace Sea Scan patrol aircrafts to protect the coast and offshore gas installations.

The Israeli Air Force (IAF) is replacing its manned Sea Scan maritime patrol aircrafts, with the Israel Aerospace Industries Ltd. (IAI) (TASE: ARSP.B1) maritime version of the Heron 1 (Shoval) unmanned air vehicle systems (UAVs). The maritime Heron 1 system currently being displayed at IMDEX ASIA 2017 in Singapore.

The IAF has ordered additional Heron 1 UAV Systems equipped with a maritime radar and electro-optical payload that will make them more suitable for their growing role in carrying out maritime patrol and intelligence gathering missions on everyday bases.

The maritime model of Heron 1 comprises an advanced electro-optical payload -the MOSP, made by the TAMAM division of IAI and the lightweight airborne maritime surveillance radar made by its ELTA unit.

The maritime Herons will provide comprehensive protection of naval borders and strategic infrastructures, including, natural gas production installations, to meet the operational needs. .

IAI EVP and General Manager of the Military Aircraft Group Shaul Shahar said "The Heron 1

has proved its capability to perform long-range, long-endurance maritime patrol missions. Thanks to its unique features and upgraded payloads, the Heron 1 provides a better solution for the maritime patrol mission than currently exists at the IAF."

Israel Signs $630 Million Missile Deal With India

After signing a $2 billion deal last month, the Israel Aerospace Industries strikes another deal to supply the Indian army with the naval version of the aerial defense system Barak 8 for four Indian Navy ships, expanding on the defense cooperation between the two nations.

The Israel Aerospace Industries (IAI) announced Sunday it has signed a $630 million deal with the Indian state-owned aerospace and defense company Bharat Electronics Limited (BEL).

As part of the deal, the IAI will provide BEL with the naval version of the aerial defense system Barak 8 for four Indian Navy ships.

The deal was part of the "Make in India" initiative by the Indian government to encourage national and multi-national companies to manufacture their products in India. BEL will be used as the main contractor for the project.

India successfully conducted a test of the missile system before the deal's signing. After the target was launched, the MF-STAR surveillance track and guidance radar installed on the Indian Navy ship the INS Kochi identified the threat and tracked it on its flight path. The data was then transferred to the weapon control center that launched the intercepting missile at the target.

According to the IAI, the missile was properly launched and steered itself towards the trajectory of its target. During its flight, the missile located its target using its homing system, adjusted its flight course accordingly, and successfully made contact and destroyed it.

"8200 graduates aren't like 23 year-olds in Texas or Norway"

Team8 CEO and former Unit 8200 commander Brig. Gen. (res.) Nadav Zafrir explains how much Israeli high tech owes to the army's technological units.

It has already become a routine matter. An Israeli cyber security company has an exit, and its founders' CV includes service in the Israel Intelligence Corps Unit 8200. The connection between former members of Unit 8200 and Israeli high tech, especially the cyber security sector, became natural long ago, and the man who may know the most about it is former Unit 8200 commander Brigadier General (reserves) Nadav Zafrir. Zafrir, who resigned from the IDF four years ago, wasted little time; immediately after his demobilization, he founded Team8, a cross between a venture capital fund and an incubator for founding cyber security companies in Israel. Zafrir, now Team8's CEO, took part in the Globes Capital Markets Conference on June 13.

"From my point of view, four years after I left the army, and for the sake of poetic justice - the entire IDF, especially its technological units, made a great contribution to Israeli high tech," Zafrir says when we ask him about the connection between Unit 8200 and Israeli high tech, and how he sees it in the future. "What's interesting is that the experiences of young guys in the army during their military service prepare them for a large extent for the world of startups, innovation, and entrepreneurship almost better than any institution of higher learning or any other method. It wasn't planned that way, but in an era in which the pace of change is increasing, and the classic academic institutions, including the conventional educational methods, can't keep up with this pace, the IDF's method, based on a very

careful selection and filtering process of compulsory recruitment and the need for personal accomplishment at a very young age, prepares them for quick adaptation, speedy learning, and leadership in civilian life."

Although Unit 8200 has existed in its current format for over three decades, Zafrir argues that even today, when an 18 year-old is recruited to the unit, he does not really know what Unit 8200 is. "It's a very large organization with many sub-units, many sub-topics within each of those sub-units, and various and widely divergent functions. As I said, the filtering process that the recruits go through contributes a lot to them. It's a process that includes socio-metric tests, psychological tests, personal interviews, tests of leadership and cooperation ability, and above all, the IDF is trying to assess their ability to learn new things very, very quickly. After all, the army is getting these recruits for a limited time, so it has to make sure that their learning ability - for languages, software, and intelligence professions, say - will be very quick. The army has no time for a two-year course, because after two years, a person's military service is almost over. In other words, it's a very intensive process that requires very rapid adaptation."

Israel's CollPlant To 3D-Print Human Organs Using Tobacco-Derived Collagen

Replacing human organs with printable ones may sound like science fiction, but research is currently being conducted on the transplantation of an artificial kidney, liver and even a heart.

Israeli biomed firm CollPlant recently established a new division that will 3D-print organs and tissues using a unique biological ink it is currently developing. CollPlant, a regenerative medicine company, is developing a collagen-based bio-ink intended for use in 3D printers that print organs, using various technologies. The company extracts the collagen from locally grown tobacco leaves.

According to Yehiel Tal, CollPlant's CEO, over the past several months, "we have substantially ramped up our activities in the 3D printing field… The collagen protein is a key building block in connective tissues in the human body, and therefore is ideal for use as biological ink."

He adds that the company's product 'rhCollagen' is "suitable for use in humans, due to its superior homogeneity, its high safety profile and the fact that it does not cause an immunological reaction.

CollPlant is currently developing a number of formulations of biological ink for various indications, and is working with several large international companies, with the aim of collaborating on the development of organ and tissue printing. Ravit Levrann, a spokeswoman for CollPlant, tells NoCamels the company grows tobacco in greenhouses in order to produce 'human' collagen, which is used in the bio-ink that will eventually 3D-print tissues and organ.

122,000 Americans are waiting for organ transplants

According to the National Kidney Foundation, nearly 122,000 Americans are waiting for lifesaving organ transplants (101,000 of these await kidney transplants). Thousands await liver and pancreas transplants, and the waiting list grows every year.

Several companies worldwide are working on 3D-printed organs that could replace human donations. The burgeoning 3D bio-printing market is expected to grow to $1.8 billion by 2022, and to increase substantially as the 3D-printing technology of organs and tissues continues to mature.

Waze: Saving you time on the road

Speaking of driving, no list about life-changing Israeli startups would be complete without mentioning Waze.

Launched in 2008 in Israel, and now owned by Google, this navigation app uses a complex algorithm and the real-time speeds of its users to determine the best driving routes. Waze's strength is its crowd-sourced reports. It's stronger in denser areas than in rural ones and has the advantage of using both human and machine knowledge. Waze's initial mission was simply to save five minutes a day for every motorist, but now it has become a must-have app for any driver.

As the world's attention focuses on news of self-driving cars, Waze's innovative technology will certainly play a major role in their development.

UPnRIDE: Helping paraplegics stand tall

If driving is something most of us take for granted, walking is even more so. But in the US alone, there are nearly 250,000 individuals with spinal cord injuries that partially or entirely inhibit regular motor functions. For them, standing and walking around freely remains he stuff of dreams.

UPnRIDE, a revolutionary new Segway-like device that allows quadriplegics to stand up and move around almost anywhere, is poised to change the life of thousands of paralyzed people around the globe.

The Israeli device was developed by Dr. Amit Goffer, who already founded the revolutionary exoskeleton ReWalk, which enables paraplegics to walk and climb stairs. His new device will help quadriplegics (people paralyzed from the neck down) to stand and be mobile.

Goffer, who is himself confined to a wheelchair, has been working on a more comprehensive solution over the past three years. Similar to a stand-up Segway or an electric scooter, the patented UPnRIDE moves over different kinds of terrains with the user's guidance, using a joystick operated by hand or by mouth.

Automatic balancing assures a safe ride uphill, downhill, and on slanted surfaces, in both standing and sitting positions.

"Being able to stand and move is extremely important for people's physiological health and their dignity," Goffer says. According to him, he UPnRIDE reduces secondary complications of long-term sitting, lowering the need for hospitalization, medications and physiotherapy.

Prepex: Circumcising millions to cut HIV risk

According to amfAR, The Foundation for AIDS Research, more than two-thirds of all people living with HIV, some 24.7 million in total, live in sub-Saharan Africa. According to the World Health Organization (WHO), one of the benefits of circumcision, the removal of the foreskin of the penis, is a lower risk of HIV transmission. "There is compelling evidence that male circumcision reduces the risk of heterosexually acquired HIV infection in men by approximately 60 percent," the WHO states.

PrePex, a non-surgical circumcision unit and the first medical device in Israel's history to be approved by the WHO, allows for the performing of circumcisions on a mass scale, with no incisions, bleeding, or injected anesthesia.

PrePex has already been used in more than 250,000 procedures in 13 countries in Africa and Asia. In total, the company has delivered more than 1 million devices which, according to mathematical models, would prevent approximately 150,000 new HIV cases. In addition, there are currently over 1,000 PrePex trained healthcare providers, 16 PrePex training centers and the company is collaborating with more than 45 NGOs on the ground.

"PrePex provides an easier, more convenient and cost-effective way of conducting male circumcision, both for patients and for healthcare providers," Eddy Horowitz, CEO of Circ MedTech, the developer of PrePex, said

in a statement. "With our introduction of the non-surgical device for infants and children, PrePex will improve the male circumcision experience for men, boys and infants worldwide."

Bonus BioGroup: Lab-Grown Bones Successfully Transplanted In Jaws

Israeli biotech company Bonus BioGroup is growing live bones from patients' own fat cells. In December, the company reported that it successfully injected its lab-grown, semi-liquid bone graft into the jaws of 11 people in an early stage clinical trial evaluating bone loss repair.

The material, grown in a lab from each patient's own fat cells, was injected into and filled the voids of the problematic bones. Over a few months it hardened and merged with the existing bone to complete the jaw, the company said.

The transplant "was 100% successful in all 11 patients," Ora Burger, the VP of regulation affairs, told Reuters. "Now we are going to conduct a clinical study in the extremities, long bones."

Bonus BioGroup's CEO Shai Meretski, who previously founded Pluristem Therapeutics, an advanced Israeli biomedical company that works with stem cells, told Reuters, "For the first time worldwide, reconstruction of deficient or damaged bone tissue is achievable by growing viable human bone graft in a laboratory, and transplanting it back to the patient in a minimally invasive surgery via injection."

PillCam: The Disposable Capsule That Films Your Gastrointestinal Tract

To screen for colorectal cancer, both men and women over 50 are advised to undergo a colonoscopy every 10 years. Unfortunately, because of the sometimes uncomfortable nature of the procedure, many people choose not to do it.

Given Imaging, an Israeli medical technology company, pioneered a non-invasive method of detecting disorders in the gastrointestinal (GI) tract. PillCam, the aptly named product, is a pill-sized camera ingested by patients, which allows physicians to visualize the esophagus, colon, and areas of the small intestine.

Loyola Medicine gastroenterologist, Dr Mukund Venu, recently told WGN in Chicago that Pillcam, "allows us to get an almost 360 degree view of the colon as the pill tumbles through it."

"There's a lot of fear about sedation," Dr. Venu told WGN, "There's fear of the procedure itself and the discomfort associated with it. There are about 20 million Americans who are not getting screened for colon cancer, and that's a number we'd like to see reduced."

SniffPhone: Detecting deadly diseases on the breath

Speaking of disease detection, two years ago, Prof. Hossam Haick of the Technion-Israel Institute of Technology introduced a device that can sense disease on the breath, much like a breathalyzer test. What Haick calls the SniffPhone uses nanotechnology sensors to analyze the particles on the breath and is able to pinpoint exact diseases, including certain kinds of cancer.

The SniffPhone, Haick's new mobile device, contains his previously-developed 'NaNose' breathalyzer test, which "sniffs out" lung cancer before it spreads. The smartphone device is a vehicle for the NaNose technology that's mobile and thus can be taken anywhere, including rural areas.

SkySaver: Life-saving technology

In 2015, Israeli startup SkySaver released a brand new emergency backpack that's

designed to help residents escape from high-rises when fire breaks out. This lifesaving kit comes equipped with a cable cord that, in case of an emergency, is attached to a pre-installed anchor located near a window.

When fire breaks out, the emergency device is strapped on with buckles that wrap around the waist and between the legs. Then, the individual starts rappelling down the side of the building.

Founded in 2012 by Eli Gross, Jerusalem-based SkySaver has so far raised an undisclosed
amount from private investors.

Reporty: Live-Streaming Emergency Situations From Your Smartphone To First Responders

During an emergency, it's not always easy to call 911 and explain the dire situation. Now, Israeli startup Reporty provides rescue teams with the precise location and real-time information from your smartphone, including live video.

Reporty is a free app that facilitates the communication between people in emergency situations and public safety agencies, live-streaming video from your smartphone's camera to the applicable authorities. Once contacted, the dispatcher will also have access to relevant information, including the person's name, location, needs, and more. Using the power of the crowd, Reporty is revolutionizing the way first response and public safety agencies manage events in the field.

Since its launch, Reporty has raised $8.4M and attracted roughly 100,000 users in recent months. In June, the startup won the Tel Aviv Startup Challenge competition run by StarTAUTel Av

Reporty was founded by CEO Amir Elichai, Alex Dizengof, Lital Leshem and Yoni Yatsun; its chairman is former Israeli prime minister and defense secretary Ehud Barak, who also invested in the startup; former secretary of the US Department of Homeland Security, Michael Chertoff, is on Reporty's advisory board.