

# ISRAEL HIGH-TECH & INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES  
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JOSEPH MORGENSTERN, PUBLISHER  
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## Eli Hurvitz 1932 - 2011

Eli Hurvitz a kibbutznik who joined the company in a junior management position after graduating in economics and business administration from Hebrew University in 1957 was destined to transform Teva into a global pharmaceutical house. He perceived an opportunity to penetrate the US market when the federal Waxman-Hatch Act passed Congress in 1984. This legislation concerned generic drugs, treatments that have lost their patent protection. Also known as multisource or off-patent medicines generics are chemically identical to branded prescription drugs but they are priced 30% to 70% less than patented versions.

Hurvitz used the generic segment as Teva's entry into the US pharmaceutical market. In 1985 the company forged an agreement with chemical conglomerate WR Grace to create TAG Pharmaceuticals, a 50%-50% joint venture. In 1985 TAG acquired the Lemmon a Pennsylvania based company. Lemmon became the sales and distribution arm, for generics manufactured by Teva in Israel. Also CEO Hurvitz later said "an Israeli is coming to the States as a David and Goliath syndrome. He reminded himself that little David prevailed in that biblical battle. The potential Teva saw in Lemmon soon turned into profits. The US ventures' sales nearly doubled from \$17m. at the time of its acquisition to \$40m in 1987. By which time it was

marketing seven generic ventures of branded drugs.

Copaxone which was formulated in Israel; was destined to become a blockbuster drug. For



Eli Hurvith the approval of Copaxone by the FDA was one of the great moments in his life and ranks in parallel with his being awarded the Israel Prize.

Under Hurvitz's leadership Teva has become a global pharmaceutical specializing in the development, production and marketing of generic and proprietary branded pharmaceuticals, as well as active pharmaceutical ingredients.

### **CHS buys Israeli Solbar for \$133m.**

CHS Inc. will boost its soybean processing business with the \$133 million purchase of an Israeli soy protein maker.

Inver Grove Heights-based CHS, the nation's largest farmer-owned co-operative, has agreed to buy Solbar Industries Ltd., which produces soy protein ingredients for food makers.

"It's a significant boost for our soy protein business," said Lani Jordan, a CHS spokeswoman.

CHS has a soy protein plant in Hutchinson, Kan. With the Solbar deal, it will get four more soy protein facilities: two in Israel, one in China and one in South Sioux City, Neb.

Soy protein is used in many foods, and can be mixed with meat to lower a food producer's costs. For instance, sausage on a pizza may include soy protein, thus decreasing the amount of meat needed.

Solbar's customers include makers of a host of foods, including vegetarian products, beverages and bakery goods.

Solbar is a well-known player in the soy protein business, which is dominated by

Solae, a joint venture of DuPont and Bunge Corp., said Philippe de Laperouse, an analyst with industry consultant Soyatech.

The soy protein market has been growing in recent years at an annual rate of nearly 2 percent, De Laperouse said.

CHS's soybean processing operations include crushing facilities in Mankato and Fairmont, and encompass the production of soybean oil, soybean meal and soybean flour.

### **Monsanto buys Israeli Beeologics**

Monsanto, a US-based multinational agricultural biotechnology corporation, has acquired Beeologics Ltd., a developer of targeted biological pest and disease control solutions for bees and bee colonies.

Monsanto stated it would support Beeologics' team and products pipeline and intends to apply Beeologics' expertise in biological

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**Subscription Inquiries**

Tel-. +972-3-5235279 Fax. +972 3-5227799

E-mail: htir\_1@netvision.net.il

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products for more general use in agriculture, by using the company's core technology for its discovery and development pipeline. One of Beeologics' current projects includes a product that uses a naturally-occurring process to help protect bee health.

Monsanto is the leading producer of genetically engineered seed and provides the technology in 90% of the genetically engineered seeds used in the US market. The company is headquartered in Creve Coeur, Missouri.

### **Israel Corp. subsidiary to construct \$680m. Peru power station**

Cerro del Aguila SA, a Israel Corporation unit, has agreed to build a 510-megawatt hydroelectric power station in Peru at an investment of \$680 million.

The Cerro del Aguila power station, located in Tayacaja Province in central Peru, in March signed a 15-year power purchase agreement with Peru's government-owned electricity company, which will come into effect when the power station is completed in the second half of 2015.

Israel Corporation is Israel's largest holding company. Fifty of its manufacturing activities and 70% of its consolidated revenues derive from global operations. Its core holdings are fertilizers and specialty chemicals, energy, shipping and transportation.

### **Israel central bank forecasts economy will grow 3.2% in 2012**

Israel's central bank expects Israel will emerge from the economic tumult sweeping Europe relatively easily.

The Bank of Israel is also maintaining its forecast that the Israeli economy will grow

3.2 per cent in 2012. That's down from an expected 4.7 per cent for 2011, but much higher than the outlook for the U.S. and the euro bloc.

Governor Stanley Fischer told a news conference that "the Israeli economy is in relatively good condition," with relatively low levels of inflation and unemployment, a low budget deficit and a strong financial system.

He acknowledged Israel would be affected by the debt crisis sweeping the European Union, Israel's largest trade partner. But he predicted Israel "will be able to emerge from these problems relatively easily."

### **Google founding Israeli start-up incubator**

Google is founding an incubator for Israeli start-up companies. The US Internet search engine plans to rent a full floor in the Electra tower in Tel Aviv, which will also serve as headquarters for Google Israel. Twenty start-up companies at a time will be hosted in the incubator, rotating every few months. Google Israel will not seek stock in the companies but plans to help them secure loans and other financial assistance. Amir Shavit and Eyal Miller will head the project.

How hi-tech robots will prevent the next attempt at IDF soldier kidnapping  
A Rishon Lezion, Israel academic institution is at the cutting edge of robotics technology that will prevent future IDF soldier kidnappings.

While there is no guarantee that Gilad Shalit will be the last IDF soldier to be kidnapped and imprisoned in Gaza, the army has an advantage today that it didn't have five years ago, when Shalit was nabbed: A fully mechanized and computerized patrol system that can provide full 24/7 coverage of events at the border, allowing soldiers to quickly and

efficiently - and safely - respond to problems. The technology for this sophisticated robotic system was developed at the Research and Development Institute for Intelligent Robotic Systems, of the Computer Science Department of the College of Management Academic Studies of Rishon Lezion and last week some of the top robotics specialists from the U.S. visited the College in order to get a first-hand look at the new technologies the Institute is creating.

The Robotics Institute, among other things, develops artificial intelligence algorithms for robots to be used by Israel's military and security forces, to help guard Israel's borders and prevent kidnapping of soldiers by infiltrators. Already in production for several years, the Institute was the brains behind the development of the Genius Robotic Patrol system, which is in use on the Gaza border, and is produced jointly by Elbit and Israel Aircraft Industries. The system basically replaces infantry and jeep patrols along the border fence. An unmanned smart vehicle – controlled from a base station by a live soldier follows the border fence road, avoiding obstacles automatically.

If it detects a problem – a breach in the fence, or the presence of an individual or object that shouldn't be there – it immediately transmits pictures and data to the control center. At that point the soldiers in charge can decide how to handle the situation; for example, they can instruct one of the fighter pilots in the sky patrolling the fence area to zero in on the target, eliminating it. The robots actually travel in a fleet, says Dr. Yehuda Elmaliach, founder and director of the Institute. "This way, the area is fully covered even when one of the robots is engaged in a specific mission. Another robot that is part of the patrol can take over its duties, thus preventing the use of diversions by terrorists to get over the border

or launch an attack," he says. This is the first land-based unmanned rover used for defense purposes. Other systems are either seagoing or airborne.

The visitors, who included 13 university presidents and professors, included some of the leaders in robotics technology in the U.S. Among the delegation were Leo Morton of the University of Missouri, Dr. John L. Anderson of the Illinois Institute of Technology, and Dr. Gary D. Russi of Oakland University. All three schools have advanced robotics departments, and have worked on developing defensive systems for U.S. security services. The visitors were treated to the latest developments in robotics for security and defense purposes – all of which, says Dr. Elmaliach, can help save the lives of soldiers.

### **Global technology moves to the motion of Israeli sensors**

The upcoming acquisition of Invision by Intel is another step in Israel's becoming a 3D technology super-power.

At the end of August, there were only four major players competing over the dominance over the 3D motion sensor market which develops technology for capturing body motion and converting it into digital information for games, home appliances and cellular devices.

Three of the four contenders, which own leading patents in the industry, are well known giant corporations Microsoft, Apple and Qualcomm. The fourth is a small Israeli company

named XTR otherwise known as Extreme Reality.

The Israeli company developed technology that can turn any digital or web camera into a state of the art 3D sensor.

XTR, however, is not the only Israeli company which deals in motion capturing technology. The most well known Israeli company in the field is PrimeSense which sells 3D motion sensors to Microsoft.

The company supplies Microsoft with millions of PCBs at \$10 a piece and estimates are that it cut a \$100 million coupon on the sales of 10 million units of Kinect – Microsoft’s motion sensor which is based on Primesense’s technology.

Calcalist revealed that another Israeli company is joining the war between the technology giant over the 3D sensor market: Intel is negotiating with Invision for the \$50 million acquisition of the small Israeli company. In the long run, Invision’s technology will enable Intel to launch 3D vision chips and software and market them to television, game console, smartphone and tablet manufacturers.

The three Israeli companies are not alone: a number of other Israeli companies deal in the development of image processing technologies that incorporate complex algorithms and electro-optics to produce 3D vision systems.

“Many of these technologies came out of the army”, explains XTR founder David Geva. “Many military engineers migrated to the civil industry and it is only natural that the industry is developing in Israel”.

PrimeSense CEO Inon Bracha has another take on the profusion of companies in the digital

imaging industry – the success of his own company. “When Ceragon Communications was established, many companies were founded in an attempt to reproduce its success but there is only one Ceragon. Most companies in Israel were not able to raise funds until the Kinect became a success and now everyone wants a piece of the action.”

Izhar Shay from Canaan Partners VC fund, a key investor in PrimeSense, believes that image processing expertise is not enough and attributes Israel’s success to the required multidisciplinary know-how that the local market can offer.

“In order to develop a 3D vision controller, you need knowledge in video, signal development, electro-optics, ergonomics and cognitive psychology on top of expertise in all aspects of the program. It’s hard to find such a combination of fields like Israel has”, he says.

### **Israeli PE funds account for 40% of investments in Q3**

Private equity deals up 20% in the first three quarters of 2011

The Survey reviews Israeli private equity deals involving Israeli and foreign PE funds and other investors - both Israeli and foreign. The current Survey is based on the activity of 68 private equity funds of which 29 are Israeli and 39 are foreign private equity funds.

In the third quarter of 2011, 13 Israeli private equity deals attracted \$803 million, 26 percent above \$637 million invested in 17 deals in the previous quarter, and 62 percent up from \$495 million invested in 16 deals in Q3/2010. This amount narrowly topped the strong fourth quarter of 2010 with 15 deals that were valued at \$800 million. Israeli private equity funds accounted for 40 percent of Q3/2011’s activity, mostly reflecting Israel Infrastructure Fund’s buyout of Derech Eretz Highways for \$208

million.

The average deal in the third quarter of 2011 was valued at \$62 million, compared to \$37 million in the previous quarter, and \$31 million in third quarter of 2010.

In the first three quarters of 2011, \$1.98 billion was invested in 45 Israeli private equity deals, an increase of 20 percent from \$1.65 billion invested by PE investors in 48 deals in same period of 2010. This amount mostly reflected six buyouts and one straight equity deal, each valued at more than \$100 million, and valued in the aggregate at \$1.43 billion (73 percent of the total capital invested in the period). This compares to three straight equity deals and one mezzanine investment (above \$100 million each), totaling \$742 million (45 percent) in the first three quarters of 2010.

The average deal size in the nine months through Q3/2011 was \$44 million, compared to \$34 million for the corresponding period in 2010.

According to Rick Mann, Managing Partner of GKH: "Survey results for Q3/2011 demonstrate the continued interest of private equity investors in Israel despite the serious economic difficulties in Europe and to a lesser extent the United States. However, a continuing global economic downturn would be expected to reduce the role of financial investors like private equity funds and create more opportunities for strategic investors to invest in or acquire Israeli companies. Once again in Q3 local private equity investors were the most active, but foreign private investors were behind the larger transactions."

In the third quarter of 2011, private equity deals valued at over \$50 million accounted for 23 percent of the total number of deals, compared to 17 percent in Q2/2011 and 25 percent in the same quarter of 2010. Deals valued at \$20-50 million accounted for 8 percent, compared to 18 percent and 6 percent in Q2/2011 and Q3/2010, respectively. Deals

valued at under \$20 million accounted for the remaining 69 percent. This compares to 65 percent in Q2/2011 and 69 percent in Q3/2010. (Figure 2)

Marianna Shapira, Research Manager at IVC, observed: "Among the largest deals in Q3, two out of three were done by foreign PE funds, an indication that foreign PE investor interest remains undiminished."

The Cleantech sector led investments in Q3/2011, accounting for 46 percent of total capital invested, followed by the infrastructure sector with 26 percent and Internet with 14 percent. This compares to Q2/2011, when software attracted 50 percent, followed by Internet with 20 percent. In Q3/2010, cleantech deals captured 63 percent of total capital investments.

In the first three quarters of 2011, the cleantech sector was the most attractive area for private equity funds, accounting for 29 percent of total deal value. The buyout of water technology company Netafim by Permira Advisers for \$366 million and Morgan Stanley's \$200 million straight equity investment in solar power plant developer BrightSource were the most prominent deals. The software sector followed with 22 percent mostly reflecting the \$307 million buyout of IT services provider Ness Technologies by Citi Venture Capital International and Riverwood Capital's \$110 million buyout of SintecMedia, an enterprise applications company.

The infrastructure sector attracted 14 percent, reflecting Israel Infrastructure Fund's buyout of Derech Eretz Highways, referred to above. In the first three quarters of 2010, the cleantech sector led investments with 51 percent, followed by real estate with 10 percent and the industrial sector with 8 percent. Israeli private equity deals by type

This survey reviewed the following types of financing deals in the Israeli private equity

arena: straight equity, buyouts, mezzanine, distressed debt and turnaround/distressed equity.

In Q3/2011, four buyout deals led private equity investment with \$703 million or 88 percent of total deal value, compared to six buyout deals valued at \$547 million (87 percent) that led investments in Q2/2011 and two buyouts valued at \$87 million or 18 percent in Q3/2010.

Five distressed debt deals followed in Q3/2011 with only \$51 million or 6 percent, compared to \$67 million or 11 percent in the previous quarter and \$31 million or 6 percent in Q3/2010.

In the first three quarters of 2011, 14 buyout deals attracted \$1.45 billion or 73 percent of aggregate deal value. This compares with \$235 million or 14 percent in nine deals in the same period of 2010.

Straight equity deals accounted for \$360 million (16 deals) or 18 percent of total deal value in the first three quarters of 2011, compared to \$1.01 million (19 deals) or 62 percent in the year-earlier period.

#### Israeli private equity funds

The IVC-Online database contains data on 29 Israeli private equity management companies with total managed capital of \$7.4 billion. Of these firms, four were established since the start of 2011.

About IVC: IVC Research Center is Israel's leading research center providing business leaders with an unmatched wealth of data on Israel's high-tech, venture capital and private equity industries. IVC products and services are used regularly by high-tech companies, venture capital and PE funds, private investors, financial investors and institutions, as well as public entities such as the Office of the Prime Minister, the Central Bureau of Statistics,

the Bank of Israel and the Office of the Chief Scientist.

IVC owns and operates the IVC Online Database ([www.ivc-online.com](http://www.ivc-online.com)) containing over 8,000 Israeli high-tech companies, venture capital funds, investment companies, angels and technology incubators, as well as news updates and lots more. Among IVC products and publications are the IVC Quarterly Survey, which examines capital raising trends by Israeli high-tech companies, and the most comprehensive guide to Israeli high technology and venture capital – the IVC 2012 Yearbook due in April 2012.

About GKH: Gross, Kleinhendler, Hodak, Halevy, Greenberg & Co. is one of Israel's leading corporate and securities law firms, providing superior and innovative legal services. GKH is engaged in all aspects of corporate and commercial legal practice, representing a large number of publicly held corporations traded on US, Israeli and European stock exchanges. The firm also represents international investment banks, privately held corporations of all sizes, newly formed businesses, partnerships and joint ventures. Clients comprise a broad range of industrial, commercial, energy, retail, transportation, financial and service enterprises, including the specialized businesses of telecommunications, banking, biotechnology, pharmaceuticals, electronics, software, real estate, research and development, commodities and venture capital. The firm's expertise includes representation before government ministries, regulatory agencies and the Bank of Israel.

The firm's professional staff consists of over 100 professionals, including a large group of attorneys with US and UK licenses and work experience. GKH attorneys have served on several governmental advisory committees.

Check Point buys compliance technology vendor Dynasec

Check Point Software is buying governance, risk management and compliance vendor Dynasec Ltd., which will add software that can help businesses comply with government regulations such as Sarbanes-Oxley and health insurance portability and accountability act (HIPAA).

Check Point says the buy will help out its 3D Security scheme to compile and publish best practices for corporate security policies, backed up by product to help meet those best practices.

#### MERGERS: Tech M&A deals of 2011

Dynasec will add expertise on how to deal with risk and comply with regulations.

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Dynasec will add expertise on how to deal with risk and comply with regulations.

Dynasec's product offerings include easy2comply, software that manages internal controls for complying with SOX and other regulations, meeting regulatory risk management deadlines and streamlining organization information security.

The emphasis is on automating tasks required to meet compliance standards. Overall, Dynasec will help customers translate compliance requirements into corporate policies. Easy2comply is preloaded with frameworks for specific regulations that can be integrated with Check Point's security products.

Dynasec is based in Israel with offices in the U.S., Canada, the U.K., the Netherlands, Spain and Hungary. Check Point says the deal is scheduled to close within a month, and it won't release the price it is paying for the company.

Intel acquires Israeli company Telmap  
The company, founded by Oren Nissim, develops navigation and location-based services for cellular phones. Deal valued at \$200-300 million

Calcalist learned that the deal is in its advanced stages. Invision was founded at an investment of \$2-3 million, meaning that if the deal is sealed for \$50 million, Invision's investors will pocket, after only four years, a profit 20 times higher than their original input. Among the company's major shareholders are the Technion Institute of Technology (14%) and founder and CEO Sagi Ben Moshe (36%). Half of the payment for the acquisition will be made in cash and the rest in Intel stock.

Invision Biometrics was founded on patents acquired from the Technion. Company co-founder Professor Ron Kimmel is a business partner of Terion founder Zaki Rakib. Kimmel has a long patent record in the field



of image processing and served as consultant to several important players in the field such as Mediguid, which was acquired by St. Jude Medical for \$283 million, and Quicksee, sold to Google for roughly \$10 million.

Sources in the market tie Intel's acquisition of Invidion to last summer's investment of Intel's venture capital arm, Intel Capital, in the Israeli startup Omek Interactive, which develops body movement detection technology for gaming purposes. Intel Capital completed a \$7 million financing round for the development of Omek Interactive's technology and its integration in television, digital broadcasting and computers. Intel seems to be aiming to develop a response to Microsoft's blockbuster Kinect, which sold 8 million units since it hit the markets and showed a 30% increase in sales in the second quarter of the year.

Israel has become an important exporter of 3D technologies with a roster of companies grabbed off the shelves by international giants such as 3DV, which was acquired by Microsoft two years ago, and Extreme Reality, which was acquired by Texas Instruments.

### **Tower, Medigus unveil smallest video camera**

The companies have completed development of the 0.99-millimeter diameter disposable endoscopic camera.

Specialty foundry Tower Semiconductor Ltd. (Nasdaq: TSEM; TASE: TSEM) and endoscope developer Medigus Ltd. (TASE:MDGS) have successfully tested the second generation of TowerJazz's CMOS imager that serves in Medigus's line of disposable miniature cameras. It is the first video camera in the world with a diameter smaller than 1 mm.

Medigus announced that it completed

development of the 0.99-millimeter diameter video camera using through silicon via (TSV) for packaging which minimizes the camera's size and reduces production costs in high volumes.

TowerJazz said that the low-cost image sensor combines high sensitivity and resolution with dynamic versatility for a range of potential medical applications, including cardiology, bronchoscopy, gastroenterology, gynecology, and orthopedic and robotic surgery. The use of disposable cameras eliminates the need for the very expensive and time-consuming sterilization process related with endoscopic procedures.

TowerJazz will manufacture the camera sensor at its Fab2 in Migdal Ha'Emek using its 0.18-micron CMOS image sensor process. The sensor will be integrated into the camera produced by Medigus.

Medigus will begin supplying samples of the camera to customers in Japan and in the US for cardiology procedures. The camera will be integrated in Medigus' other endoscopy products and will also be sold to third-party medical equipment manufacturers.

Medigus CEO Dr. Elazar Sonnenschein said, "We are excited to release our second generation disposable camera with advanced features to further progress the medical endoscopic field. Due to our collaboration with TowerJazz, we are able to produce the world's smallest camera to allow a variety of medical procedures that were previously not possible. In addition, our breakthrough technology provides the medical community and patients with quality and cost-effective diagnostics." TowerJazz VP and general manager Specialty Business Unit Dr. Avi Strum added, "By using our advanced sensor technology combined with Medigus' expertise in visualization

medical devices, we enable not only the smallest, but the highest performance disposable camera

### **Israelis invented the first PC anti-virus.**

The Pentium MMX Chip technology was designed in Israel by Intel. Both the Pentium-4 microprocessor and the Centrino processor were entirely designed, developed and produced in Israel. Intel wireless computer chips were developed in Israel.

Israel is the first nation to develop a country-wide electric car network. The electric cars are built by Renault-Nissan, but the re-charging stations are designed by the Israeli firm, Better Place. Jerusalem will be the first city with a network of re-charging stations. Some 200 so-called “swap stations” are being set up across Israel. And other countries are buying the system! The electricity for the automobiles will be developed using solar technology! The Jewish state is about the size of Wales so it is ideal for a nation-wide system of serving battery-powered vehicles.

“Without Israeli technology, the West will not develop. Many organizations throughout the world, including the American national infrastructure, will not survive for long without constant support from the revolutionary technology coming from Israel.”

### **Bodymetrics Body Scanner**

In one of the first commercialized applications of natural interaction beyond gaming, Bodymetrics has applied the 3D sensors of PrimeSense to the fashion industry.

Bodymetrics isn't new to the fashion and body scanner scene, their body scanners have been installed in Selfridges for years, making the UK luxury chain embrace technology and drive up jean sales to the tune of 20% of all denim sales. But this body scanner is different, it is the first of its kind to create a full 3D body scanner using the technology and 3D sensors from PrimeSense, the Israeli company that provided the natural interaction technology to Kinect. This deployment is a sound illustration that their technology will enable consumer devices to “see” environments and allow users to control and interact naturally with those devices in a simple and intuitive way.

The body scanner uses eight PrimeSense™ 3D sensors to map the body's measurements and shape. Bodymetrics revolutionizes the way consumers buy clothes through the virtual ‘try on’ of outfits both at retail stores and through online clothing retailers, enabling customers to gauge a more realistic fit before purchase.

The new 3D body scanner with the PrimeSense technology launched at New Look, a global clothing retailer at their newest location in the Westfield Stratford shopping complex. New Look is the UK's largest high-street jeans retailer, selling a pair of jeans every seven seconds. The initial 3D body scanner application focuses on providing advice by Bodymetrics ‘Fit Stylists’ for the best fitting jeans for female customers. The scanner quickly and accurately calculates 100 measurements. Body-shape analytics are then used to find garments that best suit the customer's unique shape and size.

“The body is the last piece of information to go digital. Most of your life is already digital – your friends, your music, your bank account – all accessible on-line, but your body is not. Bodymetrics together with PrimeSense is enabling consumers to store and access all

their body information online and link this to retailers. Now, body scanning becomes a powerful platform for many retailers to provide the personalized fit and service their customers have always wanted,” says Suran Goonatilake, CEO, Bodymetrics.

Previous generations of body scanners have been expensive and too complex for most clothing retailers to realistically deploy due to moving parts such as lasers or millimeter wave detectors. Bodymetrics’ body scanner using PrimeSense™ technology was developed over a 10-month period and will be a fraction of the cost of previous body scanners. It is easily installed at a retail location within a few hours.

For the apparel retailing industry, the new body scanning technology has the potential to provide new levels of personalized customer service in stores and increase on-line sales. It could also prove to be the solution to reduce the number of returned clothes due to incorrect fit. Between 20% to 40% of all on-line clothing purchases are returned to the retailer because they don’t fit.

“Right now a lot of technologies are coming together: social media, body-scanners, and online accounts that store your body measurements. We believe soon most retailers will install body scanners and allow customers to access their Bodymetrics account online and through their phones. You will soon be able to shop for garments that fit your size, shape and style, and also share these experiences with your friends on Facebook,” adds Goonatilake.

Bodymetrics is a London-based privately held company that has raised \$7m in funding, primarily from its strategic partner, TAL Group ([www.talgroup.com](http://www.talgroup.com)), one of the world’s largest and most advanced clothing manufacturing groups.

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Israel High-Tech & Investment Report is a monthly report dealing with news, developments and investment opportunities in the universe of Israeli technology and business. While effort is made to ensure the contents’ accuracy, it is not guaranteed. Reports about public companies are not intended as promotion of shares, nor should they be construed as such.

of the top robotics specialists from the U.S. visited the College in order to get a first-hand look at the new technologies the Institute is creating.

The Robotics Institute, among other things, develops artificial intelligence algorithms for robots to be used by Israel's military and security forces, to help guard Israel's borders and prevent kidnapping of soldiers by infiltrators. Already in production for several years, the Institute was the brains behind the development of the Genius Robotic Patrol system, which is in use on the Gaza border, and is produced jointly by Elbit and Israel Aircraft Industries. The system basically replaces infantry and jeep patrols along the border fence. An unmanned smart vehicle – controlled from a base station by a live soldier – follows the border fence road, avoiding obstacles automatically.

If it detects a problem – a breach in the fence, or the presence of an individual or object that shouldn't be there – it immediately transmits pictures and data to the control center. At that point the soldiers in charge can decide how to handle the situation; for example, they can instruct one of the fighter pilots in the sky patrolling the fence area to zero in on the target, eliminating it. The robots actually travel in a fleet, says Dr. Yehuda Elmaliach, founder and director of the Institute. "This way, the area is fully covered even when one of the robots is engaged in a specific mission. Another robot that is part of the patrol can take over its duties, thus preventing the use of diversions by terrorists to get over the border or launch an attack," he says. This is the first land-based unmanned rover used for defense purposes. Other systems are either seagoing or airborne.

The visitors, who included 13 university presidents and professors, included it cut a \$100 million coupon on the sales of 10 million units of Kinect – Microsoft's motion sensor

which is based on Primesense's technology.

Calcalist revealed that another Israeli company is joining the war between the technology giant over the 3D sensor market: Intel is negotiating with Invision for the \$50 million acquisition of the small Israeli company. In the long run, Invision's technology will enable Intel to launch 3D vision chips and software and market them to television, game consol, smartphone and tablet manufacturers.

The three Israeli companies are not alone: a number of other Israeli companies deal in the development of image processing technologies that incorporate complex algorithms and market can offer.

### **Bodymetrics Body Scanner**

In one of the first commercialized applications of natural interaction beyond gaming, Bodymetrics has applied the 3D sensors of PrimseSense to the fashion industry.

Bodymetrics isn't new to the fashion and body scanner scene, their body scanners have been installed in Selfridges for years, making the UK luxury chain embrace technology and drive up jean sales to the tune of 20% of all denim sales. But this body scanner is different, it is the first of its kind to create a full 3D body scanner using the technology and 3D sensors from PrimeSense, the Israeli company that provided the natural interaction technology to Kinect. This deployment is a sound illustration that their technology will enable consumer devices to "see" environments and allow users to control and interact naturally with those devices in a simple and intuitive way.

The body scanner uses eight PrimeSense™ 3D sensors to map the body's measurements and shape.

Bodymetrics revolutionizes the way consumers

buy clothes through the virtual ‘try on’ of some of the leaders in robotics technology in the U.S. Among the delegation were Leo Morton of the University of Missouri, Dr. John L. Anderson of the Illinois Institute of Technology, and Dr. Gary D. Russi of Oakland University. All three schools have advanced robotics departments, and have worked on developing defensive systems for U.S. security services. The visitors were treated to the latest developments in robotics for security and defense purposes – all of which, says Dr. Elmaliach, can help save the lives of soldiers.

Global technology moves to the motion of Israeli sensors

The upcoming acquisition of Invision by Intel is another step in Israel’s becoming a 3D technology super-power.

At the end of August, there were only four major players competing over the dominance over the 3D motion sensor market which develops technology for capturing body motion and converting it into digital information for games, home appliances and cellular devices.

Three of the four contenders, which own leading patents in the industry, are well known giant corporations Microsoft, Apple and Qualcomm. The fourth is a small Israeli company named XTR otherwise known as Extreme Reality.

The Israeli company developed technology that can turn any digital or web camera into a state of the art 3D sensor.

XTR, however, is not the only Israeli company which deals in motion capturing technology. The most well known Israeli company in the field is PrimeSense which sells 3D motion sensors to Microsoft.

outfits both at retail stores and through online clothing retailers, enabling customers to gauge a more realistic fit before purchase.

The new 3D body scanner with the PrimeSense technology launched at New Look, a global clothing retailer at their newest location in the Westfield Stratford shopping complex. New Look is the UK’s largest high-street jeans retailer, selling a pair of jeans every seven seconds. The initial 3D body scanner application focuses on providing advice by Bodymetrics ‘Fit Stylists’ for the best fitting jeans for female customers. The scanner quickly and accurately calculates 100 measurements. Body-shape analytics are then used to find garments that best suit the customer’s unique shape and size.

“The body is the last piece of information to go digital. Most of your life is already digital – your friends, your music, your bank account – all accessible on-line, but your body is not. Bodymetrics together with PrimeSense is enabling consumers to store and access all their body information online and link this to retailers. Now, body scanning becomes a powerful platform for many retailers to provide the personalized fit and service their customers have always wanted,” says Suran Goonatilake, CEO, Bodymetrics.

Previous generations of body scanners have been expensive and too complex for most clothing retailers to realistically deploy due to moving parts such as lasers or millimeter wave detectors. Bodymetrics’ body scanner using PrimeSense™ technology was developed over a 10-month period and will be a fraction of the cost of previous body scanners. It is easily installed at a retail location within a few hours.

For the apparel retailing industry, the new body scanning technology has the potential to