

ISRAEL HIGH-TECH & INVESTMENT REPORT

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JOSEPH MORGENSTERN, PUBLISHER-
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The Acquisition Binge is On

Israeli companies are continuing their custom of early exits. That is the main reason why there are only several companies that can be considered large by international standards. Yet since there exist companies like Teva and CheckPoint it proves that Israelis can nurture large companies. Yet others claim that there is a shortage of top flight managers. We believe that the tendency of early sellouts will change in the future.

OL acquires Adap.tv for \$405c

Convertro helps marketers and agencies maximize their return on advertising spending across online and offline media channels through insights into each channel, format, ad creative and audience segment using unique algorithms. The acquisition will create synergy with Adap.tv, the US-Israeli company founded by Amir Ashkenazi that AOL acquired last August for \$405 million.

Following the acquisition, Convertro's employees will join AOL's development center in Israel. However, it is unclear whether the Israeli employees will be moved to AOL's Tel Aviv development center or continue working in Ra'anana. The Israel development center is managed by Yaniv Shalev, formerly of LivePerson Inc. (Nasdaq: LPSN); TASE: LPSN).

We have decided that from time to time we will publish a biographical sketch of an individual from the world of Israeli high-tech. Stef Wertheimer is a particularly suitable

choice. His beginnings can be traced to a garage where he founded Iscar. The company was eventually purchased by Warren Buffett for \$4 billion making Wertheimer the richest man in Israel. Wertheimer served in Israel's parliament. He will also be well remembered for the science-based industrial parks which he initiated in various parts of Israel.

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AOL acquires Convertro for \$101m

Steff Wertheimer- a profile

Israel is world's leading drone producer

Researchers reveal protein's role in preventing growth of heart muscle leading to heart failure

Qualcomm to acquire Wilocity for \$300m chip

Intel buys Ginger Software assets for \$30m Intel

IVC: Private equity investment doubles foreign currency

IAI unit Stark unveils new mini UAV

Israel Aerospace Industries unveils route clearance robot

High-tech investment hits 10 year high

Mobileye unveils car that drives itself

Soros buys SodaStream shares and raises Teva stake

From NASA spacecraft to streimels, nano-coatings have diverse uses.

Who Is Stef Wertheimer?

Early on, Stef Wertheimer, the founder of Iscar Metalworking, a manufacturer of industrial precision metal-cutting tools, decided that entrepreneurship was an answer to social and economic problems. In 1937, when he was 11, Wertheimer fled Nazi Germany with his family to what was then British-Mandate Palestine. After leaving school at 14, he made weapons for the Jewish underground before Israel's War of Independence in 1948 and served in the special forces unit Palmach during the war. Four years later, living in the northern town of Nahariya, he started making small industrial tools in his kitchen and delivering them by motorcycle. "There were no jobs, this area was agricultural, and I decided that I had to do something on my own," Wertheimer, now 81, recalls.

When France instituted a weapons embargo against Israel in 1967, Wertheimer was asked by the government to make blades for Israeli fighter jets. It was the beginning of what would eventually become Iscar, which now has operations in 65 countries as well as factories in Asia and Europe. While the private, family-owned company does not disclose its financials, estimates put Iscar's sales between \$1.4 billion and \$2.5 billion—nearly 95% derived from exports.

During the 1980s, Wertheimer spent four years as a member of the Knesset, Israel's Parliament. It was there that he came to the conclusion that he could accomplish more through industry and entrepreneurship than he ever could through government or politics. An early social entrepreneur, he launched his flagship industrial park, Tefen, based on his belief that creating jobs and economic prosperity in the Middle East would diffuse conflicts. Sitting in his office overlooking the Galilee, he says: "What makes peace? The answer is jobs."

In May, 2006, Wertheimer and Iscar made glob-

al headlines when Berkshire Hathaway's (BRK) Warren Buffett announced he had acquired an 80% stake in Iscar for \$4 billion

When Buffett traveled to the country to visit his new investment four months later he told the Israeli press: "Iscar and the Tefen Industrial Park should be taken as an example...around the world of what can be done against all odds."

Investing in a Vision

Says David Rubin, the former Israeli Economic Minister to North America and currently a consultant to Israeli high tech companies: "Stef's industrial parks are probably the largest private contribution to Israeli entrepreneurship ever. Without taking anything from the government, he has invested in his vision for a productive and economically independent society."

Today, Wertheimer spends most of his time on his industrial parks and encouraging young entrepreneurs (his son Eitan Wertheimer now serves as Iscar's chairman). He was a recipient

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of the Israel Prize—the nation’s highest honor—in 1991, and last month he was awarded the Buber-Rosenzweig medal in Germany for his work in advancing peace through entrepreneurship.

Wertheimer says the Buffett deal was important because it meant “that Iscar was a global company, not a local one.” Perhaps equally important, he says it will allow him to further invest in developing his vision of peace.

Israel is world’s leading drone producer

The U.S. Navy recently made a big publicity splash when it boasted that the operation of a stealth drone on an aircraft carrier in Chesapeake Bay was a historic first. It was about 30 years late. , The Navy’s first carrier operations of a drone were on the USS Guam off the coast of Israel in 1984, and the drones were Israeli-built.

The Navy said the landing of the experimental X-47B, which looks like a miniature B-2 stealth bomber, on the USS George H.W. Bush last May was “the first ever launch of an unmanned aircraft from an aircraft carrier”

Israel has long been the world leader in drone – called Unmanned Aerial Vehicle (UAV) or Remotely Piloted Vehicle (RPV) – aircraft and had proven very successful in combat at a time when the only thing soaring for the American Aquila program was its cost; the project itself, which couldn’t get off the ground, was considered an expensive failure during the Reagan administration while Israel was the world leader in that technology.

Naval historian Norman Polmar traces the modern Navy’s unmanned aircraft program to its roots in Israel.

During the Vietnam War drones flew reconnaissance missions over North Vietnam and on anti-

submarine missions, but wasn’t until the 1980s that the Navy launched a large-scale UAV program, and faced with the Aquila failure the Navy turned to Israeli-developed and combat-proven drones like the Mastiff and Scout.

Secretary of the Navy John Lehman wanted a UAV for the Navy and Marines to perform gun-fire spotting for battleships and reconnaissance. He was aware of the great success of Israeli UAV’s in the 1982 Lebanon war, where they made it possible for Israel to destroy 86 Syrian SAM missile sites in the Bekaa Valley of Lebanon without losing a single plane of their own.

Lehman sent a top aide and naval aviator to Israel to do an evaluation, and then Lehman himself “made a personal deal with Israeli Defense Minister Yitzhak Rabin to acquire” Israeli mastiff UAVs, Polmar writes. Those aircraft became the first UAVs to operate off an American carrier deck in 1984, when they began training operations from the helicopter carrier Guam off the coast of Israel nearly 20 years before the X-47B.

The Pentagon initially bought 72 UAV’s called Pioneer, designed and partially manufactured in Israel and built in a joint US-Israeli venture. They could operate from land bases or ships and were used extensively in Operation Desert Storm, where at least one was airborne at all times during the conflict, according to Polmar.

The Pioneer’s most famous moment came on February 27, 1991, when 40 Iraqi soldiers in Faylaka Island surrendered to an unarmed UAV launched from the battleship Wisconsin.

Polmar explains: “Previous Pioneer overflights had led to precisely targeted air attacks on their patrol boats and island trenches, causing the Iraqis to believe that detection by the drone would result in similar attacks. It was history’s first known surrender of troops to an unmanned

vehicle.”

Israel today is the leading exporter of UAV for both military and civilian use, although the United States is probably leading manufacturer but mostly for the Pentagon and close allies.

There's a lot of talk about how much aid the United States gives Israel; this is another good example of how much the United States military gets from Israel. Combat proven Israeli technology was operational long before the Pentagon could launch its own UAV's. Today's advanced American drones like the Predator owe their success to Israeli pioneering in the field.

The Predator, which has seen combat over at least eight countries and has been called “America's most successful and most feared military drone,” was designed by an Israeli immigrant, Abraham Karem, former chief designer for the Israeli Air Force.

Researchers reveal protein's role in preventing growth of heart muscle leading to heart failure

Hebrew University Faculty of Medicine researchers show for the first time that the protein Erbin is an important brake that helps prevent pathological cardiac hypertrophy

Research also has implications for the treatment of breast cancer

Cardiovascular disease remains the number one cause of death in the Western world, with heart failure representing the fastest-growing subclass over the past decade. The stage that precedes heart failure in a significant number of cardiovascular diseases is pathological hypertrophy — the growth of the heart muscle in an attempt to increase its output. Not all hypertrophy is pathological; for example, during pregnancy or high physical exertion, the muscle of the heart grows but myocardial function remains normal. But when hypertrophy is excessive, prolonged and unbalanced, it

becomes pathological, leading to heart failure and arrhythmias.

Now, for the first time, researchers at the Hebrew University of Jerusalem's Faculty of Medicine have revealed how a protein called Erbin acts as a brake against this excessive and pathological growth of heart muscle. They also demonstrated that damage to this protein leads to excess growth of heart muscle, a decrease in function, and severe pathological growth of heart muscle.

The research was conducted by Ms. Inbal Rachmin as part of her doctoral thesis, under the supervision of Prof. Ehud Razin and Dr. Sagi Tshori at the Institute for Medical Research Israel–Canada in the Faculty of Medicine at the Hebrew University of Jerusalem. The study, “Erbin is a negative modulator of cardiac hypertrophy,” was published in the Proceedings of the National Academy of Sciences (PNAS).

Ms. Rachmin detected a significant decrease in the expression of the protein Erbin in the heart tissue of patients suffering from heart failure. Moreover, the induction of hypertrophy in mice lacking Erbin led to the early death all of these mice, compared to only about 30 percent mortality observed in the control group. Histological examination showed that heart failure was the main reason for this.

This important research also has further implications in the area of breast cancer treatment. Erbin interacts with the receptor Her2/ErBb2, which is overexpressed in approximately 30% of breast cancers. The standard treatment in these cases is the use of Herceptin, an antibody to this receptor. Studies have shown that 5-10 percent of breast cancer patients who received this treatment together with chemotherapy have a significant decrease in heart function. The researchers describe a cardioprotective role for Erbin, which suggests it is a potential target for

cardiac gene therapy.

The study was carried out in close collaboration with the following researchers: Prof. Dan Gilon, Director of the Echocardiography/Non-Invasive Cardiology Unit of The Heart Institute at the Hadassah University Medical Center; Dr. Eli Golomb, of the pathology department at Shaare Zedek Medical Center; and Professor Roger Foo from the National University of Singapore.

Qualcomm to acquire Wilocity for \$300m chip

The Caesarea-based company is developing high-speed 60-Gigahertz multi-gigabit wireless chipsets.

Qualcomm Corporation (Nasdaq: QCOM) will acquire high-speed wireless chipset developer Wilocity Ltd. for more than \$300 million. Qualcomm has been seeking to acquire an Israeli company in this sector for a long time. It previously invested in Wilocity.

Cisco becomes strategic investor in Wilocity
Wireless chipset developer Wilocity raises \$35m

Wilocity CEO Tal Tamir, COO Dany Rettig, VP communications architecture Gal Basson, and VP products and sales Jorge Myszne founded the company in 2007. The company, based in Caesarea, is developing 60-Gigahertz multi-gigabit wireless chipsets based on the newly completed WiGig standard for the mobile computing, consumer electronics and peripheral markets. The technology is designed for short-range communications within the home or office, and can support data rates of 1.5 Gbps, potentially ten times faster than the previous local wireless network standard n11 (WiFi). This means that, in theory, a 2-gigabyte HD movie can be downloaded in seconds between computers.

Wilocity has raised \$105 million to date from

Benchmark Capital, Sequoia Capital, Vintage Investment Partners, Tallwood Venture Capital, and strategic investors, Atheros (now part of Qualcomm), Cisco Systems Inc. (Nasdaq: CSCO), Marvell Technology Group (Nasdaq: MRVL), and two Taiwanese companies - Azur-eWave Technologies Inc. (Taipei:3694) and Pegatron Corporation (Taipei:4938).

Cisco participated in Wilocity's last financing round of \$35 million in late 2013, as part of a general collaboration between the companies. Cisco, which sold its consumer electronics equipment business in early 2013, will use Wilocity's chipsets in enterprise computing solutions.

Wilocity's breakthrough came in 2013, when its products were embedded in several Dell Inc. (Nasdaq: DELL) laptop models. Wilocity is targeting the smartphone market; according to VP marketing Mark Grodzinsky, the company plans to have a product ready by the end of this year.

For the PC communications equipment market, Wilocity had to provide a chipset that also operated on the 2.4-GHz and 5-GHz short-range frequencies that WiFi and Bluetooth, respectively, are based on. The company aims to produce a tri-band chipset for next-generation PCs.

In order to make the new technology the industry standard, Wilocity helped found and now heads the Wireless Gigabit Alliance (WiGig) in 2009. Members include industry giants Broadcom Corporation (Nasdaq: BRCM), Dell, Intel Corporation (Nasdaq: INTC), Marvell, Microsoft Corporation (Nasdaq: MSFT), NEC Corporation (TSE: 6701), Nokia Corporation (NYSE; OMX: NOK), Qualcomm, and Samsung Electronics Co. Ltd. (KSX: 5930; LSE: SMSN).

Qualcomm said in response, "No comment", and Wilocity was unavailable for comment.

Israel High-Tech & Investment Report

Nasdaq deputy chairman Meyer Frucher told “Reuters” about cooperation with the TASE.

Nasdaq sees a stronger year for IPOs of Israeli firms than it had in 2013, the stock exchange’s vice chairman Meyer Frucher told “Reuters.”

He said, “Last year there were four IPOs and they had on average an 85% increase since the IPO. So the Israeli companies do well on Nasdaq,” Frucher said during a visit to Tel Aviv.

He added, “There are a lot of (Israeli) companies, a number of companies that we are engaged in various levels of conversations with. We did four last year, we think we’ll do more this year.”

London Stock Exchange officials who visited last month and also said they expect a boost in 2014 for Israeli companies.

With 90 companies valued at \$40 billion already traded on Nasdaq, observed “Reuters” Israel is second only to China in the amount of foreign firms listed. There have been three Israeli IPOs since 2014 began and four more are in the process of going public on Nasdaq.

Frucher said, “A lot of companies incubate on the Tel Aviv Stock Exchange and move to Nasdaq,” he said, adding that a majority of them are join. That works very well because we are in different time zones and different trading zones and so it just extends the trading.”

Frucher said Nasdaq has also been talking with the Tel Aviv Stock Exchange about working together to help early stage companies grow. He added, “There is a private market that Nasdaq is setting up. The Tel Aviv Stock Exchange has expressed interest in such an exchange, that is for companies that are not yet ready to list on any market, but are seeking early stage capital investment.”

Intel buys Ginger Software assets for \$30m Intel

“Techcrunch” Intel has bought its customized personal assistants platform.

“TechCrunch” reports that Intel Corporation (Nasdaq: INTC) has bought the customized personal assistants platform from Ginger Software Ltd. for up to \$30 million. Ginger Software will continue to operate as an independent business focusing on its remaining business: intelligent grammar and spell checking software.

“Intel acquired natural language processing tools and applications assets from Ginger. Along with the aforementioned assets, Intel also hired some Ginger engineers associated with this business,” a Ginger spokesperson told “TechCrunch”.

“On May 8, Intel acquired natural language processing tools and applications assets from Ginger Software, and it is hiring up to 16 engineers associated with this business,” an Intel spokesperson further elaborated. “We are not disclosing details about how Intel might use the Ginger Software technologies at this time and we are not disclosing terms of the deal. Please note - We’re acquiring the assets and engineering team associated with Ginger Software’s natural language processing tools and applications. We aren’t acquiring Ginger Software’s Grammar and Spell Checker.”

“TechCrunch” adds that Ginger Software chairman Soffer Teeni has gone to Facebook Israel Ltd., and its founder, CEO and Chief Scientist of the Personal Assistant business Yael Karov is leaving. The deal is her fourth exit.

Explaining the decision to split Ginger Software and sell its personal assistant business to Intel, Karov said, “Ginger had two separate business units, each of them had a different technology,

target market, and CEO.” She adds, “The first business - English as a second language was not for sale. It has a commercial consumer product with many mobile and desktop users, and our plan is to use the proceeds from the personal assistant asset sale in order to continue and improve our products, and scale up Ginger. We also plan a big release of a communication product for native English Speakers. The innovative NLP technology for sale was managed and developed by a separate team that I led. We plan to continue and broaden the original business of Ginger and get to hundreds of millions of users. We don’t plan to sell the Ginger business.”

“TechCrunch” says, “The deal is an interesting one for Intel, in that it builds on other investments and acquisitions that the company has made into the area of advanced computing - a nebulous area that includes not only artificial intelligence and how users can interact with computing devices but new frontiers in what forms those computers may even take.”

An Israeli startup based in Tel Aviv aims to transform smartphone camera imaging by bringing photo quality up to par with that of compact zoom-lens digital cameras.

The company, Corephotonics, has developed a dual-lens phone camera that can produce crystal-clear images even when the zoom function is used. Because the parallel 13-megapixel lenses also have their own sensors, the camera boasts improved low-light performance, producing cleaner images with less noise.

According to a review on Engadget, which awarded the technology 9.2 points out of 10, the use of two lenses also provides “a degree of depth analysis,” meaning that the camera can automatically blur backgrounds in portrait shots and autofocus more quickly.

The dual-lens system uses a platform manu-

factured by American semiconductor company Qualcomm, which has offices worldwide.

Some tech experts say Corephotonics’ zoom technology is particularly innovative, so much so that it could revolutionize phone photography and make the “megapixel war” — the rush to produce phone cameras boasting higher image quality than the competition — obsolete.

A review on CNET said the startup, which is just two years old, may change the way we take pictures with phones — although it has yet to announce any involvement with major smartphone manufacturers.

The Corephotonics smartphone zoom camera. (photo credit: Corephotonics)

The Corephotonics smartphone zoom camera. According to the company’s website, its zoom technology is based on a “hybrid approach” wherein a dual aperture camera is combined with an “image fusion library.”

Essentially, by using two lenses with two different focal lengths, the phone camera is able to combine two simultaneous images into a high-quality image — much clearer and crisper than images produced with the digital zoom technology used in most smartphone cameras today.

In other words, when a user takes a photo, the phone camera actually takes two shots: one with a wide angle lens, and one with a fixed-focus telephoto lens, both designed by Corephotonics. Using an algorithm developed by the company, the images are then fused into one crisp, clear photo that could well have been taken with a higher-end 20-megapixel smartphone camera — or even a compact digital camera.

An image showing a photo taken without the zoom technology developed by Corephotonics, left, and with it, right. (photo credit: Corephotonics)

“Corephotonics’ Image Fusion Library is a cutting edge processing solution which produces superb image quality. The effective resolution at all magnifications transcends even that of mechanical optical zoom,” read a statement on the company’s website.

Mechanical optical zoom, as opposed to digital zoom, is a feature not available on most smartphone cameras today, as it requires the bulky addition of a moving part — a zoom lens — to phone bodies that are constantly getting slimmer and sleeker. While mobile phone cameras do have a digital zoom option, zoomed images usually come out blurry.

“The absence of an optical zoom in compact camera is a major photographic handicap when comparing camera phones to digital stills cameras. During recent years, true optical zoom had not become widely available due the cost, size, volatility and quality of existing solutions. Therefore a truly viable optical zoom will have great importance for camera phone photography,” the company said.

The technology developed by the Corephotonics to address this problem not only promises to generate high-quality zoomed images, but also to improve their resolution beyond that of mechanical optical zoom cameras — in other words, allowing smartphone users to take zoomed photos that are of an even higher quality than photos taken with point-and-shoot digital cameras.

This may mean that rather than carrying both a smartphone and a camera when traveling, vacationers may opt to carry just the phone, revolutionizing the pocket camera market and providing serious competition for the popular brands that manufacture such cameras.

IVC: Private equity investment doubles foreign currency

Private equity funds invested \$349 million in 12 deals in the first quarter.

Private equity funds invested \$349 million in 12 deals in the first quarter of 2014, 141% more than the \$145 million invested in 14 deals in the corresponding quarter of 2013, and 51% more than the \$231 million invested in eight deals in the preceding quarter, reports the IVC Research Center and Gross, Kleinhendler, Hodak, Halevy, Greenberg & Co.

The largest transaction was a \$115 million buy-out of NSO Group Technologies Ltd. has been acquired by US private equity fund Francisco Partners LLC. Two additional deals exceeded \$50 million each.

Israeli private equity funds increased their activity in the first quarter, investing \$202 million or 58% of total private equity investments. This amount is 21% less than the \$257 million three-year average, but almost three times the \$68 million invested in the preceding quarter, which was the lowest quarter for these funds in 2013. The largest deal was the \$73 million acquisition of Gadot Chemical Tankers and Terminals Ltd. by Tene Investment Funds Ltd.

Four Israeli private equity funds raised \$398 million altogether in the first quarter.

“In the first quarter of 2014 we saw the comeback of private equity deals in technology industries, which accounted for 62% of total private equity deal value,” said IVC research manager Marianna Shapira. “While in 2013 both Israeli and foreign investors focused on traditional industry, that year diverged from the norm. In the two previous years - 2011 and 2012 - the majority of private equity activity was in technology fields, reaching 75% and 85%, respectively. An emphasis on transactions in high-technology fields will most likely continue in 2014.”

“The Israeli M&A market continues to show signs of strength, and we have seen increased competition between private equity players and strategic acquirers,” said GKH partner and head of M&A Rick Mann. “Hesitation by local banks in offering acquisition financing may be making it more difficult for those potential acquirers seeking to leverage their transactions. Israeli private equity funds continue to be a strong force in the market, and we may see more private equity funds targeting the local market.”

Defense Innovations

Protector USV is an unmanned surface vehicle, developed by the Rafael Advanced Defense Systems. It is the first of its kind to be used in combat.

Iron Dome – a mobile air defense system in development by Rafael Advanced Defense Systems designed to intercept short-range rockets and artillery shells. On April 7, 2011, the system successfully intercepted a Grad rocket launched from Gaza, marking the first time in history a short-range rocket was ever intercepted.[29] The Iron Dome was later utilized more fully in the Israeli-Gaza conflict of 2012, where it displayed a very high rate of efficiency (95%-99%) in intercepting enemy projectiles. Further production of the Iron Dome system will be financed and supported by the United States government.

MUSIC (Multi Spectral Infrared Countermeasure) – a system that counter surface-to-air heat-seeking missiles. It is manufactured by Elbit Systems

MagnoShocker – combines a metal detector and a taser to immediately neutralize a dangerous person, developed by the mathematician Amit Weissman and his colleagues Adir Kahn and Zvi Jordan.

Wall radar – a unique radar utilizing Ultra Wide Band (UWB) to allow users to see through walls. Developed by the Israeli com-

pany Camro.

Injured Personnel Carrier A unique evacuation method developed by Israeli company Agilite Gear, comprises a strap allowing you to carry the wounded person on your back.

The Emergency Bandage is a first field dressing which can be applied and secured with one hand to prevent bleeding from battlefield injuries.

IAI unit Stark unveils new mini UAV

Israel Aerospace Industries Ltd. (IAI) (TASE: ARSP.B1) US subsidiary Stark Aerospace Inc. recently began deliveries of its new mini unmanned aerial vehicle (UAV), the Aerolight, which it specially designed for US Special Forces with the assistance of the Department of Defense. IAI unveiled the Aerolight today at the Association for Unmanned Vehicle Systems International (AUVSI) Unmanned Systems exhibition in Orlando, Florida.

The Aerolight is a manually launched tactical UAV that does not need command and control ground stations like strategic UAVs. It is designed to provide Special Forces with tactical intelligence collected by its StarkLite 200 miniature electro-optical payload for day and night operations.

The Aerolight is carried by a single infantryman. It weighs three kilograms and can be assembled within 60-90 seconds. Its electric motor ensures silent operations that prevents discovery of the forces operating it on the battlefield.

A source at IAI told “Globes” that the mini-UAV is also equipped with a laser pointer and state-of-the-art communications. He says that the UAV can operate in bad weather.

Stark has delivered 13 Aerolights to the US Army out of an order of 40. An IAI source says that the UAV has an endurance of more than two and a half hours, can fly at 25-50 knots, and

that, before landing, a kind of elevator pulls the sensitive payload inside the fuselage, preventing damage when the UAV lands on its belly.

Sources at IAI do not rule out that the IDF might procure the Aerolight in the future. IDF ground forces currently use a wide range of mini UAVs similar to the Aerolight, but made by Elbit Systems Ltd. (Nasdaq: ESLT; TASE: ESLT).

Ecoppia's robots clean solar panels automatically

Charged by the sun, the robots clean the dust that reduces electricity output by 35%.

The Israeli solution to solar-panel performance has arrived. Innovative new robots, developed by Moshe and Eran Meller's Herzliya-based start-up Ecoppia, clean the Ketura Sun solar field panels in the Arava every night.

Due to the dust and dirt that accumulate daily on the more than 18,000 panels spread around the largest solar energy production field in Israel, and due to the arid nature of the region, the solar field's management was in the past forced to hire workers to manually clean the panels once a month.

Dust on the panels can reduce their electricity output by more than 35%. Ecoppia's robots, produced in its Barlev industrial park plant, are fully automated, and clean the Ketura solar panels nightly.

The robots are installed on the panels, and recharge themselves independently from solar energy generated from their own solar panels. The founders claim that two hours solar charge are sufficient for the robots to run smoothly for three days. The robots are made out of strong, soft fibers, and work using controlled air pressure. Ecoppia says the robots' operators can control them remotely using a personal computer, or smartphone.

Ecoppia's E-4 robots begin working immediately when the massive solar panels finish absorbing sunlight. During the night, they glide across the panels and remove the layer of dust that has accumulated, without using water or chemicals, and prepare the large glass surfaces for another day of sun, at maximum efficiency.

"Most of the solar fields around the world are in arid regions, such as deserts. The problem is that in such areas, there is very little rain to clean them, and there is a ton of dust. Until now, the panels in such areas were cleaned manually, and, every few weeks, many workers were employed, who would also use a great deal of water in the process, which is an expensive commodity in the desert.

"Using the new robots, it is possible to carry out the same cleaning in a very short time, as opposed to the [manual] cleaning process, which in the past took a human crew five days, and took place nine times a year," Ecoppia founder Eran Meller told "Globes."

During the development of the E-4 robot, Ecoppia approached the Arava Power Company, which operates the Ketura Sun solar field.

The trial lasted three months, and the robots proved to have a good work ethic. With the trial's completion 100 robots were installed on panels around the field.

"Currently, the site at Ketura is the first in the world to have its solar panels cleaned automatically. Right now, we are focusing our operations on the Israeli market, and we are aiming for the US market as well. I believe that this summer we will announce additional partnerships," said Meller.

Israel Aerospace Industries unveils route clearance robot

SAHAR clears the way ahead of landmines, explosives and other obstacles.

Israel Aerospace Industries Ltd. (IAI) (TASE: ARSP.B1) is unveiling SAHAR - an autonomous robotic route clearance system. A model of the system is being presented at the Association for Unmanned Vehicle Systems International (AUVSI) exhibition this week in Orlando, Florida. SAHAR is a joint development of IAI, ark unveils new mini UAV

Israel Aerospace Industries demands investment grants

SAHAR is a fully autonomous robotic system designed for the efficient performance of combat engineering missions. The system handles the process of route clearance including functions such as environmental terrain mapping, surveillance, removal of road blocks and disposal of IEDs. The system is designed to handle a variety of tasks, missions and threats autonomously.

Combat engineering missions include route clearance, landmines and explosive device (ED) neutralization in diverse operational arenas. These missions are currently executed using manned and remote-controlled mechanical engineering equipment. The challenges of dealing with these missions using existing methods include: high risk to equipment operators and to the security forces providing protection; specialized skills are required to operate the mechanical engineering equipment; extremely high levels of accuracy are required which result in slow implementation of the required tasks. SAHAR was developed to overcome these challenges.

The system's execution is based on pre-defined path plans and its major features include a remotely-controlled platform, smart terrain awareness sensors, and an autono-

mous maneuvering and manipulator module.

IAI has considerable expertise in unmanned ground vehicles with over 10 years of experience. IAI's unmanned ground vehicles (UGV) specialize in executing various missions such as: border security (operational UGVs through the GNIUS subsidiary); logistics missions - REX UGV robotic porter; and engineering missions - SAHAR UGV for route clearing missions.

The Israeli driving safety technology company last raised funds at a valuation of \$1.5 billion.

Israeli driving safety technology company Mobileye has filed a prospectus with the US Securities and Exchange Commission (SEC) for an offering on Wall Street, according to a report in the "Wall Street Journal".

Mobileye unveils car that drives itself

Kandel: Israel can lead in transport energy alternatives

Mobileye produces and sells a camera-based system mounted on a vehicle windscreen that reads the road ahead and gives collision warnings, for example if the vehicle deviates from the lane in which it is travelling without the driver having signaled, or if it is too close to the vehicle head. It can also detect pedestrians in the vehicle's path.

The Mobileye IPO will be one of the largest on Wall Street by an Israeli company in recent years. Last June, the company sold a 25% stake in order to raise \$400 million at a valuation of \$1.5 billion. In 2007, Goldman Sachs invested \$100 million in it. Among other investors in the company are BlackRock, Fidelity Management & Research Co., Wellington Management Co., Chinese investment firm Sailing Capital Management Co., and US company Rent-A-Car Enterprise Holdings, Inc.

IVC: Israeli start-ups raising record amounts

The \$643 million raised in the first quarter was the second highest quarterly amount ever raised.

Although Israeli high-tech start-ups raised less money in the first quarter of 2014 than in the preceding company, the \$643 million raised by 160 companies was the second highest quarterly amount ever raised, exceeded only by the \$801 million raised in the fourth quarter of 2013, IVC Research Center and KPMG Israel Somekh Chaikin announced today. Capital raised in the first quarter was 53% more than the \$439 million raised in the corresponding quarter of 2013.

High-tech investment hits 10 year high

Venture capital fundraising down 28% in 2013

IVC: Israeli high-tech exits totaled \$6.64b in 2013

"The bullish US capital market and capital raising for technology companies via IPOs on Nasdaq in the last 12 months have been drivers of venture capital, both globally and in Israel. Venture-backed revenue stage growth companies are raising substantially higher amounts of capital on average than in the past, positioning themselves for continued market expansion and significant acquisition and/or Nasdaq IPO," said KPMG Somekh Chaikin Technology Group partner Ofer Sela. "This is an indicator of the maturity of the Israeli technology market and signifies that Israeli VC-backed companies are market leaders, providing more than just a 'great technology solution.' These later stage rounds are being led by investors who tend not to be venture capital investors. They are bestowing significantly higher valuations and

Israeli investors in Mobileye include Colmobil and Leumi Partners.

Mobileye was founded in 1999 by Prof. Amnon Shashua, who is chairman and Chief Technology Officer, and Ziv Aviram, who is president and CEO. Its main R&D center is in Jerusalem. Its systems are incorporated in vehicles produced by several manufacturers, among them General Motors, BMW, and Ford.

Soros buys SodaStream shares and raises Teva stake

George Soros's family fund bought \$24.3 million worth of SodaStream shares.

Soros Fund Management LLC, the family office of billionaire George Soros, bought SodaStream International Ltd. (Nasdaq: SODA) and increased its stake in Teva Pharmaceutical Industries Ltd. (NYSE: TEVA; TASE: TEVA) to 5.8% in the first quarter of 2014. Teva is Soros Fund's single largest investment.

Soros Fund bought \$24.3 million worth of SodaStream shares, amounting to 0.3% of the fund's \$9.3 billion US stock portfolio, according to a filing with the Securities and Exchange Commission (SEC) on Thursday.

According to "Bloomberg", "SodaStream is heading for its worst annual performance since its initial public offering in November 2010 as US sales of its home soda machines have failed to pick up following a lackluster holiday season. CEO Daniel Birnbaum said "challenges" in the Americas offset "double-digit" sales growth in Western Europe and the Asia Pacific region in the first three months of the year, a trend that should continue into the second quarter, according to a May 14 conference call with investors." The share is traded at a p/e multiple of 17, compared with its historical average of 20.5, according to data compiled by "Bloomberg".

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Teva became the Soros Fund's largest holding in late 2013. The share price has risen 25% this year, since the US Supreme Court agreed to hear an appeal that may delay generic competition to Copaxone until 2015, and by 32% in the first quarter.

From NASA spacecraft to streimels, nano-coatings have diverse uses.

Nano Z-Tech Ltd. is working on a new breakthrough in nanocoatings, using technology that protects fabrics, from couch covers to jeans, from spills. The technology prevents the liquid from penetrating the fabric, and to simply drip off through the application of a spray.

A similar product by the company makes it possible to spray a building while preventing dampness of the exterior walls, so that the water will not be absorbed by the stone, and raindrops simply slide off, preserving the building's exterior. In future, the company plans to offer its coating for glasses to render wiping them every time it rains unnecessary. Nano Z-Tech is already in talks with a leading glasses supplier in Israel.

Meanwhile, Nano Z-Tech has launched a product for vehicles - the Nano-Car XX-1 - which is sprayed on the body to prevent mud and other grime from sticking. The company claims that, when sprayed on the windshield, there is no need to use the wipers at speeds of up to 60 km/h, because the raindrops simply bounce off.

The kit for a car cost NIS 600, with the price of a 900-milliliter bottle of Nano-Car XX-1 costing NIS 200.

"Our nanomaterial is a millionth of a meter in size, 100,000 times smaller than a hair," says managing director Ofer Levy. "Our material is natural, with no chemical component."

Another interesting market Nano-Z-Tech plans to target is the haredi (ultra-orthodox) communi-

ty. "Our material is suitable for a streimel made from rabbit fur. These hats are sensitive to rain, and our material means that haredi men won't have to wear a plastic bag in winter, as they do today," says Levy.

Nano-Z-Tech was founded in 2011 and has five employees at its offices in Tel Aviv's Ramat Hahayal. It imports the raw materials from Germany and the US to which it adds its proprietary technology that is produced in Israel.

Last year, Nano-Z-Tech began exporting its products to Panama and Chile. The next target is Turkey. "Our development took about a year, and we're constantly working on our progress. Our material can be applied on fabric, metal, and glass."

Elbit Systems unveils new mortar Soltam Spear mortar

The Spear system can be used on lightweight combat vehicles.

Elbit Systems Ltd. (Nasdaq: ESLT; TASE: ESLT) has announced that it will exhibit its latest autonomous Recoil Mortar System (RMS) for lightweight 4x4 combat vehicles, Soltam Spear, at the 3rd International Fire Conference, held May 10-22, 2014, at "Home of the Gunners" in Zichron Ya'akov, Israel.

Elbit Systems inaugurates Incubit accelerator
Elbit Systems to upgrade US Marines attack helicopters

According to Elbit, the technology in the advanced second generation RMS reduces 120mm gun barrel firing recoil loads from 30 to less than 10 tons, making it usable on Light Combat Vehicles (LCVs), such as Humvees and Jeeps. This makes infantry forces more maneuverable, as it delivers immediate indirect artillery support for effectively engaging a wide

range of targets.

Yehuda (Udi) Vered, General Manager of Elbit Systems Land and C4I (command, control, communications, computers, and intelligence) said, "Elbit Systems is a world leader in the field of mortar systems, and the Cardom mortar is already in use by the IDF and other leading armed forces around the world. The Spear provides our customers with a broader range of capabilities and further establishes our leading position in this field. Spear addresses the operational demand for agile, accurate and precise mobile fire power, which enables operation deep within combat zones and the deployment of Special Forces."

AOL to invest in Israeli start-ups

AOL Inc said it is starting a program in Israel to assist start-ups, and that it will invest at least \$100,000 in as many as 10 projects at a time.

The Internet giant already has a development center in Israel, and its new project, called Nautilus, is meant to give "maximum freedom to entrepreneurs" and "grant them access to all the tools and connections of a global company", said Hanan Laschover, chief executive of AOL Israel.

AOL will escort each start-up, which will be chosen from a variety of fields that are connected to its global activities, for a period of a year, the company said.

The first investment will be in Take&Make, AOL said in a statement, a start-up that has developed a platform for "do-it-yourself" videos.



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