

ISRAEL HIGH-TECH & INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES
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JOSEPH MORGENSTERN, PUBLISHER
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An Exciting Quarter of a Century

With this issue, we are completing 25 years of publication of the Israel High-Tech and Investment Report. With the January issue we will begin our 26th year. It has been an exciting period as we followed the development of Israel's high-tech sector that has contributed greatly to Israel's economy. It was also exciting as we met and interviewed some of the leaders of the nascent technology era.

Seven years earlier, prior to our publishing our first issue it became clear that Israel was in critical need to develop a high-tech sector that would replace the curtailed supply of technology material by France. In response to that need research and development units and companies were formed. The only company producing defense products was Rafael Arms and Development which was founded in 1950.

In our last issue we headlined Defense Industries. From a net importer Israel had become one of the world's five largest exporters of defense equipment. Leading buyers include India and China. Additionally, recently Israel has obtained a \$470m. order from Russia, for its unmanned aerial vehicles. For the Israeli citizen it is very comforting to know that a superpower like Russia will use Israeli weaponry.

However, the most satisfying aspect of publishing the Report has been the interviews that we enjoyed with international political leaders as well as those that have founded and continue to lead

high tech enterprises.

Since 1964 we met, on a regular basis, with American Ambassadors to Israel. Prominent among these were Ambassadors Sam Lewis and Thomas Pickering. They helped us to establish a first satellite link between the American Embassy



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in Tel-Aviv and the States. We sat in the US Embassy in Tel-Aviv and conversed in real time with our counterparts in Washington. Thomas Pickering opened his home to the leaders of Israel's high-tech world.

The late Israeli Presidents Ephraim Katzir and Haim Herzog personally encouraged me to write about high technology. The modest President Katzir granted me a two hour interview.

The Israeli leaders of technology industries, that I have met, include Dov Frohman who founded Intel Israel, Uzia Galil who led the way in establishing scientific based startups. He was assisted by Fred Adler, the American venture capitalist who brought a number of Israeli companies to the American stock exchanges. Dan Tolkowsky who led Discount Investments and injected large sums of capital into high-tech companies, Efi Arazi who founded Scitex, Eli Hurwitz who led Teva. The latter developed the scientific work of Michael Sela and Ruth Arnon into the blockbuster drug Copaxone. Dr. Yossi Vardi whose son innovated ICQ which was purchased by AOL. He is generally acknowledged as a spokesman for the Israeli high-tech sector.

Stef Wertheimer, who founded Iscar, and later sold a part of his shares for \$4.0b., was an example how one can build a major economic enterprise in Israel and succeed on a global scale.

Together with the newsletter's Advisory Board, we shall continue to publish the Newsletter. And hope that you will enjoy reading its contents as much as we in writing it.

Broadcom buys Sightic Vista for \$10-\$20m

Semiconductor giant Broadcom Inc. (Nasdaq: BRCM) made its seventh acquisition in Israel, acquiring image-processing company Sightic Vista Ltd. The acquisition was reportedly for \$10-20 million, less than Broadcom normally spends and below the threshold requiring notification.

Sightic president and CEO Noam Sorek, VP product management Ron Fridental, and VP R&D Dr.

Iliia Vitsnudel founded the company in 2001. The three specialists in video and imaging processing had worked together for a decade, before co-founding the company.

Sightic develops software and hardware image processing and enhancement solutions, for integration into high quality, miniature digital cameras and video applications. The solutions include algorithms for processing images and multimedia applications for mobile devices. Relatively little was invested in the company by private investors, with no involvement by venture capital funds.

Geographically, Sightic's premises are close to Broadcom's Israel development center at Yakum, a few kilometers north of Herzliya. Strategically, however, the companies operate in different worlds. Sightic's image processing will fit in with Broadcom's mobile division, which oversees the company's multimedia operations. Broadcom will integrate Sightic's technology into its telecommunications processors, making Broadcom's products more interesting for mobile telephone manufacturers now that multimedia has become

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a core feature of mobile phones.

Broadcom's Israeli development center has grown rapidly in the past year. Its previous acquisition was Percello Ltd., a developer of telecommunications processors for short-range networks, for \$88 million, in late October. Last year, Broadcom acquired Dune Networks Inc., a developer router technology for enterprise networks, for \$180 million.

According to Israel Venture Center, Sightic has begun to show revenue, and has customers from among the world's top consumer electronics manufacturers, including Samsung Electronics Co. Ltd. (KSX: 5530) and LG Electronics Ltd. (KSX: 66570; LSE: LGCD), both relevant for Broadcom in this market. The company has several dozen employees.

Summary of Israeli Private Equity Deals – Q3 / 2010

A total of eight private equity (PE) deals were closed in Israel in Q3 2010, representing an aggregate deal value of \$277 million. This is a 90 percent increase from Q2 2010's eight PE deals with an aggregate value of \$146 million. Third quarter 2010 figures were 54 percent above the \$180 million reported for the 13 private equity deals concluded in Q3 2009 (Figure 1).

In the third quarter of 2010, private equity deals valued at over \$50 million accounted for 66 percent of total aggregated deal value; deals valued at \$20 million to \$50 million accounted for 16 percent; and deals valued at under \$20 million accounted for the remaining 18 percent. In the second quarter of 2010, as well as in the third quarter of 2009, all deals were valued at under \$50 million each (Figure 2).

In Q3 2010, cleantech - the most attractive sector for private equity funds - represented 43 percent of total deal value. The infrastructure sector followed with 27 percent, and then the retail sector with 16 percent. In the previous quarter, real estate attracted 56 percent of capital invested, followed by semiconductors with 24 percent, and

the retail sector with 9 percent. In Q3 2009, the most attractive sector was real estate with 25 percent of total deal value, followed by industrial technologies with 19 percent and life sciences with 17 percent.

The average deal value in the third quarter of 2010 was \$35 million, compared to \$18 million in the previous quarter and \$14 million in the third quarter of 2009.

Israeli Private Equity Deal types

Straight equity investments accounted for 50 percent of total deal value in Q3 2010, with five deals valued at \$137 million. This compares to the \$57 million (three deals) of Q2 2010, and the \$164 million (10 deals) of Q3 2009. In Q3 2010, the average straight equity investment was valued at \$27.5 million, compared to \$19 million in Q2 2010 and \$16 million in the third quarter of 2009.

One buyout valued at \$75 million represented 27 percent of the aggregate deal value in Q3 2010, which compares with \$48 million or 33 percent in Q2 2010 and \$6 million or 3 percent in Q3 2009.

One mezzanine financing accounted for \$50 million, or 18 percent of the aggregate deal value, compared to \$7 million (two deals) or 5 percent in the previous quarter, and \$10 million (one deal) or 6 percent in Q3 2009.

One distressed debt deal accounted for \$15 million, or 5 percent of the aggregate deal value, compared to \$34 million (two deals) or 23 percent in the previous quarter. No distressed debt deals were reported in Q3 2009.

According to Rick Mann, Managing Partner of GKH, "this year has seen strong investment activity among Israeli private equity firms. We are now seeing indications that foreign private equity funds are once again actively considering PE investments in Israel. Historically, foreign funds consider relatively large investments so that may lead to growth in deal size in the coming quarters."

In the first three quarters of 2010, the five largest Israeli private equity deals accounted for 40 percent of aggregate deal value. Tene closed a buyout of thermostat manufacturer Fishman Thermo for \$85 million. Israeli Infrastructure Fund (IIF) followed with a buyout of toll highway operator Derech Eretz for \$75 million. Ergasol's \$58 million deal with solar systems installer Inbar Solar was the third largest. FIMI closed a \$50 million mezzanine financing with civil engineering company Tahal, while Beresheit and KCPS completed a \$48 million buyout of Mishkenot Clal, an operator of residential centers.

Israeli Private Equity Funds

"Currently, there are 27 active Israeli private equity funds, with total managed capital standing at \$6 billion in 2010," observes Marianna Shapira, Research Manager at IVC Research Center. "Three new Israeli PE funds were established both in 2010 and in 2009. Among the active funds, eight are fully invested, but continue to manage their portfolio companies. There are five typical types of financing in the Israeli private equity arena: buyouts, mezzanine, distressed debt, turn-around/ distressed equity and straight equity reviewed in this survey," concluded Shapira.)

New electronic sensor 'better than sniffer dogs' at detecting bombs

Tel Aviv University scientists have developed a new electric sensor that is small, portable, and is more sensitive and reliable at detecting explosives than any sniffer dog.

Prof. Fernando Patolsky said the sensor is especially effective at detecting TNT.

However, drawbacks include high cost, lengthy decoding times, size, and a need for expert analyses.

"There is a need for a small, inexpensive, hand-held instrument capable of detecting explosives quickly, reliably and efficiently," said Patolsky.

The device is made from an array of silicon

nanowires, coated with a compound that binds to explosives to form an electronic device - a nanotransistor.

It can be mounted on a wall, with no need to bring it into contact with the item being checked. And unlike other explosives sensors, it enables definitive identification of the explosive that it has detected. To date, the device has not had a single detection error.

Such sensors may be used to detect not only explosives, but also biological toxins and threats, such as anthrax, cholera or botulinum. They could be used in medicine too.

Cancer diagnostic company Aposense signs with Roche

Aposense Ltd. (TASE: APOS) has signed a collaboration agreement with Roche Holding AG (SWX: RL). Under the agreement, Roche will use Aposense's EarliTest solution, in Roche's oncology development program.

EarliTest is designed to image tumor response at an early stage during treatment and has the potential to accelerate drug development by providing feedback on the biological effect of treatment. Data generated from the collaboration will provide an opportunity for the parties to expand utility of EarliTest to novel oncology therapies.

Aposense CEO Yoram Ashery said, "This collaboration with Roche, an industry leader in the field of oncology, demonstrates the interest within the pharmaceutical industry in using novel tools for early assessment of response to anticancer treatment in clinical trials. The delayed availability of feedback on drug activity using traditional methods is a significant unmet need, not only for patients, but also in the development of novel therapies for combating cancer."

According to the terms of the non-exclusive agreement, Roche will fund the clinical trials and pay Aposense undisclosed license and milestone fees.

Aposense has previously signed a similar non exclusive major agreement with GlaxoSmithKline plc (NYSE; LSE: GSK), which bought the company's imaging device for testing the effectiveness of cancer drugs.

New osteoporosis treatment

Researchers in Israel believe that in less than a decade, their discovery may lead to a new, more effective drug to prevent and treat osteoporosis.

Israeli scientists have discovered a group of substances in the body that play a key role in controlling bone density. Based on their discovery, they have initiated development of a drug for prevention and treatment of osteoporosis and other bone disorders. They believe that with luck, in about seven years a new drug could be on the market, allowing people to benefit from their discovery.

Osteoporosis is the most widespread degenerative disease in the Western world and is expressed in the loss of bone mass and the weakening of bone structure, contributing to frequent bone fractures, disability and even death.

The loss of bone mass in osteoporosis is caused by internal destruction of the bone tissue. With age, the mass of bone tissue that is lost is greater than that which is created, which leads to the decrease in bone density. "The number of women affected by osteoporosis is three to four fold higher compared to men," notes Prof. Itai Bab of the Bone Laboratory at the Hebrew University (HU) of Jerusalem, who along with Prof. Raphael Mechoulam of the university's Institute of Drug Research heads the research group that is working on the project.

Connection found between bone density and fatty acids

The researchers found that bone cells produce a series of substances composed of fatty acids and amino acids, called acyl amides. They analyzed the precise chemical composition of the acyl amides, created synthetic versions, and exam-

ined their effect on bone cell cultures.

Bab explains that scientists have been aware of acyl amides for quite some time, but it was only around four years ago that he and Mechoulam began to discover them in the skeleton.

In experiments on mice, the scientists discovered that one of the compounds in the group of synthetic materials, oleoyl serine, increased bone density in both healthy and osteoporotic mice. They also found that the osteoporotic mice were missing the oleoyl serine in their bones.

He says that he and his research team believe that this discovery "has two important aspects: It highlights a new field, which we call skeletal lipidomics, which studies the role of acyl amides in the regulation of bone remodeling and mass; and it has a vast potential to identify new drug targets."

For various reasons it will take some time before the discovery impacts the general population. "Experiments on mice are designed to test the feasibility that a new drug indeed works," says Bab, clarifying that "before moving to humans, any drug needs to be tested for efficacy and safety in many experimental models and in higher animal species, closer to humans."

New drug may reverse loss of bone tissue

The findings to date of the team have just been published in the American journal PNAS (Proceedings of the National Academy of Science). In addition to the two leading professors, the team includes post-doctoral fellow Reem Smoum and doctoral students Gary Millman, Orr Ofek, Alon Bajayo, Joseph Tam and Vardit Kram as well as associates from the United States.

"Our collaboration began with Dr. Michael Walker from Indiana University at Bloomington and when he passed away, his successor, Dr. Heather Bradshaw, continued the collaboration," Bab recounts.

Describing his own bones as decidedly “normal,” Bab relates that he has “been involved with osteoporosis and the stimulation of bone density since the 1980s, when I came to realize the epidemiological and clinical significance of this disease [osteoporosis].”

The researchers are convinced that their findings can serve as the basis for new drugs that can both prevent bone loss and boost bone formation. In this way the drugs will hopefully reverse the loss of bone tissue in osteoporosis patients.

Development of such a drug has begun in the laboratories of Mechoulam and Bab, and Yisum, HU’s technology transfer company, has submitted a patent application based on their work and is seeking a commercial partner for further development.

Preventing bone loss while encouraging bone formation

Mechoulam is confident that their work showing bone mass accumulation will lead soon to the development of an effective osteoporosis drug. Drugs in use until now have worked to prevent further bone loss or to encourage bone formation, but none of them are able to accomplish both functions together as this new formula can, says Bab.

“Lipidomics,” Bab explains, “is the field that studies fatty acid derivatives, their biosynthesis, action in the body, and degradation. Chemically, these derivatives are made mainly of fatty acid chains, whereas proteins are chains made mainly of amino acids. The principles of fatty acid and protein biology are different and so are the laboratory methods required to study the two classes of biological compounds.

“Regulation of tissues by fatty acid derivatives comprises an additional, relatively unexplored biological control level. We are only in the initial stages of understanding its significance. One example of an important, fatty acid-based regula-

tory compound is the endocannabinoid system, which is responsible for a multitude of physiological functions such as mood, appetite, skeletal strength, digestion, suckling, immunity, etc.”

The research has been supported by the United States-Israel Binational Science Foundation and also by a grant from the US National Institutes of Health.

Hebrew University-developed security video invention wins Wall Street Journal Technology Innovation Award

The 2010 Wall Street Journal Technology Innovation Award in the area of physical security will be awarded this week in the US to the Israel-based BriefCam Company for its invention, which was developed by Prof. Shmuel Peleg of the Benin School of Computer Science and Engineering at the Hebrew University of Jerusalem. The invention offers an innovative solution to quick review of information from security cameras.

Surveillance cameras generate a prodigious amount of video; unfortunately there’s not enough time and manpower to watch it all. Other video-surveillance technologies address this problem by fast forwarding through recordings or capturing only moving images using motion detectors, for instance.

BriefCam takes a different approach. Its patented technology, called Video Synopsis, provides a solution to this problem through computer software that creates a synopsis of recorded information, generating a very short video preserving the essential activities of the original video captured over a very long time period. For example, the passage of vehicles passing through a security gate over many hours can be condensed into a few minutes, showing each vehicle’s entry followed immediately by another.

“Five hours of video is not five hours any more,” says Peleg, developer of the technology and the company’s chief scientist. “It’s five minutes.”

Earlier this year Peleg was the winner of a Kaye Innovation Award at the Hebrew University for his invention.

The Video Synopsis invention was licensed to BriefCam through Yissum, the technology transfer company of the Hebrew University.

The winners of The Wall Street Journal's 2010 Technology Innovation Awards will be honored on Nov. 3 at a ceremony and dinner in Redwood City, Calif.

This is the tenth year that the Wall Street Journal is presenting its technology innovation awards. This year it received 597 applications from companies, organizations and individuals in 30 countries. Journal editors reviewed the entries and forwarded about 275 to a panel of judges from research institutions, venture-capital firms and other companies. >From that pool, the judges chose 49 for awards.

Teva buys Merck KGaA women's health unit

Teva Pharmaceutical Industries Ltd. (Nasdaq: TEVA; TASE: TEVA) has acquired Thérámex and related companies, the women's health products division of Germany's Merck KGaA (DAX: MRK) unit Merck Serono, for €265 million, plus milestone payments.

Teva will fund the acquisition from its internal resources, and expects to close the deal by the end of the year or in early 2011.

Thérámex offers a wide variety of women's health products sold in 50 countries. It had €100 million revenue in 2009, including sales in the countries in which Teva will acquire distribution rights, such as Spain and Brazil. A large part of its revenue is from direct sales in France and Italy.

Thérámex's drug development pipeline includes a new oral contraceptive based on natural estrogens, NOMAC/E2, which has successfully completed a Phase III clinical trial, and has been submitted for approval in Europe.

Thérámex has its own R&D team and the company produces most of its own active pharmaceutical ingredients (API).

Teva president and CEO Shlomo Yanai said, "This is an important acquisition for Teva's women's health franchise. Thérámex's diversified product portfolio, its seasoned sales force and promising pipeline will be combined with the strong R&D capabilities and product portfolio of our US women's health business. Together the global team will accelerate the expansion of our women's health franchise into key growth markets in Europe and around the world and provide an excellent springboard for future sales."

Oracle buys 10.2% in Mellanox

InfiniBand switch maker Mellanox Technologies Ltd. (Nasdaq:MLNX; TASE:MLNX) shares jumped 12.9% in after-hours trading after computer giant Oracle said that it had bought a 10.2% stake in Mellanox.

Mellanox said that Oracle has acquired 10.2% of Mellanox's ordinary shares in the open market "in recognition of the importance of InfiniBand and Mellanox" to Oracle. Oracle said that the stake is for investment purposes only, to solidify common interest in the future of InfiniBand., and that it has no plan or intention to make an unsolicited and unfriendly offer to take over Mellanox.

Oracle CEO Larry Ellison said, "Mellanox has been instrumental in maintaining InfiniBand's immense competitive lead over Ethernet. We are a big supporter of the company and this investment based upon our belief in the InfiniBand technology and in the Mellanox management team."

Rumors of Mellanox as an acquisition target have moved through the markets for a long time, and mentions of potential buyers included Oracle.

Mellanox has reported third quarter revenue of \$37.8 million, slightly above market estimates of about \$37-37.5 million.

Mellanox said it expects to continue to work with technology vendors, in addition to Oracle, such as Dell, HP, IBM, and others, to maximize the usage of InfiniBand as the preferred data center communications fabric.

Mellanox CEO Eyal Waldman said, "Mellanox has had a long standing relationship with Sun, and now Oracle, that goes back over eight years. We are pleased that Oracle has chosen to make this strategic investment."

Broadcom buys femtocell company Percello

The acquisition is Broadcom's sixth in Israel. Semiconductor company Broadcom (Nasdaq: BRCM) is buying Ra'anana-based Percello Ltd., a privately-held company that develops system-on-a-chip solutions for femtocells.

Broadcom will pay about \$86 million in cash (net of Percello's cash) for all the shares in Percello. In addition, up to another \$12 million in cash will be reserved for future payment to the former holders of Percello capital stock and other rights based on meeting specific performance milestones.

A portion of the cash consideration payable to the stockholders will be placed into escrow to cover indemnity obligations.

The acquisition is Broadcom's sixth in Israel. Broadcom has three development centers in Israel - in Ramat Gan, Yakum, and Airport City.

Broadcom's previous acquisition in Israel was Dune Networks for \$178 million.

Femtocells are small, low power cellular base stations that extend coverage indoors where signals are weak. Used primarily in residential and enterprise business settings, femtocells communicate with a service provider's network through a broadband connection, allowing users to continue using their mobile devices without losing connectivity. Percello produces processors for the femtocells. The processors have low power consumption and

heat generation.

The acquisition of Percello is expected to enable Broadcom to lower overall bill of material cost and accelerate the time to market for best-in-class and energy-efficient femtocell technology.

Broadcom sees the technology becoming more important as wired and wireless telecommunications continue to converge. Broadband vice president and carrier access line general manager Greg Fischer said, "As wireless data usage continues to expand, this technology is well-positioned to enable wireless carriers to offload both data and voice traffic, while offering subscribers better cell reception in the home and office and accelerating the introduction of new 'converged' mobile broadband services."

Provigent picked as most promising start-up "It's all mathematics," says Provigent Ltd. co-founder and CEO Dan Charash, to explain the start-up's impressive success. The start-up was named Israel's most promising start-up for 2010 ahead the Ernst & Young and "Globes" Israel Journey 2010 conference on the high tech, biotech, and venture capital industries.

Provigent is a fabless semiconductor company that provides best-of-breed system-on a-chip (SoC) solutions to vendors of broadband wireless equipment. Charash says, "We will be the leading chip company in the wireless infrastructures market."

The company had \$25 million revenue in 2009 and expects \$40 million in sales this year, and has been profitable for 18 months. It has 120 employees. It has raised \$55 million from Lightspeed Ventures, Pitango Venture Capital, Sequoia Capital, Magma Venture Partners, Delta Ventures, Globespan Capital Partners, Ascend Technology Ventures, and Stata Venture Partners.

Charash does not see Provigent entering another market at this time. "In the coming years, we expect rapid organic growth, and we'll focus on

that. We have no need for collaboration or acquisitions of other companies to find other opportunities.

“Later, we’ll seek more opportunities in other cellular markets, but we’ll stay in the field of wireless infrastructures.”

Survey of Israel’s promising start-ups

This is the sixth year that “Globes” has conducted a comprehensive survey of Israel’s promising start-ups, which will shine in the industry in the years ahead. The perspective of time has demonstrated that the selection is accurate. Previous most promising start-ups have gone on to hold IPOs, raise capital, and achieve sales, in some cases of hundreds of millions of dollars. Since being named, the most promising start-ups have raised \$400 million between them, at least ten have gone public, and eight have been acquired for a total of \$1.4 billion.

2011 will be a year of mergers and acquisitions, and IPOs. Since the beginning of 2010, Israeli companies have been acquired for \$1.5 billion altogether, including biomed company Medingo Ltd.; high-tech firms Exanet Ltd., Storwize Inc., and Wintegra Inc.; and Internet company5min Ltd.

After Provigent, the other nine most promising start-ups for 2010 are:

- * PrimeSense Ltd., which develops 3D sensing technology.

- * Wix Ltd., which has developed a platform for people to create their own flash websites

- * Waze Ltd., which develops mobile GPS systems for mobile telephones, Twitter, and other devices.

- * Panaya Inc., which develops business impact analysis software.

- * SolarEdge Ltd., which develops software for maximizing the power generation of photovoltaic solar panels.

- * Broadlight Ltd., a fabless semiconductor company that supplies integrated circuit devices

and solutions to equipment vendors for fiber to the home applications.

- * WorkLight Inc., which has a mobile application platform for smartphones, tablets, and next-generation devices.

- * LifeBond Ltd., which is developing next-generation wound closure and hemostasis products.

- * AeroScout Ltd., which develops unified asset visibility solutions for healthcare, manufacturing, logistics and other industries.

Google to put Dead Sea Scrolls online

Google Israel Ltd. and the Israel Antiquities Authority will create an online version of the Dead Sea Scrolls. The project will upload all of the digitized Scrolls images together with additional data that will allow users to perform meaningful searches across a broad range of data in several languages and formats, which will result in unprecedented scholarly and popular access to the Scrolls and related research and scholarship and should lead to new insights into the world of the Scrolls.

The Antiquities Authority will use state-of-the-art and innovative high resolution and multi spectra technologies to image the entire collection of 900 Dead Sea Scrolls manuscripts comprising 30,000 fragments to make the digitized images freely available and accessible to anyone anywhere in the world on the Internet. The texts will include transcriptions, translations and bibliography. This is the first time that the Scrolls will be photographed in its entirety since the 1950s.

Innovative imaging technology developed by MegaVision Inc. of the US will be installed at the Antiquities Authority’s laboratories in early 2011. The system will enable the digital imaging of every Scroll fragment in various wavelengths in the highest resolution possible and allow long term monitoring for preservation purposes in a non-invasive and precise manner. The images will be equal in quality to the actual physical viewing of the Scrolls, thus eliminating the need for re-exposure of the Scrolls and allowing their preservation for future generations. The technology will also use infra-red light and longer wavelengths to

rediscover writing and letters that have vanished over the years, bringing them back to life and facilitating new possibilities in Dead Sea Scrolls research.

The Leon Levy Foundation, with additional major funding from the Arcadia Foundation, and the support of Yad Hanadiv Foundation is financing the project, which will be called The Leon Levy Dead Sea Scrolls Digital Library.

Antiquities Authority director Shuka Dorfman said, "We are establishing a milestone connection between progress and the past to preserve this unique heritage for future generations. At the end of a comprehensive and profound examination we have succeeded in recruiting the best minds and technological means to preserve this unrivalled cultural heritage treasure which belongs to all of us, so that the public with a click of the mouse will be able to freely access history in its fullest glamour. We are proud to be embarking on a project that will provide unlimited access to one of the most important archaeological finds of the 20th Century, crucial to Biblical studies and the history of Judaism and early Christianity."

Google Israel R&D Center director Prof. Yossi Matias said, "We are proud to take part in a project that will share the Antiquities Authority's national treasures with the entire world. This project will enrich and preserve an important and meaningful part of world heritage by making it accessible to all on the internet. We shall continue with this historical effort to make all existing knowledge in archives and storages available to all."

Edge on Solar Power Back to Energy

The Israeli-founded solar energy company, BrightSource, is building in California the largest solar-powered steam turbine generator ever built in the world. It hasn't been without its struggles: environmentalists showed how the original build site for the solar panels interfered with wildlife such as coyotes. The company has responded, for instance, by making plans to relocate a native species of tortoise.

Now it looks like it is full steam ahead for BrightSource. The Israeli business newspaper Globes reports that BrightSource has just raised an additional \$30 million, bringing its investment total to \$300 million.

According to Globes, BrightSource has also \$10 million from the Russian government venture capital fund and private investors. While founded only 4 years ago, BrightSource Energy is the parent company of BrightSource Industries Ltd. BSII has been pioneering solar thermal energy for nearly three decades.

BrightSource can be traced back to Luz International Ltd. ("Luz"), which revolutionized the power world by proving that solar energy could reliably produce commercially competitive electricity during the heavy use, peak load, day time hours.

Between 1984 and 1991, Luz designed, developed, built, financed, and operated nine Solar Electricity Generating Stations (SEGS) in California's Mojave Desert generating a total of 354 megawatts. BrightSource Energy was set up to promote activities in the US.

The Wall Street Journal has reported that BrightSource has hired the services of investment banks Morgan Stanley and Goldman Sachs. Although it's not clear when the public offering will be made, it could come in 2011 if another \$200 million or so can be raised before then.

BrightSource is developing more than 4GW of solar power projects in Southwestern states – enough to power 1.4 million homes. BrightSource now has more than 2.6 gigawatts of power under contract, including the two largest solar power agreements ever – 1,300 megawatts with Southern California Edison and 1,310 megawatts with Pacific Gas & Electric Company. The company's Solar Energy Development Center in Israel's Negev Desert is demonstrating BrightSource's Luz Power Tower (LPT) 550 technology and producing the world's highest temperature and pres-

sure solar thermal steam.

BrightSource operates LPT plants where the heat of the sun is reflected by mirrors known as heliostats to a tower at the center. Running along the tower are water pipes that are heated up to 1000 degrees Fahrenheit or 550 degrees Celsius, generating steam which then powers a turbine. One major difference between BrightSource and other solar power plant operators is that it uses air, rather than water, to cool its power plants, reducing water usage by more than 90 percent.

An additional advantage of BrightSource's system, according to the company, is that their heliostats are flat, as opposed to parabolic, and therefore smaller, easier and cheaper to install. The position of the mirrors is controlled by a central control system that accounts for a variety of factors such as sun radiation, wind, and air pressure to achieve optimal result.

Cooperation in micro-irrigation

Micro-irrigation provides the technology that's needed for the efficient use of water for crops. Of the total area in India under micro-irrigation, more than 80 per cent has come up in the last five years, thanks to Indo-Israeli cooperation in this field.

Recognizing the need, the Finolex Group entered into a joint venture in 1992 to introduce Israeli technology in the field of water management. For almost two decades, Finolex Plasson Industries Ltd. not only made and supplied micro-irrigation systems but also offered agronomical support, fertigation, automation and climate controlling systems throughout India in the field of agriculture, horticulture and green houses.

Since irrigation is confined to limited crops and areas, the company also introduced the same for new crops, including sugarcane. Recently, it tied up with the Rajasthan Government and an Israeli entrepreneur to form a new company to cultivate olives in the desert of Rajasthan.

Other developments such as retail outlets, sup-

ply chain management and corporate/ contract farming are helping increase agriculture produce. The Indo-Israel cooperation has ample scope in the years to come and can enhance the per hectare crop yield in India, comparable to Israeli standard

"We are thrilled to become part of McGraw-Hill Education," said Isaac Segal, CEO of Tegrity. "As a company, our mission has always been to help institutions improve student success, and having the resources of McGraw-Hill behind the service will only strengthen our ability to fulfill this mission. Furthermore, a deeper coupling of Tegrity's ability to cost-effectively distribute user-generated digital content with McGraw-Hill Education's digital teaching and learning platform will provide for some very exciting capabilities for students."

Tegrity, which has offices in Santa Clara, Calif., and Israel, will maintain its current personnel and facilities. "One of Tegrity's biggest assets is the knowledge and experience of its employees," said Vineet Madan, vice president of Learning Ecosystems at McGraw-Hill Education. "Tegrity's expertise will bolster McGraw-Hill's ability to develop and provide next-generation educational services."

The acquisition expands The McGraw-Hill Companies' presence in Israel and Tegrity's employees who are based there effectively establish the foundation for a new McGraw-Hill Education group in the country. In 2008, the corporation, through its Standard & Poor's division, acquired Maalot, Israel's largest credit and mutual fund ratings company.

.Wind farm project

The farm will be established on the area between Massadeh and Majdal Shams. It will comprise 70 giant turbines, at a total investment of approximately \$400 million. US energy giant AES Corp. is a partner in the venture. AES raised the necessary funds to promote the project, and will receive half the profits. The turbines to be set up built on the northern Golan Heights will be capable of an output of 155 megawatts. According to the controlling shareholder and CEO of Multimatrix,

Uri Omid, annual sales of power to Israel Electric Corporation (IEC) will amount to approximately \$70 million.

Construction of the farm will begin within six months. Meanwhile, Multimatrix and AES will try to obtain approval from the army to set up more huge turbines that will be capable of expanding the output the farm to about 200 megawatts. Construction of the farm will be relatively short: every three days one turbine will be installed, so that it should begin operating no later than the second half of 2012. The company's controlling shareholders are conducting intensive negotiations with General Electric and with a South Korean company for the procurement of the turbines.

"This is the first very large and practical renewable energy project of its kind in Israel, and in the entire Middle East. Both the finance minister and the minister of the environment supported the move, and for good reason: they were impressed that one of the solutions to the expected energy shortage in Israel in the coming years is within reach, and not in the depths of the Mediterranean, without the need for special installations to transport gas, without capital market speculation, and without pollution of any kind

Multimatrix now hopes for what they call "fair pricing" in the tariff for selling power produced by wind energy to IEC. They point to the astronomical difference between the price offered per kilowatt-hour for electricity provided by solar energy and power produced by wind turbines. While the price paid for electricity from solar energy ranges from NIS 1.70 to NIS 2, the price offered for the same amount of power to be produced by wind turbines is approximately NIS 0.40. "It's hard to understand this gap, because in the end the electricity is the same electricity, and both these systems are environmentally friendly. The matter is now being rethought, because only with fair pricing will it be possible to promote things that are truly new

and efficient here," a source in the renewable energy field stated.

Israeli firms see a global market for their anti-terrorism know-how

The nation is moving aggressively to turn domestic security technology into one of its biggest exports.

As the threat of terrorism spreads, Israel has moved aggressively to turn domestic security technology into one of its biggest exports.

More than 400 Israeli companies export about \$1.5 billion annually in domestic security goods and technology, including biometric devices, tear gas canisters, anti-intrusion systems, airport screening machines, explosives detectors and remote-controlled vehicles.

Israel's share of the \$175-billion global domestic security market is less than 1%, but government and industry officials think they can increase that tenfold by ramping up marketing and promotion.



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