ISRAEL HIGH-TECH & INVESTMENT REPORT

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The Research & Development Option

The number of foreign countries maintaining research and development facilities in Israel, is impressive. An apocryphal story is that of physicist Dov Frohman. He had worked successfully for a number of years at an American Intel faciliy. Frohman decided to return home to Israel, The Intel management opened an R & D faciliso ty js to keep Frohman at Intel. The move was highly successful, as Intel became Israel's largest exporter.

The number of foreign R & D facilities increased rapidly and soon afterwards IBM came to Israel as did General Electric. In order to take advantage of Israeli technologic expertise Israeli companies were acquired The most recent of the was Apple. Google has just opened an R & D facility.

Many foreign companies take a short route and opt out for mergers an d acquisitions rather than go the research and development route

Blackstone to make major investments in Israel

Private equity fund Blackstone will set up a joint venture with Markstone to invest hundreds of millions of dollars in Israel.

The Blackstone Group LP (NYSE: BX) will reportedly invest hundreds of millions of dollars in Israel, through a joint venture that it will set up with Markstone Capital Partners Group LLC. Markstone, headed by managing directors Ron Lubash and Amir Kess, are expected to become Blackstone's exclusive representative in Israel. Markstone will seek Israeli companies in which the two private equity funds will invest.

The deal will be closed in a few weeks. Markstone has declined to respond to the news.

Blackstone, with $166.2 billion in assets under management, is the world's largest private equity fund, larger than Apax Partners, which has invested billions of shekels in Israel, including the acquisition of the controlling interests in Tnuva Food Industries Ltd. and Psagot Investment House Ltd.

CEO Stephen Schwarzman founded new York-based Blackstone in 1985. It has a market cap of $7.66 bil-

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lion, and posted a net profit of $1.4 billion in 2011.

Markstone has had a mixed track record with its investments in Israel. It founded Prisma Investment House, which went bankrupt. Its investments in Elran (DD) Real Estate Ltd. (TASE:ELRE) and Tomcar Ltd., which developed a commercial off-road utility vehicle, both failed. Successful exits on investments include Golden Pages Ltd., improved seed varieties developer Zeraim Gedera Ltd., and Netafim Ltd.

Markstone raised $800 million in 2003-04 from institutional investors, including California Public Employees' Retirement System (CalPERS) and New York State Pension Fund in the US, Clal Insurance Enterprises Holdings Ltd. (TASE: CLIS) and Menorah Mivtachim Holdings Ltd. (TASE: MORA) in Israel. Markstone chairman Elliot Broidy resigned after a plea bargain for bribery in the US. In September 2010,

Retail software solutions company opens U.S. headquarters in Teaneck

An Israeli technology company that creates virtual sales clerks to help guide shoppers around e-commerce websites has established its North American headquarters in Teaneck.

Celebros Inc. was founded in Israel in 2000 and used search technology originally created for the Israeli army to develop what it calls "intelligent, concept-based search for online shops." The company, according to Chief Executive Officer Ofer Alt, actually has a broader mission, which is combining a group of "conversion technologies" that convert online browsers into buyers.

For e-commerce sites, the typical conversion rate is 1 percent, meaning that out of 100 people who go to the site, only one person actually buys something, said Alt, during a visit to the Teaneck office last week. "What customers find when they go to websites are empty shops, without a salesperson," he said. Alt said the Celebros technology tries to give the websites the equivalent of a knowledgeable sales clerk who can find specific items and recommend similar products.

Celebros has created search-related software for more than 400 retail websites worldwide, including jewelry retailer Ice.com, cosmetics giant Avon.com. and Skymall.com, which sells products geared to airplane passengers. The company only works with websites that do $2 million or more in annual sales.

The Celebros search technology, Alt said, allows Web shoppers to pose questions in "human terminology" — just the way someone would ask a question face to face with a sales clerk. To demonstrate, he went to the Ice.com website and typed in "I want a pink diamond ring under $500." The website, in response, displayed a pink diamond ring for $495. Alter pointed out that the site was able to pull up the correct page even though the words "under $500" did not appear anywhere on the page, or the words "I want a pink diamond ring."

"Our technology is a bridge between human terminology and the data that is on the website's database," said Jeffrey Tower, manager of the Teaneck office.

Alt and Tower said that while other software companies provide search engine tools for retailers, Celebros tries to set itself apart by providing a package of tools that help improve conversion rates, including intelligent search, auto completion technology (the site guesses the words as they are being typed in and offers a drop down menu), product recommendations and analytics that tell the e-retailer how many people visit the site, what percentage of them made a purchase, and at

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what points people left the site without buying.

Tower said the company has helped clients increase their conversion rates to 8 percent or more with Celebros technology.

The privately held company does not reveal financial information. Alt said the company has revenue of less than $50 million annually.

Most clients pay a flat monthly fee for software services. Alt said that fee varies based on the project, but typically is a couple of thousand dollars per month.

Tulip' solar-tower technology to bloom in Spain
Israeli technology developer Aora has switched on the first of its next-generation "Tulip" concentrating solar power (CSP) systems in Almeria, Spain, and the company is now targeting full-scale developments at several locations in Europe within the next year.

* Solar-thermal flower tower powers community
* Tulip-shaped hybrid solar-thermal power plant blooms
* Vision of green oases in the desert becoming a reality

The grid-connected 100kW system at the Solar Platform research centre is made up of a 35-meter flower-shaped receiving tower and 50 tracking heliostats fanned out over a 2,000-square-meter area. It is the second of its kind: a same-size version was brought on line at an organic date farm north of Eilat, Israel, in 2009.

Aora's plant is unusual among tower-based concepts as it employs a water-saving design built around technology that uses superheated air-flow rather than steam to power turbines, meaning each array consumes less than 8% of the water needed in conventional CSP plants.

At night or under cloud cover, the Tulip, which throws off an additional 170kW of heat during operation, also has the distinction of being able to switch modes to run off alternative fuels, such as biogas, to keep up production levels and maintain grid stability.

"We see Spain as among the most fertile markets for solar-power technology, not least because of the Spanish government's commitment to it," says Aora chief executive Zev Rosenzweig. "Installing [a Tulip plant at the Solar Platform] gives us access to a great deal of very interesting technology. All in all, it is a good next step in our growth."

The technology continues to be fine-tuned. For the latest model — like the first, housed in a tower fashioned by visionary architect Haim Dotan — the heliostats, receiver unit and control system have all been refined, according to Aora chief technology officer Pinchas Doron. "The heliostats are now much more stable, much more accurate, operate much better under all conditions; the receiver is now more efficient, more durable; improvements to the control system mean the turbine and the receiving tower are also now much better calibrated and integrated," he states.

Developed over 20 years ago at the Weitzman Institute of Science in central Israel, proof of concept for the Tulip was carried out in 2006 in Nanjing, China, using an experimental tower design, Chinese-supplied heliostats and a receiver from US power-systems outfit Honeywell.

"This was at a time when nobody was looking at this sort of solar power as anything but a subject for academic research," says Doron. "It gave us the opportunity to take our receiver — which we knew worked well —and show that such a technology could work as a system, could run with the sun, could continue to operate as clouds moved in and out, and could be connected to the grid."

With a pair of 100kW units now up and running, Aora is moving to build greater "autonomy and automation" into the Tulip CSP technology.

The control system already employs a bank of cameras that "ensure better tracking and so higher output" by feeding back images that permit tighter alignment of the geometry of the light focused by the heliostats onto the receiving unit. But Aora wants to give the technology something approaching "intelligent independence" while operational.

"We can already run the system from any remote office," notes Doron. "The goal now is for the individual Tulips to work unattended — they should be able to 'wake up' in the morning, track the sun, make electricity, and 'go to bed' at night based on a prescribed scenario and do the same thing day-in and day-out. The only control would come under the command of regional control centers."

Further development of the Tulip at the Solar Platform will now be focused on the technology as a "working unit" that can serve as a power source for a range of bolt-on applications, including absorption chillers and desalination plants.

In light of the ongoing negotiations with solar farm developers, Rosenzweig sees the technology "taking root" in Spain, Cyprus and Italy in the short term, with the US Southwest and Chile also on the radar.

"Our goal is to have a contract to develop [a Tulip-based CSP farm] a year from now in each of these locations," he states.

"Our solar farms are small, so I think having developments of 50 to 100 units, 5-10MW each, would really be something."

Plant that needs little water and can flourish at night

Like other concentrating solar power (CSP) tower systems around the world, Aora's tulip-shaped "power flower" uses a field of heliostats to focus sunlight on to a receiver unit positioned at the top of a pillar structure, where the energy is converted to turn an electricity-generating turbine.

Distinct from other tower-based CSP technologies, each 100kW unit features a solar-radiation "funnel" fitted with a conical quartz window that refracts the light and heat on to a volumetric "porcupine" receiver whose "quills" transfer energy into pressurized air — not water, as in other CSP towers — that climbs to a temperature of 1,000°C before being channeled into a combustor and then across the blades of a Braxton thermodynamic cycle micro-turbine to create electricity.

Employing hot air rather than steam to power turbines means an array will use only 230 liters of water per MWh.

The power flower plant is a hybrid design, meaning the turbine can run solely on solar power, or use alternative fuels, including biogas. This way, it can produce power in "solar only" mode when there is sufficient sunshine, or draw power from biofuel in "hybrid mode" on overcast days or during the night.

Each power flower also generates 170kW of thermal "waste" heat that can be used in absorption chillers, hot-water production for industrial facilities, and desalination plants.

GE Invests in Ingesting Imaging Capsule

GE Capital and GE Healthcare, the financial services and healthcare divisions of General Electric Company, have invested in Check-Cap, a developer of an ingestible imaging capsule that may help detect colorectal cancer. The investment has been made through the GE Healthymagination fund, an equity fund.

In addition to this, Check-Cap and GE Healthcare have also entered into a development and supply agreement, where GE Healthcare–Israel will develop, design and produce miniature Cadmium Zinc Telluride (CZT) diagnostic imaging sensors inside each Check-Cap capsule to enable clinicians to obtain full 360-degree imaging as the capsule travels in the colon.

Check-Cap's ingestible and disposable imaging capsule is planned to have the capability to image the colon in 3D. The capsule will require no bowel cleansing before ingestion and no hospital visit, allowing patients to go about their daily routines without having to alter their activities.

Mike Harsh, Vice President, GE and Chief Technology Officer, GE Healthcare, said, "Check-Cap's technology is not only innovative but it presents great promise to change the standard of patient care and to help them avoid the discomfort of traditional colonoscopies."

The investment is aligned with GE Healthcare's expanding focus on colon cancer management solutions that can improve healthcare globally, as well as GE's broader healthy imagination initiative, which focuses on reducing cost, increasing patient access and improving quality in healthcare. Financial terms of the transaction were not disclosed. Colorectal cancer is the third most common cancer in men and the second in women, according to the International Agency for Research on Cancer. Almost 60 per cent of the cases occur in developed regions. About 608,000 deaths from colorectal cancer are estimated worldwide annually, accounting for eight per cent of all cancer deaths and making it the fourth most common cause of death from cancer. In the US, colorectal cancer is the third most common and the second leading cause of cancer death.

"Over the past 15 years GE Healthcare has benefited from Israel's spirit of innovation and scientific discoveries. Seeking partnerships between a global company such as GE and Israeli high-tech companies like Check-Cap can truly be a win-win for all. This represents the first GE healthy magination Fund investment in Israel," said, Oded Meirav, Manager, GE Global Research–Israel Technology Center.

The investment in Check-Cap reflects GE Healthcare's continuing interest in innovative clinical stage healthcare technologies. As an investor, GE Healthcare will look for various ways to work with Check-Cap that complement the strategic objectives of its healthy imagination initiative.

Check-Cap plans to introsduce its ingestible imaging capsule in the European Union in late 2013, subject to CE Mark regulatory approval. The company also is in discussions with the US FDA concerning appropriate clinical activities to support approval to market the product in the US. Guy Neev, Chief Executive Officer, Check-Cap said, "We are pleased to have GE be a new investor and collaborator.

GE's investment is an acknowledgement of the patient need we are addressing as well as the clinical promise of our technology. Colon cancer is the most deadly, preventable cancer that patients currently experience. Our goal is to reduce patient mortality by facilitating dramatically increased patient adherence with the physician screening recommendations, allowing earlier detection and treatment. GE's experience in the imaging space will be a significant contribution to our efforts as we progress in our clinical and regulatory programmed towards commercialization."

The GE healthy I imagination Fund is part of GE's $6 billion healthy imagination initiative, a global commitment to deliver better healthcare to more people at lower cost.

Israel Shows Wares in Singapore Air Show

Israel Aerospace Industries' G550 Conformal AEW aircraft

Israel's aerospace industry is a major supplier of equipment to the Singapore air force, as evidenced by Israel Aerospace Industries' G550 Conformal AEW aircraft on display here

Israel has a major presence here at the Singapore Airshow, arranged into a national pavilion under the auspices of SIBAT, the Israeli MOD's defense export and cooperation division. Nine companies are exhibiting as part of the pavilion, between them offering what Brig. Gen. Shmaya Avieli, SIBAT's director, describes as, "a wide range of Israeli technologies in the aviation, space and defense sectors, that together create a full and complete solution."

General Avieli highlighted the ability of Israeli industry to rapidly develop tailored solutions to suit any customer. "The close connection between the IDF [Israel Defense Force] and the industry creates a situation whereby the development, and the response to needs, is one of the fastest in the world," he commented.

As well as the household names of Elbit, IAI, IMI and Rafael, the Israeli Pavilion includes participation by Aeromaoz, Hydromechanical Engineering (HEC), Kanfit, MTC Industries and Research, and Plasan. Aeromaoz is exhibiting a wide range of its human machine interface applications, which include display panels, control systems, joystick and handgrip elements, and various internal and external lighting solutions.

HEC specializes in both test equipment for military and aviation applications, and ground support equipment. Examples of the latter include hydraulic launchers for UAVs, towing carts and fueling vehicles. Plasan designs, develops and manufactures ballistic armor protection and survivability systems. It provides a customized service for a wide range of air, sea and land vehicles. Here at the airshow it is showing off its armor solutions for tactical helicopters such as the Sikorsky Black Hawk, Boeing Chinook, Eurocopter Super Puma and Mil Mi-17. Plasan also offers armor solutions for Lockheed C-130 Hercules transports.

MTC Industries and Research Carmiel (Booth N51) is showing off its latest product in the Israeli Pavilion–a redundant electromechanical rotary servo actuator (ERSA). The company claims that the redundancy built into the new ERSA will significantly reduce the number of UAV flight control failures, and so reduce the number of high-value losses.

The ERSA is based on duplicate flight controls located on two separate control boards. This back-up feature allows the UAV to continue flying in the event of a component failure. Another advantage of the ERSA is its use of dual DC brushless motors, which offer much-reduced maintenance requirements due to a lack of wear and tear compared with traditional brush-based motors.

Control and servo actuators are just one product line in MTC's portfolio of electromechanical products. The company also produces a range of gyros and MEMS devices, electric motors, position sensors, solenoid valves, slip rings and gimbal units. As well as its production location at Karmiel in Israel, the company operates a facility in Dallas, Texas.

Exhibiting as part of the Israeli Pavilion, Kanfit (Booth N49) is showcasing its capabilities in the field of developing and manufacturing components for the aerospace industry. The company has considerable expertise in integrating composites and metal, and also using resin transfer molding (RTM). One area where the company has employed its capabilities is in the manufacture of chaff- and flare-dispenser magazines. RTM technology provides lightweight units that, through the removal of seams and welding, have no failure points. Kanfit's technology allows the units to be highly reproducible with tight tolerances, said the company.

Apple to use chip by recently acquired Israeli startup in iPad 3

Anobit's chip is responsible for making gadgets faster - it enhances flash drive performance through signal processing.
Apple is expected to incorporate technology from Israeli startup Anobit into its iPad 3, which is likely to be released in early March.

Anobit's flash memory technology was used in the iPad 2. Last month, Apple admitted that it had indeed acquired the startup, its first Israeli acquisition.

Not every parent is ready to give such an expensive toy to an impulsive infant, who can smash the iPad in anger, or mistakenly go wild in the iTunes store.

Anobit's chip is responsible for making gadgets faster - it enhances flash drive performance through signal processing.

It has been used in products including the iPhone and the MacBook Air. The iPad 3 can be expected to be even faster than its predecessor.

News of the iPad3's expected March launch came following a report in the website AllThings late last week, with the event will be held in San Francisco, likely at the Yerba Buena Center for the Arts, which is Apple's preferred site for product launches.

Apple has typically introduced the latest versions of its iPad in the first few months of the year. The current iPad 2 was introduced on March 2, 2011. The original iPad was introduced at the end of January 2010.

Apple's iPad dominates the nascent market for tablets even though deep-pocketed rivals are taking aim at the lucrative segment. Amazon.com Inc's Kindle Fire, which sells at half the cost of an iPad, has chipped away at the lower end of the tablet market.

Apple iPad tablet sales doubled in the December quarter to 15.43 million units from a year earlier.

Report on 2011 Exits - Summary

Israeli high-tech M&As in 2011 up 134%
IPOs on the decline again
The following summarizes exits of Israeli and Israel-related high-tech companies in merger & acquisition deals and initial public offerings in 2011. The data are based on information derived from IVC-Online Database and developed by IVC Research Center, which for more than 15 years has been at the forefront of Israeli high-tech, venture capital and private equity research. Additional details about Israeli high-tech exits will be published in the IVC 2012 Yearbook due to be published in April.
Exits involving Israeli and Israel-related high-tech companies in 2011 totaled $5.23 billion. M&A deals involving Israeli and Israel-related companies that were acquired or merged were valued at $5.1 billion, a 134 percent increase from $2.18 billion in 2010 and the second highest amount in a decade, after the $10 billion worth of deals in 2006. At the same time, only

$126 million was raised in five IPOs, down five percent from $133 million raised in 11 IPOs in 2010. (Chart 1)
Koby Simana, CEO of IVC Research Center said, "the M&A route continued as the preferred liquidity channel for investors in 2011, and we expect it to remain as such in 2012. The financial needs of Israeli technology companies coupled with the shortage of investor capital indicate that more Israeli companies can be expected to go the M&A route in 2012."

Eighty-five Israeli companies were acquired or merged in 2011, 27 percent more than the 67 companies that were acquired or merged in 2010, and four percent more than the previous five-year average of 81. The average deal size increased nearly 85 percent to $60 million from $32.5 million in 2010. This increase in deal size reflects a relatively high number of deals above $100 million, with 18 percent of the number of deals accounting for 75 percent of total M&A deal proceeds. Five M&A deals exceeded $300 million and one deal – the acquisition of online advertising company MediaMind by DG – surpassed the $500 million mark.
VC-backed M&A deals (33) totaled $2.52 billion, a 102 percent increase from $1.25 billion (26) in 2010. Nine of the 15 deals above $100 million had been VC-backed.

Global IPO markets for technology companies have been less than hospitable in the past four years. While the Israeli IPO market tried to offer high-tech companies a more accommodating environment, and made some success of it in 2010, the numbers fell once again in 2011. Only five IPOs by Israeli high-tech companies were completed in 2011, raising $126 million. While above 2008-2009 figures, the amount failed to reach the $133 million raised by 11 Israeli companies in 2010.

Continuing the pattern of the previous year, four of five Israeli high-tech IPOs in 2011 were made on the Tel Aviv Stock Exchange. Three of the IPOs were by life science firms, and the fourth was completed by clean energy company Rosetta Green. Imperva completed the only global technology IPO by an Israeli company in 2011, raising $90 million on the NYSE Amex exchange and accounting for 72 percent of total IPO proceeds by Israeli high-tech companies in 2011.
An interesting detail is that 2010's largest IPO was made by MediaMind, the company that was logged as 2011's largest M&A deal. MediaMind, which raised $62.3 million on Nasdaq in August 2010, based on a $148 million valuation, was acquired less than a year later by DG Inc. for $517 million.
In the last decade, Israeli high-tech companies raised approximately $15 billion from investors, compared to more than $37 billion received in M&A and IPO exits (

Sound rather than sight can activate 'seeing' for the blind, say Hebrew University researchers

Scientists at the Hebrew University of Jerusalem have tapped onto the visual cortex of the congenitally blind by using sensory substitution devices (SSDs), enabling the blind in effect to "see" and even describe objects.

SSDs are non-invasive sensory aids that provide visual information to the blind via their existing senses. For example, using a visual-to-auditory SSD in a clinical or everyday setting, users wear a miniature video camera connected to a small computer (or smart phone) and stereo headphones.

The images are converted into "soundscapes," using a predictable algorithm, allowing the user to listen to and then interpret the visual information coming from the camera.

Remarkably, proficient users who have had a dedicated (but relatively brief) training as part of a research protocol in he laboratory of Dr. Amir Amedi, of the Edmond and Lily Safra Center for Brain Sciences and the Institute for Medical Research Israel-Canada at the Hebrew University, are able to use SSDs to identify complex everyday objects, locate people and their postures, and read letters and words.

In addition to SSDs' clinical opportunities, using functional magnetic resonance imaging opens a unique window for studying the organization of the visual cortex without visual experience by studying the brain of congenitally blind individuals.

The results of the study in Amedi's lab, recently published in the journal Cerebral Cortex, are surprising. Not only can the sounds, which represent vision, activate the visual cortex of people who have never seen before, but also they do so in a way organized according to the large-scale organization and segregation of the two visual processing streams.

For the past three decades, it has been known that visual processing is carried out in two parallel pathways. The ventral occipito-temporal "what" pathway, or the "ventral stream," has been linked with visual processing of form, object identity and color. Its counterpart is considered to be the dorsal occipito-parietal "where/how" pathway, or the "dorsal stream," which analyzes visuo-spatial information about object location and participates in visuo-motor planning.

Although this double dissociation between the processing of the two streams has been thoroughly validated, what remained unclear was the role of visual experience in shaping this functional architecture of the brain. Does this fundamental large-scale organizational principle depend on visual experience?

Using sensory substitution, the Hebrew University scientists, led by Ph.D. student Ella Striem-Amit and Dr. Amedi, discovered that the visual cortex of the blind shows a similar dorsal/ventral visual pathway division-of-labor when perceiving sounds that convey the relevant visual information; e.g., when the blind are requested to identify either the location or the shape of an SSD "image," they activate an area in the dorsal or in the ventral streams, respectively.

This shows that the most important large-scale organization of the visual system into the two streams can develop at least to some extent even without any visual experience, suggesting instead that this division-of-labor is not at all visual in its nature.

Recent research from Amedi's lab and from other research groups have demonstrated that multiple brain areas are not specific to their input sense (vision, audition or touch), but rather to the task or computation they perform, which may be computed with various modalities.

Extending these finding to a large-scale division-of-labor of the visual system further contributes crucial information towards postulating that the whole brain may be task-specific rather than dependent on a specific sensory input. "The brain is not a sensory machine, although it often looks like one; it is a task machine," summed up Amedi.

Israeli anti-missile test "major milestone

Israel declared a test of its Arrow weapon system a "major milestone" in the development of a system to defend against medium range missiles that could be fired from countries like Iran.

In a statement the Israeli Defense Ministry said the test "provides confidence in operational Israeli capabilities to defeat the developing ballistic missile threat."

The successful test of the joint American and Israeli weapon system was held over the Mediterranean Sea Friday morning and sought to track a simulated incoming ballistic missile via radar and pass the information back to what is known as the battle management controller.

The Defense Ministry described the test as a "target-only tracking exercise," meaning the missile was not intercepted. The ministry said the test demonstrated that the Arrow Weapon System and the U.S. Ballistic Missile Defense System could successfully work together in what it termed "interoperability." U.S. Missile Defense Agency personnel participated in the test, the ministry said.

The missile defense test comes amid fevered speculation that Israel may soon launch a unilateral attack against Iran's nuclear program, though Israeli defense officials said the timing of Friday's exercise were planned a year in advance and was not connected to recent events.

Both countries were supposed to hold a massive joint missile defense exercise in April, but the drills were postponed until the second half of the year with both sides citing technical reasons.

Israel and the United States have been jointly developing the multi-billion dollar Arrow missile defense system since 1986. The goal of the project is to provide Israel with a defense for medium range missiles fired toward it from the region.

Summary of Israeli Private Equity Deals – 2011

The following are the findings of the IVC-GKH Quarterly Private Equity (PE) Survey conducted by IVC Research Center, which for more than 15 years has been at the forefront of private equity, high-tech and venture capital research in Israel. This Survey is sponsored by Gross, Kleinhendler, Hodak, Halevy, Greenberg & Co. (GKH), a leading Israeli corporate law firm specializing in M&A, joint ventures, venture capital, equity and debt financing. The Survey reviews

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

In 2011, 60 Israeli private equity deals attracted $2.88 billion, an 18 percent increase from $2.44 billion attracted by 65 deals in 2010. Ten deals, each more than $100 million, accounted for $2.15 billion or 75 percent of the total amount. This compared to five deals of more than $100 million each, totaling $1.32 billion, which made up 54 percent of total private equity deals in 2010. The average deal in 2011 was $48 million, compared to $38 million in 2010.

In 2011, Israeli private equity funds accounted for 31 percent of total private equity activity with $904 million invested. Israel Infrastructure Fund's buyout of Derech Eretz Highways for $208 million and FIMI's buyout of Ormat for $130 million were the two largest Israeli private equity fund deals, together accounting for 37 percent of Israeli PE fund activity.

In 2011, private equity deals valued at over $50 million accounted for 23 percent of the total number of deals, compared to 17 percent in 2010. Deals valued at $20-50 million accounted for 13 percent, compared to 20 percent in the year earlier period. Deals valued at under $20 million accounted for the remaining 64 percent, just above the 63 percent figure for 2010.

Rick Mann, Managing Partner of GKH, commented: "In 2011, we saw the continuation of two trends in the Israeli private equity market. The first was the growing role of local private equity funds in small and medium size deals, but the dominance of foreign private equity funds in large deals. The second was the attractiveness of Israeli technology-driven businesses to foreign private equity investors. The latter was particularly evident in the cleantech, software and Internet-related fields. I would expect these trends to continue in 2012."

In the fourth quarter of 2011, $898 million - the highest quarterly amount in two years - was invested in 15 Israeli private equity deals. This amount was up 10 percent from $819 million in Q3 2011 and 12 percent from $803 million in Q4 2010(Figure 1). The average deal size in Q4 2011 was $60 million, compared to $55 million in the previous quarter and $50 million in the fourth quarter of 2010. Israeli private equity funds accounted for 29 percent of activity, compared to 41 percent in Q3 2011 and 100 percent in Q4 2010. Private equity deals valued at over $50 million accounted for 27 percent of the total number of deals, compared to 20 percent in the previous quarter and 6 percent in Q4 2010.

Israeli private equity deals by sector

In 2011, as in the previous year, Cleantech led all sectors in private equity interest, accounting for 33 percent of total deal value, just below the 36 percent of 2010. The three largest deals included the buyout of Netafim by Permira Advisers for $366 million and Morgan Stanley's two $200 million straight equity investments in BrightSource and in Better Place.

Software accounted for 29 percent of deal value, mostly from three transactions: the $390 million buyout of Fundtech by GTCR, the $308 million buyout of Ness Technologies by Citi Venture Capital International and Riverwood Capital's $110 million purchase of SintecMedia. The Infrastructure sector accounted for 11 percent, which included Israel Infrastructure Fund's buyout of Derech Eretz Highways, cited above.

In the fourth quarter of 2011, the software sector led investments with 43 percent, followed closely by cleantech with 42 percent. The two sectors accounted for 86 percent of total deal value in the quarter.

Israeli private equity deals by type

This survey reviewed the following types of private equity financing deals: straight equity, buyouts, mezzanine, distressed debt and turnaround/distressed equity.

In 2011, 21 buyouts attracted $2.1 billion or 73 percent of aggregate deal value. This compares to 11 buyout deals that attracted $834 million or 34 percent in 2010. Nineteen straight equity deals accounted for $566 million or 20 percent of total deal value in 2011, compared with $1.1 billion (24 deals) or 43 percent in 2010, when straight equity led private equity investment. Sixteen distressed debt deals followed with $175 million or 6 percent, while mezzanine deals captured only one percent of total deal value in 2011.

In Q4 2011, six buyout deals led private equity investment with $634 million or 71 percent of total deal value, compared to five buyout deals valued at $711 million (87 percent) that led investments in Q3 2011 and two buyouts valued at $598 million or 75 percent in Q4 2010.

Marianna Shapira, Research Manager at IVC, observed, "Foreign private equity investors intensified their activity in Israeli buyout deals, boosting their share to 71 percent in Q4 2011. This demonstrates that Israel continues as a focal point for international companies seeking expansion and new business opportunities."

Israeli private equity funds

The IVC-Online database contains data on 29 Israeli private equity management companies with total of $7.5 billion in capital under management. Of these firms, four were established during 2011.

Israel Safest as Investors Discount War Threat: Riskless Return

Israel, under threat of war from its neighbors since being founded in 1948, produced better risk- adjusted returns than all other developed stock markets in the past decade as the technology-driven economy attracted global investors.

The BLOOMBERG RISKLESS RETURN RANKING shows the Tel Aviv TA-25 Index returned 7.6 percent in the 10 years ended yesterday, after adjusting for volatility, the highest among 24 developed-nation benchmark indexes. Israel beat Hong Kong's Hang Seng Index, the next-best market with a risk-adjusted gain of 6.7 percent, and Norway, which had the highest total return.

Israel outperformed as it fought a monthlong battle against Hezbollah in 2006, was involved in a similar conflict with Hamas two years later and is now threatened by Iran's nuclear program. International investors including Warren Buffett bought local companies and the economy, steered by Bank of Israel Governor Stanley Fischer, grew more than twice as fast as the U.S. last year. Israel's stocks may extend gains as Apple Inc. and International Business Machines Corp. acquire the country's technology startups.

"Israel is an exciting place to invest," Michael Steinhardt, the former hedge fund manager who produced returns averaging 24 percent a year over almost three decades until he retired in 1995, said in a telephone interview from Fisher Island, Florida. "The country is surrounded by enemies, it's always on the edge of extinction, but it expands and prospers."

Beating Norway

The Israeli gauge returned 161 percent including dividends over the last decade, the third-best performance among developed markets after Norway's OBX Index and the Hang Seng.

"This is a great achievement," Israeli Prime Minister Benjamin Netanyahu said in response to the article in the Knesset today.

While Oslo's index produced the highest return, its volatility was 35 percent greater than that of the TA-25. Statoil ASA, the world's seventh-largest oil exporter, comprises more than 25 percent of the gauge, making the market susceptible to changes in oil prices. Only one developed-market benchmark gauge, Denmark's OMX Copenhagen 20 index, gives a bigger weight to a single company.

The TA-25's biggest members are Bank Leumi Le-Israel Ltd. and Teva Pharmaceutical Industries Ltd., each with an 11 percent share. The biggest weighting in the Standard & Poor's 500 Index, the U.S. benchmark, is Apple Inc. with 3.8 percent.

Fischer's Role

The risk-adjusted return, which isn't annualized, is calculated by dividing total return by volatility, or the degree of daily price-swing variation, giving a measure of income per unit of risk. A higher volatility means the price of an asset can swing dramatically in a short period of time, increasing the potential for unexpected losses compared with a security whose price moves at a steady rate.

Bank of Israel's Fischer, a former thesis adviser to Ben S. Bernanke, helped steer the economy back to growth after the worst global recession since World War II. Fischer, who is serving his second term as governor, began buying foreign currency in 2008 after the shekel reached a 12-year high. That more than doubled the central bank's reserves in an effort to help exports, which are equal to 40 percent of gross domestic product.

Israel's economy probably expanded 4.8 percent in 2011, compared with 1.8 percent growth in the U.S., according to the International Monetary Fund. That follows five years of average annual growth of 4.2 percent, boosted by foreign investment in local companies.

Outpacing G-10

Private consumption expanded at the fastest pace in at least five years in 2010, climbing 10.2 percent, according to Central Bureau of Statistics data. The growth attracted Hennes & Mauritz AB, Europe's sec-

ond-largest clothing retailer, which has opened eight local stores since March 2010.
The country's gross domestic product will grow 3.2 percent in 2012, according to Finance Ministry projections. That's almost three times the 1.2 percent average for the Group of 10 countries and faster than the 2.2 percent expansion in Norway, according to data compiled by Bloomberg.

Israeli stocks benefited in the past from investor interest in emerging markets, and may underperform when the global economy slows, said Michael Shaoul, chairman of New York-based Marketfield Asset Management, which manages $1.3 billion.

"The TA-25 was a big beneficiary of EM-related flows over the last decade," said Shaoul, whose Marketfield Fund beat 97 percent of its peers in 2011. "It doesn't matter how MSCI categorizes Israel, it still trades with the emerging-market complex."

Market Upgrade
The MSCI Emerging Markets Index gained 189 percent in the 10 years through 2011, not including dividends, about 10 times the MSCI World Index of developed countries' gain, data compiled by Bloomberg show. Israel was added to MSCI Inc.'s developed market index in May 2010.

After that change, investors pulled a net $795 million from Tel Aviv shares by the end of the year, while in 2009 they added $1.7 billion. All investors tracking the MSCI index had to rebalance their portfolios as Israel was removed from the emerging-markets gauges.

This year, the TA-25 had its best start of a year since 1997, with a 3.1 percent rally in January. The measure gained 0.5 percent today. IBM said on Jan. 31 that it's acquiring Worklight Inc., the closely held provider of a mobile application platform for smartphones and tablets whose research and development is based in Shefayim, Israel, as the world's biggest computer-services provider looks to enhance its mobile- service offerings.

Israel has contributed a disproportionately high number of Nasdaq companies, Steinhardt said.

Steinhardt opened New York-based Steinhardt Management Co. in 1967 and is now chairman of WisdomTree Investments Inc., a New York-based asset-management firm that offers exchange-traded funds. Buffett, through four decades of takeovers and stock picks, built Berkshire Hathaway Inc. from a failing textile mill into a $195 billion provider of insurance, energy and consumer goods, and accumulated the world's third-biggest personal fortune

Go to the Middle East and you're looking for oil, skip" Israel, Buffett said in 2010. "If you're going looking for brains, just stop at Israel. You don't have to go anyplace else."

Israel's stock market outperformed even as the country was under constant threats of violence. The Hezbollah movement, a Shiite Muslim political party that is considered a terrorist organization by Israel and the U.S., fired rockets into the country's north in the July-August 2006 Second Lebanon War. Israel launched Operation Cast Lead, a three-week offensive against the Hamas movement, which controls the Gaza strip, in December 2008.

Iranian President Mahmoud Ahmadinejad said Israel should be wiped off the map. Israeli leaders have been warning publicly that time is running out to stop Iran from developing nuclear weapons at a time when the country faces security threats as the so-called Arab Spring creates turmoil in its Middle Eastern neighbors.

"It will take a lot more than a simple military action to keep the stock exchange from working," Gilad Alper, an analyst at Excellence Nessuah Investment House Ltd. in Tel Aviv, said by telephone. "The last full-scale war that we had here that involved huge parts of the economy was in 1973. Since then, everything has been relatively small."

Israeli companies have benefited from diverse geographic revenue. Teva, the world's largest maker of generic drugs, and Israel Chemicals Ltd., the harvester of chemicals from the Dead Sea, comprise more than 20 percent of the TA-25 and get less than 6 percent of their revenue from Israel.

Exports make up about 40 percent of Israel's economy and the country's high- technology industry accounts for 47 percent of manufactured overseas shipments, according to the central bureau of statistics.

'Attractive' Dividends

"There are a lot of Israeli companies with a global footprint, and many are global leaders," Steven Schoenfeld, the founder of New York-based BlueStar Global Investors LLC, a financial information and research company, said by telephone.

Israeli companies also returned more money to investors than those in other developed markets. The dividend yield of the TA-25 Index is 3.53 percent, compared with a 2.66 percent average for companies on the MSCI World Index of developed markets. It's boosted by companies such as Cellcom Israel Ltd. and Hot Telecommunication System, with 14 percent and 12 percent yields, respectively.

"The dividend yield of companies on the TA-25 Index is very attractive," said Jacob de Tusch-Lec, a London-based money manager at Artemis Investment Management LLP in London, which oversees $17 billion.

'Safe Model'

Standard & Poor's raised Israel's credit rating for the first time in four years in September, lifting the country to A+, in line with Chile and Slovakia. S&P cited local economic growth for the upgrade as well as expected production of natural gas by the middle of the decade that will further increase the economy's efficiency and strengthen its fiscal and external positions.

"Israel has very well-capitalized banks and an economy that is well-balanced with the high degree of high tech," in addition to "one of the best central bankers in the world," Artemis's de Tusch-Lec said. "This is not an economy that was built on cheap leverage," he said. "This is a safe business model."

GE Healthcare invests $13.8m in Insightec
Insightec develops MRI-guided focused ultrasound devices for the treatment of uterine fibroids, tumors, and neurological disorders.
26 February 12 19:10, Globes' correspondent
inShare1

GE Healthcare has invested $13.75 million in InSightec Image Guided Treatment Ltd. in the form of a convertible loan. GE Healthcare owns 64.3% of Insightec, which develops MRI-guided focused ultrasound devices for the treatment of uterine fibroids, tumors, and neurological disorders, such as essential tremor, neuropathic pain and Parkinson's disease.

Insightec has been marketing its non-invasive device for the treatment of uterine fibroids for years, but the company is still not profitable, and sales are stagnant. Insightec said that it would use the proceeds to finance its development plan for 2012 in R&D, sales and marketing, customer support, and financing legal costs in cases filed against it.

The loan will bear 6% interest, and can be converted into equity at a price set when a new partner invests in Insightec, or when the loan matures in 2016. Given that Elbit Medical Technologies Ltd. (TASE:EMTC), controlled by Mordechay Zisser, have tried to keep their stakes in the company, the loan will apparently be converted in the event of an exit or strategic marketing agreement, possibly by GE Healthcare itself. It is also possible that the companies believe that such an event will happen before 2016.

Insightec and GE Healthcare have been collaborating since the 1990s. Until 2007, GE held a minority stake in Insightec through GE Capital, and, together with Elbit Medical, made regular investments in the company to maintain its stake. Insightec's devices were adapted to GE's MRI devices, and marketed as a complete product.

GE Healthcare last invested in Insightec in 2008. The new investment is directly into the company, rather than through Elbit Medical, suggesting the strategic importance that GE attaches to the investment.

The investment comes as Zisser faces problems. Zisser's real estate company, Elbit Imaging Ltd. (Nasdaq: EMITF; TASE: EMIT), which owns 90% of Elbit Medical, faces severe liquidity problems. Although Elbit Imaging has promised a NIS 39 million credit line to Elbit Medical, which has promised a NIS 58 million credit line to Insightec, it is convenient for them if the loans are not requested. Elbit Medical had just $658,000 in cash at the end of September 2011.

GE Healthcare's loan is at the same terms as in loans by Elbit Medical to Insightec. The loans are secured by a floating lien on Insightec's assets. Elbit Imaging has lent Insightec NIS 130 million in loans over the years, and it will probably maintain its stake in Insightec, even if GE Healthcare converts its loan into equity.

Elbit Medical's share price fell 2.7% by mid-afternoon to NIS 0.216, giving a market cap of NIS 174 million.

Buffett: Iscar continues to amaze us
"Iscar's managers - Eitan Wertheimer, Jacob Harpaz and Danny Goldman - are brilliant strategists and operators."
26 February 12 11:42, Globes' correspondent
inShare0

Warren Buffett heaped praise on Iscar Ltd. (IMC Metalworking Companies), calling it one of "the fabulous five" in his annual letter to Berkshire Hathaway Inc. (NYSE: BRK.A; BRK.B) shareholders, published as part of the company's financial report for 2011. "Iscar, our 80%-owned cutting-tools operation, continues to amaze us," he says.

Buffett adds, "Its sales growth and overall performance are unique in its industry. Iscar's managers - Eitan Wertheimer, Jacob Harpaz and Danny Goldman - are brilliant strategists and operators. When the economic world was cratering in November 2008, they stepped up to buy Tungaloy, a leading Japanese cutting-tool manufacturer. Tungaloy suffered significant damage when the tsunami hit north of Tokyo last spring. But you wouldn't know that now: Tungaloy went on to set a sales record in 2011. I visited the Iwaki plant in November and was inspired by the dedication and enthusiasm of Tungaloy's management, as well as its staff. They are a wonderful group and deserve your admiration and thanks."

Iscar is one of Berkshire's five largest non-insurance companies, alongside railroad Burlington Northern Santa Fe Corporation, Lubrizol Corporation, Marmon Group, and MidAmerican Energy Holdings Inc., which delivered record operating earnings. Their aggregate revenue was $9 billion pretax revenue in 2011. "Unless the economy weakens in 2012, each of our fabulous five should again set a record, with aggregate earnings comfortably topping $10 billion."

In the review of Berkshire's manufacturing operations, of which Iscar is a part, Buffett said that Iscar saw strong demand for its products. The company helped drive the 11% increase in the manufacturing activities' $17.7 billion revenue in 2010, along with Forest River, CTB and Johns Manville,

Iscar had 11,067 employees at the end of 2011.

Berkshire paid $4 billion for 80% of Iscar from the Wertheimer family in 2006. It acquired MidAmerican in 2000, Marmon in 2008, Burlington Northern Santa Fe in 2010, and Lubrizol for $98 billion in 2011.

Israel's gas reserves worth $130b"
Israel's natural gas reserves are worth $100-130 billion, in non-capitalized values, a senior official who accompanies Prime Minister Benjamin Netanyahu on Thursday's visit to Cyprus said in a press conference. This valuation is the basis for the sovereign fund for oil and gas royalties that will be set up.

He added that that the gas discoveries in Israeli waters could be double the known discoveries to date. (These discoveries include Tamar and Leviathan - A.B.)

The official said, "Israelis still don't realize the significance of the change the natural gas will cause. Obviously, we are inclined towards exports. We have enough gas for our domestic needs, and even assuming GDP growth, we'll have very large surpluses. Gas is our strategic interest. It is also an economic tool for developing Israel, and a diplomatic tool for creating new partnerships, first in our region, as well as with the great powers of India and China. The US is already in through Noble Energy Inc. (NYSE: NBL), but we have the option to think about relations other great powers. We want great power interest in Israel."

The senior official added that the closer relations that Israel is building with Cyprus are part of its Western arc - a coalition that Israel has built with countries such as Romania, Bulgaria, and Greece. He added that the agreements Israel has signed include no commitment to defend Cyprus or even to defend Israeli economic interests in Cyprus.

He said, "You are required to defend your sovereign territory; elsewhere, if you have no military alliance, you are not required to defend. We have interests, but no obligations."

Netanyahu and Cyprus President Demetris Christofias discussed cooperation on natural gas, including joint exports. Cyprus wants Israel to join in its planned $10 billion liquefied natural gas (LNG) plant, but Israel is still deliberating between the Cypriot plant and building a LNG in Eilat. A final decision is due in two months, when the inter-ministerial committee on the project completes its work.

$796 million raised by Israeli VC funds in 2011
Less than $300 million remains for first investments
Israeli venture capital funds were back to capital raising in 2011, after two very difficult years. No capital had been raised by Israeli funds in 2010, and only $256 million was raised in 2009, a 76 percent drop from 2008 levels. The $796 million raised in 2011 was a much needed breath of air for the local industry, though well short of amounts raised in vintage 2007-2008.

Seven funds that raised capital in 2011 are considered “micro funds.” These funds, with less than $30 million under management, invest small sums and generally focus on early stage candidates. Micro funds raised a total of $87 million in 2011, nearly 11 percent of total capital raised last year.
Of the 14 VC funds to raise capital in 2011, eight are managed by new entrants in Israeli venture capital, or are organizations raising their first VC fund. Six of the micro funds were raised by new players. Also new was Orbimed Israel, the first biomed fund raised as part of the Government of Israel’s plan to incentivize life science investments in Israel. As part of the program, the Government of Israel agreed to invest about $50 million in the fund, against investments by other LPs. While OrbiMed Advisors - the US investor that initiated the fund - has invested in Israel before, its establishment of an office and its first Israel-dedicated fund represent a major step-up in OrbiMed’s Israeli activity.

Ofer Sela, a partner in KPMG Somekh Chaikin’s Technology group, explains that “globally, and also in Israel, the venture capital industry is shrinking in terms of number of entities raising new funds. Limited partners investing in venture capital firms are more selective in their investments and prefer investing in the most prominent VCs. The rest of the industry is re-inventing itself and trying to come up with an investment model that will attract limited partners with a lower burden of management fees and overhead costs and a less binding capital commitment for the limited partners.”

Historically, the growth of Israel’s venture capital industry is traced in six cycles based on fund raising vintage years that started in 1992 and peaked in 2000, when more than $2.8 billion was raised. The sixth and current cycle started in 2011, and with the previous three cycles (since 2000), Israeli venture capital funds attracted $10.7 billion, nearly 73 percent of the $14.7 billion that was exclusively allocated to investments in Israeli high technology by Israeli venture capital funds between 1992 and 2011.
“The ability of Israeli VC funds to raise follow-on funds in the current cycle running through 2012 and 2013 will have a strong impact on overall performance and the future of Israel’s high-tech sector, especially startups,” said Koby Simana, IVC’s CEO. “More than 20 funds are currently in the process of raising capital, many of them by veteran venture capitalists who are raising continuing funds. Underway, too, is capital raising by a number of new players, mostly micro funds which are likely to be successful in light of the recent micro and angel fund trend. Overall, we forecast that $800 million will be raised in 2012 by Israeli VC funds.