

# ISRAEL HIGH-TECH & INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES  
February 2013 Vol. XXVIII Issue No.2

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## Growth by Acquisition

Israeli companies have often been criticized for opting for early exits. Many would accept offers of under \$50 million. While there is nothing wrong with an early exit it nevertheless hinders the development of large industrial concerns.

Therefore, a headline in Globes that NICE is in negotiations to buy Verint at \$1.5b value, if consummated it would represent the single largest foreign purchase by an Israeli company.

If the purchase is completed the two companies together would dominate the US market for intelligence collation and analysis systems, including voice, video and text surveillance.

US antitrust regulators will likely have to approve the merger.

In September 2005 we chose NICE as an interesting investment vehicle. We wrote then "NICE-Systems Ltd. (Nasdaq: NICE; TASE:NICE) is a vehicle that enables the investor to participate in the burgeoning security industry".

We would like to see the NICE transaction consummated. It would serve as an example that growth can be achieved not only by internal growth but also by external acquisitions.

As we went to press rumors were heard that Pfizer was negotiating to buy biotech Mellanox for \$1.0b

### Israeli high-tech companies raised \$1.92 billion in 2012

In 2012, 575 Israeli high-tech companies raised \$1.92 billion from local and foreign investors, a 10 percent decrease from \$2.14 billion raised by 545 companies in 2011.

VC-backed deals in which at least one venture

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Israeli venture capital companies raise \$607m.  
Gov't to invest NIS 30m in dual-use R&D

capital fund participated, accounted for \$1.37 billion from a total of \$1.92 billion raised in 2012.

These venture-backed deals were down 22 percent from \$1.76 billion in 2011. Israeli VC fund investments amounted to \$516 million in 2012, 19 percent below the \$638 million invested in 2011.

Ofer Sela, partner in KPMG Somekh Chaikin's Technology group, commented: "The year 2012 was a record one in terms of the number of companies raising capital over the past decade. In early stage investments, micro-VCs and angel investors succeeded in filling the void left by Israeli VCs.

The Internet sector proved, by far, to be the most attractive sector as more than twice as many early stage Internet companies were funded in 2012 than in 2011. Technology developments in recent years in both cloud-based infrastructure and content delivery platforms have enabled Internet companies to mature and develop their intended technology with greater capital efficiency than any other sector."

In the fourth quarter of 2012, 163 Israeli high-tech companies raised \$494 million, up 5 percent from \$468 million raised in Q3 2012, but down 14 percent from \$571 million raised by 124 companies in Q4 2011.

"Despite a decrease in capital raising, the figures in fact demonstrate the strength of Israel's high-tech industry. In 2012, we saw investors shifting back into early stage and seed investments with a five-year record \$146 million raised by 157 seed companies," said Koby Simana, IVC CEO. "While investment by Israeli VC funds is shrinking, foreign VCs as well as corporate and private investors are gradually increasing their activity. As a result, I'm optimistic about the high-tech industry's chances of

maintaining the current level of capital raising in the coming year."

### **Specific protein essential for healthy eyes described by Hebrew University**

Researchers at the Hebrew University of Jerusalem, in collaboration with researchers at the Salk Institute in California, have found for the first time that a specific protein is essential not only for maintaining a healthy retina in the eye, but also may have implications for understanding and possibly treating other conditions in the immune, reproductive, vascular and nervous systems, as well as in various cancers.

Their work, reported online in the journal *Neuron*, highlights the role of Protein S in the maintenance of a healthy retina through its involvement in the process of pruning photoreceptors, the light-sensitive neurons in the eye. (This process is also referred to as phagocytosis.) These photoreceptors keep growing and elongating from their inner end. In order to maintain a constant length, they must be pruned from

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Published monthly since January 1985

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their outer end by specialized cells called retinal pigment epithelial cells.

Without such pruning -- which also clears away many free radicals and toxic by-products generated during visual biochemical reactions -- photoreceptors would succumb to toxicity and degenerate, leading if unchecked to blindness. A receptor molecule called Mer is a key in photoreceptor pruning, and is therefore vital for retinal health. Mutations in the mouse, rat and human Mer genes cause retinal degeneration, which finally leads to blindness.

The Hebrew University study published in *Neuron* focuses on the molecules activating Mer in this pruning mechanism. Although two such molecules -- Gas6 and Protein S -- were identified previously, it was yet to be proven that they also play a role in a living organism. To show this, Dr. Tal Burstyn-Cohen of the Hebrew University Institute of Dental Sciences and colleagues at the Salk Institute in California found in their experiments on laboratory animals that both Gas6 and Protein S are needed to activate phagocytosis, or pruning, of retinal photoreceptors, and thus keep a healthy retina.

These findings could have practical implications, since Protein S also functions as a potent blood anticoagulant. People with Protein S deficiency are at risk for life threatening thrombosis (blood clots) and thromboembolism (a clot that breaks loose and is carried by the blood stream to plug another vessel).

These results further open new avenues of research into the role of Protein S in activating the receptors in other tissues where their function was shown to be important, such as in the immune, reproductive, vascular and nervous systems, as well as in various cancers where activation of receptors has been observed. For example, since Protein S is important for blood vessel formation, neutralizing Protein S

in the blood vessels supplying blood to cancer growths could interfere with the cancerous blood supply.

### **The start-up that translates the ABCs of DNA**

Genome Compiler is not your typical Tel Aviv start-up: It aims to exploit genes to make our kids' lives greener, cleaner and better.

Fluorescent fish genetically engineered generic engineering

Brave new world: Genetically engineered fluorescent angelfish could replace nightlights.

Brave new world: In 2009 scientists transplanted DNA between monkey eggs. One day maybe women can avoid passing on certain inherited diseases to their babies.

The Israeli startup that penetrated the great firewall of China

Israeli start-up makes big data bite-sized

Start-up nation is being starved by the state

In a perfectly usual Tel Aviv apartment near Rothschild Boulevard, the Israeli team behind Genome Compiler is busy writing code. One might think it's just another Internet or phone-app start-up, like the dozens clustered in the neighborhood. But Genome Compiler is anything but just another start-up.

Founded last year by 34-year-old biochemist Omri Amirav-Drory, Genome Compiler aims to develop software for writing genetic sequences. A creepy cobwebby castle might have been a more appropriate backdrop for this company, for all its cutting-edge aspirations.

"I want to plan living beings," says Amirav-Drory. A Frankensteinian fantasy? Not at all.

How could it be done? By harnessing biology to wean the world of its dependence on non-renewable resources, he explains. "We are entirely dependent on coal, oil and natural gas, and the situation isn't sustainable," he says.

“Living things can use renewable energy sources like sugar, sunlight and carbon dioxide, and they are also flexible enough to create almost everything that we produce using fuel. Also, living things can grow in order to meet global challenges.”

Of DNA, that greeny helix

Terrific progress has been made in decoding and writing DNA sequences, those complex molecules that carry the genes to life. (“Writing” a DNA sequence means, simply, manufacturing one, which is easier said than done.)

The first, primitive generation of genetic engineering involved people selected plants or animals (or each other) and reproducing them selectively. A farmer who liked white sheep would mate two of them rather than the black one with the white one, for instance, thereby encouraging the proliferation of white sheep. That phase of genetic engineering has gone on since the dawn of time.

The second generation began in the 1970s, when scientists learned how to take DNA from one creature and splice it into the DNA of another. Again, easier said than done – the methodology was crude in the extreme and at no point in the process could the engineers be certain they’d managed to implant the genes, certainly not in the right places – not until the genes expressed themselves. There was also extreme danger that while the genes might have been taken up, the process caused other damage.

Now humanity is in the third generation of genetic engineering, which is synthetic biology: creating DNA molecules from scratch, not taking them from plants or animals.

Genome Compiler is at the forefront of this work. It is writing software that it hopes will code for new biological structures that don’t exist in nature, based on pre-defined characteristics.

A bacteria spelled with 1 million letters

The most important research breakthrough in the field occurred in 2002, when scientists managed to write genetic code for a living organism for the first time.

It was the humble polio virus, which has a very small genetic code with 7,500 nucleotide bases. (DNA is made of nucleotides, which are basic – not acidic – molecules that are represented by the letters A, G, T and C).

After eight years the American biologist Craig Venter synthetically recreated the entire genome of the bacteria *Mycoplasma mycoides*, whose length is about 1 million letters. He then transplanted the entire thing into a different bacterium.

Reading about Venter’s success, Amirav-Drory had a Eureka moment. “When I read the article by Venter everything connected for me,” he says. “I finally got it that genomes are files, and they can be opened and closed, programmed and printed. I started looking for software that would allow me to program genomes, but I couldn’t find it. So I decided to develop it myself.”

Insulin and spice and everything nice

Genome Compiler is hardly the first company of its kind. Since the 1970s, several businesses have gotten into synthetic biology, and even marked some successes.

In 1978, the American company Genentech whipped up organic insulin producers by lifting the genetic sequence responsible for creating the stuff and transplanting it into bacterial genomes.

Today, Genentech employs about 11,000 people. It was acquired in 2009 by the Swiss chemicals giant F. Hoffmann-La Roche, based on an

estimated market value of \$46.8 billion.

Venter, meanwhile, is today the head of Synthetic Genomics, a company trying to bring synthetic genetic code transplantation to the energy and chemical markets. And he has competition: Companies like LS9 and Amyris are also scrambling to unravel the helix and beat him to the punch.

Even in the specific niche of Genome Compiler, the market is crowded. Companies such as Synbiota, Life Technologies and DNA 2.0 are also eager to develop interfaces that will make it easier to program and produce genetic sequences. When it comes to the mysteries of life, there are no shortage of sleuths.

Under the light of the tree

Even in the most cutting-edge laboratories, money talks, and Amirav-Drory's effort has been given a boost by the sliding cost of reading and writing genomes.

Reading human DNA, a process that in the 1990s could have cost a scientist a cool \$3 billion, today requires only \$1,000, Amirav-Drory explains. Writing a single letter of DNA, he says, once cost \$1.50 but now will cost maybe a quarter. The price is expected to further shrink by half in just a few years. Basic supply and demand, then, means that global databases are now literally swimming with genetic information.

But after reading and writing comes translation, and it is here, Amirav-Drory says, the scientists continue to be stymied.

"Genetic programmers still write in the biological counterpart to ones and zeros," Amirav-Drory says. In the black void between biological code and evolved human expression, he says, lies the rub.

"Just like programmers don't write code in binary, but instead use a software developing tool, people in the field of biology need a simpler way to create DNA so that we can synthesize it," he says. "Computers understand only ones and zeros, but we don't write software by entering ones and zeros. Instead, we use software writing tools to locate mistakes and to compile programs that are ready to run."

What biologists need is a genome compiler to take that code and build it into executable genes/genomes. Genome compiler, as its name suggests, is ready to step up to this plate by helping biologists design, debug and compile their code.

"When I was doing my doctorate, I used pen and paper," says Amirav-Drory. "I wrote sequences with the letters A, T, G and C. My professor has notebooks full of letters. Our challenge with the software is to transform the process into something as simple as possible, and to assist in 3-D imaging [of DNA]."

Amirav-Drory grew up in the small community of Talmei Menashe in central Israel. During his mandatory army service he served in a technological unit in the Intelligence Corps and after his release he completed an honors track undergraduate degree in biology at Tel Aviv University. He then did his doctorate in biochemistry there as well. In 2007, Amirav-Drory received a Fulbright Fellowship to Stanford University to do his post-doctorate. It was in Palo Alto that he developed the beta version of Genome Compiler's software.

When he came back to Israel, he sought out co-founders and turned his project into a full-fledged company.

The initial investment in Genome Compilers, roughly \$500,000, came from private investors. Last January, they got an additional \$2 million

boost from the American company AutoDesk, which develops the software for the computer-aided design and drafting program AutoCAD. They now have 10 full-time employees.

And they continue to think big

“We want to make it possible ... to take the genetic component that lets fireflies glow and splice it into a tree,” Amirav-Drory says, explaining a radical crowd-funded project in the works that places light-emitting bacteria into organic matter. “Eventually, we will be able to create a glowing tree. Why shouldn’t trees replace streetlamps?”

Cisco to buy Israeli mobile network software maker Intucell for \$475m.

Cisco Systems Inc, the world’s largest computer networking equipment maker, is buying Israeli mobile network management software maker Intucell for \$475 million in cash in order to expand its mobile network management offerings.

Under the terms of the deal, Cisco will pay around \$475 million in cash and retention-based incentives and expects the acquisition to close in the third quarter of its fiscal year 2013.

Privately held, Ra’anana, Israel-based Intucell provides advanced self-optimizing network (SON) software, which enables mobile carriers to plan, configure, manage, optimize and heal cellular networks automatically, according to real-time changing network demands.

Intucell is backed by Bessemer Partners, a venture capital fund that has invested in other companies like LinkedIn, Skype, Staples, VeriSign and Yelp.

Cisco said that the acquisition would enhance its commitment to global service providers by adding a critical network intelligence layer to

manage and optimize spectrum, coverage and capacity, and ultimately the quality of the mobile experience.

The proliferation of connected mobile devices, faster network speeds, and growing demand for high-bandwidth applications and services are driving greater network traffic and complexity. As mobile service providers continue to face increased end-user demand, the need to optimize network bandwidth, usage and services is increasing.

### **Hi-tech offers jobs to Israel’s religious Jews**

In a chic auditorium typically reserved for late-night concerts, Israel’s next generation of high-tech entrepreneurs are gathered. Though their vocation is modern, their appearance and lifestyle are distinctly traditional and they are seated separately — men to the left, woman to the right.

It’s a first for Israel, a high-tech conference designed specifically for haredim, or ultra-Orthodox Jews.

They are a community long stigmatized for enjoying sweeping draft exemptions and raising large families on taxpayer-funded handouts. They are under ever-growing pressure to break out of their cloistered world of scripture study and get jobs.

In recent years they have indeed begun joining the work force, and some have found an unlikely home in the country’s booming high-tech industry.

That changing reality was illustrated by last week’s gathering of bearded men in black suits and women in head coverings and long dresses who came to network at a leading Jerusalem venture capital firm.

Yitzik Crombie, who initiated the Haredi Hi-Tech

Forum, says about 10,000 haredim work in high-tech, 75 percent of them women.

Although they may lack basic math and science skills, advocates say their intense, methodical study of ancient religious texts provides tools that are oddly applicable to computer programming.

“Someone from a yeshiva and studied Talmud and Gemara, his brain is built for high-tech,” said Crombie, a 30-year-old haredi and chief executive of iSale, which offers mobile guided selling solutions to businesses. “With a little faith, we can make a major breakthrough and become leaders in the field.”

Many rabbis fear immersion in mainstream society will expose haredim (Hebrew for “those who fear God”) to secularism and cut into the prayer and study that has distinguished the Jewish people for centuries.

But unemployment and poverty are very high among haredim who make up about 8 percent of Israel’s 8 million citizens, and families of eight to 10 children are common. More than a quarter of all Israeli first-graders are haredim, studying in independent school systems that focus primarily on religion while barely teaching math, science or English.

Experts have long warned these trends are jeopardizing Israel’s long-term economic prospects. Now, according to Israel’s central bank and its central bureau of statistics, the tide has begun to turn.

In 2011, for instance, 54.5 percent of haredi women and 45 percent of the men held jobs — an increase from 48 percent and 33.1 percent respectively nine years earlier. The numbers, while still far below the national average of around 80 percent, show the community is far from the homogenous mass viewed by

outsiders. The shift is further highlighted by their participation in Israel’s greatest engine of economic growth, the high-tech sector, which is secular-dominated.

At the Jerusalem research and development center of the semiconductor giant Intel, more than 100 of the 700 employees are haredim, making chips and performing quality assurance.

“The public discourse in Israel has yet to internalize the enormous changes taking place in the haredi community,” said Jerusalem mayor Nir Barkat, himself a former high-tech executive.

Bringing the haredim and their ethos of scholarly rigor into the work force could ease one of Israeli society’s greatest schisms, which is a perennial source of partisan political discord.

So employing the haredim is ethically wise, and also makes smart business sense, said Erel Margalit, founder of the Jerusalem Venture Partners firm that hosted the conference and a parliamentary candidate.

“Israel can compete with India as far as software development. What we now send there, we can send here,” he said. “We offer a working alliance with the haredi community.”

Nili Davidovitch, a mother of five, heads Daat Solutions, a firm that specializes in Internet development and quality assurance. She employs 40 haredi women like herself and aims to offer them a career in a cutting-edge field without undermining their lifestyle.

“If you give them an appropriate working environment they will come,” she said. “There are lots of shades of haredim. The society today is not what it once was.”

Shlomo Peeri, the vice president for human resources at the Israeli branch of NDS, a part of Cisco, said the company has never experienced any religion-driven tension. About 100 of the company's 1,200 employees are haredi systems engineers and developers, he said.

"We've created a working environment based on mutual respect and harmony," he said. "We are a microcosm of Israeli society that shows we can live together."

But even if the main obstacle remains the haredi community's lack of scientific education, what is already happening "is a revolution," said Stuart Hershkowitz, a senior official at the Jerusalem College of Technology.

#### **Israel rises to 7th spot in GE innovation barometer**

70% of Israeli executives mentioned the country's good entrepreneurial climate.

Israel is in seventh place of 25 countries in the GE Innovation Barometer 2013. This year's survey included more than 3,000 executives. GE publishes its annual barometer ahead of the World Economic Conference in Davos. Israel ranked 10th in the 2012 GE Innovation Barometer.

The US tops the 2013 GE Innovation Barometer, with 35% of respondents saying that it is the most innovative country. Germany is in second place, cited by 15% of respondents, followed by China, with 12%. Israel was cited by 2.59% of respondents, ahead of India (2.55%). 70% of Israeli executives mentioned the country's good entrepreneurial climate (down from 78% in the 2012 barometer), the highest proportion of executives who cite their own country. Israel was only matched by executives from the United Arab Emirates.

However, Israeli and foreign executives ranked Israel only 15th in policies for fostering entre-

preneurship. The US led in this category, followed by Germany and Japan. Despite Israel's low ranking in this category, Israeli executives believe more than their foreign peers that Israel supports entrepreneurship in a suitable and organized way.

Israeli executives also expressed greater satisfaction than their foreign peers about social support and in the next generation for entrepreneurship (94%). 895 Israeli executives said that to succeed in entrepreneurship it was necessary to understand the customer and to anticipate market developments. 85% of the Israeli executives said that hiring entrepreneurial employees was the key to their success, and 71% said that developing new technologies was the key. Only 39% of respondents mentioned developing new business models, below the global average of 45%.

#### **Israeli defense contractor: Tests of anti-missile system successful**

A defense technology company says it has successfully tested an anti-missile system designed to protect commercial passenger jets.

Elbit Systems Ltd. said its C-MUSIC system to protect large jets against shoulder-launched missiles from the ground passed tests. Elbit said it proved effective a number of times in protecting a Boeing 707 aircraft.

Industry has emerged as chief driver of the D.C. area's job growth, taking unemployment down to 5.3 percent.

In 2002, militants fired two surface-to-air missiles at an Israeli charter plane shortly after takeoff in Mombasa, Kenya. The missiles missed their target but spurred an Israeli effort to improve countermeasures.

Elbit says the new system can be applied to any aircraft. It says it integrates advanced fiber laser

technology with a thermal camera to protect against missiles fired from the ground.

### **Israeli High-Tech Method Revolutionizing US Education**

For years, teachers have been complaining about large class sizes, an old-fashioned learning environment and a lack of support for students with different learning styles. Now Dovi Weiss, a Ph.D. student from Tel Aviv University's Jaime and Joan Constantiner School of Education and the Chief Pedagogical Officer of the Israeli company Time To Know, has developed a new digital teaching platform integrating technology, a digital curriculum, real-time class participation, and instant educator empowerment — and it's already revolutionizing classrooms in New York and Texas.

Early results from pilot programs indicate significant success at re-energizing education for both children and teachers. Children in Texas with access to this new educational platform outperformed their peers by a significant margin, demonstrating better reasoning and problem-solving skills. In a control group study, only seven percent of children who used the Time To Know platform to improve their mathematics skills were characterized as “below average,” compared to 34 percent of children in a control group which received traditional education.

The vision and theory behind this program, developed in collaboration with Time To Know Founder, Shmeul Meitar, has been published in Educational Echo and Time To Know has been chosen by the President's Conference in Israel as one of the Israeli companies with the potential to create a better tomorrow.

#### **Rooting out the bugs in traditional education**

Weiss says his method represents the first time that technology is fully integrated into the classroom, not just in occasional use in computer

labs. His interactive format encourages student participation and empowers the teacher through instant feedback.

Traditional teaching techniques fail on multiple levels, Weiss says. They fail to address the different learning styles among a group of students or the students' lack of engagement, and there is an absence of an ongoing assessment technique to determine student progress. The Time To Know program addresses these problems.

Each child is outfitted with a notepad or tablet, to be used approximately half of the in-class time. Teachers introduce a given subject, then open software activities to encourage the children to explore the concepts they have just learned independently or in small groups. Completed work can be sent to a networked “gallery” to be shared for discussion, while teachers retain full control over the curriculum and associated activities.

Most important, says Weiss, teachers can assess the effectiveness of their teaching immediately. At the end of the lesson, teachers receive an in-depth report on where the children succeeded or floundered, permitting them to revise an ineffective lesson plan and identify pupils who might need extra help. This permits new opportunities for “data-driven” teaching, he adds.

Raising grades, improving behavior, boosting attendance

The Time To Know classroom is spreading success throughout the world's educational systems. Next year, the program will be in more than 20 schools in New York City through the NYC Department of Education's Innovation Zone (iZone) program, select schools in the Grand Prairie Independent School District in Texas, and about 100 Israeli schools.

A pilot project is scheduled to launch in Singapore, even though students there already boast top

grades. “In today’s world it’s not enough to get top results,” Weiss explains. “You also need to encourage students to be more innovative and collaborative, to think and explore better. We have a responsibility to educate 21st century learners, to give them 21st century skills — and implant an ongoing joy of learning combined with real achievements.”

Preliminary results indicate that this teaching method is not only improving student performance, but also helping to solve behavioral problems. Attendance among Time To Know students is up, and disciplinary problems among the same students have declined significantly. Israeli venture capital funds raised \$607 million in 2012

#### **Israeli venture capital companies raise \$607m.**

Israeli venture capital funds raised \$607 million in 2012, down 30 percent from the previous year. Among the leading funds, Sequoia V, Pitango VI and Magma III raised a combined sum of \$450 million, 74 percent of the total raised by all Israeli VCs in 2012. Micro-VC funds continued to attract investments with six micro funds raising a total of \$83 million, nearly 14 percent of total capital raised. Four of the 12 VC funds that raised capital during 2012 were new to the local VC management scene. This compares with eight new players in 2011.

The development of Israel’s venture capital industry is traced over six cycles covering fund raising vintage years that began in 1992 and peaked in 2000 when more than \$2.8 billion was raised. The sixth and current cycle started in 2011 and, with the previous two cycles (since 2004), Israeli VC funds attracted \$6.7 billion or 60 percent of the \$11.1 billion raised since 2000.

Ofer Sela, a partner in KPMG Somekh Chai-kin’s Technology group, explains that “Fund raising is mostly being carried out by the large

VCS that are initiating follow-on funds and – on the other end – relatively small funds that are industry specific and/or early stage focused. There are VCs in-between that are no longer attracting new funds. These fund raising trends are similar to those in the US VC industry.” Ofer added “There is a major debate in the industry regarding the optimal fund size that will result in the highest returns to limited partners. As a consequence, we are witnessing VCs reducing the size of their new follow-on funds in an attempt to maximize returns. Overall, during the last two years, the number of investment entities making investments in Israel has been on the rise, with most focused on the early stage. We believe that later stage funding will be available to the relevant portfolio companies either from corporate VCs or from foreign VCs operating in Israel.”

Koby Simana, IVC CEO, said “VC funds are facing serious challenges today, not just in Israel but the world over. The allocation for venture capital investments continues to decline among institutional investors. On top of that, Israeli VC funds are being challenged by fund raising competition from Asian VC funds – mainly from China and India. There’s room for optimism, however. While, on average, funds are raising less, the number of VC-backed companies is likely to rise over the next few years as more VC funds begin to raise capital.”

Between 2003 and 2012, Israel’s venture capital funds attracted \$6.77 billion. The capital available for investment by Israeli venture capital funds at the beginning of 2013 was approximately \$2.1 billion. Of this amount \$484 million (23 percent) is earmarked for first investments with the remainder reserved for follow-on investments. According to IVC projections, Israeli VC funds will raise \$600 million in 2013.

An Israeli startup has developed technology that “fades” the look of a standard QR code no

doubt much to the relief of designers.

The QR code was developed by Toyota-sub-sidiary Denso in the 1990s as a means of tracking automotive manufacture. Since then the two-dimensional codes have become ubiquitous, largely because they can easily be read using a smartphone.

The less-than-beautiful appearance of the codes probably did not matter much when they were only stuck on car parts, but now they are found on websites and all sorts of printed promotional material. There cannot be many designers who look at QR codes with feelings other than of despair.

Israeli startup Visulead says its technology reduces the look of a standard QR code by as much as 70%. So far it has reached generation two of its patent-pending design. The next generation, due in a few months, will reduce the QR code to little more than a box showing the viewer where to scan, according to The Next Web.

“We think of our product as the ultimate marriage of QR code and image recognition technologies; essentially, an invisible QR code,” said co-founder and CEO Nevo Alva.

These visual QR codes are designed primarily for marketers and advertisers, but individuals can make their own codes on Visualead’s site for free. Users who scan a free code will be taken to a short landing page before continuing on to their intended destination. Small businesses can pay \$14 per QR code to skip the intermediary page. The company is also working with brands to offer its services on a larger scale, complete with analytic reports...

Visualead was founded early 2012 and raised \$750,000 from Kaedan Capital Investment Group and angel investors last April.

### **Gov’t to invest NIS 30m in dual-use R&D**

The Finance Ministry, Defense Ministry, and Industry Ministry will jointly budget a new program to finance R&D for technologies with both military and civilian applications.

The Ministry of Finance, Ministry of Defense, and Ministry of Industry, Trade and Labor will jointly budget a new program to finance R&D for dual-use technologies, that is technologies with military and civilian applications. The program will have a NIS 30 million budget, with each ministry providing one-third. On the basis of the approved budget, a joint steering committee of the Office of the Chief Scientist at the Ministry of Industry and the Ministry of Defense’s Administration for the Development of Weapons and Technological Infrastructure has chosen 17 projects with dual-use potential.

Chief Scientist Avi Hasson said that the selected ventures work in materials engineering, communications, and software. Some of the projects are in the applied research stage at an academic research institute; others are being promoted as collaboration between academic institutions and industrial companies, with technological know-how being transferred from the institutions to industry; and other ventures are developing new applications through to the product development proof of feasibility stage. He said that the projects would receive aid and budgets for 24-30 months, subject to meeting targets.

This is the first time that the Ministry of Defense and Ministry of Industry are cooperating in a special program, called Meimad (Leveraging Dual-Use R&D), to develop dual-use products. Program director Ilan Peled told “Globes”, “The convergence between commercial products and military systems is a process that has been accelerating over the years. Systems which were once used exclusively by military units or intelligence services are now integrated in

personal computers, smartphones, navigating applications, and so on. With this new program, we can at an early stage bring to bear the potential of local innovation, to boost economic growth and to meet current battlefield needs.”

In a separate development, Life Technologies Corporation (Nasdaq: LIFE), a US developer of systems for science, pharmaceuticals, and biomedical research laboratories, and Hasson have signed a cooperation agreement under Israel’s program for promoting collaboration between the government and multinationals. The Office of the Chief Scientist will help Life Technologies locate technologies relevant to its business and assist in their development with designated support grants.

**Israel’s eVolution develops sleep mode for cellphone Networks**

Israeli technology that can cut cell tower energy consumption by almost a quarter over three months has gone into operation in Jamaica.

The pan-Caribbean mobile operator Digicel is the first customer for the Tel Aviv-based startup and its eVolution Networks Smart Energy Solution, the company has announced.

The carrier has been testing the technology on its Jamaica network where there has been an estimated 23% cut in energy consumption over three months.

The technology works by enabling cellphone towers to be powered down when they are not in use, reports GigaOM.

It sounds like a simple idea, but it’s not an easy one to implement. Mobile networks are designed to deliver their full capacity at a moment’s notice in order to handle the unpredictable patterns of the cellphone-wielding pub-

lic. Consequently most base stations remain at full power whether it’s rush hour or the wee hours of the morning.

eVolution’s technology constantly monitors, analyzing its radio coverage characteristics as well as daily traffic patterns. Based on that information it decides which base stations in which places can safely be powered down at night or during other off-peak hours without sacrificing coverage. As traffic patterns change, SES changes the mix of cells staying online and off.

Newer base stations have lower wattage and built-in systems that allow them to be powered down at time when traffic is low. But, eVolution’s automated software is designed, the company says, to fit seamlessly into existing networks without the need for new hardware.



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