

# ISRAEL HIGH-TECH & INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES  
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JOSEPH MORGENSTERN, PUBLISHER  
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## A High-Tech Hero

Israelis love heroes whether they were soldiers or scientists or Nobel Prize winners. In the 1970s Sitex and its founder Efi Arazi became household names. Arazi had a magnetic personality. He studied engineering and soon after graduation wanted to go to the United States, but did not have sufficient funds to pay the fare. He met the Jewish millionaire Efraim Monson and convinced the latter to give him a job at Monson's raincoat factories in the United States. But making raincoats was not for Arazi. He went to work at Utek where he developed ideas which he later used at Scitex. However the 6 Day War interfered and Arazi returned to Israel.

He convinced Dan Tolkowsky, then the head of Discount Investments to back him in starting up Scitex.

The company specialized in computer graphics which allowed the user to manipulate objects and colors in a picture.

Scitex became an instant hit and in 1972 became a public company. The shares more than doubled and the company and its founder Efi Arazi became the idols of the country.

Efi Arazi has retired and now lives in Tel-Aviv.

### **New natural gas wealth means historic change for Israel**

The newfound offshore gas fields of Tamar, Leviathan, and Tanin give Israel a historic chance

at energy independence and could transform the region's geopolitics. Israel may work with Cyprus, which has its own export plans.

Israel's northern port city of Haifa has been a crucial energy center for decades; refineries dating back to the British Mandate in this land

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have long processed the oil sent by pipeline or shipped here from abroad. Today, rigs are working off Haifa's coast to tap the first major fossil-fuel reserve ever found in Israel's territory, a store on which it hopes to build a far more independent energy future.

The Tamar natural gas field was discovered in 2009 some 50 miles (80 kilometers) off Haifa's coast in the Mediterranean Sea. There are perhaps scores of known gas fields bigger than Tamar, with its estimated 250 billion cubic meters (9 trillion cubic feet) in reserves; Alaska's North Slope, for instance, is believed to hold four times as much fuel. But Tamar is large enough to meet all of Israel's natural gas requirements for 20 to 30 years, the experts say.

This unprecedented offshore bonanza expanded dramatically the following year when another field, Leviathan, almost double the size of Tamar, was discovered another 30 miles (48 kilometers) to the west. (A smaller field, Tanin, with an estimated 33.9 billion cubic meters (1.2 trillion cubic feet) in natural gas, was discovered nearby earlier this year.) With natural gas scheduled to begin flowing from Tamar next year, and from Leviathan about four years later, Israel is on the brink of a historic shift. Instead of being an energy-scarce nation amid Middle East oil giants, many of them hostile, Israel now faces a future as a fuel producer in its own right—likely as an exporter and supplier to some of its neighbors, a development that could dramatically alter the region's geopolitics.

Israel's foreign and domestic policy no longer will be intertwined with the question of securing adequate fuel supply. Now it will face a quite different challenge—managing the nation's new-found energy abundance.

This is going to change the overall way of the economy of Israel," says Shaul Zemach, director general of Israel's Ministry of Energy and

Water Resources. "It's like a domino—it's going to have a domino effect on all of the markets." Quite simply, he said, it's a "game changer."

### A Timely Discovery

Israel has depended on energy imports since its founding in 1948, and the political conflict between the Jewish state and its Arab neighbors and Iran has been riddled with strife over oil resources. Only during the decade following the 1967 war, when Israel gained control of the Sinai Peninsula's oil fields, did the nation produce a significant share of its own fuel. When Israel surrendered Sinai as part of its peace treaty with Egypt, it secured assurances both from Egypt and the United States on future energy supply.

An outgrowth of that pact was Egypt's 2005 agreement to provide natural gas to Israel via pipeline. Two small offshore gas fields in the Mediterranean had begun providing natural gas to Israel in 2004. But within just a few years the conduit from Egypt across the Sinai Desert was

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#### Subscription Inquiries

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

E-mail: [htr\\_1@netvision.net.il](mailto:htr_1@netvision.net.il)

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providing half of Israel's gas supply. The risks of such foreign reliance became clear after last year's ouster of Egypt's longtime leader Hosni Mubarak. The pipeline has been sabotaged 14 times since the uprising, rendering it essentially unusable. In April, in what was at that point a symbolic gesture, Egypt formally cancelled the deal.

Thanks to the development under way off the coast of Haifa, Prime Minister Benjamin Netanyahu's response was unruffled: "We have gas reserves that will make Israel totally energy independent, not only from Egypt, but from any other source," he said.

Like many nations, Israel has been working to increase use of natural gas and reduce its dependence on coal, which now provides about 70 percent of the nation's power. The new supply from Tamar and Leviathan can aid in the shift to a fuel that can produce electricity with fewer toxic pollutants and half the carbon dioxide emissions of coal. The government also sees potential for natural gas to replace oil as a transportation fuel. And, because it is a key feedstock in the petrochemical business, it is expected to spur new industry.

"If it's played right, it's an economic opportunity for Israel, in public health and environmentally," says Brenda Shaffer, an expert on energy policy and management at the University of Haifa. But she strikes a note of caution, especially because the enormous size of Israel's energy prize has led, inevitably, to planning for sale of natural gas abroad. "Energy export is always a two-headed sword," Shaffer says.

Israel, with its developed and diverse economy, need only look to its oil-state neighbors to see the downside of energy export-economies that have become overly dependent on one commodity.

And energy wealth will complicate already tense Middle East relations. Lebanon, which has no agreed-upon maritime (or land) border between Israel, has asked the United Nations to intervene to prevent Israel's energy drive from encroaching on its undefined territorial waters as it prepares to launch its own offshore energy exploration. Meanwhile, the island Republic of Cyprus, 300 miles (480 kilometers) from Israel's coastline in the Mediterranean, has its own large natural gas discovery. With Noble Energy, an oil company based in Houston, Texas, a major stakeholder in both the Israel and Cyprus finds, the two nations are in talks on how to coordinate development and potential export. But Turkey, which has de facto control of the northern part of Cyprus and doesn't recognize the Cypriot government, has begun energy exploration too.

Perhaps the most complex issues Israel faces have to do with how much natural gas to keep at home, and how much to sell to its neighbors and to energy consumers beyond the Middle East. Natural gas is a difficult fuel to transport, requiring long-term investment in pipelines or extremely expensive infrastructure to super-cool the fuel into liquefied natural gas (LNG) that can be shipped by tanker. That means planning and commitment to export routes across the politically volatile region.

Given Israel's history of energy scarcity, it is not surprising that many citizens believe the most important imperative is to shore up domestic supply. Schaffer, for example, argues that exporting in large quantities would not be beneficial for Israel, and most of the gas should remain at home, despite what she called the energy companies' interests in making "a quick buck and moving on to something else." Selling large volumes of gas to other countries could cause Israeli consumers to pay higher prices for a domestic resource, she says.

For now, the government believes there is plenty of natural gas to go around, and there are geopolitical advantages to energy trade. "We believe that the natural gas that will be available to us will be in quantities sufficient not just for our own needs, but also to provide our neighbors with it if they will be interested," said Energy and Water Minister Uzi Landau. He referred specifically to the Palestinians and to Jordan, Israel's eastern neighbor, another Middle Eastern nation that historically has had little in the way of domestic fossil resources. "Cooperating on energy with them will be an additional contribution in the day-to-day contacts we have with them, enhancing the economy of all of us."

#### **Remote controlled robotic boats**

US reportedly mulls purchasing Rafael's remote-controlled robotic boats, ahead of possible strike on Iran; holds successful test off Maryland coast

Israeli unmanned robotic boats may be used by the US Military in a potential naval confrontation with Iran, according to Israeli news sources/

Recent reports revealed that the Iranian military had recently purchased numerous small vessels and manned each of them with Revolutionary Guard officers. The vessels are meant to either block or attack any American aircraft carrier making its way to the Strait of Hormuz.

According to intelligence assessments, Iran will use these vessels as suicide boats, in a manner similar to Japan's use of kamikaze pilots during World War II.

In light of the possible danger, the US Navy is reportedly considering purchasing the "Protector," a remote-controlled boat developed by Israel's Rafael Advanced Defense Systems.

According to foreign reports, the Israel Navy

has recently started using the robotic boats and has armed them with anti-armor "Spike" missiles.

The US Navy fired missiles from several unmanned surface vehicles (USV) in tests, which took place off the coast of Maryland. All six test-fires were reportedly accurate.

The boats could be used for a number of applications, including harbor security, and in various defensive operations and scenarios, which are of primary concern for the Navy.

The "Protector" deal between Israel and the US is expected to amount to millions of dollars. However the Americans might not purchase the Israeli "Spike" missiles and opt for American-made missiles, such as the "Javelin" or the "Hellfire" instead.

"Globes" names Fiverr most promising start up  
The online marketplace where you can buy any service for \$5 has been chosen as the most promising Israeli start-up for 2012-2013.

If imitation is the sincerest form of flattery, then small services marketplace Fiverr International Ltd. is a resounding success. "Globes" has named Fiverr as Israel's most promising start-up for 2012.

Fiverr CEO Micha Kaufman and CTO Shai Wininger founded the company in 2009. It provides a social e-commerce market place for users to buy and sell services for \$5 and up. Fiverr charges a \$1 commission on every transaction. Freelancers offer graphic design, translations, business consultancy and other services ranging from writing songs and resumes to horse betting tips and gigs of almost any kind.

Three years later, Fiverr is a success story, offering more than one million services. Many companies have attempted to duplicate its busi-

ness model and copy its design. Many websites have appeared, some of which have even plagiarized its slogan “Buy. Sell. Have Fun.” Other sites have imitated its spelling, such as Fourerr, Sixerr, and Eighterr, and set fees on this basis (\$4 by Fourerr, for example). Israeli imitators include Smalljob, 20s, and Gigim, launched by Zap Ltd. earlier this year.

### **Fair, fresh and fast**

Could the smartphone, which has helped so many become more independent, informed and efficient, do the same for blind users?

Today, most blind and visually impaired people use their cellphones for voice calls only. If they want a navigation tool, book reader, or music player, they need specialty — i.e., very expensive — equipment. But now a new smartphone developed by Israelis packs all those functions into a single device that can be used via sound and touch, and provides audio feedback as needed.

The phone, called Project Ray, has been in development for several years by a team that includes several veterans of the Israeli telecommunications industry. One of them is Boaz Zilberman, CEO of the group. “I think we have developed a life-changing device that will make life much easier for blind people,” he told The Times of Israel. “We have built a breakthrough user interface that defines a new language for human-device interaction, built ground-up for eye-free operation.”

The same smartphone technology that makes life easier for the sighted can be used to help make the blind more independent, said Zilberman, letting them interact more freely with the world around them — in a sense, helping them to “see” again.

On most touchscreen phones, you click on an icon to open an application. Since users of the

Project Ray phone cannot see the icons they need to click on, the interface was designed so that sliding a finger on the screen and lifting the finger when the appropriate icon is touched launch all apps and services.

So, for example, when a user slides his finger and hits the Contacts app, the phone will read out the word Contacts; when the user lifts his finger, the contact app is opened. The user again swipes a finger on the screen, and the phone reads out the name of each contact as the user passes over it. When he hear the contact he wants, the user lifts his finger and the phone dials the number.

The same selection principle works throughout the phone’s functions; users swipe the screen, hitting the various apps on the home screen, and when they hear the name of the appropriate app, they lift their finger and the app opens. The same system works with the device’s other apps, including text messaging and social networking apps.

The device has a GPS chip as well; when a user swipes the location app, the devices reads out the address or landmark the user is currently in front of. It will also, in the very near future, include a feature that will utilize a NFC (Near Field Communication) chip, allowing the phone to read out information within a certain range. Thus, a blind user will be able to hear the label of a medicine bottle that has a NFC sticker on it.

But the device’s crown jewel, said Zilberman, is its library app. “Blind people are very dependent on libraries for information and entertainment — an audiobook or magazine is often their only entertainment. We have a voice-driven app that lets them connect to Israel’s Central Library for the Blind, Visually Impaired and Handicapped.”

Instead of having to send away for CDs from

the library, adding them to an MP3, and taking the chance that the disc will be lost or damaged, they can just listen to any content they want directly on the phone just by selecting it. Users can scroll and choose (using the lift-the-finger system described above) to select something on the screen, or just call the library directly from the phone and voice-order a selection. The audiobook or magazine is downloaded to the device, the user opens the book-reading app, and the phone reads the contents of the book or magazine to the user.

Zilberman, as well as a number of key people in the company, worked in the past at the Israeli R&D center of mobile tech company Qualcomm, which has partnered with Project Ray to bring the phone to market. The phone will go on sale in Israel in the coming months, and will be available in a European market (probably the UK, said Zilberman) in the first three months of 2013, with the help of Qualcomm.

Qualcomm adopted Project Ray as part of its Wireless Reach initiative, in which “Qualcomm technology can improve people’s lives, and we are proud to support this important program,” said company executive vice president Don Rosenberg. “We believe the Project Ray device will enhance the ability of blind and visually impaired people to access resources and information independently,” he added.

#### **Mazor Robotics wins first Vietnamese order**

The Renaissance robotic navigation system for spinal surgery will be installed at the Viet Duc Hospital in Hanoi.

Mazor Robotics Ltd. (TASE:MZOR) has received its first order in Vietnam for its Renaissance robotic navigation system for spinal surgery. The system will be installed at the Viet Duc Hospital in Hanoi, the country’s largest surgical hospital, with 1,000 beds.

The order was made through Transmedic Pte Ltd. a medical equipment distributor in Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Mazor CEO Ori Hadomi said, “We have made great strides in penetrating the Asian market, and our partnership with Transmedic expands our presence even further.

Mazor also received an order for the Renaissance system from its Japanese distributor Adachi Medical Instruments Co., which will use the system to obtain approval for it from Japan’s Pharmaceuticals and Medical Devices Agency. Mazor said that Japan is the second largest healthcare market in the world, and estimates its spine market at over \$400 million it is projected that by 2020, nearly 50% of Japan’s population will be over the age of 50, driving the need for improved spinal implant technology.

#### **Q3/2012 VC investments in Israel - up 8%**

Israeli VC fund first investments also increased in the quarter

In the first three quarters of 2012 Israeli venture capital investments decreased 9 percent to \$1.4 billion from \$1.6 billion in the previous year. However, the amount is 55 percent above \$0.9 billion invested in the same period in 2010.

In the third quarter of 2012, 144 Israeli high-tech companies raised \$488 million from venture investors – both local and foreign. This is an 8 percent increase from \$453 million raised by 128 companies in Q2/2012, but 7 percent below the \$522 million raised by 137 companies in Q3/2011. (Chart 1)

In Q3 2012, \$354 million were raised in 95 VC-backed rounds\*, 73 percent out of total capital rose in all rounds. Remainder of rounds were completed by other investors, foreign and Israeli.

Ninety-three companies attracted more than \$1 million each. Of these, seven raised more than \$20 million, eight raised between \$10 million

and \$20 million and 13 raised from \$5 million to \$10 million each.

The average company financing round was \$3.39 million, slightly below \$3.54 million raised in Q2/2012, and significantly below \$3.81 million in Q3/2011.

\* VC-Backed rounds – deals in which VC funds (Israeli or foreign) participated.

### Israeli VC Fund Investment Activity

Israeli venture capital funds invested \$341 million in Israeli companies in the first three quarters of 2012. This compares to \$393 million and \$278 million invested in the corresponding period in 2011 and 2010, respectively. The Israeli VC fund share was 24 percent, just under the 25 percent share in 2011, but well lower than the 30 percent share of 2010.

In the third quarter of 2012, Israeli venture capital funds invested \$116 million, 9 percent more than in the previous quarter and 21 percent above the amount invested in the third quarter of 2011.

The Israeli VC fund share was 24 percent, compared to 23 percent (\$106 million) in Q2/2012 and 18 percent (\$96 million) in Q3/2011. Remaining investments came from foreign and other Israeli investors.

Koby Simana, CEO of IVC Research Center says “the Israeli VC industry continues to perform strongly despite the challenges presented by a worsening global economy”. Simana points to a number of positive trends that indicate its stability: “First, the Israeli VC fund share of total investments has leveled at a sustainable 24 percent; Secondly, capital raising for new funds is slowly picking up, with new funds recently raised by Pitango and Sequoia Israel and more funds about to close soon. These funds will inject much needed capital for first investments.”

First investments in the first three quarters of 2012 accounted for 38 percent of Israeli VC fund investments, compared to 26 percent and 30 percent in the corresponding period in

2011 and 2010, respectively. The average first investment was \$1.79 million, while the average follow-on investment was \$1.08 million.

In Q3/2012, first investments by Israeli VC funds accounted for 47 percent of their total investments, the second highest quarterly share in the past decade. (Q1/2012 first investments reached 48 percent.) This compares to 18 percent and 30 percent in Q2/2012 and Q3/2011, respectively. The average first investment by Israeli VC funds was \$2.12 million, while the average follow-on investment was \$0.86 million. (Chart 2)

Ofer Sela, partner in KPMG Somekh Chaikin’s Technology group, commented: “This year is expected to be a record year in terms of the number of companies raising first investments, this is mainly due to the increase in the number of investors, including foreign investors, operating in the market. It is a strong indicator to the globalization of the local VC backed industry.”

### Investment Rounds Excluding Israeli VC Fund Participation

In the first three quarters of 2012, Israeli venture capital deals with no Israeli VC funds involved reached \$669 million. This is 18 percent above the \$567 million invested in the year-earlier period and 188 percent above the \$232 million invested in the first three quarters of 2010.

In Q3/2012, investments without Israeli VC participation reached \$216 million or 44 percent of all transactions, compared with 48 percent in the previous quarter and 45 percent in Q3/2011.

### Capital Raised by Sector

In Q1-Q3/2012, the life sciences sector led capital raising with \$387 million (27 percent) of total capital raised, compared with \$320 million (20 percent) raised by life science companies in the first three quarters of 2011. Internet followed with \$271 million (19 percent), a decrease of 22 percent from the same period in 2011, when Internet companies attracted \$348 million (22 percent) and led all investments. Communications attracted \$248 million (17 percent), a decrease of 15 percent from the amount attract-

ed by the sector in Q1-Q3/2011.

In Q3/2012, the life sciences sector led capital raising for the third time in the past decade, with \$147 million (30 percent) of total capital raised. Communications followed with \$106 million (22 percent), an increase of 36 percent from the previous quarter, but 7 percent below the amount raised in Q3/2011. Software attracted \$74 million or 15 percent of total capital raised in the quarter.

Ofer Sela, partner in KPMG Somekh Chaikin's Technology group, added, "The life sciences sector is expected to have a record year in terms of dollar amounts raised, showing consistent growth since 2009. This is in contrast to the trend in the US where capital raising for the life sciences has been in decline. The combination of a highly educated workforce, robust technology transfer from leading academic institutions, and the Israeli government's incentive program for the life sciences are the main reasons for this sector's positive performance."

### Capital raised by stage

In the first three quarters of 2012, seed companies attracted 6 percent of capital raised, compared to 5 percent and 3 percent in the corresponding period of 2011 and 2010, respectively.

Mid-stage companies raised the most (41 percent), as in Q1-Q3/2011 (45 percent) and in Q1-Q3/2010 (48 percent).

In the third quarter of 2012, seed companies attracted 9 percent of total capital raised, compared with 3 percent in the previous quarter and 9 percent in the third quarter of 2011. Early stage and mid-stage companies led capital raising with \$190 and \$191 million, respectively, each with 39 percent of total capital raised.

"This is yet another positive indicator," noted IVC's Simana. "Our findings show early stage

investment has bounced back compared to previous quarters, demonstrating investor confidence in the future of Israel's high-tech industry."

EU agency recommends Amyvid approval  
Amyvid could be on its way to the continent.

Med tech deals expected to surge as reform woes wane  
Political uncertainty to blame for lack of recent "blockbuster" deals, experts say.

Lab that developed 18-FDG named historic landmark  
Brookhaven National Laboratory is honored for its role in synthesizing common PET agent.

Japan receives first 'MRI-conditional' pacemaker  
Advisa DR MRI SureScan now available in Japan.

VuCOMP gets FDA OK for mammo CAD  
VuComp's second-gen digital mammo CAD

ECRI: Interest rising for 128-slice CT scanners  
ECRI Institute gives CT scanner purchasing advice while explaining that 128-slice units are in demand.

Could Supreme Court case affect medical equipment remarketers?  
Kirtsaeng v. John Wiley & Sons Inc. could affect dealers that import equipment.

DOJ: MRI center exec admits to kickback scheme  
Chirag Patel agrees to pay back \$80K.

Infraredx and Philips announce product development partnership  
The agreement will combine Infraredx's cardiac X-ray imaging system with Philips' intravascular imaging platform.



IBA inks Taiwan proton deal Delivery set for 2014.

Israeli medical device firm InSightec Ltd. said Monday that the Food and Drug Administration expanded the indications for its MRI-guided focused ultrasound system so it can now be used to relieve pain in patients whose cancer has metastasized and traveled to the bone.

The system, ExAblate, uses real-time MR imaging to guide pulses of acoustic ultrasound energy that heat up and destroy the pain-causing nerves, the Tirat Carmel, Israel-based company said.

### **Magic named to Deloitte Israel Technology Fast 50 for second consecutive year**

Magic Software Enterprises Ltd. (NASDAQ: MGIC), a global provider of software platforms for enterprise mobility, cloud applications, and business integration, announced that it has been named to the 2012 Deloitte Israel Technology Fast 50, the ranking of the 50 fastest-growing technology companies in Israel, for the second consecutive year.

The Deloitte Technology Fast 50, one of Israel's foremost technology award programs, is a ranking of the country's 50 fastest-growing technology companies based on percentage growth over five years. The Fast 50 program honors business growth, technological innovation and Israel entrepreneurial spirit.

"Being named to the 2012 Deloitte Israel Technology Fast 50 for two years in a row is especially significant because it comes during challenging economic times. As an established technology company, this achievement is testament to Magic's commitment to providing enterprise customers with smart, future-proof technology and our determination to see them succeed," stated Guy Bernstein, CEO of Magic Software Enterprises. "We are proud of our growth and expect it to continue thanks to our broad global presence, strong management team and high

demand for our products and professional services spurred by the very hot mobile enterprise market."

"Because the Deloitte Brightman Almagor Zohar Fast 50 measures sustained revenue growth over five years, being one of the 50 fastest-growing technology companies in Israel is an impressive achievement," said Tal Chen, partner in charge of the Deloitte Brightman Almagor Zohar Israel Technology Fast 50 Program. "Magic deserves a lot of credit for its remarkable growth."

### **Laser Pointer IDs Dangerous Chemicals**

A new portable Raman spectrometer created using an ordinary green laser pointer can detect minute traces of explosives and other hazardous chemicals in real time.

Raman spectrometers rely on highly focused light beams at precise wavelengths to illuminate small samples of materials. Very sensitive detectors then study the sample's scattered spectra. Most of the re-emitted light retains its original frequency, but a small percentage is slightly shifted to higher or lower wavelengths, depending on the sample's unique vibrational modes. Comparing the shifted and original wavelengths enables determination of the precise chemicals in the sample.

Schematic of the Raman spectrometer, including a laser pointer, dichroic mirror, prism, objective, X-Y motorized translational stage, long-wave pass edge filter, lens and a detector (spectrometer/intensified charge-coupled device).

Developed by scientists at Ben-Gurion University of the Negev, the laser pointer-based spectrometer scans entire samples optically to locate individual particles of interest & mash; a task previously performed by cumbersome Raman microscopes. The laser's relatively short wavelength helps improve detection of the inherently weak Raman signal, and the spectrometer's compact design is suitable for rapid field deployment to disaster zones and other security-deficient areas.

“Since the overall system is modular, compact and can be readily made portable, it can be easily applied to the detection of different compounds and for forensic examination of objects that are contaminated with drugs, explosives and particularly explosive residues on latent fingerprints,” said Ilana Bar of the university’s Department of Physics. “With proper investment, this system could be deployed quite quickly as a consumer product.”

The research will be presented Oct. 18 at Laser Science XXVIII, the American Physical Society Div. of Laser Science’s annual meeting, which is collocated with OSA’s annual meeting, Frontiers in Optics, in Rochester, N.Y.

### **Stryker buys Surpass Medical for \$135m.**

The Tel Aviv based company is developing and commercializing flow diversion stent technology to treat brain aneurysms.

Medical device manufacturer Stryker Corporation (NYSE: SYK) announced today that it has reached a definitive agreement to acquire Tel Aviv based Surpass Medical Ltd.. The US company will pay \$100 million in cash and up to an additional \$35 million in milestone payments.

Founded in 2005 and headquartered in Tel Aviv, Surpass is developing and commercializing flow diversion stent technology to treat brain aneurysms using a unique mesh design and delivery system. Surpass’s key product, the NeuroEndoGraft family of flow diverters, is designed to redirect blood flow away from an aneurysm, allowing a stable clot to be formed within the aneurysm pouch. The NeuroEndoGraft is has the EU CE mark with a limited launch underway outside the US. The company will also begin enrolling patients in an IDE clinical trial in the fourth quarter of 2012. Surpass also has manufacturing and R&D facilities in Miramar, Florida. Stryker CEO Kevin A. Lobo said, “The acquisition of Surpass Medical further builds on Stryker’s global platform in the fast growing and highly innovative neurovascular market and

helps broaden our offering in Complete Stroke Care.”

Stryker added that the transaction is expected to close in the fourth quarter of 2012.

This is the second Israeli company acquired by Stryker. In 2006, Stryker acquired gastroenterology device developer Sightline for \$150 million, renaming it Sightline Israel. Stryker closed the Israeli company down in 2008 and fired all 71 employees.

This cardboard bike could change transportation as we know it

An Israeli inventor is convinced his newest creation will transform transportation and production throughout the world.

The trend toward budget-friendly transportation has taken many twists and turns in recent decades. We can now eschew extreme gas prices with solar-powered cars or fly across Europe for mere pennies thanks to low-cost, no-frills airlines. But one Israeli inventor has dreamed up a transportation innovation with the fewest frills imaginable.

Fifty-year-old Izhar Gafni has reimagined the classic form of the bicycle, telling Reuters that his latest prototype of a cheaper, greener, lighter, stronger and socially-beneficial bicycle will begin rolling off mass production lines in a few months. The catch? The bike is made entirely out of cardboard.

“I was always fascinated by applying unconventional technologies to materials and I did this on several occasions,” said Gafni, who also designs automated mass-production lines. He explained his trial-and-error approach to developing the new bicycle, which will contain no metal. Even the typical mechanical features, including the brakes, wheels and pedal bearings, will be made from recycled substances.

Reconstituted rubber from old cars will form the tires, which Gafni’s business partner Nimrod Elmish told Reuters would “never get a puncture.” The bike will also feature a mount

for an electric motor, which commuters could purchase as an add-on to speed up their commutes. Despite the humble materials, Gafni attests to the strength and durability of the final product, which will weigh about 20 pounds — 10 pounds lighter than the average bicycle — and cost no more than \$20. The materials cost about \$9 for the company to assemble.

The inventor told Reuters he submerged the cardboard, which is both waterproof and fire-proof, in water for a few months, and it suffered no damage. “I worked for four years to cancel out the corrugated cardboard’s weak structural points,” Gafni said. “Making a cardboard box is easy and it can be very strong and durable, but to make a bicycle was extremely difficult and I had to find the right way to fold the cardboard in several different directions. It took a year and a half, with lots of testing and failure until I got it right.”

And even if the bike — which can support up to 485 pounds, according to Fast Company, doesn’t hold up so well, a replacement won’t break the bank. Elmish told Reuters the bicycles are low-maintenance, never requiring maintenance or adjustment “So you buy one, use it for a year and then you can buy another one, and if it breaks, you can take it back to the factory and recycle it,” Elmish said.

Elmish believes Gafni’s brainchild has everything the world needs for a production and transportation overhaul. “This is a real game-changer,” Elmish said. “It causes factories to be built everywhere instead of moving production to cheaper labor markets, everything that we have known in the production world can change.” Manufacturers would profit from advertisements, which companies would purchase in order to incorporate their logos onto the bicycle frame.

Consumers can expect to see three models of Gafni’s bicycles — an urban bike, a youth bike for children in Africa and a balance bike for kids

learning how to ride — on the market within one year. A cardboard wheelchair is also in the works, Reuters reported.

Gafni hopes the mass production of his vehicles will start a cardboard revolution. “We are just at the beginning and from here my vision is to see cardboard replacing metals,” he told Reuters. “And countries that right now don’t have the money, will be able to benefit from so many uses for this material.”

### **Landa mulls raising up to \$200m for nanometric ink company**

Market sources believe Benny Landa will try to raise the money from foreign private equity funds at a \$1 billion company value.

Benny Landa is considering raising \$100-200 million for his nanographic printing company, Landa Digital Printing, six months after unveiling the technology. The financing, if it is carried out, will probably come from large foreign private equity funds with the wherewithal to provide such amounts. Landa will reportedly hold the financing round at a company value of \$1 billion for the company, a unit of Landa Corporation.

In April, Landa Digital Printing returned to the digital printing business at the Drupa 2012 Print Media Fair, where he presented the nanometric digital printing technology. His development, based on nanometer-sized ink, provides high printing efficiency and quality, and targets the commercial print industry, 90% of which still does not use digital printing, due to its high cost and lower quality.

Landa Digital Printing plans to offer six kinds of printers. For Landa, a veteran digital printer, raising capital to support technology ventures is nothing new. When he founded Indigo, he invested in R&D for 15 years before the company began production. In 1993, he unveiled the company’s simple solution for the printing of digital files, and changed the printing industry.

Shortly afterwards, Indigo held an IPO on Nasdaq at \$1 billion, the value that Landa is seeking for his new venture. Indigo's market cap rose quickly, until problems emerged, causing its value to plummet, upsetting investors, and in 2002, Landa sold the company to Hewlett Packard Co. (NYSE:HPQ) for \$720 million, in one of the most successful exits by an Israeli high-tech company.

The experience with Indigo left Landa with mixed feelings about exposure to stock markets, especially for secrecy-ridden R&D operations. Exposing Landa Digital Printing new printing solutions has been relatively successful as far as he was concerned. He claims that the company obtained orders for hundreds of printers, and that down payments were paid for some of them, even though no deliveries will be made before late 2013.

Assuming that each printer costs \$1-2 million, Landa Digital Printing's potential revenue from the orders, if they actually become sales, could exceed \$500 million, which can support a \$1 billion valuation.

Landa Digital Printing is raising capital because of the next stage in its life. Landa, who made qua substantial amount of money during his Indigo days, personally financed the company through Landa Labs. With the move on to large-scale production and marketing, he needs more investment. On the agenda are the building of at least one ink plant in Israel, as Indigo did, and possibly plants in other countries, too. Landa has said that he wants to become a leader in the new printing technology and market.

### **Israel pushing ahead in medical marijuana industry**

Moshe Rute survived the Holocaust by hiding in a barn full of chickens. He nearly lost the use of his hands after a stroke two years ago. He became debilitated by recurring nightmares of his childhood following his wife's death last

year.

"But after I found this, everything has been better," said the 80-year-old, as he gingerly packed a pipe with marijuana.

Rute, who lives at the Hadarim nursing home outside of Tel Aviv, is one of more than 10,000 patients who have official government permission to consume marijuana in Israel, a number that has swelled dramatically, up from serving just a few hundred patients in 2005.

The medical cannabis industry is expanding as well, fueled by Israel's strong research sector in medicine and technology - and notably, by government encouragement. Unlike in the United States and much of Europe, the issue inspires almost no controversy among the government and the country's leadership. Even influential senior rabbis do not voice any opposition to its spread, and secular Israelis have a liberal attitude on marijuana.

Now, Israel's Health Ministry is considering the distribution of medical marijuana through pharmacies beginning next year, a step taken by only a few countries, including Holland, which has traditionally led the way in Europe in legalizing medical uses of the drug.

Marijuana is illegal in Israel but medical use has been permitted since the early 1990s for cancer patients and those with pain-related illnesses such as Parkinson's, multiple sclerosis, and even post-traumatic stress disorder. Patients can smoke the drug, ingest it in liquid form, or apply it to the skin as a balm.

In stark contrast, medical use is still hotly contested in the United States, with only 17 states and Washington, D.C. permitting medical marijuana for various approved conditions. The U.S. Drug Enforcement Administration says smoked

marijuana is not medicine, and “has not withstood the rigors of science.” In Europe, Spain, Germany and Austria have allowed or decriminalized some degrees of medical marijuana use.

The numbers of patients authorized to use marijuana in Israel is still far lower than those in the U.S. states where it is legal. Colorado, for example, has 82,000 registered users in a population of 5 million, compared the 10,000 in Israel, a country of 8 million people.

But Israelis seem enthusiastic about moving the industry forward.

“When push comes to shove, and people see how suffering people are benefitting, I’m sure everyone will get behind it,” said Yuli Edelstein, Israeli Minister of Public Diplomacy, as he toured Israel’s largest marijuana growing farm, Tikun Olam, on Thursday and lauded the facility as an example of Israel’s technological and medical advancements.

The Hadarim nursing home, which encourages medical marijuana use, gives its patients cannabis produced at Tikun Olam farm, tucked away on nearly 3 acres in the picturesque Galilee region.

The company, one of around eight government-sanctioned grow-operations in Israel, distributes cannabis for medical purposes to almost 2,000 Israeli patients who have a recommendation from a doctor. The cannabis can be picked up at the company’s store in Tel Aviv, or administered in a medical center.

This year, the company also developed a marijuana strain used by a quarter of its customers, said to carry all the reported medical benefits of cannabis, but without THC, the psychoactive chemical component that causes a high. The cannabis is instead made with high quantities

of CBD, a substance that is believed to be an anti-inflammatory ingredient, which helps alleviate pain.

“This is just the tip of the iceberg. It’s the future,” says Zach Klein, head of research and development at Tikun Olam, whose logo reads “This is God’s doing, and it’s marvelous in our eyes.”

Itay Goor Aryeh, director of the Pain Management Center at the Sheba Medical Center near Tel Aviv, noted that THC was first isolated in marijuana by Israeli scientists in 1964. “So we are really on the cutting edge of not just the growing and distribution, but also on the basic science of cannabis,” he said.

He said legalizing medical cannabis allows authorities to conduct more research and learn more about how to regulate its use.

“It has to be researched more, it has to be regulated more, so we know what exactly we’re giving the patient, which strains are better,” Aryeh said. “If you don’t allow it, you will never know.”

Aryeh and other proponents say medicinal marijuana is cost-effective and dramatically reduces patients’ needs for other pain medications, like morphine, that can produce unwanted side effects.

Ruth Gallily, a professor of immunology at the Hebrew University of Jerusalem, has been studying the supposed anti-inflammatory effects of CBD for the past few decades. “We’re finally reaching the stage where it’s becoming accepted, and not thought of as ‘bad,’ but we still have a ways to go,” she said. “Now the next challenge may be the major drug companies accepting the plant.”

Inbal Sikorin, the head nurse at Hadarim Nursing Home, said the benefits of cannabis for her patients are undeniable.

“We know how to extend life, but sometimes it’s not pleasant and can cause a great deal of suffering, so we’re looking to alleviate this, to add quality to longevity,” she said, while administering cannabis to a patient using a vaporizer. “Cannabis meets this need. Almost all our patients are eating again, and their moods have improved tremendously.”

Rute, the nursing home resident, said the cannabis may not change his reality, but makes it easier to accept.

His small room at the residence is adorned with pictures of his deceased wife and figurines of chickens, which he collects because he sees them as a symbol of pain and hope from his years in hiding during the Holocaust.

“I’ve been a Holocaust child all my life,” says Rute, recalling how his father died at the Buchenwald Concentration Camp in Germany, and how nights were cold in the barn where his neighbor kept him and his several siblings safely hidden.

“I’m now 80 and I’m still a Holocaust child, but I’m finally able to better cope.” AP



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