

ISRAEL HIGH-TECH & INVESTMENT REPORT

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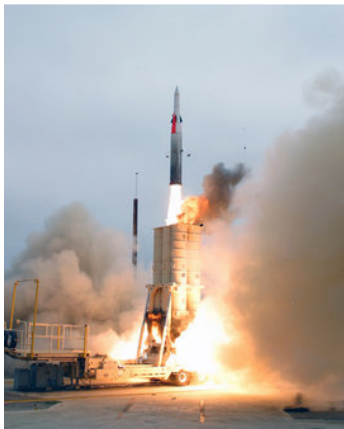
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“Israel’s answer to Iran’s BMs”

Israel’s answer to Iran’s ABMs

A nuclear Iran appears to be a real possibility, yet the prospect of a nuclear war in the Middle East would not appear to be imminent. Iran is well aware that Israel possesses a return strike capacity which could lead to millions of casualties. Because of this situation, ballistic missiles are becoming an important aspect of a military’s arsenal.

Israel’s main concern is Shahab-3 an Intermediate-range ballistic missile that was built by Iran’s military and has a range of 900 miles.



Israel’s main deterrence against the dangers from a “dirty” missile attack is its \$2.0 billion Arrow Anti Ballistic Missile. Its development began in the early 1990s and in 1998 it had its first successful deployment. The Arrow is the world’s only first ABM system, which is specifically developed to destroy incoming missiles. The Arrow Missile is a defense

system against medium-range ballistic missiles. It can intercept missiles within a wide spectrum of ranges and altitudes, and can provide protection over large areas. Specifically it is designed to intercept medium- and short-range missiles, in keeping with Israel’s perception of its exposure to Iranian missiles.

Israel recently tested successfully the Arrow anti-missile system, in its first nighttime trial, intercepting a test target that simulated the warhead of a long-range Iranian surface-to-surface Shihab-3 missile. “We have never before tried the Arrow against the Sahib characteristics, but we know now that we are capable of intercepting all existing ballistic missile threats in

the region, whether conventional or non-conventional, and we are developing capabilities to deal with future threats,” said Director of the Israel Missile Defense Organization, Aries Herzog.

The trial was carried out under the auspices of the Arrow Systems Improvement Program (ASIP) agreement between Israel the US. It was the fifteenth trial of the Arrow interception system, and the tenth

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IAI to unveil solar-powered UAV

178 incubators raised \$250m in 2006

Israel fourth among defense suppliers

Oracle to triple investments in Israeli startups this year

Number of First Investments by top 10 funds show stability

Bomb-Sniffing breakthrough for bags

Foreigners invested \$1.4b in Israel in January

Skin color identifies illness

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Cellcom Israel Enlarges IPO, Prices Above Expected Range

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Third Israeli Phone Provider

Shekel’s trading 14% below its fair value, according to Big Mac index

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Industrial exports up 11%; high-tech up 20%

Ronald Reagan Washington airport to use Nice systems

A group of genes that slows cell division and prevents cancer

US Marines select Rafael’s Golan armored vehicle

trial of its weapons system. The trial was designed to assess the improvements that have been made to the system, which include the expansion of the range of hostile targets that the system can intercept.

The Arrow is expected to provide the country with a security net that will extend over most of its major cities, including its most populous centers, between Haifa and Ashdod and including Tel-Aviv. The Arrow Missile Project has acquired several dimensions; among them is its deterrence aspect while its political implications are high on the list. Over the past decade, localized skirmishes including the bombing of Libya and the "Scudding" of Israel by Iraq during Desert Storm, as well as Iran's acknowledged missile capability, have created a pressing need for a security net. "Defense News" reports that the US Missile Defense Agency at the Department of Defense has extended financing for the Arrow System Improvement Program (ASIP) by five years. This is seen as an important achievement for the Arrow anti-ballistic missile program, in that the US recognized the system's technology and capabilities, which were demonstrated in the latest trial.

IAI to unveil solar-powered UAV



Israel Aircraft Industries Ltd. (IAI) will shortly unveil a solar-powered unmanned aerial vehicle (UAV). The UAV runs off solar power and stores the power to continue to operate during nighttime

operations as well.

IAI will also display its computerized fluid dynamics (CFD) system, which helps design the aerodynamics of aircraft. IAI used the system in the design of its new G150 Gulfstream executive jet, built together with Gulfstream Inc. Thanks to the system, the G150 has a better performance than in the original design.

178 incubators raised \$250m in 2006

Incubator companies raised \$250 million in 2006, 43% more than the \$175 million raised in 2005, states a report on the technology incubators' activity for 2006. 178 incubator companies raised capital, 60% more than the 112 companies that raised capital in 2005

BIRD Foundations annual review

A total of 27 projects were approved (25 full projects and 2 mini-projects) - about 40% of them in the

field of life sciences, nearly as many in the field of electronics and software, 20% in telecommunications, and the remainder in the fields of homeland security and renewable energy. The combined budget of the projects was over \$70m. while the investments approved passing \$23m.

Israel fourth among defense suppliers

Defense News reports that Israel arms exports set two records in 2006; the value of new deals topped \$4.8 billion, and included \$1.0 billion of sales to the United States. Israel garnered more than 15% of the total world market and was fourth among defense suppliers after the United States, Russia and France.

The Year-end data by the Ministry of Defense's (MoD's) SIBAT Defense Export and Defense Cooperation Organization shows new agreements valued at an all-time high of \$4.86 billion, nearly \$900 million more than the previous 2002 peak of \$4.02 billion.

The top three buyers of Israeli defense goods and services were India, with 2006 purchases of \$1.3 billion; the United States, \$1.1 billion; and Europe, \$932 million.

The record year gave Israel command of close to 15 % of global market share, ranking the country fourth

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among defense suppliers behind the United States, Russia and France. In 2005, the United States signed \$12.75 billion in new agreements, while France and Russia inked \$7.9 billion and \$7.4 billion, respectively

Oracle to triple investments in Israeli startups this year



Oracle has declared its intention to triple its investments in Israeli startups.

During 2006 the enterprise software systems provider invested several million dollars in four local startups. The investment was made in partnership with Eli Ofer, the Chief Scientist of the Ministry of Industry

and Trade.

Oracle in 2007 will be investing in anywhere from 12 to 15 more subsidiaries, says Moshe Horev, its business manager in Israel and a member of the international management team. "Oracle's M&A division is looking at more than one Israeli company," Horev said.

Oracle Israel recently inaugurated its new R&D center, which is based on the manpower and R&D unit at Demantra, an Israeli business applications vendor that Oracle bought in 2006.

Number of First Investments by top 10 funds show stability

IVC Research Center has released its compilation of 2006's most active Israeli venture capital funds. The ranking was made by the number of First Investments in 2006. Data are based on the IVC Online Database and information received directly from the VC funds. The report relates to investments made in Israeli, Israel-related and foreign high-tech companies by Israeli management companies that had a minimum of \$30 million under management.

Pitango topped the 2006 most active funds list with 10 First Investments. Gemini, ranked second with nine First Investments. Benchmark Israel and Carmel ranked third with eight First Investments, followed by Genesis with seven, Evergreen and Sequoia Israel with six and Cedar, Giza and Vertex with four each. All leading management companies on the list, except for Cedar, raised new funds in the past three years.

10 Most Active Israeli Venture Capital Funds in 2006
Ranked by number of First Investments

Management Company	No. of First Deals	Companies
Pitango	10	3DV, Beta-02, Contigo, D-Pharm, FringLand, Kilopass (non-Israeli), Neocraft, StarNet, Varonis, YCD
Gemini	9	Arootz, bp Interactive, Contigo, eSnips, Novafora, Panaya, Prime Sense, SupportSpace, Wellsphere
Benchmark Israel	8	Clarizen, DriveDiagnostics, Funtactix, GameStream, LucidEra (non-Israeli), Panaya, Seeking Alpha, Sentrigo
Carmel	8	C-nario, Clarizen, DesignArt, Enure, MyThings, OverSi, TeraOp, Verix
Genesis	7	Commex, Correlix, Oree, Prime Sense, PulsaCool, Serendipity, Valens
Evergreen	6	Crescendo, e-Glue, KnockaTV, NeuroSonix, Olista, WiNetworks
Sequoia Israel	6	Dblur, Discretix, Pontis, SintecMedia, Stardoll (non-Israeli), Unisfair
Cedar	4	Double Trump, Hiro, iamba, Media Layers
Giza	4	APPProtect, Double Trump, Play Frontiers, YaData
Vertex	4	APPProtect, Commex, EthOS, Novafora

Pitango, Gemini and Giza were the most consistent seed investors, each with four. Benchmark Israel was the most sector-focused fund of the ten, investing five of its eight First Investments in the Software sector. Four of Gemini's nine First Investments focused on the Internet sector, while Carmel, Pitango and Vertex invested in three Communications companies each

According to IVC General Manager Guy Holtzman, "For 2007, we are forecasting stability in new early stage investment activity by Israeli VC funds. Competition among VC themselves, as well as with private investors, is pushing company valuations higher, especially in the Internet and new media sectors.

The top 10 funds made 65 First Investments, just above the 63 first investments made in 2005 and an increase of 23% from 53 investments in 2004. Twenty-one of the investments 32 % were in Seed stage companies, IVC33, 5% were in R&D stage companies, and another 11, 17% were in later stages companies. Software sector attracted the highest number of First

Investments by the most active funds in 2006 - 22 deals (34%), followed by the Communications sector with 18 investments (28%), Internet with 14 deals (21%), Other Technologies with eight and the Life Sciences with three.

Star, JVP, Pontifax and Infinity that ranked in the top 10 most active funds in 2005 are missing from 2006's top ranked firms.

Bomb-Sniffing breakthrough for bags

Israeli startup TraceGuard aims to thwart terrorists with technology it claims can detect at airports solid and liquid explosives with greater accuracy

The alleged plot to blow up U.S.-bound airliners from Britain last month underscored one of the weakest links in air travel. Five years after the September 11 terrorist attacks in New York and Washington, security authorities have made little progress detecting liquid explosives in carry-on luggage with existing technology. But an Israeli startup called TraceGuard Technologies says it has devised new technology that can sniff out solid and liquid bombs faster and more accurately than any alternatives.

The company is planning its first commercial installations in December at Ben Gurion Airport near Tel Aviv and at a security checkpoint between Israel and the occupied West Bank. The initial system, called CompactSafe, is designed to detect explosive residues on the surface of—and, more importantly, inside—small electronic devices such as laptop PCs, iPods, cameras, and cellular phones. A second model, called CarrySafe, will be able to detect liquid explosives in larger carry-on bags when it rolls out in 2007.

The key breakthrough: The objects under examination are placed in a sealed enclosure that fills up with compressed air. That loosens particles of explosive materials, which can then be sensed in a matter of seconds by a conventional trace detector. Both the CompactSafe and CarrySafe will be located next to existing carry-on baggage X-ray machines.

The British plot was foiled thanks to intelligence that let British police nab the alleged terrorists before they were able to sneak explosives aboard planes. But if the plotters had made it to the airport, would they have been detected? "With the techniques currently in use, it's doubtful the terrorists would have been caught at

the airport," says Ehud Ganani, chairman and CEO of TraceGuard, which was founded in 2005.

Indeed, the primary method used today to spot explosives or other suspect substances in carry-on bags is to swab the outside with a small cloth and then analyze the tissue in a trace detector. But "swabbing has proven to be only 20% effective at best, and is extremely time-consuming," says Ganani, who was previously the CEO of Israel Military Industries and worked at Israel's top secret Rafael Arms Development Authority.

TraceGuard's novel approach is based on work done in 2002 by Israeli physicist and materials expert Fredy Ornath. A weapons-development consultant for Israel's defense industries, Ornath turned his attention after September 11 to finding more efficient ways to detect explosives in all forms. He's now the chief scientist at TraceGuard.

At the company's lab near Tel Aviv, explosives experts spend their days trying to outsmart their own detection devices. An adjoining storage room is filled with carry-on bags of all shapes and sizes, as well as electronic devices and innocent-looking cosmetics and toiletry items that serve as testers. "We try to stay one step ahead of the terrorists by placing explosives in the most innocent-looking items," says Gil Perlberg, vice-president for marketing and engineering at TraceGuard. The team of experts is led by a former policeman who counts years of experience with suicide bombers and liquid explosives such as TATP, which reportedly was an explosive the British plotters planned to use.

To back the push, TraceGuard, which is traded over the counter in the U.S., is in the process of raising \$10 million in private equity. It plans a major marketing effort in 2007.

"Only 2% of air cargo is currently checked for explosive traces," says Ganani. With terrorists always looking for new ways to carry out their attacks, companies like TraceGuard are scrambling to stay ahead of the bad guys.

Foreigners invested \$1.4b in Israel in January

Foreign investment in Israel totaled \$1.4 billion in January 2007, after totaling \$20.9 billion in 2006. Foreign investment in securities listed on the Tel Aviv Stock Exchange (TASE) totaled \$804 million in

January, and direct investment totaled \$570 million.



Skin color identifies illness

In December 2005, Prof. Yosef Segman flew to the United States for a crucial meeting that would determine the fate of his startup, Cnoga.

Prof. Yosef Segman, 49, had applied to conduct trials involving a new technology that he had developed for measuring physiological parameters via digital imaging of skin color changes. In due course he convinced Texas Instruments (TI), to enter a cooperation agreement. Additionally the project has been granted \$3 million in funding from the Binational Industrial Research and Development (BIRD) Foundation.

The project will integrate Cnoga's software code and algorithms in a processor developed by TI for cellular telephones equipped with digital video cameras. The goal is to produce cell phones that can also function as medical diagnostics devices, for measuring blood oxygen level, pulse, blood pressure and more.

This would virtually turn the cell phone into a personal medical "practitioner" for every user.

Siegmán examined thousands of photos of people with different skin tones. "The aim was to establish if a certain skin color could indicate illness. Could a certain skin tone, for example, be influenced by liver problems? He uncovered a relationship between skin colors that indicate normal health or illness.

Segman found that when people are tense, their skin tone changes. "

The first trials of Cnoga's technology will soon be tested at Bnei Zion Hospital in Haifa, supervised by Prof. Eli Zuckerman.



Mellanox IPO raises \$102m at \$510m value

Mellanox will be listed for trading under the ticker MLNX. The company originally hoped to make the flotation at \$14-16 per share. It ultimately held it at \$17 per share, reflecting a company value of \$510 million.

Mellanox sold 6 million shares, 20% of the company,

for \$102 million. The joint book-running managers, Credit Suisse and JP Morgan, and co-managers Thomas Weisel Partners LLC and Jeffries & Company Inc., received a 30-day option to purchase up to 900,000 additional shares. If they exercise this option, a further \$15 million will be raised in the IPO. Mellanox will receive \$85 million, net of costs.

Mellanox's IPO attracted attention not just because of its fairly high value, but also because the technology it specializes in. The company develops semiconductor-based interconnect chips for boosting connectivity between enterprise IT resources, a critical issue in the vision of grid IT that is currently sweeping through the computing world. Mellanox's chips can support connectivity at speeds of up to 40Gb between an enterprise's storage, memory, processing, and communications systems, thereby enabling data flow and resource sharing between devices.

Ormat Technology awarded Texas geothermal lease Ormat Industries Ltd. (TASE: ORMT) subsidiary Ormat Technologies Inc. (NYSE: ORA) has been awarded Texas's first lease for geothermal energy. The company paid \$55,645 at \$5 an acre for the right to explore land along the Gulf Coast for pockets of hot water and steam under the sea.

Ormat Technologies has signed a number of energy contracts recently, including one with Basin Electric Power Cooperative for five recovered energy generation (REG) power plants in Montana, North Dakota and Minnesota; a contract to build a \$20 million new geothermal power plant in Ngawha, New Zealand; and is participating in a \$200 million, 340-megawatt geothermal project in Sarulla, Sumatra in Indonesia.

Bioline floats at half-billion shekel market cap



Bioline Therapeutics completed its initial public offering in Tel Aviv, raising NIS 211 million at a company valuation of NIS 494 million, making this the biggest flotation by a biotechnology

company in local history.

Bioline was founded in 2003 by leading lights in Israeli life sciences, including Teva (TASE, Nasdaq: TEVA), the venture capital funds Giza and Pitango, and

the university know-how commercialization company Hadasit. Until its flotation, these and other shareholders invested \$23 million cash in the company. They have also committed to investing \$10 million more. Also, the Canadian bank Pan-Atlantic converted an NIS 38 million shareholders loan into equity.

In November 2004, Bioline won a tender to set up a biotechnology incubator with support from the Chief Scientist at the Ministry of Industry and Trade.

The company is working on the development of ten drugs, of which three have reached the stage of clinical trials, or are about to, and two are at advanced preclinical development stages.

In the first nine months of 2006 Bioline lost NIS 42 million. Being at an R&D stage, it has no customers, or revenues..”

American GlassHouse buys MBI, Integrity Solutions
The deal is estimated to be worth NIS 100m. The two Israeli companies will be merged to form GlassHouse Technologies Israel.

Market sources estimate the deal at NIS 100 million.

GlassHouse will merge the two Israeli companies to form GlassHouse Technologies Israel. The acquisition will help GlassHouse increase its presence in Europe and the Middle East, and obtain intellectual property in consultancy and IT systems infrastructure projects. GlassHouse Israel will employ hundreds of consultants, and will expand its services to servers and databases.

GlassHouse Israel currently has 200 employees, and plans to hire more. MBI founder and president Michael Burstein will become GlassHouse Technologies VP for international development, and MBI CEO Doron Rosenblum will become general manager of GlassHouse Israel. Integrity Systems CEO Dan Zilberstein will serve in a senior management position in GlassHouse Israel.

MBI was founded in 1985 and provides integrated storage solutions. Integrity Systems was founded a decade ago, and provides software infrastructure services and proactive supervision of applications, databases, open systems and operating systems.

Cellcom Israel Enlarges IPO, Prices Above Expected Range

Cellcom Israel priced an initial public offering of 20 million shares at \$20 a share, above its expected \$16-to-\$18 range.



Cellcom, based in Netanya, Israel, is the largest of the country's four providers of mobile-phone service based on subscribers and revenue.

The \$400 million placement, is bigger than Cellcom's original plan to offer nearly 19 million shares in a bid to raise about \$323 million. Underwriters have an option on 2.8 million additional shares.

Israel's IDB Holding Corp. through its Discount Investments unit is offering the shares.

Discount said in a statement to the Tel Aviv Stock Exchange that it would post a first-quarter capital gain of 660 million shekels (\$155 million) on the deal.

After the offering, Discount will hold 59% of Cellcom, down from 78.5%, the TASE statement says. If the underwriters exercise their option, the stake will fall to 56%.

The shares are to trade on the New York Stock Exchange under "CEL." Goldman Sachs, Citigroup and Deutsche Bank Securities are leading the underwriters behind the deal.

Cellcom, which began operations in 1994, said that as of Sept. 30, it had about 2.83 million subscribers in Israel and estimated its market share at 34.4%.

For the first nine months of 2006, Cellcom earned 390 million shekels, down 6% from 418 million shekels in the year-earlier period. Revenue rose 8% to 4.19 billion shekels from 3.85 billion shekels.

FDA approves Israeli start-up Barnev's birth monitor

Barnev Ltd. has obtained US Food and Drug Administration (FDA) approval for its flagship product, a computerized labor monitoring system. The approval means that the company can market the product in the US, and will initiate marketing efforts there.

Barnev's computerized labor monitoring system uses proprietary ultrasound technology to provide safe, continuous and accurate measurement of cervix dilatation and fetal head descent. A midwife currently does these measurements manually every one to four hours. These measurements are considered inaccurate, uncomfortable, and risk causing infections. In contrast, the company's computerized system

continuously and accurately monitors contractions and the fetus's heartbeat.

The ultrasound monitor includes electrodes attached to the two sides of the cervix and to the head of the fetus, three transmitters/receptors attached to the mother's abdomen and an amplifier attached to the mother's hip. The company developed all these devices. The solution's continuous monitoring gives early warning of any problem during birth and greater precision in understanding developments, which makes it possible to prepare necessary medical procedures and avoid unnecessary ones.

Barnev obtained EU CE Mark certification for its product in 2006, and it has been installed as a pilot at several medical centers. However, the company considers the US to be its main market.

In February 2006, Barnev filed a prospectus for raising \$5 million on the Tel Aviv Stock Exchange (TASE) at a company value of \$21 million, after money, but withdrew the offering because of low demand. The company recently raised \$6 million from Israeli investors at a higher company value than for its planned offering. The company has no plans to go public at this time, although it does not rule out the possibility.

Shlomo Nevo, Prof. Ofer Barnea and Dr. Dan Farine founded Barnev in 1999 at Naiot Venture Accelerator. Nevo previously founded Slo-Flo, Barnea is chairman of the Department of Medical Engineering at Tel Aviv University, and Farine is an expert in gynecology. Barnev president and CEO Yossi Machtey previously served as VP marketing at the MRI unit of Elscint Ltd.

Third Israeli Phone Provider

The Communications Ministry has granted a license to Golden Lines to operate internal Israeli phone lines - via the Internet.



Golden Lines currently provides international phone calls, using the prefix 012, in addition to Bezeq (014) and Barak (013). Internal phone calls were long the monopoly of Bezeq, which was recently joined

by Hot, using the prefix 077..

For the first time in Israel, the new phone service will be provided based on VOIP (Voice Over Internet

Protocol) technology. Golden Lines will offer packages with no monthly phone line fees, free phone calls to 072 numbers, and cheaper rates to regular and cellular phones.

Daytime call rates will be only 10 agorot per minute, compared to 11.9 agorot via Bezeq. Nighttime rates are 4.8 agorot per minute, only .1 of an agorah less than Bezeq. Some 13,000 subscribers are already registered to the service, having joined up during the company's pre-launch testing period.

Golden Lines says it has invested 30 million shekels into the project, and will continue to invest more in the field.

The service is available to Internet customers throughout the country.

Shekel's trading 14% below its fair value, according to Big Mac index



The shekel is trading at 13% below its fair value against the U.S. dollar, according to The Economist's Big Mac index.

The index seeks to measure the validity of exchange rates the world wide by comparing local prices for the utterly standardized meat patty made by McDonald's, and the exchange rate.

The theory behind the Big Mac index is purchasing power parity: in the long run, suggests The Economist, exchange rates move to levels that will equate between identical baskets of goods and services in two countries..

Israeli startup launches video ring tones for cell phones

Vringo Inc. used the DEMO technology conference to launch its service, which is free for now. If one Vringo user calls another, instead of the recipient just hearing his phone ring, he or she would see a short video clip chosen by the caller. Licensed film clips are available, but users can also upload their own video.

Of course, this requires a higher-end cell phone that can show video -- a small slice of the mobile market, at least for now. Buying a video clip from Vringo likely will cost a few dollars after the launch phase ends, but

users could send it as many times as they want.

Vringos can be sent only to people on a customer's buddy list, so you don't have to anticipate the age of unsolicited commercials appearing on your phone out of nowhere. But Vringo's founders do believe their platform has ad potential. Paid video clips eventually might end with a brief ad for users who agree to accept the commercial message, likely in exchange for Vringo discounts.

Defense Minister selects Rafael anti-missile defense system



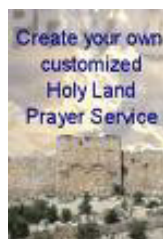
Defense Minister Amir Peretz has selected the Rafael anti-missile defense system, an Israeli model designed to intercept short-range missiles such as Katyusha and Qassam rockets.

The Rafael "iron dome" defense system, which is meant to block missiles with a range of up to several dozens of kilometers.

Earlier, it had been decided that Rafael would cooperate with the American weapons company Raytheon in the development of a system called "magic wand," meant to protect Israel from mid-range missiles.

The Hezbollah guerilla group pelted Israel with nearly 4,000 rockets, many of them Katyushas, during the war last summer. Meanwhile, Palestinian militants in the Gaza Strip regularly fire Qassam rockets at western Negev communities.

Prayers via Internet



On a recent wintry afternoon in the Old City, Orthodox Jews in black coats and hats huddled at the Western Wall, bobbing their heads as they prayed at one of the world's holiest sites. Some wedged prayers on crumpled pieces of paper, with their prayers, in the crevices of the ancient wall, a practice stretching back centuries.

The News: An Israeli start-up offers people a way to have their prayers broadcast at holy sites through speakers in Webcams.

The service, sold through phone cards, reflects a trend of using the Internet for religious purposes.

Behind them on the ledge of a nearby building, a small Webcam carried the scene live on the Internet. Speakers inside the camera played the sound of prayers, mostly from people thousands of miles away in the U.S.

The camera is owned by a start-up in Tel Aviv called Pray Over IP (the IP stands for "Internet protocol"). It sells phone cards that allow customers to record their prayers, which are then transmitted to a holy site of their choice via Internet phone and Webcams.

"It's just \$5 or \$10, and you get eternal life," says Hanan Achsaf, chairman of POIP. "With the lottery, you pay that amount, and what do you get? A piece of paper. This is much better value."

The start-up is part of an explosion of technology being used for religious purposes in recent years. Churches in Brazil offer audio clips of services through cell phones. Ringtones using religious music are gaining popularity. A survey by the Pew Internet and American Life Project found that 30% of adults online use the Internet for their religious pursuits.

The company estimates it has 1,500 users a day, sells its phone cards on two Web sites -- one for Christians and the other for Jewish users. The sites stream video from the company's Webcams, giving users a real-time look at where the prayers are broadcast.

A user records his prayer by using a POIP phone card, which allows a prayer of as long as two minutes. After calling a POIP phone number (1-888-HE-HEARS in the U.S.) and inputting a personal-identification number from the card, the user gets a choice: press one for the holy site of Jerusalem, press two for the holy site of the Sea of Galilee, and so on.

The company's Webcams at these sites transmit prayers from users around the world -- though more than 65% are in the U.S. The company has equipment at eight sites in Israel, including the Sea of Galilee, the Basilica of the Annunciation in Nazareth and the Western Wall in Jerusalem, and has plans for more.

Muscle With Embryonic Stem Cells

Israeli researchers have created new heart muscle with a built-in blood supply by using human embryonic stem cells.

The Technion-Israel Institute of Technology scientists say their new development could now make possible the

replacement of tissue damaged in heart attacks. It is the first time the researchers have created a three-dimensional cardiac tissue with blood vessels.

Published online January 11 in the journal *Circulation Research*, the research promises new applications for studies of cardiac development, function and tissue replacement therapy.

According to *Science Daily*, the newly developed heart tissue is threaded throughout with a network of tiny blood vessels that would improve the tissue's survival after being transplanted in a human heart.

Lead researchers professors Shulamit Levenberg and Lior Gepstein say they have developed the heart muscle "by seeding a sponge-like, three-dimensional plastic scaffold with heart muscle cells and blood vessel cells produced by human embryonic stem cells, along with cells called embryonic fibroblasts."

The next step is to transplant the tissue into living hearts in animals to study how well the heart muscle adapts to its new surroundings. The researchers are hopeful that the technique might also prove useful in engineering tissues for other organs such as the liver.

Industrial exports up 11%; high-tech up 20%

Industrial exports rose 11 % in 2006 to \$29.3 billion, not including diamonds. The biggest growth came from high-tech exports that rose 20 % to \$14.1 billion. This was almost half of Israel's total exports, according to a survey by the Manufacturers Association. Nevertheless, there was a significant decrease in the profitability of exports in the last quarter of 2006. The rise of the shekel against the dollar, and a 5-% increase in wage costs per production unit, accounted for the reduced profitability. The biggest gains were in exports to South America and Asia, while exports to the U.S. dropped.

Tessera buys Eyesquad for \$24m

Tessera Technologies, a San Jose-based provider of miniaturization technologies for the electronics industry, is buying Eyesquad, a developer of micro-imaging products, for \$24 million.

At the end of 2005, Tessera purchased the intellectual property rights of Israeli Shellcase for \$33 million.

Tel Aviv-based Eyesquad was founded at the start of 2006, and found a buyer in just one year. It will

continue its research and development activities in Israel. Two venture capital firms have invested four million euros in the company.

Eyesquad's technology allows cellular phones with cameras to provide features found today only in digital cameras, such as high quality images, optical zoom, automatic focus and close up images - without changing the cell phone camera's lens.

The company's technology can also be used with barcode scanners, endoscopes, and various security applications for miniature cameras. Tessera will sell Eyesquad's technology to makers of sensors, lenses and digital cameras, and will earn royalties from licensing the technology.

The company has three founders: CEO David Gasul, David Mendlovic, a former Tel Aviv University professor, and CTO Dr. Gal Shabtay. Eyesquad has 15 employees.

Ronald Reagan Washington airport to use Nice systems

Nice Systems (Nasdaq: NICE) announced that the Metropolitan Washington Airports Authority is using its technology to help secure the Ronald Reagan Washington National Airport.



The MWA is buying Nice's NiceVision Digital Video Surveillance Solution as part of a closed-circuit TV core systems upgrade, the company said.

Gunvir Baveja, president and CEO of eVigilant, system integrators for Reagan National comment on the project, "As an integrator for a project of this scope, we have to provide high levels of security without interrupting or slowing passenger flow.

"Because NICE has been providing security surveillance systems for airports around the world for years, they allow us to meet these challenges and provide our client with the best suited digital video technologies available".

The airports' security system enhancement will involve decommissioning and removing an existing video server and recording system.

The system is currently being replaced with new NICE high-resolution digital video recorders, capable of sustaining numerous cameras and providing the infrastructure and integration potential to support video content applications for real-time threat detection and analysis.

A group of genes that slows cell division and prevents cancer

Cancer cells differ from normal cells, among other things, in the way they divide. When a normal cell complies with a signal telling it to divide, it also begins to activate a “braking system” that eventually stops cell division and returns the cell to a resting state. When that braking system is faulty, uncontrolled cell division and the growth of cancer can result. Weizmann Institute scientists studied this system of brakes, and identified a number of the genes involved.

According to the study’s findings, which appeared in Nature Genetics online, aberrations in the activities of these genes are tied to certain types of cancer, as well as to the relative aggressiveness of the cancer. These insights may, in the future, lead to the development of ways to restore the brakes on runaway cell division and halt the progression of cancer. First, the scientists mapped the network of genes that is activated in normal cells upon receiving the order to divide. The “divide!” signal comes from outside the cell in the form of a chemical called a growth factor, and it initiates a chain of events inside the cell. The genes activated in this sequence produce proteins, some which cause cell division, and others that put the brakes on that division. To find which genes were responsible, the scientists needed to sift through a huge quantity of data on genes and their activities. To cope with this monumental task, a team of Weizmann Institute researchers from a diverse fields pooled their knowledge and experience

This collaboration between physicists, mathematicians, computer scientists, and biologists – the sort of multidisciplinary research for which the Weizmann Institute has gained a global reputation – yielded some startling results. They found that following the receipt of the growth factor signal, cell activity takes place in a number of separate waves in which genes are turned on and off for different periods of time. In the first wave, the activity of a few genes rises for about 20 to 40 minutes. These are the genes that cause the cell to divide. In contrast, the next four waves, ranging from 40 to 240 minutes after the signal, are comprised

primarily of gene activity tied to the process of halting cell division.

The scientists then focused on identifying the genes in these later waves and confirming that they do, indeed, put the brakes on cell division. Through their wide-ranging study, they found 50 genes that interfere with the genetic activities of the first wave. This braking system works by producing proteins that directly attach to the cell-division genes, hindering their activity. Yet another protein they identified works, instead, by dismantling messenger RNA carrying instructions for making cell division proteins from the genes to the cell’s protein-production machinery. In tests conducted on tissues from ovarian cancer patients, the scientists found a correlation between levels of activity in the “braking” genes, rates of survival, and the aggressiveness of the disease. These findings point the way toward the development of a personal genetic profile that might pinpoint the genetic defects responsible for each cancer and help doctors tailor a treatment fitted to each patient. Such a genetic profile can also help predict the individual progression of the disease. In the future, the identification of the exact factors causing uncontrolled cell division in different cancers might lead to the development of effective treatments for preventing or halting cancer growth.

US Marines select Rafael’s Golan armored vehicle

The US Marine Corps has selected the Golan multi-purpose modular armored vehicle made by Rafael Armament Development Authority Ltd. and PVI of the US for use in Iraq and Afghanistan. The Marines will initially buy 60 Golans for \$37 million.



Golan, a new wheeled armored vehicle developed in Israel by RAFAEL was unveiled in 2006. Responding to the need for wheeled armored vehicles for use in asymmetric warfare, RAFAEL developed the Zeev (Wolf) armored utility vehicle. More recently, RAFAEL teamed with US based PVI and the Merkava program Office (Mantak), to develop the Golan Heavy Wheeled Armored vehicle. Golan has been proposed for the IDF and USMC. Testing of the vehicle began in September

2006. In January 2007 Golan was selected, along with nine other candidates, to compete for the Joint US Marines/Navy Army Mine Resistant Ambush Protected (MRAP) Program. PVI is leading the team for the MRAP opportunity while RAFAEL is in the lead for Israeli and other overseas sales. On February 23, 2007 the USMC awarded PVI a first order for 60 low rate initial production vehicles, representing the first order for Golan vehicles.

The 15 ton vehicle is designed to carry 10 fully equipped troops, providing effective protection from small arms, mines and IEDs, as well as RPG threats.

Several months ago, the Marines sought to buy 4,000 armored vehicles, and published a request for proposals for a vehicle capable of meeting the threats faced by forces in the field.

Rafael said that the contract was an extraordinary achievement for Israel's defense industry in general and for Rafael in particular, especially given the competition and protection specifications made by the Marines. The company said it hoped that the Golan would soon enter service with the IDF.

\$110m to set up Kiryat Shmona "Biotech Park"

The Ministry for the Development of the Negev and Galilee and the Ministry of Industry, Trade and Labor together with the United Joint Israel Appeal (UJIA), the United Israel Appeals Federations Canada, Sacta Rashi Foundation, the Jewish Colonization Association, and the Jewish Agency are due to invest \$110 million in establishing "Biotech Valley" near Tel Hai College. "Globes" broke the story about the joint venture between the college, Meytav Technological Enterprises Innovation Center Ltd. in Kiryat Shmona, and the MIGAL - Galilee Technology Center, which is intended to attract top-quality biomedical researchers to live and work in the Upper Galilee.

The project will be presented to investors, entrepreneurs and the Ministries of Industry and Science and Technology during a conference to be held in Kiryat Shmona in June. The project's planners believe that a Biotech Valley industrial park will be set up with an initial 20 start-ups, half of which will be in the development stage, and at least one large anchor company. Teva Pharmaceutical Industries Ltd. (Nasdaq: TEVA; TASE: TEVA) already has a facility at Tel Hai College.

These companies can potentially raise \$250 million, and are expected to employ 250-300 people. The project planners say that the industrial park will leverage other business activity in the area. Each high-tech job generates an estimated 2.5 jobs in other sectors.

Meytav Technological Incubator CEO Zvika Rubinstein said, "Academic-industrial cooperation and the provision of infrastructures and services at a super-incubator level will turn Kiryat Shmona into a center of gravity for Israeli companies and foreign investors. Meytav's experience has taught us that a concentration of infrastructures, human capital, and advanced services will bring private investors to the Galilee. We believe that there's a need for government support to drive the idea forward, but most of the subsequent financing will probably come from private sources."

New Israeli design of orbiting combustor nozzle jet engine promises fuel efficiency gains of one-third

An Israeli company, sponsored by the country's defence ministry, is developing a new type of jet engine based on an orbiting combustor nozzle (OCN).

The company, R-Jet Engineering, employs mainly new immigrants from Russia who worked in the Soviet Union's aerospace industry. State-owned Rafael Armament Development Authority owns 10% of the company's shares.

According to company president David Lior, the OCN concept allows the compressor-created vortex to flow continuously through an annular combustor into a coaxial turbine, instead of dissipating.

The combustor rotates with the compressor and turbine. The turbine design is similar to a convergent-divergent nozzle, he says, capable of transmitting high power at higher efficiencies.

According to Lior, the OCN eliminates expensive components such as the compressor diffuser and turbine stator. It also overcomes their related losses and enables efficient cooling of the turbine, he says. Joseph Maayan, former director general of the Israeli defence ministry and the company's chairman, says a technology demonstrator is already working and the "results are very encouraging".

The design can be used in turboshaft, turbojet and turbofan engines, says R-Jet. The company claims an OCN turboprop rated at 640shp (480kW) will have a thermal efficiency of 32%, compared with 23% for a conventional turboprop. Fuel consumption will be 0.43lb/shp/h (262g/kWh) compared with 0.63-0.65 for current engines, it adds.

Several major engine manufacturers are in negotiations to use the technology, says R-Jet. Talks with Pratt & Whitney did not result in an agreement, the company says, because of a demand for marketing exclusivity. "We are in serious talks with a number of potential investors. With another \$25 million we can offer a series-production OCN engine in three years," says Maayan.

Quigo touted

The New York Times" reports that Israeli start-up Quigo Technologies Inc. is posing a growing challenge to Google Inc. (Nasdaq: GOOG), and Yahoo Inc. (Nasdaq: YHOO) in the competition for contextual advertising business.

Quigo was co-founded in 2000 by CEO Yaron Galai and Oded Ozhak. It was financed by private investors after Israeli venture capital funds refused to invest in it. In 2003, it raised \$12 million, from GlenRock Israel, Highland Capital Partners, and the Disney Corporation fund Steamboat Ventures. Quigo develops marketing technologies for content-sensitive focused search engines. The company's solutions create automatic links and enables advertisers to retrieve relevant web-based content.

Telephone software claims it can tell if you're lying

Knowing if someone's lying to you by simply listening on the phone is the promise of a software that can be downloaded, for free, on the internet.

. To run the KishKish Lie Detector, you have to be using the internet-telephone service Skype which is free only some of the time.

In a very simple red light/green light display, the program claims to uncover potential un-truths using voice stress analysis. "There are eight emotions in the human body, only one a polygraph examiner is

concerned with, it's fear." Bruce White invented the Axciton Sensor Box, one of four generally-accepted polygraph machines. The box monitors breathing, pulse, blood pressure and what's called GSR, the electrical resistance of the skin. It does not monitor the voice. Moreover, polygraph tests have long pauses between questions since the subject's tell-tale reaction can be several seconds after his or her answer. "Free-flowing conversation is not suited to polygraph or voice-stress or any other methodology," White adds.

In the two decades John Swartz has been a polygraph examiner, he says accuracy has reached almost 99-percent. That's not so with the technology underlying the KishKish program. "Most of the studies I've seen on voice-stress analyzers place its accuracy at no greater than chance, so that's just 50-50," Swartz said. So, when that red light glows, it could be a lie or it could be the gospel truth.

For its part, KishKish says its lie detector program is for entertainment purposes only. The Israeli company says it may soon charge for the software, but for now, it's free.



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