

ISRAEL HIGH-TECH & INVESTMENT REPORT

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Flexibility...

It is with interest that we note that Israel's economy is firmly entrenched in its quality of flexibility. Most countries base their economies on natural resources. South Africa has its minerals. America has become the world's food basket. However, the case with Israel is vastly different. During the Second World War Israel found it difficult to import pharmaceuticals. This led to the founding of the pharmaceutical industry. Teva Pharmaceutical has become the world's number one generic company. During the Six Day War it became clear that France had embargoed arms. Faced without a supplier Israel began to develop its own defense industries. Today it is the fourth largest exporter of defense material in the world..

The same was true about this country's water supply industry. An engineer noted that a plant was being drip irrigated. This marked the irrigation industry. Recently NetFind, a leading supplier of drip irrigation, was sold for nearly \$1.0 b.

It is interesting to note the changes in the country's economy. In the 1950s citrus growing was the leading export item. Today one cannot see any orange groves.

The country's diamond industry was also founded as a result of Jewish immigrants from Holland and Belgium.

Today Tel-Aviv is one of the world's largest diamond centers in the world.

It is interesting to note the changes in the country's economy. In the 1950s citrus growing was the leading export



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item. Today one cannot see any orange groves.

The country's diamond industry was also founded as a result of Jewish immigrants from Holland and Belgium. Today Tel-Aviv is one of the world's largest diamond centers.

Israel Aerospace Industries unveils urban warfare UAV

The GHOST is an innovative, small hovering unmanned platform that provides real-time intelligence to ground forces operating in urban areas.

Israel Aerospace Industries Ltd. (IAI) (TASE: ARSP.B1) has unveiled its new GHOST unmanned aerial vehicle (UAV) at the AUVSI Unmanned Systems North America conference in Washington DC. The GHOST is an innovative, small hovering unmanned platform.

IAI says that GHOST weighs about 4 kg (9 lbs), and provides real-time intelligence to ground forces operating in urban areas. GHOST is equipped with an automatic vertical takeoff and landing system and can hover for up to 30 minutes. The system was designed with twin rotary electrical engines so it can be silent and support day and night special operation missions.

IAI adds that GHOST is a unique man-machine interface and operational concept based on the principles of computer games, making the system extremely intuitive to operate and requiring little training. The entire system can be carried in backpacks by two soldiers and includes: two platforms, batteries, and a command and control unit with communications. GHOST is suitable for paramilitary and homeland security applications due to its simplicity and ease of operation.

IAI president and CEO Itzhak Nis-

san said, "The innovative concepts used to develop GHOST highlight IAI's goal to do its utmost to support the ground forces. GHOST demonstrates IAI's leading technology and know-how gathered through years of experience in unmanned aerial systems."

Private equity fills venture capital void

The drought of exits in recent years has turned private equity into a convenient alternative.

Israeli venture capitalists are worried. Start-ups and entrepreneurs ostensibly survived the 2008 crisis, but a deeper examination of the data suggests that they never recovered from the dot.com crash of 2001.

A new report by Ernst & Young may be a ray of light in the darkness. It says that private equity investment in global high tech rose 60% to \$8 billion in the second quarter of 2011 from \$5 billion in the corresponding quarter of 2010, boosting private equity's holdings in private technology companies to 10%. The trend is seen in Israel too. In the

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largest financing deal so this year - \$50 million - Silver Lake Sumeru invested in PrimeSense Inc.

Young high-tech companies are desperate for private equity capital, in contrast to the past. 15 years ago, start-ups reached the capital markets long before they needed large investments. The drought of exits in recent years has turned private equity into a convenient alternative. Private equity funds could invest large sums into companies, and sometimes buyout tired investors.

Ernst & Young believes that the improved global economy and share prices - at least until August's plunge - encouraged investors and large companies to invest in high-tech companies. Ernst & Young global technology transaction advisory services leader Joe Steger says that private equity funds have a lot of money looking for good investment opportunities.

Israeli venture capital funds would be happy to grasp this opportunity with both hands. The funds are hemorrhaging; most have no money for new investment. Their outstanding portfolio companies are promising, but until the promise is kept, the funds won't sell them, and they need to raise follow-on funds - and this process requires a lot of patience.

In the past two years, Israeli venture capital funds sat on fence, waiting for the crisis to pass. Some fund executives have been to get ready, ironing their suits, polishing their PowerPoint presentations, and trying to leverage the upbeat mood among investment institutions. But this month's market upheaval upset the applecart, and no one knows if this is a temporary correction or a new crisis. The venture capital funds are moodily monitoring the condition of the primary market. If it shuts down, the global high-tech industry will go into a big freeze - again.

One of the first signs of the trend were

seen with the acquisition earlier this year of Ness Technologies Ltd. (Nasdaq: NSTC; TASE: NSTC) by Citigroup Inc. (NYSE: C) unit Citi Venture Capital International (CVCI) for \$307 million.

Although private equity funds do not invest in early-stage start-ups, but there are quite a few late-stage companies seeking capital to grow.

Google launches Israel developed toolbar feature

Google Israel's development center was behind Google Related, Google Inc's (Nasdaq: GOOG) new toolbar feature, which was recently launched. which provides information about related websites. The service is available on Google's Chrome toolbar and can be installed on Windows Explorer. It is currently only available in English.

Google Related automatically pops up a toolbar along the bottom of the screen, which displays additional information, locations from Google Maps, Google Images pictures, and YouTube video clips related to the topic of the search.

Results will remain minimized until selected, when they will open up immediately on the browser window, eliminating the need to open multiple new windows or tabs. The built-in +1 button enables the information to be shared.

In Google Blogs, Google Related development team manager Ran Ben Yair writes, "If you decide you'd rather not see the Related bar, you can easily hide it for specific pages and sites through the Options menu. If you use Related as part of Google Toolbar, you can disable Related entirely through the Options menu as well."

Given that Google Related effectively informs Google about the web address a user is on, as well as the user's IP address and other personal information in order to offer related content, some users may decided to forego the

option.

Wired presents Tel-Aviv's top 11 start-up companies:
The major U.S. technology magazine expresses its esteem for the Israeli start-up scene.

The leading technology magazine Wired has selected Israeli start-up companies as exemplary models of leading businesses in their field, listing Tel Aviv's top 11 start-ups in its recent print edition.

Israeli start-up companies have frequently made headlines recently, such as the New York Observer's extensive article on the "Israeli start-up mafia in New York." Now, the major American technology magazine Wired published an article listing the leading start-up companies across Europe, including Tel-Aviv.

The article features the Gifts Project, a company that developed a system that facilitates the group purchase of gifts. The company enables its application in cooperation with EBay.

Also featured on the list is face.com, a company specializing in face recognition technology, and Wibiya that was purchased by Conduit.

One of the article's text-boxes deals with where Tel-Aviv's start-up companies are located.

Gift Project CEO Ron Guar told The-Marker that "it was nice meeting the guys from Wired," and that they "were happy to have them over," Gura added that "they met with start-up companies from around the world and said they especially enjoyed their time in Tel Aviv, and were impressed by the companies they visited here, as was mentioned in the article." Commenting on Gift Project's selection, he said "I believe we were chosen because of what they picked up from the scene and their belief that social commerce

is likely to explode in the future. What we are seeing now is only the beginning."

The full company list:

1. The Gifts Project
2. Face.com
3. Wibiya
4. Onavo
5. Billguard
6. Snaptu

7. Any.do
8. Soluto

9. Boxee
10. Taykey
11. Rank Above

IAI showcasing mini-UAV

A mini rotary UAV system is being presented at AUVSI's Unmanned Systems North America exhibition in Washington by Israel Aerospace Industries.

Inside Intel - a friendly airport scanner

A U.S. firm used Israeli technology to develop a device that scans 1,000 pieces of luggage an hour.

Anyone who has been through the rather unpleasant experience of waiting in line to go through a security check at airports or at the entrance to mass public events should be happy to hear about the screening device invented by Dr. Alysia Sagi-Dolev. She is the founder and CEO of Qylur Security Systems, a high-tech company in Silicon Valley just outside San Francisco. Based on Israeli technology, the company is developing a new device for screening hand luggage. The company's name derives from a mole with many sensors on its unique nose that enable it to prepare for what lies ahead.

In an interview via email, Sagi-Dolev talked about the technology that operates the screening machine.

“In one machine, we have systems that are comparable to five x-ray screening machines and five chemical sensors. It operates automatically with no need for an operator on spot and is friendly to the users,” she wrote. This structure of the machine enables it to check the hand luggage of around 1,000 people an hour, compared to the existing machines on the market, which have a capacity of between 100-200 hand-bags an hour.

“In Israel we are used to being checked, but it is very nice to live in a free society where you are free and trusted, and the way security is done now is huge victory of terrorists who now cause place like USA to treat its people first as suspect,” she wrote. “Having friendly pleasant security at least takes a way that feeling. A lot of the very high tech approach is to solve this social issue as much as the security detection side.”

Dolev-Sagi was born in San Diego, California, and holds a PhD in bio-medical engineering from Tel Aviv University. She served as an officer in the Israel Air Force’s medical research unit which developed a special helmet for injured people who lose consciousness. After that she was a consultant to the Defense Ministry’s Technology Development Administration and worked on joint ventures with the Pentagon.

Since leaving public service, she set up the company together with other workers and investors. The cost of the research and development for the screening machine is around \$5 million.

So far, several machines have been ordered by customers in the United States and Russia (for the Winter Olympics). The Indian corporate giant,

Tata, is a partner in the venture.

The screening machine was used last week in Rio de Janeiro at the meeting of international soccer federation FIFA to determine the 2014 World Cup qualifier groups. The launch and exposure in collaboration with the Israeli company, ISDS, which is led by Leo Glaser and Ron Shafran, was a big success, according to Dr. Sagi-Dolev. Despite contradicting reports in the Iranian press, it appears the man assassinated in Tehran around two weeks ago was an expert associated with Iran’s nuclear program.

Thus far, there has been no official announcement in Iran of the man’s identity. The only reports to come out about him have been in the Iranian press.

Initial reports claimed that the man assassinated was Dr. Darioush Rezaei Ochbolagh, a lecturer in physics at the University of Mohaghegh Ardabili, who also worked for Iran’s atomic energy commission. Later on it was reported that the casualty was not actually a physicist but a doctoral student in electrical engineering with a similar name, Darioush Rezaei-Nejad.

Made in Israel: grad student ‘greens’ paper mill waste

Only in Israel: A Hebrew U. graduate student had developed a procedure to convert paper mill waste into ecologically friendly material.

Israel, once known for making the desert green, now is making the whole world “green,” not through irrigation but through ecology.

The latest contribution comes from a Hebrew University doctoral student, Shaul Lapidot, who along with colleagues, has developed a procedure to convert paper mill waste into usable and ecologically friendly industrial foams.

Foams are used for numerous day-to-day uses, including the manufacture of furniture and car interiors, and they also are used as core material in “sandwich” panels to achieve high strength, weight reduction, energy dissipation and insulation.

Conventional foams are produced from polymers that rely on fossil oil and present a clear environmental disadvantage.

Lapidot and his colleagues have formulated a procedure for production of nano-crystalline cellulose (NCC) from paper mill waste. NCC is further processed into composite foams for applications in the composite materials industry as bio-based replacement for synthetic foams.

The process of paper production involves loss of all fibers with dimensions lower than the forming fabric mesh, meaning that approximately 50 percent of the total fibers initially produced are washed away as sludge.

Lapidot has found that fibers from paper mill sludge are a perfect source for NCC production due to their small dimensions, which require relatively low energy and chemical input in order to process them into NCC.

NCC foams that Lapidot and his colleagues have recently developed are highly porous and lightweight. Additional strengthening of the foams was enabled by infiltration of a resin produced from raw crop waste, such as that remaining from sugar cane processing, as well as oat hulls, corn cobs and rice hulls.

The new NCC reinforced foams display technical performance, which matches current high-end synthetic foams. Melodea Ltd., an Israeli-Swedish start-up company that aims to develop it for industrial scale production, recently licensed the technology from Yissum, the technology transfer company of

the Hebrew University.

Lapidot’s development has led to his being awarded one of the Barenholz Prizes that were presented on June 21 at the Hebrew University Board of Governors meeting.

Israeli researchers develop pills for post-traumatic stress

A new pill being developed by Israeli researchers could eliminate Post Traumatic Stress Disorder (PTSD) that sometimes develops after a traumatic event, as soon as the day after, preventing stress-related illnesses and speeding up recovery.

The pill works by releasing a naturally-occurring hormone in the body, cortisol, which helps patients deal with PTSD, the Ha’ aretz newspaper reported on Monday. The new drug is better than other tranquilizers, which can help patients relax, but will inhibit cortisol production.

The research is being lead by Prof. Joseph Zohar, head of the psychiatry department at Sheba Medical Center, at Tel Hashomer Hospital near Tel Aviv, and chairman of the Israeli Consortium on PTSD.

Zohar runs the army’s chief facility for treating PTSD, and advises the Ministry of Defense on PTSD-related issues.

“Most psychiatric conditions, such as depression or even schizophrenia,” Zohar told the newspaper, “develop gradually and not at a specific point in time, but PTSD appears in response to a specific traumatic event.”

The fact that the disorder appears right after a stressful event can make it easier to treat, since its symptoms usually appear almost right away, and usually last for a month or more.

Studies conducted with 24 post traumatic stress patients who were involved

in traffic accidents showed that of the 12 subjects treated with a cortisol injection, only one developed PTSD. Three out of the other 12 that were given placebos developed PTSD.

Doctors call the hours right after the stressful event, the “golden hour,” Zohar said.

“If the emotional memory is not fixed in place, PTSD does not develop later on,” he said. The injection will be turned into a pill, with subjects taking it a few hours after the incident.

Zohar foresees the use of this pill not only for civilian treatments, but also on the battlefield, when combat soldiers have been exposed to traumatic events and need to recover quickly.

“There is a need for an agent that could be administered in the field and that does not impair motor responses or performance,” Zohar said.

French buy UAVs from Israel for first time in 42 Years

For the first time in 42 years, the French Defense Ministry will be buying Israeli military equipment, buying drone aircraft, or UAVs from Israel Aircraft Industries.

The French Ministry announced its intention to purchase the Eitan drone aircraft, the largest and most sophisticated drone produced by IAI. The deal is estimated to reach about \$500 million and will involve partnership with Dassault. With the French now using Israeli technology, it is likely that other countries will begin to follow suit in their efforts to upgrade their technology, such as Germany.

The Eitan drone, also known as the Heron TP long endurance UAV, has the same size wingspan of Boeing 737 aircraft, can fly at heights of 40,000 feet and can stay airborne for 45 hours nonstop. In addition, because the UAV is rather large, it can carry 1,000 kilo-

grams in payload, making it capable of carrying all types of reconnaissance equipment and even weapons such as missiles, if necessary. There is speculation that the aircraft could carry out a reconnaissance mission or even a military strike against enemies such as Iran.

Historically, France WAS the only nation to supply Israel with airplane parts. The first Israeli jets, the Eagle, Kfir and Lavi were designed and built based on the French Mirage jet. However, in the wake of the 1967 Six Day War, French President Charles De Gaulle decided to aide with the Arabs and halted all military trade with Israel. This led to the end of the Israeli jet program and the US began supplying Israel with its fighter jets. IAI then moved into the field of UAV and drone aircraft. Recently, there has been an explosion of Israeli companies conducting research on drone aircraft, including IAI and Elbit.

IAI would not comment on the deal, but there is speculation that the deal is a reversal of history and that Israel in fact owes the French because it was that embargo that sparked the development of the UAV industry in Israel which now has led to France's renewed interest in Israeli arms.

Yissum presents a virtual cane for the visually impaired

Yissum Research Development Company Ltd., the technology transfer company of the Hebrew University of Jerusalem, presented at the Israeli Presidential Conference, a virtual cane that will significantly improve the orientation and mobility of sight-impaired people. This new device can assist blind people in estimating the distance and height of various obstacles. The invention was registered as a patent by Yissum, which is now seeking strategic partners for further development.

Currently there are almost 200 mil-

lion visually impaired people globally, 40 million of whom are legally blind, and most face multiple difficulties in orientation and navigation. One of the main challenges facing blind people is the ability to assess the height of various obstacles as well as to identify far away objects in their surroundings. The white cane, the current solution, offers only a very partial solution to these challenges.

Dr. Amir Amedi from the Institute for Medical Research Israel-Canada and at Edmond and Lily Safra Center for Brain Sciences at The Hebrew University of Jerusalem and his team recently developed a device to help in spatial navigation for the blind. The invention, which functions as a virtual flashlight, can replace or augment the classic white cane. The virtual cane emits a focused beam towards surrounding objects, and transmits the information to the user via a gentle vibration, similar to a cell phone vibration. The cane incorporates several sensors that estimate the distance between the user and the object it is pointed at. This allows the blind person to assess the height and distance of various objects, reconstruct an accurate image of the surroundings and navigate safely. The virtual cane is extremely small, easy to carry, accurate, can function for up to 12 hours and is easy to charge. Using the device is highly intuitive and can be learnt within a few minutes.

Researchers in Dr. Amedi's lab employ the virtual cane in various environments in order to study the brain, its flexibility and reorganization in blind people. For example, the researchers constructed a real maze that enables subjects to practice walking in changing environments and paths. To date, more than 10 subjects have already successfully navigated the maze, and after a very short practice period managed to completely avoid walls and obstacles.

Yaacov Michlin, CEO of Yissum said,

“Dr. Amedi's promising invention can endow visually impaired people with the freedom to freely navigate in their surroundings without unintentionally bumping into or touching other people and thus has the potential to significantly enhance their quality of life.”

GE Lighting buys LED co Lightech for \$20m

Sources inform “Globes” that GE Lighting has acquired Lightech Ltd. for \$15-20 million, a major achievement for the Lod-based family firm, which is still embroiled in legal proceedings following the failure of its acquisition by Canada's Carmanah Technologies Corporation (TSX: CMH).

Lightech develops components for managing the energy supply to lighting units in order to save energy. The company designs drivers and transformers for use in LED and halogen lighting which it manufactures in China. Lightech chairman David Schreiber and his son Zvi, who serves as CEO, have managed the company since 1996.

As a family firm, its financial data emerged in the announcement of its acquisition by Carmanah a year ago: in the first half of 2010, Lightech had a net profit of \$800,000 on \$10.6 million revenue. Revenue for the full year was about \$20 million. No newer data is available.

Zvi Schreiber founded Tradeum, which was sold for \$500 million in 2000. He also founded Unicorn Solutions, which was acquired by IBM Corporation (Nasdaq: IBM) for \$10 million in 2000, and Israeli-Palestinian software company G.ho.st, which closed down after raising \$4.1 million from Benchmark Capital and angel investors.

Zvi Schreiber said, “GE Lighting is an innovative and high regarded company in the international lighting industry. Lightech's team is pleased by the combining of forces with a lighting company with history and depth, whose vision is

to boost our business and lead a lighting revolution during a time of massive change in our industry.”

GE Lighting general manager global products John Brelus told “Globes”, “We look for technologies and products all over the world which can supplement our basket of products. In Lightech, we found extraordinary technology and business. It provides the brain of LED lighting, and we hope that it will become an important part of our lighting division.”

“Globes”: What are GE Lighting’s plans for Lightech?

Brelus: “We are not planning any changes. The company will continue to operate as it has done until now, and I hope we can expand it in the future.”

You are unconcerned by the mutual lawsuits with Carmanah?

“GE conducts thorough due diligence on every company it sees as an acquisition target. We did this for Lightech too, and found no obstacle.”

Why haven’t you disclosed the amount of the acquisition?

“Lightech is a private company, so we decided to keep the figure confidential.”

Lightech has a development facility in Israel, and sales and marketing networks in Europe, Asia, and the US. This somehow fits in with GE Lighting’s strategy to become the global leader in the transition from incandescent lighting to new and more energy efficient systems

Arava Power’s solar field in the Negev desert.

On a dusty path on Kibbutz Ketura, one of the sunniest spots in Israel, there was cause for celebration this past World Environment Day, June 5. On that day, the Israeli company Arava

Power marked an historic event for Israel, the solar energy industry and the environment. It took five years to get the permits needed, but Arava Power finally inaugurated its 4.95-megawatt solar power field in Israel in the presence of VIPs from the press, government and business worlds, along with investors including Siemens and even the rapper Shyne.

There was a tangible excitement in the air, heralding hope as Israel quite literally heads toward an energy drought - since tapping into its offshore natural gas reserves is still far off.

Developing its green tech brand Though Israel is known worldwide for developing clean technologies, it has yet to prove itself locally in generating its own form of renewable energy, enough to reach its 10 percent renewable energy goal by 2020. Arava Power executives hope that their company, now with a foothold in the sand and sun, can play a major role in that production by providing an eventual 400 megawatts of power to fulfill its vision of being a “renewable light unto the nations.”

Their recent launch at Ketura can provide enough power to serve the energy needs of about three kibbutzim, or communal-style villages, in the hot sunny region of Eilat. Though the energy produced at Kibbutz Ketura is only a drop in the bucket, Arava Power is concurrently establishing its second solar field nearby, which will be eight times larger than the field launched on June 5.

In total, Arava expects to launch 40 solar energy fields in the Negev desert region, with the help of attractive feed-in tariffs for investors supplied by and guaranteed by the state.

Jonathan Cohen, the CEO of Arava Power, believes that Israel’s Negev could provide about 2,000 to 2,500 megawatts of solar power to the grid,

and his company's role in achieving this might require about \$2 billion in financing. Obviously, there will be investment opportunities for individuals and companies looking to reap the profits of Israel's evolving solar industry.

A red carpet in the sand

Meanwhile, the recent launch at Kibbutz Ketura, a half hour drive north of Eilat, will show the embryonic industry in Israel how it's done, growing pains and all. Those present at the gala event, which included a red carpet running through the sand, may reasonably hope to be invited to similar celebrations in coming years.

"The government of Israel is intent on ensuring that Israeli technology, research and development is aggressively developed. It plays an important role in the ongoing development of solar entities within Israel, as something that is going to be budgeted and addressed," says Cohen. "At this very moment, Israel is in need of electricity. We are going through an electric drought, with hundreds of megawatts needed."

He explains that Arava Power chose to work with the Chinese-produced Suntech solar panels because Israel's nascent solar energy technologies have not yet stood the test of time. "The technology needs to be time-proven to prove its bankability," says Cohen, acknowledging the chicken-and-egg conundrum. "When the means are made available to ensure Israeli novel technologies are included in Israel's solar drive, we and others will be looking to employ them as much as possible."

Israeli start-up develops new solar window

An Israeli start-up company, Pythagoras Solar, has created the world's first solar window.

According to the firm, the double-pane window embedded with solar cells will

allow buildings to generate their own electricity.

The solar window is built from simple plastic pieces to which the solar cells are attached. It can shade buildings like any blind while still being transparent. The window reduces air conditioning use and makes the building more energy efficient. At the same time, it harnesses solar power, a source for electricity.

The co-founder and CEO of Pythagoras Solar say the window's benefits are clear.

Gonen Fink, Co-founder and CEO, Pythagoras Solar

"We actually combine triple value, combine multiple benefits - we generate solar power but at the same time we also shade the building and improve the energy efficiency of the building and all this in transparent window that allows people to view the outside of the building and to get a lot of light, day light into the building, further eliminating the need for artificial lighting."

Fink says the four-year-old Pythagoras Solar will announce its first commercial installation in the coming weeks.

The company is in the process of moving into mass production after raising \$10 million U.S. dollars in venture capital.

Itay Baruchi, Co-founder and CTO, Pythagoras Solar:

"I think we were looking for a simple solution which will transform the way energy is generated today, solar energy generated today. And this is how we got to this type of very simple optics, very simple manufacturing technologies - not transforming the whole way that the solar industry is manufacturing but upgrading it to a new type of solution which is revolutionized."

Pythagoras Solar's window costs more than a regular window - about \$100 U.S. dollars per square foot.

Fink notes that the return on investment is 3 to 5 years, whereas solar panels take from 7 to 10 years to deliver a return.

Pythagoras Solar currently targets mainly architects and commercial building owners.

They also hope that eco-minded designers and real estate developers will like its green-touch.

GE backs Israeli company that turns wastewater into electricity
General Electric Co. is reinforcing its commitment to its "Ecomagination" strategy by joining two major players in the energy market to back an Israeli company that produces electricity from wastewater, a move that's expected to help the company tap an estimated \$10 billion market.

The Fairfield-based company has teamed with NRG Energy and ConocoPhillips to form Energy Technology Ventures to provide capital to Emefcy Ltd., which uses a bacteria in an electrogenic bioreactor to treat wastewater and produce power.

Emefcy "is definitely one of the leaders. Their technology is unique," said Andy Katell, spokesman for GE Energy Financial Services in Stamford.

An investment figure was not disclosed. The primary initial applications are for wastewater treatment in the food, beverage, pharmaceutical and chemical industries, with total market potential of \$10 billion a year, according to GE.

Conventional wastewater treatment uses 2 percent of global power capacity (80,000 megawatts and 57 million tons per year of carbon dioxide) costing \$40 billion.

Rather than using conventional energy-intensive aerobic processes or

methane-producing anaerobic digestion to treat wastewater, Emefcy harvests renewable energy directly from the wastewater and feeds it to the power grid.

"We will use Energy Technology Ventures' investment to continue development of our technology into full-scale commercial implementation by the end of this year for municipal and industrial wastewater treatment," said Etyan Levy, Emefcy's chief executive officer. "All told, wastewater treatment is a \$100 billion industry, and our technology can significantly reduce the economic and environmental costs."

Pond Venture Partners, Plan B Ventures and Israel Cleantech Ventures joined energy Technology Ventures in the funding round.

James Laughlin, editor of Tulsa-based Water World magazine, serving the wastewater industry, was not surprised to hear about the Emefcy project.

"Israel is very active in research related to water -- all things water, and GE has made an active commitment to the water market. It seems like a nice fit," he said.

Newport said it will pay \$8.43 per share to Ophir shareholders, adding it expected the transaction to add to its earnings immediately.

The company said the deal was expected to close in the fourth quarter of 2011.

"The acquisition will greatly strengthen Newport's position as a global leader in photonics instrumentation and provide a platform for us to enter high growth applications in thermal imaging and 3D non-contact measurement," chief executive Robert Phillippy said.

\$8.1m. approved in US-Israel R&D projects
BIRD Foundation approves investment in nine new projects, including

advanced developments in life sciences, information technology for medical applications, electronics, software and energy

Weizmann Institute is top workplace outside US

The Weizmann Institute of Science, in Rehovot, was praised by Scientist Magazine in its annual survey of thousands of academic workplaces.

It came top in the list of international academic institutions, above the university of St Andrews and Groningen University in the Netherlands.

The institute, founded in 1934 by future Israeli President Chaim Weizmann, hosts around 25 high-profile conferences every year.

Ada Yonath, the Israeli scientist who won the Nobel Prize for chemistry in 2009, is a former student and is a faculty member.

The Weizmann Institute of Science in Rehovot is the best academic institution to work for outside the United States, according to the The Scientist. The New York-based monthly is a journal aimed at those who work in the life sciences.

Weizmann is the only Israeli research center on the magazine's list of the top 10 international academic institutions. Other countries represented on the list include Australia, Canada, France, the Netherlands and the United Kingdom.

Of all the non-U.S. institutions listed, Weizmann has the smallest number of full-time life science researchers - 108 - but the most scientific citations - an average of 30.47 per paper over the past decade. INRA, the French scientific institute for agricultural research that came in at No. 2, has an average

of 14.24 citations in the same period, though it has more than 10 times the number of full-time researchers.

Device to monitor troops' medical status

The Israel Defense Force (IDF) is planning to test a wearable device capable of monitoring a soldier's physical condition and alerting commanders to life-threatening situations, the Ma'ariv daily reported on June 29.

The "physiological sensor," a miniature device developed by Israeli start-up Life Beam, is attached to the ear of a person and simultaneously monitors critical physiological parameters, including blood pressure, breathing and heart rate, while the soldier is engaged in rigorous activities. The sensor can instantly discern life-threatening changes that point to heat stroke or dehydration, enabling early evacuation and treatment.

Two former Israeli Air Force pilots, who served together and came up with the idea during their tour of duty, founded life Beam.

"We saw incidents in which people died or nearly died, and began thinking of ways to prevent them," one of the founders, in his early 30s, told Ma'ariv. While training-related fatalities are a rare occurrence in the IDF, which routinely operates in extreme weather conditions, a handful of soldiers, mostly young trainees, have died over the past decade during desert exercises.

"Soldiers will be monitored in the future battlefield," a senior IDF's Medical Corps officer has said, adding that "militaries around the world are still only thinking about the idea." A prototype of the device has undergone successful lab trials, and the Medical Corps said it plans to launch its own testing in coming months.

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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.

While the IDF has already placed orders for the sensor for some special forces units, its developers say their vision is to develop a civilian version that would save the lives of infants, the elderly, athletes and patients with chronic illnesses.

Weizmann Institute's groundbreaking research on autism

A luncheon audience at the Mount Stephen Club was recently exposed to news about groundbreaking research on autism and fertility thanks to the prowess of Israel's Weizmann Institute of Science. Dr. Phil Gold moderated the event, singing the praises of the Institute via his close affiliation with Weizmann Canada.

Dr. Ilan Dinstein began the program by discussing his research on the early detection of autism. Research in this area is still in its infancy and the field is full of divergent theories. "This is because autism is a complicated story," he explained. "In the last 10 years, autism has gotten much more attention. However that doesn't mean our understanding of the disease has improved."

For the past two years Dr. Dinstein has been conducting post-doctoral research with his colleague Rafael Malach at the Weizmann Institute. Recently he has begun analyzing data from sleeping autistic and control toddlers between two and three years of age. The data itself was acquired in San Diego as part of a National Institute of Health (NIH) autism research excellence centre. "It has become evidently clear in the last several years that the brain exhibits organized spontaneous activity during rest and sleep," he explained.

Dr. Dinstein said that when his study is published in the next few months it will suggest both a physiological tool that may aid diagnosis, as well as a natural mechanism that may underlie disrupted language development in

autism.

Roslyn and Howard Kaman of Toronto and their miracle baby Hanna gave everyone in the room reason to smile. Over the course of nine years she had 11 inseminations and three pregnancies. One miscarried and two others were ectopics, in which the embryo implanted outside the uterus. She had all but given up hope until she unexpectedly came across a news article about the Weizmann Institute having worked with the Kaplan Medical Center in Rehovot. Professor Nava Dekel, head of the Weizmann department of biological research, had conducted a study in which a sample group of 12 women underwent uterine biopsy — a scraping of the lining of the uterus — prior to in-vitro fertilization. Remarkably, 11 of those women carried their pregnancies to full term. Less than a year later Hanna, now two and a half, was born. "I hope to one day go to Israel and introduce Hanna to the people at the Weizmann Institute," she said.

Ybrant Digital to buy stake in Israeli company

Digital marketing firm Ybrant Digital intends to buy a minority stake in Israeli digital media holding company Web 3.0

Hyderabad-based Ybrant Digital, which acquired search engine and web portal company Lycos Inc for \$36 million last year, did not disclose the size of the stake it's purchasing in Web 3.0 or the amount it will pay.

The Israeli company holds assets in most growing digital fields—the web, mobile web and performance-based marketing and applications development.

"Fundamentally, it is a business development deal," chairman and CEO Suresh Reddy said, adding that the deal will be closed in the next few months.

“Web 3.0 is a well-established Israeli player trying to go global,” said Reddy. “We have something for them, and they have something for us.” Ybrant Digital, which raised \$48 million in debt and equity in January, services brands such as SAP AG, Ford Motor Co., UPS Inc. and Deutsche Lufthansa AG. Established in 2000, it operates in 16 countries, including the US, UK, France, Germany, Sweden, Israel, China, India, Australia, Argentina, Brazil, Chile, Uruguay, Mexico, Ukraine and Serbia.

According to Ybrant Digital, studies estimate worldwide spending on mobile marketing, advertising and messaging to exceed \$3.3 billion in 2011, and reach \$20.6 billion by 2015. Search ads and location-based ads will drive the growth, it said.

Netanyahu’s office to use “shabbat phone”

A new phone, created by the Zomet Institute, will allow Israeli Prime Minister, Benjamin Netanyahu to connect with his religious advisers during Shabbat.

The “Shabbat phone” utilizes a unique technology, which does not violate the Halakhic laws of what is known in Judaism as the most important day of the week. No electricity is used to make or receive a call. Instead, a special mechanism regularly scans the phone for activity, so when buttons are pressed or the phone is picked up, the device is not immediately activated. Rather, the actions are picked up only when the scanner receives them. After the day of rest has passed, the “Shabbat phone” can be transformed into a regular phone with a click of a button.

The Prime Minister’s bureau has purchased twelve of these phones in order for Netanyahu to be able to speak with his advisors during Shabbat. Netanyahu’s office employs the highest number of religious workers

since Israel’s establishment and most of his aides are observant Jews.

Those who received a phone include Bureau manager Gil Shefer, Bureau Chief Natan Eshel, National Security Council head Yaakov Amidror, Prime Minister’s Office Director-General Eyal Gabay, political advisor Ron Dermer, as well as several Mossad and Shin Bet workers.

While use of the “Shabbat phone” does not violate the principles of Halakha, Rabbis have asked those in possession of them to respect the spirit of Shabbat and only utilize them when necessary.

“If the user realizes the call isn’t justified or is not urgent we recommend that they ask the caller to postpone the call until after Shabbat,” Zomet Institute head, Rabbi Yisrael Rosen told Ynet. “But if the phone has already been picked up, there is no problem, as the actual action of talking on an already open device does not constitute Shabbat desecration.”

Israeli high-tech capital raising in H1/2011 - up 82%

In the first half of 2011, 285 companies raised \$1.048 billion, 82 percent above the \$577 million raised in the first half of 2010. The second quarter of 2011 was the best in two years, with 145 Israeli high-tech companies raising \$569 million from venture investors – both local and foreign. This reflects a 19 percent increase from \$479 million raised by 140 companies in Q1/2011 and a 66 percent increase from \$343 million raised by 104 companies in Q2/2010.

) “High-tech capital raising in the first half of the year almost doubled from the first six months of 2010,” observed Koby Simana, CEO of IVC Research Center. “The increase largely reflects a major jump in mid to late-stage investments. Companies at these stages require substantial financing to con-