

ISRAEL HIGH-TECH & INVESTMENT REPORT

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The Origins of Israel's High-Tech

We have often tried to identify the wellsprings of Israel's high-technology sector.

Many have pointed to the experience gained while serving in the army. The famous Battalion 820 has graduated many of today's high tech leaders. Perhaps overlooked are the Israeli universities who have their own research and development departments and have produced many of today's leaders in the high tech field. Professors Aaron Ciechanover and Avram Hershko were two Nobel Prize winners who came from the Technion.

The Weizmann Institute has announced that products developed by the Weizmann Institute have reached \$20 billion in annual sales.. Teva's multi-billion blockbuster Copaxone originated in the work of Weizmann scientists Professors Michael Sela and Ruth Arnon.

The government sponsored Office of the Chief Scientist annually distributes millions of dollars in support of corporate research.

Not unnoticed is the incredible Israeli drive to succeed. In America youngsters yearn to be astronauts but in Israel they want to become high-techies. There is no reason to expect for these trends to weaken. Just look at the recent spate of company exits.

Israeli tech firms Nice, Comverse and Check Point were all created by 8200 alumni or based on technology originally developed by

the unit. With the emergence of consumer apps based on crunching vast amounts of information known as "big data", Israel is a decade ahead of the US and Europe – and all because of the military.

New startups such as Styлит, hope to emulate the success of Waze, a big-data-based driving app

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**Graduates of Israeli universities have found-
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**Israeli develops a 'watch' that stops unnec-
essary heart attack deaths**

**IBM Buys Trusteer to bolster its cloud ser-
vices**

developed by former IDF cyber-squaddies and bought by Google for more than \$1bn (£654m).

Big data predictive algorithms developed to prevent enemy attacks also power Any.Do, one of the world's most popular productivity apps for mobile devices. For Nissim's army buddies, 8200 is Israeli hi-tech's old school tie, opening doors to a vast group of like-minded and similarly-trained entrepreneurs. Rompr is a mobile app through which parents can share information about activities for toddlers. Chief executive Noa Levy and the three co-founders all served in elite IDF tech units.

"Trying to make sense of the patterns you find when you study a lot of data and turning that into actionable information – that's the guiding principle that we have in Rompr and also something that is very important in those technological units," she says.

"It's more the mindset than the actual technology. Then you can go out and do it on a completely different series of tasks, using the same methodology."

Until a decade ago, Unit 820 was a secret. Then it starred in the book Start-Up Nation, which chronicled Israel's emergence as a hi-tech powerhouse with more venture capital investment per person than anywhere in the world and the largest number of Nasdaq-listed companies after the US and China. Three years ago, 8200 alumni decided to emerge from the shadows and offer their expertise to other young Israeli entrepreneurs.

The result was the 8200 entrepreneurship and innovation support program (EISP), a five-month hi-tech incubator in which unit alumni volunteer to mentor early-stage startups. So far, 22 of them have received funding totalling \$21m (£13.5m) and employ 200 people, joining the 230,000 employees of Israel's 5,000 tech

companies that earn \$25bn a year – a quarter of Israel's total exports.

Nir Lempert, a reserve colonel, former deputy commander of Unit 8200 and chairman of its alumni association, says the unit handpicks the brightest teenagers in the country then trains them to solve problems in multidisciplinary teams using methods usually associated with business, not battles. They are encouraged to think differently. "The central mission of the unit is to save lives, to prevent terror and other attacks," says Lempert. "We teach our people that the mission is so important that there is no possibility of failure."

The 820 legend attracts increasing numbers of young Israelis into IDF tech units. Mamram, the main IT support unit of the IDF, now offers a six-month pre-army course at its headquarters base in a suburban street on the outskirts of Tel Aviv. From dawn into the night, recruits study programming skills, teamwork, project management and – most important – how to be

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creative. It's the ultimate startup boot camp. Perhaps overlooked are the Israeli universities who have their own research and development departments and have produced many of today's leaders in the high tech field. Two Nobel Prize winners have come from the Technion. The Weizmann Institute has announced that products developed by the Weizmann Institute have \$20 billion in annual sales.. Teva's multi-billion blockbuster Copaxone originated in the work of Weizman scientists Professors Michael Sela and Ruth Arnon.

The government sponsored Office of the Chief Scientists annually distributes millions of dollars in support of corporate research/

MoneyTree: Start-ups raised less VC capital in Q2

Israeli venture capital-backed start-ups raised \$174 million in the second quarter of 2013, 11% less than the \$196 million raised in the preceding quarter and 32% less than the \$255 million raised in the corresponding quarter of 2012,.

The drop in capital raised in the second quarter may not be indicative of a trend, but was because only six companies raised more than \$10 million each, compared with nine companies in both the preceding quarter and corresponding quarter, boosting the total amount of capital raised in those quarters.

PwC Israel partner Rubi Suliman, who co-heads its high-tech practice, said, "The stability in first-time investments is a reason for cautious optimism, on the backdrop of a decline in the number of active funds, and it may indicate that those surviving funds (as well as new funds) tend to divert most of their resources to new investments. Therefore, despite the decrease in the amount of dollars invested, we are encouraged by the fact that the number of initial investments is maintained, which is the future of the Israeli high tech."

Building world's first everlasting' solar battery

A battery with infinite power. Has the Israeli company Sol Chip found the way to do it? The Haifa-based company has developed the world's first solar battery that is able to recharge itself to power wireless sensors and mobile electronics devices. Operable in sunlight and low-light environments, the batteries are a result of the cross pollination of solar cell and microchip technologies.

"The company offers the missing technology that will improve batteries' life or in many cases eliminate the need in a battery as a power source in low power applications," says CEO and founder of Sol Chip, Dr. Shani Keysar.

"The idea is that chips need power, so why not give them the power directly anyway?" Keysar says. Prior to Sol Chip, she had extensive experience as a researcher at the Technion, and later spent 15 years in the semiconductor industry. It was during the latter years that the idea for a solar battery was conceived. From her initial research on how solar energy can be used to combat growing pollution levels from Haifa's many industrial companies.

The company's current product is limited to an output of 8.4 volts of power. Though it is considered a relatively low output, it can provide power to a vast array of outdoor devices. As a first step, the company has been working on adapting the solar batteries into sensors that are used widely in fields of agriculture, farming, weather testing, as well as security related applications.

A farmer's market

One market Sol Chip is hoping to tackle is the milking industry. Monitors are often attached to cows, in order to gather information about the animal and ensure milk quality. However, these

sensors currently run on batteries that need to be replaced. Sol Chip says its battery could be a cost-effective and ecological replacement.

Sol Chip is already working with Netafim, an Israeli company that specializes in drip irrigation technology for agriculture, to replace the batteries on their drippers with the solar battery. The primary benefit of using Sol Chip's solar batteries is obvious: maintenance cost savings to customers in the long run as it eliminates the expensive costs incurred to replace batteries. If a farmer needs to replace a battery on an outdoor sensor at present, he has to send the unit to the factory or hire the services of a technician to the field to replace it. Both methods are expensive.

Although solar cells have been around for a long time, and microchips have been the mainstay of electronic devices, Sol Chip claims that there has been no known company in the semiconductor industry that has successfully integrated solar cells within the standard chip manufacturing process in a cost effective way. Achieving this goal requires deep understanding and experience of semiconductor manufacturing processes, and Keysar had the advantage of being very well versed in those processes.

Small team, long reach

While the company's manufacturing technique is patented, it is not without its share of competitors. The company's closest competitors are those that manufacture small solar cells. Although the solar cells serve the identical function of producing electricity from light, Keysar claims that the solar battery's advantage is that it can provide output in many different voltages, something which existing solar cells cannot do.

The startup is targeted primarily at the North American and European markets. "It is easy for us, because we already have the connections and people in those markets," says Keysar.

Sol Chip's main clients will be the hardware integrators that develop and supply sensor systems for agriculture, farming, and defense security. Although the staff headcount is small (currently at six), it has already cast its nets globally. Besides a network of representatives in Europe that help to promote Sol Chip's presence, the company has also stationed a permanent marketing director in Canada. In the years to come, Keysar intends to expand the reach of the company towards the Far East, as well as India.

With \$2.5 million of funds raised so far from the Office of the Chief Scientist, Sol Chip has dedicated most of the money towards R&D. The company is also looking to raise additional funds in an upcoming Series B financing round, to offset R&D and product qualification costs for the next generation of solar batteries it is working on. "The next generation solar batteries will have power management built into the batteries to make energy collection more efficient," says Keysar.

Agritechnology: the next breakout investment opportunity in Israel

Innovative Israeli agriculture scientists, high tech experts and "Start-Up Nation" entrepreneurs have fused their knowledge and experience to develop new cutting-edge agricultural technologies. These innovations are poised to transform the global agricultural landscape and address urgent needs, and represent a breakout investment opportunity.

According to the UN's Food and Agriculture Organization, food production worldwide must increase 70% by 2050. Famed Israeli agricultural know-how, developed to cope with local arid agricultural challenges and a fast-growing population, has become globally relevant at a time of increasing food shortages, climate change, declining agricultural yields, global

population growth, and changing dietary habits.

Increasing demand for high quality nutritious food and diminishing productivity growth, especially in high and middle income countries, such as the U.S. and China, have created compelling business opportunities in agritech. Israel has new solutions to manage these issues that are ready for commercialization and adoption.

According to Nitza Kardish, Ph.D., CEO of Israel-based Mofet Venture Accelerator, “Over 200 R&D centers in Israel with a focus on agriculture and a government commitment to supporting innovation have fueled a growth in cutting-edge agritech start-ups.”

“Faced with limited natural resources, Israel has been compelled to develop a high-tech culture in recent decades,” said Steve Rhodes, CEO and Chairman, The Trendlines Group and Chairman of the Trendlines-owned Mofet Venture Accelerator. “The country is a popular target for global venture capital funds seeking to capitalize on Israel’s entrepreneurial spirit, and expertise.”

Examples of innovative Israeli agritech includes advanced precision farming techniques, water optimization, robotics and sensor driven technology, environmentally-friendly agrochemicals for crop protection and agribiotechnology.

From December 2 - 5, 2013 investors and agritech professionals from across the globe will take part in a unique Agritech Tour in Israel, during which participants will experience first-hand how Israel has become a world-class agriculture technology leader and learn what the future of agritech holds.

The tour coincides with the 2nd Annual Agrivest Conference on December 3, which brings together investors, multinational corporate executives, government officials, scientists, business lead-

ers and young start-ups to explore the opportunities, challenges and solutions facing the agritech/agriculture investment community.

Both the Tour and Conference are projects of The Trendlines Group and Mofet Venture Accelerator, Trendlines’ agritech investment vehicle. Graduates of Israeli universities raise \$1.6b for start ups

Graduates of Israeli universities have founded start-ups that have raised \$1.64 billion

He found out how many start-ups have been founded by graduates of Israeli universities and their foreign peers. He categorized the start-ups in CrunchBase by the university attended by their founders to discover which universities produce the most entrepreneurs: Ivy League universities, such as Harvard, Yale, and Princeton; or technology and entrepreneur-oriented universities, such the Massachusetts Institute of Technology (MIT), Stanford, and University of California Berkeley.

Tel Aviv University was ranked 14th worldwide. As for US universities, although Harvard topped the list, it was followed by the above mentioned technology-oriented universities, and only then by other Ivy League institutions.

On the basis of Wolf’s findings, Tel Aviv University decided to crunch its own numbers from CrunchBase, and the university reaffirmed that it was 14th worldwide. The Technion Israel Institute of Technology was ranked 26th, the Hebrew University of Jerusalem was ranked 55th, the Interdisciplinary Center Herzliya was ranked 69, and Ben Gurion University of the Negev was ranked 108th.

The figures are based only on data in CrunchBase, which focuses on IT, Internet, and media start-ups, and underrepresents start-ups in the life sciences, agro-sciences, nanotechnology, and material sciences. In addition, registration

on CrunchBase is voluntary, and companies seeking to keep a low profile, or which do not target the US market, do not necessarily appear in it. CrunchBase also does not represent long-standing companies, because they matured before the database was established. Notwithstanding these caveats, the database is a good representative of the start-up scene centered on Silicon Valley.

On the basis of CrunchBase data, graduates of Tel Aviv University raised \$881 million for start-ups listed in CrunchBase, Technion graduates raised \$403 million, and Hebrew University graduates raised \$78 million.

Tel Aviv University graduates also top the list in the category of the most money raised by start-ups in their first financing rounds - \$227 million. Technion graduates raised \$63.5 million, and Hebrew University graduates raised \$46 million.

Prominent start-ups founded by Tel Aviv University graduates listed in CrunchBase is Palo Alto Networks Inc. (Nasdaq: PANW), founded by Nir Zuk, which has raised \$320 million; Waze Ltd., which has raised \$67 million; and Goodmail Systems, which raised \$45 million.

Technion graduates have founded Conduit Ltd., which has raised 110 million; social networking app Tango Ltd., which has raised \$87 million; and Gigya Ltd., which has raised \$45 million.

Hebrew University graduates have founded Imperva Inc. (NYSE: IMPV), which has raised \$37 million; Cloudshare Ltd., which has raised \$20 million; and Veraz Ltd., which raised \$10 million.

Bar Ilan University graduates have founded Amobee Inc., which has raised \$54 million; and eXelate Ltd., which has raised \$32 million.

Interdisciplinary Center Herzliya graduates

founded 5min Ltd., together with Tel Aviv University graduates, which has raised \$12.5 million.

Ben Gurion University graduates have founded DudaMobile Ltd., which has raised \$18.6 million; and Personetics Ltd., which has raised \$18 million. Open University graduates founded Taboola Ltd., which has raised \$40 million, and University of Haifa graduates founded Fiverr Ltd., which has raised \$20 million.

Capital raised by start-ups of Israeli colleges and universities

* **Tel Aviv University:** capital raised in first financing rounds - \$227.2 million; total capital raised - \$881.9 million.

* **Technion:** capital raised in first financing rounds - \$63.5 million; total capital raised - \$403.2 million.

* **Bar Ilan University:** capital raised in first financing rounds - \$9 million; total capital raised - \$86 million.

* **Hebrew University:** capital raised in first financing rounds - \$46 million; total capital raised - \$78 million.

* **Ben Gurion University:** capital raised in first financing rounds - \$11.1 million; total capital raised - \$55.2 million.

* **Interdisciplinary Center Herzliya:** capital raised in first financing rounds - \$7.8 million; total capital raised - \$32.8 million.

* **Open University:** capital raised in first financing rounds - \$3.3 million; total capital raised - \$47.8 million.

* **Academic College of Tel Aviv-Jaffa :** capital raised in first financing rounds - \$5.9 million; total capital raised - \$34.69 million.

* **University of Haifa:** capital raised in first financing rounds - \$5 million; total capital raised - \$20 million.

* **College of Management:** capital raised in first financing rounds - \$0.3 million; total capital raised - \$0.3 million.

* Holon Intitute of Technology: capital raised in first financing rounds - \$0.3 million; total capital raised - \$0.3 million.

Compugen signs \$500m agreement with Bayer

The two companies will collaborate on development and commercialization of antibody-based cancer immunotherapies.

After long years of promises and expectations, at last biopharmaceuticals company Compugen Ltd. (Nasdaq: CGEN; TASE: CGEN) has signed a high-value commercialization agreement. The company announced the signing of a collaboration and license agreement for the research, development, and commercialization of antibody-based therapeutics for cancer immunotherapy against two novel Compugen discovered immune checkpoint regulators. Under the terms of the agreement, Bayer HealthCare (Bayer) and Compugen will jointly pursue a pre-clinical research program. Subsequently, Bayer will have full control over further development and have worldwide commercialization rights for potential cancer therapeutics.

Under the agreement Compugen will receive an upfront payment of \$10 million, and is eligible to receive over \$500 million in potential milestone payments for both programs, not including milestone payments of up to \$30 million associated with preclinical activities. Additionally, Compugen is also eligible to receive mid to high single digit royalties on global net sales of any resulting products under the collaboration.

“Bayer is committed to translating the science of cancer research into effective therapies helping people affected by cancer live longer and improve their quality of life,” said Prof. Andreas Busch, Member of the Bayer HealthCare Executive Committee and Head of Global Drug Discovery. “Antibody-based immunotherapies are promising approaches in oncology which can

stimulate the body’s own immune cells to fight cancer cells. Immunotherapy is one of our focus areas in oncology research. We are looking forward to expanding our portfolio in this area through partnering with Compugen.”

Compugen president and CEO Dr. Anat Cohen-Dayag added, “We are very excited to initiate this collaboration with Bayer, a leading global life science company with a broadening oncology franchise, for the development of antibody-based cancer immunotherapies against these two promising novel immune checkpoint targets. In addition, we believe that the prediction and validation of these two targets, through the use of our broadly applicable predictive discovery infrastructure, provides additional validation for our long-term commitment to establishing this unique capability”.

The immunotherapy approach aims at combatting cancer by stimulating the body’s own immune cells. The tumor and its environment suppress the ability of cancer patients to develop an effective anti-tumor immune response and in this way protect both tumor growth and survival. Compugen has discovered two novel immune checkpoint regulators that potentially play a key role in immunosuppression. Researchers at Compugen are developing specific therapeutic antibodies that are geared to block the immunosuppressive function of these targets and to reactivate the patient’s anti-tumor immune response in order to fight cancer.

Products developed by the Weizmann Institute have \$20 billion in annual sales.

The campus of the Weizmann Institute of Science gives a sense of abundance to those entering its gates. Researchers and employees also report a sense of pampering. There is little talk about the crisis in universities’ budgets common at other research universities. The Weizmann Institute’s message to its researchers is, “Take what you need; equipment, an

office, and peace of mind, and do research.”

A substantial part of the Weizmann Institute’s NIS 1.6 billion budget comes from Yeda R&D Company Ltd., its technology transfer arm, which turns its inventions into patents for which it charges use royalties. The Weizmann Institute reportedly earns \$50-100 million year from Yeda, 10-20% of its budget, an exceptional amount by the standards of Israeli and foreign technology transfer companies.

Products based on the Weizmann Institute’s technology have \$15 billion in annual global sales.”

At a conference a year ago, Naiberg estimated patents commercialized from Israel’s universities underpinned products with \$20 billion in annual global sales.

Naiberg was interviewed after years of quiet by Yeda. The secrecy seems to have been due to a wish to avoid jealousy and envy, and maybe a wish to show governments and potential donors that the Weizmann Institute can get along without them. The modesty about the income from the applied sciences is also in line with the Weizmann Institute’s attitude that this income is merely a side benefit, nice but not necessary, of investment in basic science, which is the institute’s real purpose.

Whatever the reasons for the long period of quiet, Yeda and Naiberg are now willing to open up, for the first time, although not about finances. But the huge success in the past raises the question whether the Weizmann Institute can keep its global standing. Naiberg admits that it’s a challenge. Referring to the innovative method for actively identifying technologies at research institutes, collaborating with the researchers, extensive registering of patents, proactive entrepreneurship, and ties with big companies and start-ups, he says, “Israeli com-

mercialization was once very innovative and a breakthrough, but the whole world has since learned our model. It is now being applied, but with more generous government and budget support. The US is working very hard, and Asia is working very hard, in China, Hong Kong, and Singapore.” Therefore, if Israel wants to keep its competitive advantage, it will have to allocate the same level of budgets.

Before looking to the future, the products which brought Yeda fame should be mentioned. First and foremost is Copaxone, the blockbuster treatment for multiple sclerosis produced by Teva Pharmaceutical Industries Ltd. (NYSE: TEVA; TASE: TEVA). The Weizmann Institute drew up an extraordinary deal in many ways: the agreement was signed relatively late in Copaxone’s development process, after it had already passed a human feasibility trial; and the institute kept a substantial part of the pie. Few people know it, but at some point, Teva returned the technology to the Weizmann Institute, which will continue to develop it, and when Teva asks to repurchase the product, the price will go up.

Second, the product is a blockbuster, with more than \$20 billion in sales. Third, Copaxone’s was Teva’s first purchase of a product that was not a generic drug, and for this reason it may have been less tough in the negotiations (the case ended up in arbitration, which the Weizmann Institute won). “I don’t think that Teva regrets this deal,” says Naiberg dryly about the product which made Teva into the Israeli giant that it is today. Copaxone’s patent is due to expire in two years. Yeda reportedly earned 8-9% on Copaxone’s sales, amounting to around \$2 billion.

Another blockbuster drug was Rebif, also for the treatment of multiple sclerosis, which the Weizmann Institute and Merck Serono SA developed through a joint venture InterPharm (now Inter-Lab Merck Serono’s R&D center in Israel). The Weizmann Institute sold its stake

in InterPharm for a few tens of millions of dollars, taking royalties on sales instead. Rebif has more than \$1 billion in annual sales, and the institute apparently earns 2-3% on sales during the agreement period.

Israel's life sciences industry was disappointed when Serono decided to move InterPharm's plant from Israel and produce Rebif overseas. Serono promised that, in view of the success of its relations with the Weizmann Institute, it would set up new plants on the basis of additional products originating from the institute. The collaboration has not yet yielded another blockbuster drug, but Serono has an R&D center and incubator in Israel - a direct result of the Weizmann Institute connection.

A third product is Erbitux, for the treatment of colorectal cancer. It is somewhat different from Copaxone and Rebif, because Yeda never commercialized it. The drug was wholly developed abroad with the help of a former Weizmann Institute research, Prof. Joseph Schlessinger. Only in retrospect did the Weizmann Institute notice that it owned one of the basic patents for the drug originating from an article by its researchers.

Naiberg, a lawyer by profession led the Weizmann Institute's fight. "This was a dramatic time, a real experience, because patent cases usually do not reach claims in court," he reminisces.

AOL acquires Adap.tv for \$405m.

The video ad platform developer has Israeli roots. It was founded by Amir Ashkenazi, and investors include Gemini Israel Ventures.

AOL Inc. (NYSE: AOL) today announced the acquisition of video advertising platform Adap.tv Inc. for \$405 million, including \$322 million in cash and \$83 million in AOL shares. Adap.tv will operate independently as part of AOL's

video organization and it will be part of the overall solution offered by AOL Networks to its publisher and advertiser partners.

"AOL is a leader in online video and the combination of AOL and Adap.tv will create the leading video platform in the industry," said AOL chairman and CEO Tim Armstrong. "The Adap.tv founders and team are on a mission to make advertising as easy as e-commerce and the two companies together will aggressively pursue that vision." He added, "Two trends are prevalent in the video space right now - the movement from linear television to online video and the shift from manual transactions to programmatic media buying. Adap.tv is positioned squarely in front of the huge opportunity these trends are presenting."

This is AOL's biggest acquisition since Armstrong took over the company in 2009. His previous big deal was the acquisition of online news site "Huffington Post" for \$315 million in 2009.

"At Adap.tv, we are focused on building the most important business within the most important category in digital advertising," said Adap.tv CEO Amir Ashkenazi, "We believe that most TV advertising will soon be traded programmatically on platforms like ours. The combination of AOL and Adap.tv accelerates our vision of efficient and effective TV and video advertising."

The San Mateo, California-based company has Israeli roots. It was founded by Ashkenazi, Dan Klein and CPO Teg Grenager in 2006, and investors include Gemini Israel Ventures, as well as US funds Redpoint Ventures, Spark Capital, and Bessemer Venture Partners.

New AFP system developed in Israel

Canberra police will soon be fighting crime on the city's streets using a computer system developed in the Middle Eastern flashpoints of

Gaza and the West Bank.

The Australian Federal Police is spending \$145 million on a new computer policing system to replace the ageing PROMIS program that has been in use for more than 15 years.

The new technology is a system used by Israeli security agencies in their battles with Palestinian militants. It is being bought "off the shelf" and customised for the AFP.

The program is being supplied by Elbit Australia and was developed by its parent company, Israeli defence giant Elbit Systems.

According to the AFP, the "intelligence-focused" program has already been tried and tested by a number of "Israeli government organisations".

Elbit is contracted to have the system up and running by March 2017 with about \$35 million already spent on the deal, which was signed in June.

Elbit also supplies unmanned aerial aircraft to its nation's military and ACT Policing has made no secret of its ambition to deploy a crime-fighting drone in the skies over the capital.

Police Real-time Online Management Information System - PROMIS - has been a central feature of policing in Canberra and a generation of officers have had a love-hate relationship with the system that the force's top brass now describe as "clunky".

PROMIS is used to record crime and incidents while holding investigative and operational information. It has also seen service with the Australian Crime Commission and the Northern Territory police.

But PROMIS, which was developed in-house by the force, has had a number of subsidiary

systems brought in to supplement it and was identified as a weakness as long ago as 2008.

It also struggles to support operations such as the AFP's deployments to Papua New Guinea and the Solomon Islands.

The new system will be called "SPECTRUM" and will also replace the AFP's evidence management and professional standards reporting systems.

The new arrangement is expected to boost the operational capacity of officers in the field while also upgrading the security of AFP information.

An AFP spokesman was frank on Friday about PROMIS' shortcomings.

"The primary operating systems for the AFP commenced operation in 1997 and was built in-house," he said. "Since that time, a number of subsidiary systems have been put in place to meet the operational requirements of the organisation."

He said that SPECTRUM was expected to be operational until around 2032.

"The new AFP computer system will be a converged system, which will replace a number of current systems used presently to record operational information by the AFP," the spokesman said.

"It is anticipated that the new system will be launched in March 2017.

"Once implemented, the AFP expects to have the new system in use for the next 15 years

"The implementation of a new integrated single computer system will allow the AFP's community policing, national investigations, intelligence and incident management areas to use the lat-

est technology and systems in the fight against 21st century crime.”

Israel high-tech firms raise \$493M in Q2
VC fund investments down to two-year low of 24% percent share in second quarter of 2013, IVC reports. Israeli seed investments decline to \$27 million or 13% from first quarter

In the first half of 2013, 312 Israeli high-tech companies attracted \$967 million from local and foreign investors, slightly above the \$962 million raised by 270 companies in the first half of 2012, but almost 8% down from \$1.05 billion invested in 286 companies in the first half of 2011, according to a report prepared by the IVC Research Center and KPMG Somekh Chaikin.

One hundred and eighty-four VC-backed deals attracted \$763 million or 79% of the total raised in first half of 2013. This amount is 20% higher than the \$638 million raised in VC-backed deals in first half of 2012.

Change in Focus

Waze may lead way to Israel Internet growth
Billion-dollar sale of navigation company to Google may prompt more foreign investors to come to Israel to invest in Israeli entrepreneurs, putting country on map as major player in consumer Internet innovation

The average company financing round was \$3.1 million, while the average financing round for VC-backed deals was \$4.2 million.

In the second quarter of 2013, 143 companies raised \$493 million, up 4% from \$474 million raised by 169 companies in the first quarter of 2013 and 3% from \$477 million attracted by 129 companies in the second quarter of 2012.

Sixteen companies attracted more than \$10 million each, accounting for 52% of the total amount raised in the quarter.

Eighty-five VC-backed deals attracted \$399 million or 81% of the total amount raised in the second quarter of 2013. This compares with 77% in the first quarter of 2013 and 67% in the second quarter of 2012.

The average company financing round was \$3.5 million, while the average financing round on VC-backed deals was \$4.7 million.

“The second quarter of 2013 ended on a strong note for Israeli high-tech companies, which managed to raise nearly half a billion dollars in the first half of the year. It is interesting to note that more than 60% of financing rounds were with the participation of Israeli VC funds, despite the fact that the Israeli VC share in capital invested declined,” says Koby Simana, IVC Research Center’s CEO.

“Analyzing the data beyond the direct investment perspective, shows that local funds play a major role in driving high-tech financing deals forward, even when the bulk of capital is sourced from foreign investors,” Simana concludes.

Israeli VC fund investment activity

In the first half of 2013, Israeli VC fund investments accounted for \$265 million or 27% of the total amount invested. The share is unchanged from the first half of 2012, but is well below the 35% of the first half of 2011.

First investments captured \$94 million or 35% of total investments, compared with 29% and 24% in the first half of 2012 and the first half of 2011, respectively. Follow-on investments by Israeli VC funds in the period accounted for the remaining 65%.

In the second quarter of 2013, only \$118 million (24%) was invested by Israeli VC funds, the lowest quarterly amount in three years. This compares with the \$147 million (31%) invested in the first quarter of 2013 and \$131 million (28%) invested in the second quarter of 2012.

First investments in the second quarter of 2013 were \$32 million (27% of total investments), a 48% decline from the \$62 million (42% of the first quarter of 2013, but about 2 ½ times the \$13 million (10%) of the second quarter of 2012. Follow-on investments by Israeli VC funds accounted for 73%.

Apple Buys Matcha, possibly In an attempt to make your TV more awesome

Imagine sitting down in front of your TV and seamlessly searching -- and surfing between -- Netflix, HBO Go, iTunes and live TV, all without switching apps or inputs.

A similar feature is already expected in the next-generation Xbox, and it could be part of what Apple is attempting with its recent acquisition of a small Silicon Valley-based tech startup called Matcha.TV, an app that helps you figure out what to watch. If we're reading the tea leaves right, the purchase offers yet another clue to the tech giant's stated "very grand vision of television."

Apple's Matcha buy, first reported by VentureBeat and said to be between \$1 million and \$1.5 million, is only the latest nugget of news to fuel speculation about what Apple may be planning for a TV-like product as technology companies try to claim the future of television.

Matcha brought together different video sources, like Hulu Plus, YouTube, HBO Go, Netflix and Amazon Prime, as well as information from Comcast and social networks, to help users fig-

ure out what to watch. But it mysteriously shut down in May, and the only explanation offered was that the app was going in a "new direction."

Apple, for its part, gave a boilerplate response about its plans for Matcha when contacted by The Huffington Post: "Apple buys smaller technology companies from time to time and we generally do not discuss our purpose or plans."

However, observers said that Matcha's technology could further the fusion of the Internet and TV by letting viewers search for content everywhere all at once, and then watch it on their television sets. For example, you could use your iPad or iPhone to search for episodes of "Mad Men" and then choose whether to watch an episode live on AMC, to stream an episode from the first season on Netflix, or to download the whole fifth season on iTunes.

"I think it'll make the experience that much better," said Chuck Parker, chairman of the 2nd Screen Society, a trade organization that pushes pairing TV with mobile devices. "They're going to try to create an experience by integrating your existing live TV service with your device."

Parker added that Apple could also build technology like this into its existing Apple TV, the \$99 set-top box that connects to the Internet and allows people to stream video from about a dozen sources. For now, switching between shows in different apps -- like an episode of "House of Cards" on Netflix and an episode of "True Blood" on HBO Go -- requires several steps. And, of course, if you want to watch live TV, you have to get your television's remote and switch the input and the channel.

Last month, a report in the Israeli business paper Calcalist said Apple was considering a purchase of PrimeSense, a company that builds

sensors -- like the one found in the Xbox Kinect -- that allow people control devices with gestures. This prompted many observers to predict that a television from Apple would feature motion-control technology.

Also last month, Jessica Lessin reported that Apple is developing ad-skipping technology, and the company would compensate the TV networks for any revenue lost with fewer people watching ads.

After all, there's much more to building a new TV than content discovery, said Jonathan Gaw, a research manager at IDC, a technology research firm.

"If this is as far as Apple has gotten in developing a television, we've got a long wait ahead of us," Gaw wrote in an email. "Search-and-discovery of content is an important but small part of a connected video experience, a necessary but insufficient element, and probably not even the hardest one

Israeli develops a 'watch' that stops unnecessary heart attack deaths

It looks like a watch, but it's a sophisticated blood-oxygen heart-rate monitor

About half of all people at risk of death from heart attacks could gain the chance to live, once Israeli entrepreneur Leon Eisen's new Oxitone device goes to market in about 18 months.

Using two optical sensors, and another special high-tech tool, he's developed the world's first "watch" that can just about tell when your time may be up.

It's no joke: Oxitone was developed to cheat fate.

Eisen tells ISRAEL21c that about half of the people who die from cardiac or pulmonary arrest

would be alive if someone had been there to get them to the hospital in time. Oxitone is made to be worn on the wrist to provide a heads-up for someone to get medical assistance on their own, before it's too late.

With all the technology out there — personal monitoring devices, crocodile clips for your finger, even those panic buttons — nothing helps if the user is not able to mobilize these devices in time. And many patients may not be able to read the signs that cardiac arrest is imminent.

That's why Eisen developed a wearable watch-like mobile device — synched with Bluetooth, Android or iPhone devices — that takes minute-by-minute readings of heart rate and oxygen levels in the blood.

So potentially "disruptive" is this advance that Oxitone recently was chosen from 400 applicants to be among 13 companies — and the only Israeli one — in GE Healthcare's Start-Up Health Academy Entrepreneurship Program. The three-year program provides healthcare entrepreneurs the tools to propel their product into the healthcare market.

Pain-free, always on duty

"Oxitone takes the pinch out; it's worn on the wrist instead of the fingertip to provide continuous, wireless non-stop monitoring while you are walking, eating, sleeping or doing sports," Eisen says.

Blood-oxygen levels are a critical parameter in monitoring COPD (chronic obstructive pulmonary disease), which can prevent patients from getting enough air into their lungs.

COPD also accompanies chronic bronchitis, asthma and emphysema, leading to shortness of breath. It is estimated that COPD is the third-highest cause of death in the United States.

Oxitone non-invasively determines if a cardiac event is imminent by following blood-oxygen levels. It may also help people who suffer from sleep apnea, giving peace of mind to the wearer and their loved ones.

When heart rates change and oxygen levels drop, Oxitone sends alerts to pre-determined locations. It can also be used for long-term care, as physicians can access ongoing records to see how a patient is doing over time.

“My product facilitates an early clinical response for cardiac or pulmonary attack,” Eisen explains. “Because it is continuously monitoring, we can provide an emergency alert. With our device, people will feel better because they understand they are protected. This is the breakthrough.”

A telltale heart

Eisen is looking for a \$3 million investment and looks forward to starting clinical trials on the device in Israel and the UK. Early R&D trials have already been done, he says. There is also a working prototype in hand, but just how the final Oxitone will look is yet to be determined.

Eisen was trained originally as a physicist. The 46-year-old moved to Israel from Moscow in 1999 and obtained a doctorate from Israel’s famed Weizmann Institute of Science.

He then did a post-doc at Bar-Ilan University, where he learned about optical lasers. This work of several years enchanted him, and made him curious about applied sciences.

He started working as a freelancer, building various projects and sensors for high-tech companies.

IBM Buys Trusteer to bolster its cloud services

International Business Machines (NYSE:IBM) announced that it has signed a definitive agreement to acquire Israel-based Trusteer, a security software company. [1] While the financial terms of the deal have not been disclosed yet, Bloomberg said the acquisition is worth around \$800 million citing a person familiar with the deal.

In its 2015 roadmap, IBM stated that cloud computing will be the key driver for revenue growth and has spent billions of dollars building its cloud business globally with a number of acquisitions in the past three years that includes Softlayer, Keneax, DemandTec and Sterling Commerce, etc.

This acquisition will bolster IBM’s SmartCloud service division and will be a significant addition to its cloud based Software-as-a-Service (SaaS) business. client base that includes seven of the top 10



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