

# ISRAEL HIGH-TECH & INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES      JOSEPH MORGENSTERN, PUBLISHER  
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## The Lid is off!

At the recently held First International Homeland Security (HLS) Conference the lid was blown off. There are no fewer than 210 Israeli companies active in the Homeland Security sector. Until recently, this has been one of the most closely guarded secrets in this small country. The Conference, held at Tel-Aviv University, brought together a mixed audience including members of the armed forces, Government officials, individual investors, foreign visitors, venture capitalists and technologists.

On second thought, the number of companies laboring in the field should not be a surprise. Israel, in recent years, has acquired a solid reputation for security innovation. Elbit, for one example, as of this month will have its fleet of 30 planes outfitted with the FlightGuard system, aimed at protecting from missiles fired from hand held rocket propellers.

Dan Inbar founder of the Homeland Security Corporation provided statistics indicating that of the 111 Israeli companies mentioned in his report, most of them were start ups employing fewer than 10 employees. The big players are Israel Aircraft Industries, Rafael, Elta and Elbit. The sector also includes a handful of public companies. The stakes are substantial as the \$47b. industry is expected to quadruple in the next decade.

Inbar, an inventor who has more than 100 patents to his credit, stated that HLS is "a mine field and one should tread with care". Among his recommendations to participants in the industry - "follow future money allocations by the US Government" and "all present technologies are insufficient, and will be replaced".

The Israelis are pursuing a broad range of solutions and products. Among these one finds encryption, smart cards, remote sensing, biometric control access systems, document verification, electronic fencing and perimeter security systems, unmanned airborne vehicles,

radioactive material detection, computer protection software, fleet management communications, passive radar systems, face recognition, eavesdropping control, voice authentication, tracking people in secured areas, wireless home and security systems.

Hasbrouck Miller, VP of the American Smiths Detection company, and a number of other speakers, stressed the importance of designing "fused technologies". In order to earn

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money in this industry domestic, non-HLS applications can be engineered and for that multi-purpose products are required.

Dennis Floyd, a Boeing executive, pointed out the importance of thinking in terms of America's size. millions of commercial travelers, 11.2m. trucks entering the US each year, the existence of 19,000 airports and the shipping of 7 million containers.

Bruce DeGrazia, the founder and head of the Homeland Security Industry Association warned of the many beauracratc problems that newcomers will encounter when attempting to penetrate the HSL market. The American organization with more than 4000 members has established a local subsidiary. "You might consider the importance of teaming up with American concerns. Minimally you need to be subsidiary of an American subsidiary just to be allowed to bid on government contracts. Small American companies have the help of the Small Business Administration, which provides funding".

One problem that is begging for a solution, is to be able to follow the movement of containers. More than seven million containers annually reach the United States.

The hottest technology currently is Radio frequency identification (RFID) that first appeared in tracking and access applications during the 1980s. RFID has established itself in a wide range of markets including livestock identification and automated vehicle identification (AVI) systems because of its ability to track moving objects.

Beyond the larger Israeli companies that are developing and selling HLS products, it is hard to envision how many of the smaller companies will reach the American market.

again as the tiniest medical kit. Made entirely of biological molecules, this computer was successfully programmed to identify – in a test tube – changes in the balance of molecules in the body that indicate the presence of certain cancers, to diagnose the type of cancer, and to react by producing a drug molecule to fight the cancer cells.

A Weizmann Institute of Science team headed by Prof. Ehud Shapiro, of the Departments of Computer Sciences and Applied Mathematics, developed the computer and published these results in Nature.

As in previous biological computers produced in Shapiro's lab, input, output and "software" are all composed of DNA, the material of genes, while DNA-manipulating enzymes are used as "hardware." The newest version's input apparatus is designed to assess concentrations of specific RNA molecules, which may be overproduced or under produced, depending on the type of cancer. Using pre-programmed medical knowledge, the computer then makes its diagnosis based on the detected RNA levels. In response to a cancer diagnosis, the output unit of the computer can initiate the controlled release of a single-stranded DNA molecule that is known to interfere with the cancer cell's activities, causing it to self-destruct.

In one series of test-tube experiments, the team



## Science Corner

### ***Biological Computer Diagnoses Cancer and Produces the Drug in A Test Tube***

The world's smallest computer (around a trillion can fit in a drop of water) might one day go on record

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programmed the computer to identify RNA molecules that indicate the presence of prostate cancer and, following a correct diagnosis, to release the short DNA strands designed to kill cancer cells. Similarly, they were able to identify, in the test tube, the signs of one form of lung cancer.

One day in the future, they hope to create a "doctor in a cell", that will be able to operate inside a living body, spot disease and apply the necessary treatment before external symptoms even appear.

The original version of the biomolecular computer (also created in a test tube) capable of performing simple mathematical calculations, was introduced by Shapiro and colleagues in 2001. An improved system, which uses its input DNA molecule as its sole source of energy, was reported in 2003 and was listed in the 2004 Guinness Book of World Records as the smallest biological computing device.

"It is clear that the road to realizing our vision is a long one; it may take decades before such a system operating inside the human body becomes reality. Nevertheless, only two years ago we predicted that it would take another 10 years to reach the point we have reached today. What we demonstrated is just small enough and smart enough to do the job in a test tube. Making sure it works inside a tissue culture, let alone a living organism, is going to be a challenge," Shapiro said.

### ***Israeli Firm Develops Laser Explosives Detector***

An Israeli company, International Technologies Lasers (ITL) has developed a system that can analyze and identify chemical elements by remote laser sensing. The company says that the rays are harmless to the eyes and body.

As a result cars and people may be scanned from several meters away to detect explosives, drugs or other illegal materials.

ITL is expected to sign a contract with the Public Security Ministry in the near future. Several branches of the United States security forces have also examined the device and have shown enthusiasm in its performance.

Company CEO Ami Rub said the device will be fire tested by the end of this year. The company has reported that tests aimed at recognizing and detecting materials are nearly 100 percent accurate.

ITL specializes in products and devices for the security establishment and other military bodies.

Among the items it produces are night vision equipment and optic sights. In 2001, the company invested \$2.5 million specifically in researching the identification of poison gases using remote sensing.

The device is made up of three main components - a laser beam, a spectrometer and a computer. It fires a laser beam at the target.

"The molecules or crystals are hit by the laser and react," said Dr. Mordechai Brestel, the head of the company's research team. "Any substance hit by the beam emits invisible light with its own unique wavelength, like an individual fingerprint" and the spectrometer analyzes the result of that emission.

Dr. Brestel says the company has developed a unique capability to decipher the results and to transfer them to a computer, with a database of the characteristics of various substances.

The computer then compares between its stored data and the results that the spectrometer produces, and gives the operator a real time warning if the test contains traces of dangerous or illegal substances. The device works up to a range of several dozen meters.

The company admits the device cannot examine objects inside a sealed container - a car trunk, for example - but Rub says substances still leave easily-detectable traces.

Ami Rodrich, ITL's business director, said the technology, for which U.S. and Israeli patents have been applied, has a wide variety of applications.

"At airports across the world, there is always a bottleneck where cargo and baggage have to be examined before being loaded onto the plane. Using our device, the check can be carried out in seconds."

### ***Governor Arnold Schwarzenegger Visits Israel***

California Governor Arnold Schwarzenegger during his recent visit to Israel, announced that Israeli-based Netline Communications Technologies Ltd has signed an agreement with Santa Cruz, California-based Life Safety Systems, Inc. to cooperate in the production of communications detection systems at a new plant in Santa Cruz County.

Netline Communications Technologies is active in cellular phone jamming and detection solutions. Specializing in electronic warfare and cellular

jammers, the company develops state of the art high-tech solutions, mainly for military, anti-terror units.

Santa Cruz's Life Safety Systems provides specialized terrorism-response equipment to U.S. federal, state and local agencies, government departments and military clients. The company is expanding its business and plans to increase its employees to over 60.

"Cooperation between the two companies will increase system's availability while significantly shortening delivery response times to US distributors and governmental end-users who need these solutions deployed on short notice" said Ben Teeni, Netline's Co-CEO.

"Life Safety Systems is excited about this major expansion and the jobs it will create," said Life Safety Systems President Bill Conklin. "These jobs will include high tech positions likely to be filled by former Silicon Valley employees and ex-military persons, as well as sales and professional positions.

During Governor Schwarzenegger's trip to Israel he met with Israeli business leaders in an effort to boost investment of Israeli companies in California.

### ***U.S.-Israeli Laser Destroys Medium-Range Missile in Flight***

In a test conducted recently, the Mobile Tactical High-Energy Laser (MTHEL), a joint American-Israeli ballistic missile defense (BMD) project, destroyed a large, high-speed ballistic missile armed with a live-warhead in what is the most complicated and realistic test yet of a laser-based missile defense system.



The Tactical High-Energy Laser (THEL) laser illuminator can engage up to 60 nearly-simultaneous threats at a range of up to five kilometers, while maintaining a near-100 percent rate of success.

Although the system, located at the U.S. Army Missile Range at White Sands, NM, has been successfully tested against short-range Katyusha rockets, the unspecified target missile, was described by U.S. contractor Northrop Grumman as "representative of threats faced by U.S. and Israeli forces," posed a much more sophisticated challenge by presenting a target moving at more than twice the speed, three-times the altitude and significantly more mass than the MTHEL system has faced so .

The MTHEL system grew out of the larger stationary Tactical High-Energy Laser program initiated by the Clinton Administration in 1996 to develop a joint U.S.-Israeli system aimed at providing battlefield missile defense via focused, high-powered laser beams. It was designed to use existing laser-generation; fire-control; and command, control, communications and information (C3I) technology to produce an effective low-cost defense against short- and medium-range artillery, rocket and ballistic missile threats.

The Pentagon and the Israeli Ministry of Defense have spent nearly \$300 million since development began eight years ago. Once fielded, MTHEL is expected to cost approximately \$3,000 per use - slightly less than a single Mk84 2,000lb "dumb" bomb.

Although the system is not likely to meet its original target of initial operational capability in the year 2007, MTHEL could be deployed and operational before 2010, assuming that no significant delays or difficulties are encountered in future testing.

Although the current testbed is stationary, the first-generation operational system will consist of three large vehicles to house the laser and power generation units; fire-control and tracking radar; and command and control systems, the second-generation system is intended to equip a modified Humvee truck.

Prior to its latest test, the stationary MTHEL testbed had destroyed 28 Katyusha rockets and five artillery shells in single- and multiple-engagement tests since testing began in 2000. With the recent test proving the effectiveness of MTHEL against larger threats, construction is expected to begin soon of the first full-scale prototype.



### ***IDF Tests Advanced Bomb Detection Systems***

The Israel Defense Forces are said to be conducting the first field tests of advanced bomb detection systems. The systems were installed at the Erez checkpoint in the Gaza Strip several months ago, but have been inactive in recent weeks, since Palestinian workers have not been allowed to enter Israel.

The Erez checkpoint is hard to defend, because on normal days, thousands of Palestinians and many foreigners pass through it to jobs in Israel .

The IDF land forces weapons testing unit has been testing equipment designed to detect explosive devices using a combination of scanner and sniffer technologies.

After the tests are completed, the IDF plans to install the systems at all of its international border crossings.

### ***Medical Simulator***

Simbionix is a multidisciplinary simulator that enables hands-on practice of complete laparoscopic procedures as well as teaching basic laparoscopic skills for one trainee or an entire team, at any given time.

Simbionix has developed a unique technique for realistic visualization of the human anatomy and its behavior. The LAP Mentor that combines this technique with a high-end technological system that provides realistic sensations and mimic the look and feel of an actual surgical procedure.

The simulator utilizes actual surgical instrumentation which enables practice on laparoscopic instruments that respond as in real life using laparoscopic cameras with a choice of 30° or 0° view.

The system is aimed at enhancing operational and medical decision-making, improving medical training, and expanding physiological and medical knowledge.

### ***More Funds Available for High-Tech Firms***

Israeli hi-tech companies raised at least \$255 million during the first quarter of 2004, an increase of 333% versus the \$192 million raised in the

fourth quarter of 2003. In the first three months of 2003, hi-tech companies scored only \$143 million, according to MoneyTree, a survey by Kesselman & Kesselman PwC of 69 venture capital funds.

The study found that the deal flow is increasing. 82 startups raised money versus 74 in the previous quarter and 60 in the parallel quarter of 2003.

The average investment was \$3.1 million in the year's first quarter, against \$2.6 million in the previous quarter.

Israeli venture capital funds stepped up investment by 54% to \$137 million in the quarter, compared with \$88 million in the fourth quarter of last year and only \$66 million in the corresponding quarter of 2003.

Yossi Fellus, the senior partner in the Kesselman and Kesselman and head of its hi-tech division, commented that the study's findings comply with the uplift in mood among venture capitalists, who are having more success raising money for follow-on funds. Also, more venture-backed companies are looking at public offerings, Fellus said.

In addition he sees the optimism continuing, especially given the return of interest that foreign investors are showing in investing in Israeli hi-tech.

Software regained the top position lost to telecommunications since 2000. No less than 22 software companies received \$87 million, versus 14 that had raised \$47 million in the fourth quarter of last year.

Telecommunications attracted \$79 million to 18 companies; three transactions alone were worth \$48 million, or 61% of the telecom investment in the first quarter.

Life sciences maintained relative stability. The number of transactions inched up: 25 companies received \$50 million. Medical technology attracted \$33 million to 15 companies, biotechnology received a little more money – 10 firms took in \$17 million, compared with five companies receiving \$11 million in the previous quarter.

The study found that 52 out of a total of 82

companies are also supported by the Ministry of Industry and Trade's chief scientist.

### **Higher Software Exports Projected**

Israel Association of Software Houses chairman Amiram Shore, estimates that Israeli software exports would grow 10% to \$3 billion in 2004. Domestic sales would rise 3% to \$925 million.

Shore added that he expected 30 new software start-ups to be founded this year, and 300 additional employees to be hired by the industry. Israel's software sector currently has 13,300 employees, compared with a peak of 14,500 in 2000.

Total software sales will grow 8% to \$3.88 billion in 2004, after declining 11% during the three-year recession, estimated Shore

The optimistic forecasts are based on the recovery in the global high-tech market among traditional software consumers, particularly in the US, and the growing need in Israel and around the world for upgrading computer systems.

Software industry exports were up 5% to \$2.68 billion in 2003, while domestic sales slid 5% to \$900 million. Total sales grew 2% to \$3.58 billion.

Half of the 150 start-ups founded last year were in the software sector. At the same time, 20 software houses closed down in 2003 representing 15% of all the high-tech companies that closed down last year.

Ranked by sales, Israel's four leading software companies in 2003 were Amdocs (NYSE: DOX) - \$1.48 billion (8% less than in 2002), Mercury Interactive Corporation (Nasdaq: MERQ) - \$506 million (26% more than in 2002),

Check Point (Nasdaq: CHKP) - \$432 million (up 1.3%),

Formula Systems (Nasdaq: FORTY; TASE: FORT) - \$367 million (up 29%).

### **Israel-India Trade Soaring**

The Indian Embassy in Israel has reported that two-way trade with Israel increased by 41.7% for the first

three months of 2004 reaching \$534.1 million compared to \$377.0 million in the corresponding period last year. Indian exports to Israel increased by 32.74% from \$212.0 million in 2003 to \$281.4 million in 2004. Israeli exports to India increased by 53.15%, from \$165.0 million in 2003 to \$252.7 million in 2004. Share of India's exports in Israel's global imports increased from 2.6% during January-March 2003 to 2.9% in the same period in 2004.

Based on the bilateral trade figures for the first three months of 2004 (issued by the Central Bureau of Statistics, Israel) India is Israel's second largest trading partner in Asia after Hong Kong.

### **Israeli VSATs for India's e-Choupal**

Israel's Gilat Satellite Networks has announced the signing of a multi-million dollar contract with Indian Tobacco Company (ITC) to supply VSATs for ITC's expanding Internet project, e-choupal, now reaching over two million farmers in six states.

### **AudioCodes buys Ai-Logix for \$10m**

Voice-over-Packet technology company AudioCodes (Nasdaq: AUDC), announced that it had bought the privately held New Jersey company Ai-Logix. Ai-Logix provides of advanced voice recording hardware technology for the call logging and voice recording industries. It reported revenues of approximately \$13 million in 2003.

AudioCodes paid \$10 million cash for all the shares in Ai-Logix. A further payment of up to \$10 million in 2005 will depend on the achievement of revenue milestones by the Ai-Logix in 2004.

Upon closing of the acquisition, Ai-Logix became a wholly owned subsidiary of AudioCodes Inc., which is a wholly-owned subsidiary of AudioCodes Ltd. Ai-Logix's current management will remain in place.

### **Computer-Aided Surgery**

The 7th Symposium, for Computer-Aided Surgery, Medical Robotics and Medical Imaging convened in May in Israel at the Rabin Medical Center. It was attended by local and foreign clinicians, scientists, and engineers involved in medical imaging, computer science and robotics and their application to the monitoring and execution of medical operative surgery.

NAVICATH, an Israeli startup, founded by Prof. Rephael Beyar is developing a semi-automatic, remotely controlled cardiac catheterization system. The novel catheterization system will assist the medical team and will result in a more efficient and accurate procedure, thus decreasing the risk to the patient. It is Israel's main entry into robotic aided surgery.

The world of technology and medicine is joining forces in response to the challenge of the astronomical fees, the experience of excessive postoperative pain, extended recuperation periods, and the imperative for lessening of risk of infection and complications that often accompany traditional surgery. Minimally invasive surgical techniques (MIS) combining robotics, artificial intelligence and other technologies are beginning to make inroads into traditional surgery.

The world's first telesurgery became a reality when in September 2001, surgeons in New York used Computer Motion's Zeus and Socrates systems to remove a gall bladder from a patient nearly 4,000 miles away in Paris, France.

Surgeons are becoming aware that mechanical, computer-aided systems now allow them to operate more precisely, less invasively and with reduced blood loss. The desired result is that patients enjoy shortened healing times. Most are able to return to work two to three times faster than they would otherwise.

Israeli surgeons have been learning various new procedures and have begun applying them. A live cardiac surgical operation, using the Zeus robotics system was viewed by the audience that was seated in an auditorium 500 feet from the operating theatre. The operating surgeon Dr. Alon Stamler explained the robotically assisted operation and answered questions from the rapt audience, throughout the operation.

Interest in robotics was first evident at the Technion. It was Prof. Moshe Shoham of the Technion who invented the first Israeli medical robot. Mazor Surgical Technologies was founded in 2001 as an incubator company of Technion, Israel Institute of Technology, in order to house inventions by Moshe Shoham, head of the institute's robotic laboratory. The company has raised about \$9.5 million to date from investors including Johnson & Johnson Development

Corp., the Shalom Equity Fund, Alice Ventures, DOR Ventures and Proseed Venture Capital.

The company, having obtained marketing approvals in both the U.S. and Europe, will launch its robotics product, tradenamed SpineAssist, next month.

Another company prominently featured at the conference was Odin Medical Technologies which has developed and manufactures intraoperative magnetic resonance imaging (MRI) image guidance systems designed to improve neurosurgical interventions with a special focus on minimally invasive procedures.

Its key product, the Polestar N20 system, has received clearance by the U.S. Food and Drug Administration (FDA).

Odin has entered into an exclusive partnership agreement with Medtronic Surgical Navigation Technologies (SNT) in Louisville, Colo., for worldwide distribution and marketing of the PoleStar™ intraoperative Magnetic Resonance Image (iMRI) Guidance System. The agreement also includes a minority investment by Medtronic in Odin Medical Technologies and outlines plans for collaboration in new product development.

"The PoleStar N20 reportedly sets a new standard in intraoperative MRI. With its unique and compact design, it allows neurosurgeons to take advantage of intraoperative imaging without the compromises inherent in other systems, such as extensive renovation of the operating room or restrictions upon the surgeons' choice of instruments," said Nadim Yared, vice president and general manager of Medtronic Surgical Navigation Technologies.

Others involved in the development of the unit include a number of leading institutions such as Sheba Medical Center, Tel-Hashomer, Israel and Barrow Neurological Institute. David Gal, president and chief executive officer said, "The true innovation at the core of the PoleStar system is the concept of bringing the MRI to the OR as opposed to performing surgical procedures in an MRI suite," stated Odin.

Dr. Stephen Papadopoulos, of Barrow Neurological Institute (BNI) said, "The clinical and financial impact of dedicating one of a hospital's operating theatres

solely to the use of an intraoperative MRI can be disastrous, as many of these rooms sit idle when the MRI unit is not in use. With the PoleStar, we avoid these issues as the unit can be stored when not in use, allowing the room to be utilized for other types of surgery.”

BNI at St. Joseph's Hospital and Medical Center, located in Phoenix, is among the first institutions to acquire the PoleStar N20. Robert Spetzler, M.D., chairman of the Barrow Neurological Institute, said, “Since its inception, BNI has been committed to developing medical technology to improve patient outcomes. We are excited to become the first institution in the United States to add the PoleStar N20 and its unique capabilities to our armaments for the benefit of our patients.”

Sheba Medical Center has already performed two surgeries with the new PoleStar N20. “The field of view encompasses the entire brain,” said Moshe Hadani, M.D. “The acquisition of images is faster than before due to the ease of the positioning of the patient. Most importantly, the image quality is very good, comparable to traditional diagnostic images. In addition, navigation is very accurate throughout the procedure, with no need for registration. With no registration required, the application of the system is greatly simplified, and pre-operative set-up time is minimized.”

The company was founded in the high-tech industrial zone of Yokneam, Israel, in 1996 by a Research and Development team with extensive experience in the design and production of MRI systems. It currently employs 50 scientists, engineers and medical specialists.

Over 20 systems have been installed worldwide with additional installations pending. Three of the installations already use StarShield.

### ***Israeli Vying for IPOs***

Approximately a dozen Israeli technology companies are preparing to go public primarily on the U.S. Nasdaq market, to take advantage of a returning taste for technology stocks after a three-year period of silence. The companies are expected to raise capital as investors regain interest worldwide in initial

public offerings in technology shares and as the Israeli economy recovers.

Most observers still consider Nasdaq as the ideal location for Israeli technology companies.

Earlier this year Lipman Electronic Engineering (Nasdaq: LPMA), a maker of electronic payment systems, raised around \$124.8 million in a Nasdaq IPO.

More recently technology services company Ness Technologies Inc. filed to raise up to \$150 million on Nasdaq. Israeli media have reported that memory chip maker Saifun Semiconductors plans to raise \$250 million on Nasdaq in 2004

The Israeli economy has suffered a recession in the past three years as a result of the global high-tech slowdown, which hurt Israeli exports, as well as the outbreak of Israeli-Palestinian fighting in late 2000. The ability of Israeli firms with a large domestic presence, such as Ness Technologies, to raise capital is likely to be buoyed by better economic prospects, .

However, analysts said that the potential demand for Israeli stocks has still to return to 1999-2000 levels. In 2000 around \$4.6 billion was raised in 33 Israeli offerings on Nasdaq.

They said Israeli firms could raise \$500 million to \$1 billion this year, mainly from Nasdaq IPOs.

As compared with the situation in 2000 neither investment bankers nor the public are willing to consider investing in companies without a track record. Today a company must have sales and profits and a strong balance sheet.

Analysts said that while the bulk of IPOs would be focused on the U.S. market, there was scope for listings on the London Stock Exchange for firms with target markets there.

Visonic Ltd., an electronics security systems maker raised 9.6 million pounds (\$16.9 million) on the London bourse. Software communications company, Smart Link, said last month it was also considering an IPO in London.

While Israeli firms outside of the technological sector could also seek IPOs, the global economic climate has yet to pick up, analysts say.



### China-Israel to Develop Super Rice

China's national rice research center and an Israeli biotechnology company plan to cooperate on the development of a high-yield hybrid rice.

Professor Yuan Longping, director of the China National Hybrid Rice Research and Development Center, and Vered Yesodi, chief executive officer of Ferti Seeds signed the agreement at a ceremony in Jerusalem, Xinhua, China's official news agency, reported.

Yuan, became the first Chinese scientist to receive Israel's Wolf Prize in Agriculture, sharing it with Steven Tanksley of Cornell University.

At the signing ceremony, Yuan said that five years will be needed in order to develop a super-hybrid rice and bring it to market.

## Venture Capital Survey Q1 2004

### Israeli high-tech companies raise \$323 million in Q1 2004

In the first quarter of 2004, 111 Israeli high-tech companies raised \$323 million from venture investors – both local and foreign (Chart 1). The amount was up 31 percent from the \$246 million raised by 96 companies in the previous quarter and 53% higher than the \$211 million raised by 86 companies in the first quarter of 2003. The average company financing round increased by 13 percent from the previous quarter and 18 percent

from the first quarter of 2003 to \$2.9 million. Sixty-seven companies attracted more than \$1 million. Of these, 11 companies each raised between \$5 million and \$10 million and ten companies each raised more than \$10 million.

Zeev Holtzman, Chairman of IVC Research, said "Capital raised in Q1 was the highest in eight quarters. The increase is a very positive sign, indicating the strength of Israel's high-tech industry. Figures are encouraging, especially when compared to the less positive trends in the US and Europe."

#### Israeli VCs boost investments

In the first quarter, Israeli VCs invested \$158 million in Israeli companies, an increase of 52 percent from the previous quarter and 68 percent above Q1 2003 levels. The Israeli VC share of the total amount invested in Israeli high-tech companies rose to 49 percent, compared with 42 percent in the previous quarter.

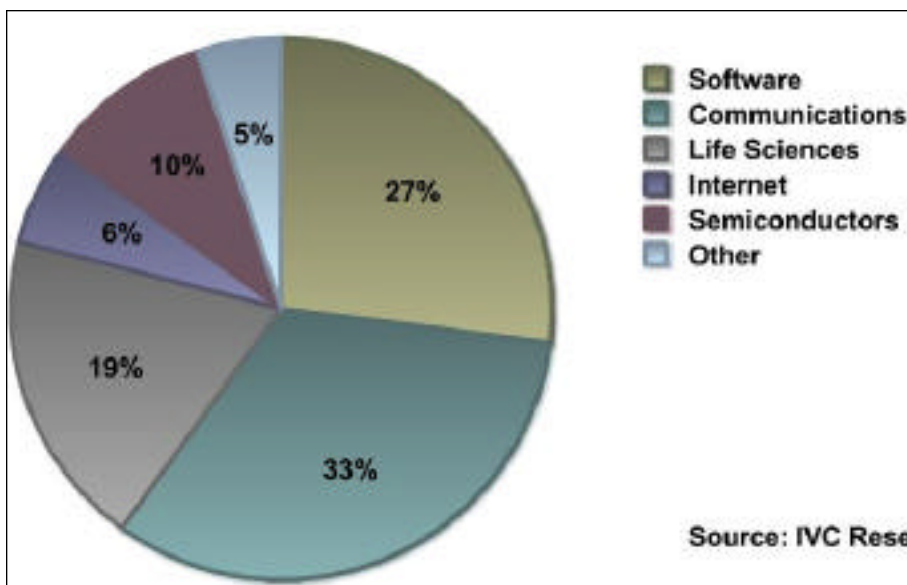
First investments in Israeli companies accounted for 44 percent of total Israeli VC investments, compared with 42 percent in the previous quarter. The average First investment by Israeli VCs was \$2.0 million, and the average Follow-on investment was \$0.8 million.

Efrat Zakai, Director of Research at IVC, said "More investments, greater activity in the capital markets and a pickup in exits of Israeli companies during the first quarter, indicate an improved environment which is likely to continue over the near to intermediate term."

Israeli VCs invested \$22 million in 10 foreign companies. This compares to \$33 million invested in foreign companies in the previous quarter and \$18 million in the first quarter of 2003. Five of the 10 investments were First investments.

### Capital Raised by Stage

Late Stage companies attracted \$64 million in the first quarter, compared with \$44 million raised in the corresponding quarter of 2003. However, Mid-Stage companies continued to dominate capital raising as they had for the last six quarters. Forty-four Mid-Stage firms raised \$169 million, 52 percent of total capital raised. Thirteen Seed Stage companies raised \$13 million, four percent of the total, the same share as in the previous quarter.



## Capital Raised by Sector

The Communications sector led in fund raising. Twenty-seven communications companies attracted \$108 million, 33 percent of the total amount raised, compared with 23 percent in the previous quarter and 37 percent in the first quarter of 2003. Software followed with \$89 million raised by 27 companies, an increase of 65 percent from the amount raised in the previous quarter and 134 percent from the first quarter of 2003. The life sciences and the Internet sector attracted \$60 and \$19 million, respectively, similar to the amounts raised by these sectors in the previous quarter.

## Intel Israel Revolutionizes

### Chip Development

Israeli researchers at Intel have achieved a breakthrough in chip development that will enable computers to operate at 10 times the current speed. In a development that promises to change the world of computing and telecommunications within five to 10 years, the electro-optic chips developed during the past year and a half at Intel's Jerusalem facility will replace the standard electronic chips used for communications between computer components. This will allow this communication to be conducted at the speed of light - 10 times the current speed. Amir Elstein, the co-CEO of Intel Israel and director of Intel's Jerusalem facility explained that today's fastest processors operate at speeds of three gigahertz but the other components work in megahertz which is a major bottleneck, when the chips, the processor and the ports of the computer speak at the same speed, which will be about 10 gigahertz, the computer's capability will be totally different.

He also added that unlike today's chipsets most of the data will be transferred via a single optic opening of one optic port.

A beam of light is split into two separate beams as it passed through silicon, and then a novel transistor-like device is used to hit one beam with an electric charge, inducing a 'phase shift.' When the two beams of light are recombined, the phase shift induced between the two arms makes the light exiting the chip go on and off at over one gigahertz (one billion bits of data per second), 50 times faster than previously produced on silicon. This on and off pattern of light can be translated

into the 1's and 0's needed to transmit data.

Intel, the world's largest chip maker, has been operating in Israel since 1974, and has 5,200 employees at its four main development centers in Jerusalem, Haifa, Kiryat Gat and Petah Tikva.

## Given and J&J Sign Marketing Pact

Given Imaging (NASDAQ:GIVN) announced the signing of an exclusive sales representation and co-promotion with Ethicon Endo-Surgery, Inc. a Johnson & Johnson company. InScope, a business division of Ethicon Endo-Surgery, Inc. will have exclusive rights to market Given Imaging's M2A Esophageal Capsule, following clearance from the U.S. Food and Drug Administration. Given Imaging currently expects to release the M2A Esophageal Capsule before year ends.

## Ben Gurion University to Invest \$3m in Biotech

Ben Gurion University of the Negev will invest \$3 million in biotechnology and drug development, university president Prof. Avishai Braverman said during the annual meeting of the University's Board of Directors. He explained that the investment was motivated by complaints in the biotechnology industry, in recent weeks, that Israeli venture capital funds were not investing in the medical sector because they were looking for short-term profits.

According to Braverman, the Ben Gurion Negev Technologies and Applications Biotechnology Research Fund had sponsored 13 development projects, four of which had recently become commercial ventures, or were in the process of becoming so.

Braverman added that the Marc Rich Foundation in Israel had recently contributed \$5 million to recruitment and sponsoring young scientists at Ben Gurion University. Prof. Sir Aaron Klug, who won the Nobel Prize for Chemistry in 1982, and served for three years as chairman of the International Advisory Committee for the National Institute for Biotechnology in the Negev, was recently appointed acting executive director of the Institute.

## Gemini invests \$4m in Cognera

Gemini Israel Funds announced that it has completed a \$4 million seed investment in Cognera. This is

Gemini's fifth seed-stage investment in the past year. Cognera founder Eilon Tirosh also invested.

Cognera develops software solutions for communications operators to control and correct business procedures. The company's flagship product tests procedures and value added services for fixed-line and mobile communications operators in real time. The solution can immediately locate and correct breakdowns affecting customer service levels.

Cognera was founded by Tirosh and Oren Glanz, entrepreneurs with a broad technological background in communications and managing start-ups. Tirosh was a founder of eXalink, which was sold to Comverse Technology (Nasdaq: CMVT) for \$550 million. Glanz cofounded and led Teleknowledge, a developer of billing solutions for communications providers.

Glanz says Cognera is now negotiating to establish business and technology partnerships with communications operators worldwide, in order to test the company's flagship product. "We're in contact with European wireless operators, especially with those that focus on providing advanced communications services."

The proceeds from the financing round will be used to add personnel to Cognera current staff of eight.

### ***Peptor Ltd. Acquired by DeveloGen AG***

DeveloGen, a German biotech start-up focused on treatments for metabolic disease, has completed its acquisition of Israeli drug discovery company Peptor. The merged company has raised EUR19 million (\$22.8 million) in a still-open round.

Peptor Ltd., is a biopharmaceutical company engaged in discovery and development of immunotherapeutic drugs to treat diabetes and other autoimmune diseases. DeveloGen AG, is a biology-driven drug discovery company developing novel therapies for diabetes and obesity. The merged company will have its headquarters in Germany and will be known as DeveloGen AG. The newly merged company will keep the R&D operation of Peptor in Israel and maintain the professional team there for future preclinical and clinical development.

### ***The IAF Conducts Test launch of "Patriot" and "Hawk" Missiles***

A test launch of "Patriot" and "Hawk" missiles was conducted at a IAF base in central Israel. The

experiment was completed successfully and tested the technological improvements in the components of the air defense and included the launching of the missiles. The technological improvement will be included in Israel's air defense.

### ***Hungary to Receive Broadband via Amos 2 Satellite***

Israeli satellite "Amos 2" is orbiting in the skies of Eastern Europe. In the middle of April, Hungarian residents began connecting to high-speed internet via the Israeli satellite, which provided all Hungarians with television stations, just as the "Amos 1" satellite had done until now.

This was related by the directors of the Spacecom, the satellite's operator, prior to the government launching ceremony of Amos 2 satellite operations in Budapest Hungary.

Spacecom's operations in the country is currently estimated at \$4 million per year in long-term contracts. Spacecom has been operating in Hungary since 1996, after it signed an agreement to provide satellite services via Amos 1, with Antenna, the Hungarian government broadcasting company. The largest service provider in Italy, Telespazio, which provides broadcast services to Hungarian television stations from local transmitters, has now signed an agreement with Spacecom to distribute television stations to its cable centers.

David Pollack, CEO of Spacecom, said that "Hungary has an honorable place in our company, as it is the first country we operated in following the launch of Amos 1. We hope to continue and deepen our penetration of this market".

### ***A Prosthetic Tooth Eliminates Drug Addiction***

A joint Israeli-European team has unveiled an innovative development for weaning addicts off drugs - a prosthetic tooth that releases medication to reduce the addict's craving. The Israeli daily Ha'Aretz reported that the scientists developed a microcomputer that is planted in a prosthetic tooth in the mouth of the addict, many of whom suffer from dental problems and missing teeth. In an adjacent prosthetic tooth sits a tiny cell containing the medication, which is released by computer into the addict's mouth. The researchers intend to miniaturize



the device to the extent that both the microcomputer and the medication cell can be planted together in one prosthetic tooth.

The project is headed by engineer Bentzi Biesky and dentist Dr. Andy Wolf, both of the Assouta Medical Center in Tel Aviv. The two originally developed the device for patients suffering from dry mouths. Clinical tests of the medication-dispensing device will be carried out in Europe through to the end of 2005.

**Fortissimo Raises \$60m.**

A new private equity fund has launched operations in Israel: Fortissimo Capital, headed by former JVP general partner Yuval Cohen, has closed a \$60 million financing round.

The new fund will invest in established technology companies with existing product lines and revenue streams. Its investors include a wide variety of Israeli institutions, led by Migdal Insurance, which put up \$30m. of the total, as well as a number of banks, provident funds, and pension funds.

The closing was the first step of an \$80m.-100m. placement the fund hopes to close within a year, Cohen said.

Cohen played down comparisons between the new \$400m. Markstone fund headed by former Lehman Brothers Israel head Ron Lubash, which will focus on investing in large 'old economy' companies, and stressed that the fund is not interested in venture financing.

Fortissimo is looking to invest in significant stakes of publicly-traded companies or spin-offs of company divisions, or taking active stakes in private companies. The fund plans to invest \$5m.-25m. per company, either alone or through associated investors.

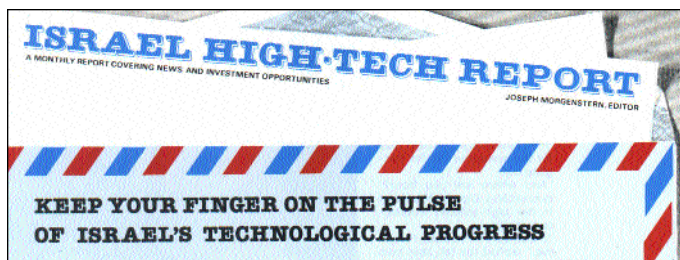
The fund will be the first in Israel to focus exclusively on non-early-stage hi-tech companies, Cohen said. "In the past, the only ones buying stakes of post-venture stage hi-tech companies have been holding companies like Clal Industries & Investments, Discount Investments, Koor Industries, and Elron Electronic Industries. The market for business-proven companies is a growing segment with a lot of deal flow. There is also a growing

need for funds, which can provide support activities for the companies."

**Nice in Deal with US Casino**

NICE Systems (Nasdaq:NICE), a Israeli firm specializing in multimedia digital recording solutions, applications and related professional services for business interaction management, today announced a major additional deployment of its security solutions by Foxwoods Casino, one of the largest resort casinos in the world. This premier resort has chosen NICE's advanced security technology to enhance and protect its own assets and the more than 40,000 guests that visit Foxwoods each day. The system also saves the resort both time and money by eliminating fraudulent liability claims.

"Currently deployed at many leading gaming facilities worldwide, NICE has become the next-generation solution for the casino environment. Tribal government gaming generated \$15.9 billion in revenues in 2003 and Foxwoods Indian gaming resort is one of the largest and most unique casinos in the world. Their continuing preference of NICE video solutions is testimony to our quality and reputation in this market," states Jacob Fox, vice president and general manager of NICE's video security business in the United States.



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