ISRAEL HIGH-TECH
& INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES JOSEPH MORGENSTERN, PUBLISHER
December 2007 Vol. XXII Issue No. 12 You are invited to visit us at our website: http://ishitech.co.iil

The Focus is on Water!

For most of its existence Israeli agriculture has been known primarily for its drip water irrigation.. Drip irrigation, is also known as trickle irrigation or microirrigation an irrigation method that minimizes the use of water and fertilizer, by allowing water to seep slowly to the roots of plants, either onto the soil surface or directly onto the root zone, through a network of valves, pipes, tubing, and emitters.

The concept of drip irrigation has been well known for decades. After WWII plastics technology took off rapidly and drip irrigation became economically practical. The first such work was with micro-tubes and took place in England and France in greenhouses. About 1960, a Mr.Symcha Blass an employee of a British Water Agency, emigrated to Israel. There is a "fable" (which could be true, because it came from his own mouth) about Symcha Blass sitting next to a tree which was near a leaking faucet and Eureka! But there is also no doubt that he knew about the British greenhouse application of micro-tubes. With the desperate water shortage in Israel, he decided that this technology would be useful for growing crops in the field as well as in greenhouses. The microtube was first wrapped around the feeding tube to keep it out of the way to prevent damage. This was followed by a molded coupling, with the spiral molded in. In turn this developed into the ubiquitous two piece in-line dripper described in Blass' patent. Blass did his work at Kibbutz Hatzerim and formed the basis of the Netafim, irrigation enterprise, whose annual exports lately exceed $350m.

Modern drip irrigation has arguably become the most important innovation in agriculture since the invention of the impact sprinkler in the 1930s, which had replaced wasteful flood irrigation. Drip irrigation may also use devices called micro-spray heads, which spray water in a small area, instead of dripping emitters. These are generally used on tree and vine crops with wider root zones. Subsurface drip irrigation or SDI uses a permanently or temporarily buried dripperline or drip tape located at or below the plant roots. It is becoming more extensively used for row crop irrigation especially in areas where water supplies are limited or recycled water is used for irrigation.Simple in concept and execution water is small amounts directed by

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small water pipes that aim directly at the root of a plant. Fertigation came next. It allowed fertilizers to be added to the water. These simple systems were exported throughout the world and earned hundreds of millions of dollars in exports for Israel.
Israeli Jaffa oranges and grapefruits were also well accepted internationally but total annual sales were in the order of several hundreds of millions of dollar.Over the years citrus growing declined and most orchards were shut down.

While the water problem grew, at the same time desalination expertise was being developed. One executive told me that the Zarchin process desalination plant was operating in more than 50 countries but only one in Israel

The Israel Sea Water Conversion Commission has been experimenting with desalting technology for years. Two desalination plants have been built on the Red Sea at Elath. One is an oil-fired, dual-purpose distillation plant, producing 1,125,000 gallons of fresh water a day and 6,000 kilowatts of electricity. The same steam that turns the turbine generators supplies the heat that evaporates fresh water from the brine. The second and smaller plant -- 265,000-gallons-a-day -- separates salt from water by a vacuum freezing process developed by the 75-year-old Israeli engineer, Alexander Zarchin.
The Zarchin process is based on the principle that as seawater is frozen, the growth of ice crystals expels the salt and other impurities. A salt water film that coats the otherwise pure ice crystals is washed off, and the ice is melted. Zarchin believes his process is the most efficient because the energy needed to freeze water is one-seventh that required to boil an equivalent amount for distillation.
However things are changing. Irael Desalination Engineering (IDE) plans to raise up tos $200 million at a company value of $500 million, before money, on the London Stock Exchange.

IDE was founded in 1965. The company develops both thermal and seawater reverse osmosis desalination - the two prevailing technologies for seawater desalination, and is active in 40 countries.

In this issue we feature the recently held Water 2007 Conference as well as other developments. We believe `that Israel's water industry will expand rapidly.

Quigo exits at $363 million

Israel's Quigo, (IHTIR-Apr 2004) which specializes in internet advertising and marketing services, was sold to AOL , for $363 million.
Quigo Technologies Inc., a a seven year old developer of proprietary search solutions for online contextual advertising, search engine marketing and business intelligence, provides AdSonar contextual advertising solutions. AdSonar enables online publishers and licensees to serve contextually targeted advertising that achieves greater relevancy, reach and revenue for publishers, licensees and advertisers alike. "Overture" has licensed Quigo's AdSonar, and will combine their solution with AdSonar's powerful, dynamic capabilities. Overture is a subsidiary of Yahoo and the license will provide Quigo with its first substantial flow of revenues.

Founded in 2000, Quigo provides innovative, performance marketing solutions for advertisers and premium publishers. The company has more than 500 premium publisher relationships, including a recently finalized deal with Time, Inc., and has a broad network of roughly 3,000 advertisers. Quigo's AdSonar

Israel High-Tech & Investment Report
Published monthly since January 1985

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Annual subscription $95.- per year, for 11 issues,
Israeli residents add 15.5% VAT

technology lets advertisers purchase ads on Websites based on specific pages, sections, topics or keywords. Quigo offers many types of advertising and a variety of pricing options including text, display and video ads bought on a cost-per-click, cost per impression, or cost per time basis. In addition, it operates FeedPoint, a search engine marketing business that helps local and retail advertisers efficiently manage their marketing relationships with search engines and comparison shopping platforms.

Online contextual advertising is part of the fast growing search engine marketing industry, which experienced growth of 275% in 2001 and 325% in 2002 to $927.4 million in the US, according to the Interactive Advertising Bureau. “We believe online search engine marketing will continue its impressive growth, possibly exceeding an estimated $7 billion in 2007 worldwide revenues, and contextual advertising, although in very early stage, it is one of the fastest growing new segments within this industry,” says U.S. Bancorp Piper Jaffray senior research analyst Safa Rashtchy. “Through its technology and now this relationship with Overture, Quigo has established a solid presence in this industry.”

Quigo was founded by Yaron Galai who serves as its COO and Oded Itzhak who is its CTO.

AOL buys Israeli search technology company Yedda

Time Warner Inc. (NYSE:YWX) subsidiary AOL has acquired Israeli search technology start-up Nedda Inc.. The size of the deal was not disclosed.

Yedda is a web 2.0 company that has developed a semantic search engine that can analyze questions and queries and invite the most suited surfers to share their subjective knowledge derived from their experience and know-how to answer the questions on Yedda’s website and the sites of affiliated companies. Yedda’s search engine differs from regular text-based search engines.

Yedda was founded in Kfar Malal in 2006. It will remain in place as a subsidiary of AOL, which will integrate Yedda’s technology in AOL websites, the largest Internet community in the world. Yedda will also continue to seek partnerships with other content sites and distributors around the world.

Yedda CEO Avichay Nissenbaum said that when the deal is completed, AOL’s 100 million-strong Internet community would turn Yedda into one of the largest personal knowledge centers in the world and a primary source for surfers seeking the experience and know-how of others.

Yedda’s 20 employees have developed a semantic search engine that can analyze questions and requests. The site invites users to post questions, and then asks others to answer the questions or match them to existing answers.

The site also supplies quality ratings for content. This is the first Israeli Web 2.0 technology exit.

Yedda has raised $2.5 million since its founding in 2005.Those funds came from private investors and Genesis Partners. The company will remain independent after its purchase by AOL, functioning as a subsidiary working with AOL’s search division, communities and instant-messaging group.

Hadasit and Australian Anadis form joint venture

Hadasit and Anadis, Ltd. (ASX: ANX) announced their intention to form a new joint venture company tentatively called Immuron. The mandate of the new company is to develop a new line of therapeutic products for the treatment of several inflammatory diseases, infectious diseases and cancers.

The products will be based on a combination of intellectual property (IP) from Hadasit and Anadis. Hadasit will contribute user specific methods for the treatment of immune mediated disorders and cancer.

“Hadasit is well known for its enormous pool of IP. It also has a superb reputation as a center of excellence for pre-clinical and early stage clinical practice. Their clinical deliverables, integrity, and overall commitment to creating

therapeutics that will have a positive global impact make partnership with Hadasit a natural choice," said Dr. Oren Fuerst, VP for Business Development at Anadis and CEO of Immuron. "I anticipate that over the next five years the competitive landscape of biotherapy will be completely altered, with our new venture playing a central role."

Pre-clinical studies will begin in January to determine the efficacy of the products in animal models. Phase I clinical trials are anticipated to begin in the second half of 2009. The pre-clinical, Phase I and Phase II studies will be conducted at Hadasit at the new Hadassah Clinical Research Center at Hadassah University Hospital in Ein Kerem, Israel. The custom manufacturing of the commercial products will be conducted by Anadis and the new intellectual property will be licensed back to Anadis for use in its additional research initiatives.

Anadis Limited (ASX: ANX) is a research-driven biotechnology company focused on antibody-based health products. Anadis' proprietary, rapid manufacturing technology has enabled it to develop a product pipeline of polyclonal antibody-based solutions to a range of important infectious and immune-mediated diseases.

Hadasit, the Technology Transfer Company of Hadassah Medical Organization (HMO) in Jerusalem, Israel, promotes and commercializes HMO's continuously generated intellectual property (IP) and R&D capabilities. IP generated by HMO has already gained global recognition due to Hadasit's successful enterprising of Hadassah's biomedical technology, including novel therapeutics, diagnostics and devices.

Intel launches first 45-nanometer processors

Intel Corporation (Nasdaq:INTC) has launched the first 45-nanometer processors, codenamed "Penryn". The new processors use an entirely new transistor formula that alleviates the wasteful electricity leaks that threaten the pace of future computer innovation. The Penryn processors are intended for desktop computers and servers under Intel's Core 2 Extreme and Xeon brands. The new processors are intended to be produced at the company's newest fabs in Arizona and Kiryat Gat.

Intel Vice President Mobility Group and General Manager Mobile Microprocessor Group Ron Friedman says that Intel's Haifa center had a key role in development of the Penryn by helping bring the new technology to production after Intel's California center completed the basic development. In addition, the new processors will be produced at Fab 28, now under construction at Kiryat Gat, which is due to begin production in about a year, slightly later than the original target date of the first half of 2008.

Intel's announcement was the latest phase in the ongoing effort to consolidate the architecture of the Core 2, the company's latest processor, as the unchallenged leader for servers across a wide spectrum of demands: from small servers for family firms to the supercomputers installed at giant corporations, research institutes, engineering projects, and movie animation.

Foreign investment continues flowing into Israel

Total direct and portfolio investment by nonresidents amounted to $1.25 billion in October, greater than 10% of the total $9.3 billion investments made since the beginning of 2007.

The Bank of Israel reported foreign exchange activity data, which showed that nonresidents' investments in Israel, continue to be strong, following a trend of large amounts of total direct and portfolio investments, which totaled $22.5 billion in 2006 and $8.6 billion in 2005.

Foreign direct investment in October totaled $1.87 billion, and has totaled $8.1 billion since January. The October figure was impacted significantly by the purchase by a nonresident, of an Israeli company producing communication equipment. The direct investment from that deal totaled $1.2 billion. Half of this amount was already held by the nonresidents as a portfolio investment, so that alongside the direct investment of $ 1.2 billion, sales of about $ 600 million from the nonresident's portfolio holding were also recorded.

Direct investment abroad by Israeli investors reached $110 million in October and has reached $5.1 billion since January.

Elbit Systems wins $30m UAV order from IDF

Elbit Systems Ltd. (Nasdaq: ESLT; TASE: ESLT) has recently won a $30 million order for Hermes 450 unmanned aerial vehicles (UAV) from the IDF.

The company will both develop, manufacture, and deliver new and improved UAV and upgrade existing UAVs. The company expects development and delivery to last for more than three years.

The Hermes 450 is an original development of Elbit Systems. The IDF has been operating them for several years. Hermes 450s flew many combat sorties during the 2006 Second Lebanon War, and achieved their operational goal of supplying necessary, visual real-time intelligence to the ground forces. The UAVs are also operated by various military forces worldwide and are deployed in battlefields such as Iraq and Afghanistan.

Elbit Systems VP Haim Kellerman said, "We are proud to receive IDF's renewed order. We regard the IDF as our central customer and the cornerstone of our increased success among the Hermes 450 users worldwide. The accumulated operational experience and feedback we receive from the IDF are important elements in the success of the Hermes 450 around the globe. I have no doubt that the Hermes 900, which will undergo flight tests in the coming months, will enjoy similar success."

Elbit posts solid results

Elbit (Nasdaq: ESLT; TASE: ESLT) published its consolidated financial report for the third quarter of 2007. The company posted $519 million revenue, 38% more than the $376.7 million for the corresponding quarter of 2006. Net profit totaled $26.4 million ($0.62 per share) up from $18.7 million ($0.45 per share) for the corresponding quarter.

Elbit System's orders backlog rose to a record $4.54 billion at the end of September, up from $3.79 billion at the end of 2006. 71% of the backlog is for exports, and half is due for delivery by the end of 2008, and most of the rest slated for delivery in 2009-10.

US Congress votes $155m for Israeli missile defense programs

A joint committee of both houses of the US Congress approved an aid package of $155 million for Israeli missile defense programs, including the Arrow anti ballistic missile, and the David's Sling rocket interception system. The amount is $17 million more than the designated sum for these projects in the 2008 fiscal year, and $75m. more than the original White House proposal.

The aid package is part of the Defense Appropriations Bill for the 2008 fiscal year. The bill will require the approval of both houses of Congress. The bill will then be presented to President George W. Bush, who will sign it shortly, ahead of the peace conference at Annapolis.
The lion's share of the funds, $98 million, will be earmarked for the Arrow program. $37 million of this will be used to finance the joint production activity at Boeing Corp. (NYSE: BA), and Israel Aerospace Industries Ltd. (IAI), and the rest for ongoing R&D.

During his recent visit to Washington, Minister of Defense Ehud Barak said that Israel and the US had agreed to improve the capabilities of the Arrow anti-ballistic missile, to make it capable of intercepting enemy missiles at a higher altitude than the current generation of the system can reach. The new generation of the Arrow missile, Block 3, will, in effect, be able to intercept missiles from outer space. Reports in the defense industry media allege that IAI has already begun work on the design of the Arrow 4.

The package also includes $37 million for the continuing development of the David's Sling system for the interception of missiles with ranges of 40-250 kilometers (such as the Katyusha rockets that hit communities in northern Israel during the Second Lebanon War). Defense industry professionals believe the development will became operational in six years. A further $20 million will be earmarked for the design and development of the high-altitude missile interception system.

In February, the US Missile Defense Agency extended the financing for the Arrow System upgrade and joint trials program.

Israel's electronics and software industries are expected to reach an annual market value of $32 billion in 2010, according to Elisha Yanay, chairman of the Israeli Association of Electronics and Software Industries (IAESI). Yanay said during The World Electronics Forum (WEF), which was held recently in Tel Aviv, Israel. The WEF comprises CEOs and directors of electronics industry associations worldwide. Founded in 1995, WEF meets annually to discuss major topics of common interest to the various regional associations, exchange information and strengthen relations between associations.

Yanay noted that Israel has 3.2 million fixed line telephone subscribers, 7.18 million mobile phone devices and 2.5 million internet users. In 2006, he said, the local technology industry totalled $18.7 billion. Out of this figure, $16 billion went to export. Israel educates about 8,000 graduates a year in the fields of electrical and computer engineering and computer sciences.

"In order to continue our success, we need to excel in our education, teach innovation and creativity and strengthen partnerships between academia and industry," said Yanay. "Concurrently, we should support small, sophisticated industries, sized at $20 million to $50 million. If you want to be large, you should gather together many small industries. Finally, our government should match or even exceed [other] countries' incentive plans."

Teva and the Technion in stem cell collaboration

Teva Pharmaceutical Industries Ltd. (Nasdaq: TEVA; TASE: TEVA) and the Technion Israel Institute of Technology are negotiating to set up a joint stem cell venture at an investment of several million dollars. The venture will create a number of stem cell lines using know-how developed by Prof. Jacob Itskovitz-Eldor (IHTIR-Jan 2004) of the Technion, who runs one of the few laboratories in the world that researches the culture of embryonic stem cell lines.

Embryonic stem cells can replicate rapidly over an extended period in laboratory conditions. Current stem cell lines are mainly used for research purposes. They can be used to create various tissues and monitor body development and the effects of pharmaceuticals. They can also serve as a treatment in their own right. Brainstorm Cell Therapeutics Ltd. (Bulletin Board: BCLI), Pluristem Life Systems Ltd. (Bulletin Board: PLRS), and Gamida-Cell Ltd. are working in this direction.

Teva is presumably interested in both uses for stem cells as well as the possibility of commercializing licensing stem cell lines to third parties.

Belgian company licenses Hebrew U biodegradable plastic

Yissum Technology Transfer Company of the Hebrew University of Jerusalem has signed a new licensing agreement with a Belgian holding company for the commercialization of a new clean technology developed at the university. Yissum will receive a licensing fee and royalties on sales of future products derived from the technology.

Hebrew University researcher Prof. Sergei Brown has developed a technology enabling the production of biodegradable plastic for the food-packaging industry, by using protein-rich crops, such as soy beans, canola rapeseed, and corn. The economic advantage of the plastic is the simple chemical reaction that replaces at least some of the primary amines in the protein-based material with a different chemical group, in order to produce a new "building unit" for construction of the plastic. The technology converts vegetable protein using a simple chemical modification into a starting material for plastic production using existing industrial technologies

The food oils and starches industry produce a surplus of vegetable proteins that can be used for the manufacture of environmentally friendly food packaging. For the sake of comparison, just 6% of surplus vegetable protein production in the US is needed to produce plastic packaging for the entire country. The global plastics packaging market was worth an estimated $130 billion in 2006.

Yissum president and CEO Nava Swersky Sofer said, "Prof. Brown saw from his experiments that the new material could produce many products, including plastic bags, crates, and fibers, which could compete successfully with oil-based products in terms of price. The new plastic materials can be recycled, are completely degradable turning into compost, and can even be used as a food supplement for animals. We hope that Prof. Brown's invention will bring about a positive change in the plastics industry, and we're proud that this invention was made at the Hebrew University."

Brown added, "Until now, the main barrier to the entry of biodegradable products into the plastics market was their high price. Biodegradable plastics, such as the popular PLA, cost five to tens times the price of ordinary packaging materials. Our invention is intended to change the market conditions and offer a cheap and available alternative which is also environmentally friendly."

Israeli systems detect explosives, anthrax

New technologies developed in Jerusalem and Hebron are keeping Israel and the world safe from conventional and biological terror attacks.

Hebrew University scientists in Jerusalem have found a simple way to detect whether someone has handled explosives recently.
A forensic chemist from the university developed a chemical spray that is able to detect recent contact with urea nitrate - the easily attainable chemical used in most bombs produced in the Palestinian Authority.

The chemical test reacts with even the smallest amounts of urea nitrate, turning the surface bright red. A swab sample can be taken from surfaces touched by a suspect or the hands of the person in question.

Professor Joseph Almog, the spray's developer, said that the method could be "cheaply and easily incorporated into security screenings by law enforcement agencies, the military, and at certain air and sea check-points."

Israel's water company instals anthrax detector

Israel's Mekorot water company has adopted a system developed by the Israeli company Biological Alarm Systems (BAS) which rapidly detects hazardous biological substances in the water supply.

The system detects such toxins as anthrax and botulism in both water and air and can be deployed in public places like mass-transit systems, shopping malls and sports stadiums.
The system automatically samples air or water, giving real-time results. By automatically sampling water quality in real time, the system renders the current lab-based technology obsolete.
BAS is a product of the start-up incubator known as the Mofet B'Yehuda Innovation Accelerator, based in Kiryat Arba, a Jewish town located 15 miles south of Jerusalem.
Mofet B'Yehuda works to encourage the development of "clean-tech" companies in Israel by providing funding, infrastructure and business support.

Israel and Mexico in water deal

Collaboration between the countries will include treatment of municipal water, leakage prevention, water purification, and wastewater treatment.

The Ministry of Industry, Trade and Labor, and the Mexican National Water Commissioner Jose Luis Luege Tamargo have signed a water cooperation agreement between Israel and Mexico, NEWTech - Novel Efficient Water Technologies director Oded Distel said.

Distel added that the collaboration would include a wide range of water sectors, including treatment of municipal water, leakage prevention, water purification, and wastewater treatment. Israeli and Mexican water experts exchange visits, and Israeli and Mexican companies will establish business ties.
The collaboration with Mexico is highly significant for Israel and Israeli water technology companies. Mexico has the world's 11th largest economy, and the country's 2 million square kilometers includes a wide range of climates and precipitation regimes, ranging from extreme aridity to tropical rain forest. Consequently, it needs a wide range of water solutions to overcome shortages and other problems.

Israel's commercial attaché in Mexico Joshua Peleg notes that Mexico City, with a population of over 20 million, consumes more water than it safely should. Mexico recently placed investment in water at the top of its national agenda.

A "Risk Distribution Law" for evolution

Taking a chance on an experiment – this is one of the impulses that drive evolution. Living cells are, from this angle, great subjects for experimentation: Changes in one molecule can have all sorts of interesting consequences for many other molecules in the cell. Such experiments on genes and proteins have led the cell, and indeed all life, on a long and fascinating evolutionary journey.
Prof. Naama Barkai of the Weizmann Institute's Molecular Genetics Department recently took a look at gene expression – the process in which the encoded instructions are translated into proteins – and the evolution of mechanisms in the cell for controlling that expression. Changes in genes, and thus in protein structure, are a double-edged sword: They can give cells new abilities or advantages for survival, but they can also spell disease or death for the organism. Not all genes evolve at the same rate. Indeed, some have been conserved through long stretches of evolution: Similar versions of some genes are found in yeast, plants, worms, flies and humans. When do cells hold on to specific gene sequences, and when do they allow evolution to experiment with them? Clearly, highly conserved genes fulfill some basic, universal function for all life, and changes in their sequences

have drastic consequences, involving death or the inability to multiply. How does evolution "decide" which genes need to be conserved, and which it can change freely? What keeps these genes safe from the ongoing experimentation that's constantly carried out on other genes?

Barkai and her team discovered a sort of "risk distribution law" for evolution. They found that a genetic "phrase" that regularly show up in the promoter region of genes (the bit of genetic code responsible for activating the gene) contains a key to gene conservation: The expression of gene that contains the sequence TATA in its promoter is more likely to have evolved than that of a gene that does not have TATA in its promoter. In other words, the level of risk appears to written in the gene code, in a way that's similar to financial risk analysis: When the cost of error is high, an investor's willingness to chance the risk is low, but if the cost of a mistake is negligible, even if the chance of making one is high, the possibility of gain may make the risk worthwhile. Evolution, it seems, discovered this principle millions of years before Wall Street.

In a different study, Barkai and her research team investigated the effects of a drastic evolutionary experiment that nature sometimes performs on living cells: the doubling of an entire genome. They looked at two related species of yeast, one of which (S. cerevisiae) had undergone genome doubling millions of years ago. After the duplication, Cerevisiae seem to have learned a new trick: They gained the ability to grow and multiply without oxygen.

To find if this difference is connected to changes in gene expression, the team tested 50 genes that play a role in processing oxygen in both species. They discovered one gene segment – a bit responsible for expression of these genes – that had changed in the course of the genome doubling in cerevisiae. The effects of this change were seen in over 50 genes and dramatically affected the oxygen requirements of the yeast.

The ability to live without oxygen might give cerevisiae a clear advantage over its sister yeast if there were a radical change in the make-up of the Earth's atmosphere. But it is exactly this combination of environmental change and genetic experimentation that has fueled evolution for millions of years and is still driving it today.

Top Image and Kodak in Asia-Pacific deal

Top Image Systems Ltd. (Nasdaq: TISA; TASE:TISA) is supplying its eFLOW intelligent document recognition solution to Kodak Business Process Services (Kodak BPS) for processing and analyzing information from examinations services for an examination authority. The company did not disclose the size of the contract.

Kodak BPS is the prime contractor of the project; Top Image is providing its solutions under a cooperation agreement between the two companies.

Top Images said that the examination authority provides various levels of tests and exams to local industry and on behalf of domestic and international examining bodies, such as professional bodies, examination boards, colleges and universities. The examination authority needed an automated solution that could efficiently and accurately process more than 10,000 pages of exams of various types handled on a daily basis. The company says that eFLOW cut the length of processing cycle from three weeks to only a few days within its first year of operation with this customer.

Top Image VP of sales and marketing Gideon Shmuel said that the company's collaboration with Kodak BPS was a success.

Catalytic technology

Catalytic technology was jointly invented by Israel's Hebrew University of Jerusalem and Italy's Research Council in Palermo.

Israel-Times Canada Toronto Montreal US USA America Europe EU Canadian chemical company SiliCycle Inc., which produces and commercializes a whole set of functionalized silica gels for primary customers of the pharmaceutical and fine chemicals industry, has licensed a catalytic technology jointly invented by Mario Pagliaro, a research chemist at Italy's Research Council (Cnr) based in Palermo, and David Avnir, a chemistry professor at The Hebrew University of Jerusalem.

Invented by Professor Avnir 20 years ago these materials are termed "hybrids" since they have at the same time inorganic and organic nature. They opened the route to a new field of chemical research that unifyes the realms of organic and materials chemistry has resulted in the development of an impressive

multiplicity of applications including synthesis, chemical sensing, optics, electronics and biochemistry. Dr. Pagliaro, co-invented the technology during his Ph.D. in Israel at the end of the 90's.

Two months in storage without quality losses for sweet cherry

Ukrainian producers and wholesale traders of fresh produce will finally have a direct approach to one of the most effective and revolutionary storage technologies for perishable fruits and vegetables - Israeli technology Xtend® by StePac company. Three representatives of the company will participate in the fourth international conference "Fruits and Vegetables of Ukraine 2007. Meeting New Leader" and will present this technology.

According to official releases of the firm, Xtend® technology allows them keep the sweet cherry, for example, for 45 days in storages under 0C without quality losses. The technology preserves the color and appearance of the product, and it also prevents dehydration (actually the reduction of the product weight), preserves firmness of fruits, and prevents rotting, spoilage, and aging. Fruits packed by Xtend® technology have longer shelf life.

Thanks to the application of such technology, perishable products may be sea-shipped for long distances, so that the transportation expenses per product unit are significantly reduced, as compared to air-transportation. The prices for many types of perishable products depend on the sales time, so the application of Xtend® by StePac technology allow them to get significantly higher prices for products - fruits can enter the market when the competitors cannot operate there anymore.

Xtend® by StePac is also used for storage of vegetables like broccoli, sweet corn, capsicum, asparagus, lettuces, parsley and other fresh herbs, cucumber, Brussels sprouts, egg-plant and other vegetables. The company specialists will recommend the optimal mode for storage of each type of product.

Xtend® technology is actively used in Turkey, Israel, USA, Chili, Argentina, France, Germany, Switzerland, and other countries. Actually Xtend® technology is not just a special package with the controlled atmosphere and humidity inside (CA); this technology includes a number of services on the product way from producer to consumer, including quality assurance system.

As of today StePac company has HQ in Israel, and representative offices in Great Britain, USA, Brazil, Turkey, Russia, Guatemala, Spain, Netherlands, Poland and Germany. After the participation in Ukrainian conference the company will make the decision to open an office in Ukraine.

Israeli water tech Blue I bound for Olympics

Israeli cleantech start-up Blue I Technologies Ltd. will supply real-time water quality control systems for the 2008 Beijing Olympic Games. The company has an office in China and is participating in Veolia Water projects with Shenzhen Water Group Company Ltd. and the City of Shanghai.

Blue I has also installed its water analyzers in Sao Paulo, Brazil, for the South American Water Championships; the Olympic swimming pools in Tokyo; Eurodisney in Paris; a hotel project at Sun City, South Africa; and in Israel, including the water parks Yamit 2000 in Holon and Hamei Gaash.

At WATEC 2007

The International Water Technologies and Environmental Control exhibition and conference - WATEC 2007 - was a stage for innovation. The fourth annual exhibition at Tel Aviv's Trade Fairs and Convention Center aimed to quench the world's thirst for new sources of fresh water.

The conference, hosted over 2,000 visitors from 80 countries worldwide, dealt extensively with Israeli-developed water technology in fields as diverse as desalination, waste recycling for agricultural purposes, security from pollution and water terrorism, and the joint Israeli-Jordanian Red Sea-Dead Sea Conduit (RSDSC) project.

The exhibition highlighted Israeli innovations in water technologies. Among the exhibitors was Ben-Gurion University's Zuckerberg Institute for Water Research in Beersheba, which demonstrated a monitoring system of possible water pollution sources such as gas stations or factories. These carry a risk of chemicals seeping into underwater aquifers, and have become an environmental blight in Israel and other countries. "Water that has already been polluted this way is very hard to clean," explained Nehemiah Hassid of Ben-

Gurion Technologies, which presented the institute's developments. "We can locate the polluting element before it has time to filter through the ground into the water, by using a device that reaches dozens of meters beneath a potential polluting source through drilling at an oblique angle. There we install sensors that can measure the moisture level of the earth. This way, the threat of contamination can be neutralized."

The institute also demonstrated a device for purifying wastewater, rendering it fit for agricultural irrigation by using bacteriological treatment. Israel currently recycles 75% of its wastewater.

Representatives from Tivon-based A.A. Engineers aim to use the planet's most natural resources to purify used water and convert it into usable agricultural forms. Their "converted wetlands" offer a wholly natural solution to water management that is described as both environmentally friendly and sustainable. "Converted wetlands are based on one very basic principle: that bacteria in plants work for free while machines and people do not," said A.A. Engineers manager Amitay Avnon, whose water purification systems can be found from Kibbutz Elifaz in the Arava desert to Kibbutz Ma'agan Michael on the Mediterranean coast.

According to Avnon, the converted wetlands route wastewater beneath the ground and between plant roots, where naturally present microorganisms ignite natural biological, chemical and physical processes that purify water refuse. The newly-cleaned water can be used for a host of purposes, while the treatment system simply appears to be part of the natural landscape. "The idea is that this is an extensive system which doesn't need any maintenance; not the plants nor the machinery," Avnon expanded. "It's just natural."

One of the event's panel discussions addressed environmental challenges in developing regions such as Asia, Africa and South America. An Israel-based startup and WATEC exhibitor claims that it is ready to offer solutions on the ground. Water Sheer, one of 20 Israeli startups who exhibited at WATEC this year, introduced its Sulis personal purification device - a compact 100-gram water filter that fits onto the top of most standard narrow-neck bottles, and allows its user to drink from almost any groundwater source.

According to Water Sheer presenters, the patent-pending device, which uses a chlorine tablet to disinfect the water for 10 minutes before it becomes drinkable, "took the Mekorot water company's (filtration) technology and shrunk it down to a tiny device that sits on top of a bottle cap."

Another innovative startup called Atlantium Technologies is taking a new approach to water disinfection by using ultraviolet light to eliminate chemicals and microbes. "Previous techniques used non-environmentally friendly chemicals that have various side effects, whereas UV light damages every microbe in the water and does not allow them to replicate," explained Dana Cogan, an Atlantium representative at the conference.

"We use UV light on water running through a quartz tube. As a result the light beam fractures on its way through the quartz, eliminating the pathogens in the water to a level of pasteurization," she claimed.

Beyond private innovation, the three-day event highlighted some of the challenges facing the region. The conference's closing session, attended by President Peres and Mr. Haddadin, dealt with the Red Sea-Dead Sea conduit project. In his statement on the subject, Director-General Uri Shani of the Israeli Water Authority had this to say: "Dead Sea levels are dropping at a rate of one meter per every passing year, because much less potable water from rivers and springs is reaching it than in the past. Those waters are being diverted and consumed by the huge, 20-million strong population increase in the entire region that occurred during the 20th century. If nothing will be done, eventually all that will remain of the Dead Sea will be a pond 560 meters below sea level."

Shani described how the project would utilize a conduit (most likely a pipeline) to pump Red Sea saltwater across Jordanian territory, emerging south of the Dead Sea on the Israeli side of the border, where it will pass through desalination facilities. "A portion of the water would then go to Jordan and Israel, and the rest would be used to restore the Dead Sea to its normal level," he said.

Merck to start Israeli R&D

MERCK

Merck an international developer, manufacturer and distributor of pharmaceuticals. is starting drug development and commercialization operations in Israel. The company avail itself of the chief scientist's program for international cooperation between Israeli firms and multinational companies.

Under the agreement, Merck Serono, the company's new division for innovative small molecules and biopharmaceuticals, will cooperate with Israeli startups in developing pharamceuticals, and will later be able to buy the rights to the drugs or help market them around the world.

The Industry and Trade Ministry will finance half of the research and development costs of these companies, through its Chief Scientist's Office.
Teva has had almost exclusive access to Israeli biotechnology and pharmaceutical research, since international firms have kept away. Now, with Merck and Pfizer on the way, Teva will lose its exclusivity and face real competition here for the first time.
As for Serono, this is a real U-turn. Rebif is based on technology from the Weizmann Institute, and was produced by Interpharm in Rehovot. But Serono almost completely closed down Interpharm and moved production to Europe. Ironically, it will now find itself back in Israel.

'Magic' thimble predicts heart disease

An Israeli-developed, thimble-like device worn over a person's index finger has been proven by clinical studies to predict who is at high risk of developing endothelial dysfunction - a key precursor of atherosclerosis, a major component in cardiovascular disease.

Called the Endo-PAT, the device is based on PAT technology that measures subtle but significant vaso-motion changes through the pneumatic probe on the finger. It is the only non-invasive device approved by the US Food and Drug Administration that reliably detects impairment of the endothelial layer (the inner lining of blood vessels).

Endo-PAT2000 is a simple and easy to use device for assessing endothelial function. The PAT signal is recorded using Itamar Medical's non-invasive, pneumatic finger probe. The data recorded is analyzed automatically using proprietary advanced
Digital Signal Processing algorithms and reports are available within seconds of completing the test.
Developed and manufactured by Itamar Medical in Cesearea, the screening technology adds an important dimension to cardiac medicine by allowing physicians to reliably and non-invasively measure endothelial function and identify pathological cases of dysfunction, according to foreign researchers.

Desalination company IDE set for LSE

IDE (IHTIR May 2007) will issue Global Depository Shares (GDS). The issue is due to take place in December. Goldman Sachs International and Merrill Lynch International are the global coordinators, bookrunners and underwriters, and HSBC is the co-lead manager.

IDE did not disclose the price range for the proposed offering, but sources believe that it plans to raise up to $200 million at a company value of $500 million, before money.
IDE was founded in 1965. The company develops both thermal and seawater reverse osmosis desalination - the two prevailing technologies for seawater desalination, and is active in 40 countries, including China, India, Israel, Australia, Latin America, and the US. It has designed and built more than 370 facilities to date. It added that it has an 11% market share in "those countries where Israeli companies are able to conduct business and compete on even terms with other businesses.
IDE said that it posted $70.7 million revenue in 2006 and a gross profit of $26.5 million on $75.6 million in January-September 2007. It added that it would use proceeds from the IPO for specific projects including investment in the Hadera desalination facility, and anticipated mergers and acquisitions.

Teva is Israel's biggest R&D investor

The 2007 R&D Scoreboard, published by the UK's Department of Innovation, Universities and Skills (DIUS) and Department for Business, Enterprise & Regulatory Reform (BERR), reports that the 1,250 most R&D active companies globally spent an aggregate $510 billion on R&D in 2006, 10% more than in 2005.
Teva Pharmaceutical Industries Ltd. (Nasdaq: TEVA; TASE: TEVA) is the top Israeli investor in R&D, and ranked 174 worldwide, spending $520 million in 2006. Eight Israeli companies spent an aggregate $1.01 billion on R&D.

Israeli electric cars venture raises $200 million

Project Better Place, an Israeli venture focusing on electric cars is raising an intial sum of $200 million.

The list of investors in Project Better Place includes

Israel Corp., Morgan Stanley, VantagePoint Venture Partners, and private investors James Wolfensohn, Edgar Bronfman Sr. and Musea Ventures.

The head of the venture is Shai Agassi, formerly president of SAP's product and technology group. Agassi left SAP (officially in early April) and said he wished to focus on "green" issues. Agassi's aim is to help Israel end its dependence on oil within 10 years, and the creation of an electric vehicle industry would support that aim. The venture received the official support of the Israeli government, but is not receiving any public funds.

According to reports, the venture is in talks with companies like France's Renault SA, and car makers in China, Japan and elsewhere in Europe.

Agassi suggests there will be one million electric cars in a few years' time in Israel alone.

The venture will focus on building out an infrastructure of battery-charging stations for electric vehicles. The comparative model offered is that of mobile phone companies building out the mobile infrastructure. The aim is to cooperate with car and battery markers in a way that subscribers to the electric car network will get subsidized cars, but will still own their vehicles.

Executives at Project Better Place claim that the electricity per one electric car will only cost about $175 a year, although many experts in Israel are skeptical about this low figure.

Never mind last year's war with Hezbollah in Lebanon, incessant rocket attacks from the Gaza Strip and growing concern about the possibility of a nuclear-armed Iran. The Israeli stock market is on a roll. Over the past five years to October 15, the Tel Aviv 100-stock index gained a healthy 29% annualized.

Now comes word that Israel's market is being called up to the big leagues, which should result in yet a higher profile for Israeli stocks. The FTSE Group, keeper of more than 100,000 stock, bond and hedge-fund indexes, says it will promote Israel from emerging-market to developed-nation status next June. Because more investors buy into developed markets than emerging nations, the change will pump an additional $3 billion into Israeli stocks, estimates Merrill Lynch strategist Michael Hartnett. and biochemistry. Dr. Pagliaro, co-invented the technology during his Ph.D. in Israel at the end of the 90's.

Rafael in US Navy deal

Rafael Armament Development Authority Ltd. and BAE Systems plc (NYSE: BAFF) have jointly won a $36 million follow-on contract to supply 62 advanced Typhoon naval stabilized weapons systems to the US Navy. Rafael's share of the contract is worth $25 million. Rafael won the previous order from the US Navy in May 2006

The Typhoon consists of small and medium-caliber guns, missiles, and chaff launchers. The system is designed to meet threats at sea, including terrorism, and is currently in use with a number of navies.