

ISRAEL HIGH-TECH & INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES

JOSEPH MORGENSTERN, PUBLISHER

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A Fence for Peace

Some of us can recall Cole Porter's song *Don't Fence Me In*. It was sung by Bing Crosby the most popular singer of his time, and recorded without his having seen nor heard the song. It sold more than a million copies. Alas, it was a prize winning song... all in a different time and place.

The initial idea of a "separation fence", a Fence for Peace, was to be a U.S./UN peacekeeping force which was to serve as a "human fence". It didn't happen because no one believed that it would achieve its aim without heavy casualties. It was also questioned whether it would serve as an obstacle to infiltration.

After the most recent toll in human life inflicted on Jerusalem's civilian population, Israel's Cabinet took the only option possible and gave the go ahead to erect a physical security fence. It ordered the construction of a 217 mile long 'smart' electronic security fence which will separate Israel from the West Bank. It will include all of the gadgetry and expertise, accumulated, over decades of exporting security and intrusion prevention systems. The security fence will have to be up very quickly, as it can and will, provide protection from homicidal human bombers that are sent into Israel proper, by those are intent on committing indiscriminate, wholesale murder.

The fence would achieve more than any international conference could by establishing interim borders between Israel and a future state of Palestine. Israeli settlers in due course would move or be moved to the Israeli side of the fence.

The Palestinians would get the relinquished West Bank as their own. A clear gain for them without need to resort to violence or protracted negotiations.

The Great Wall of China is more than 2,000 years old and stretches 4,500 miles, from the mountains of Korea to the Gobi Desert. It was first built to protect an ancient

Chinese empire from marauding tribes from the north. But it evolved into something far greater — a boon to trade and prosperity and ultimately a symbol of Chinese ingenuity and will.

The Israeli security Fence intended to protect the nation's people, may someday become a GOOD FENCE and it may yet prove the New Testament adage that GOOD FENCES MAKES GOOD NEIGHBORS.

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A Fence for Peace
Israel Orbits Ofeq-5 Satellite: A Clear View from the Skies
The Security Fence is Being Built:
Small Public Company is Seen as a Major Beneficiary
IAI / ELTA Awarded \$5.6 Million Contract for Missile Warning Systems
Elbit Could Win a Part of a Massive UAV Contract
EUROSATORY 2002: A Window to Israel's Defense Industries
A Maximum Security System as Defined by the IDF
The History of the Merkava Tank
Rafael's Mine Breaching system- "Carpet"
EUROSATORY Exhibitors
Heron UAV
Washington Post Report: Israeli Submarines Can Launch Nuclear Missiles
BIRD Israel-US Conducts Conference Call Introductions
VENTURE CAPITAL
Corporations are Slowly Assuming a Greater Role in Venture Capital
Boston Scientific to Invest \$100m in Israeli Medical Sector
Security and Defense Exhibition in Tel Aviv
BIOTECHNOLOGY
U.S. Patent Reinforces Mindset's Leadership in Alzheimer's Disease Drug Discovery
Israel-India Report
Dynamic Software Industries Strive for Common Ground

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Israel Orbits Ofek-5 Satellite: A Clear View from the Skies

On Tuesday May 28, a three-stage Shavit rocket lifted the 660-pound Ofek 5 satellite into a low orbit around the planet. The launch was celebrated by the professional teams from the Israel Aircraft Industries, the satellite's manufacturer, Rafael- Israel Armaments Development Authority, which produced the third-stage rocket, and the Israel Air Force, responsible at the Palmahim located launching pad. The satellite carries a remote sensing payload that will enable it to perform its high-resolution observation missions for national needs.

Essentially it provides Israeli defense planners with spy-in-the-sky capabilities for early-warning detection of changes in military deployments in all neighboring countries, including Iraq and Iran.

The satellite is the most sophisticated yet launched by Israel. It was sent into space in a westward launch, counter to the earth's rotation, to prevent its falling into enemy territory in case of failure. Orbiting at heights between 150-240 miles from the earth, the satellite weighs some 120 pounds, is 7 1/2 feet tall and 4.8 ft wide. It circles the Earth, from East to West, every hour and a half, at an approximate angle of inclination of 143 degrees.

SHAVIT is a three-stage satellite launcher, powered by three solid fuel rocket motors. The first two stages lift the launcher to an altitude of approximately 44 miles. From this point, the launcher continues to gain height while coasting up to approximately 100 miles, where the launcher positions itself and ejects the satellite shroud. After the separation of the main instrumentation compartment, and while the launcher is spinning, the third stage motor is ignited. Thus, the satellite is inserted accurately into its transfer orbit, at an altitude of approximately 140 miles.

The Ofek-5 spy satellite fills a year long gap in Israeli intelligence gathering, caused by the failure of the launch of Ofek-4 in 1998. The military managed to extend the life of Ofek-3, launched in 1995, from the planned three years to six, but it burned up in the atmosphere about a year ago.

The military would not say exactly when. In the interim Israel was not without satellite imagery having relied on its civilian satellite Eros, based on the Ofek 3, for remote sensing.

The Security Fence is Being Built: Small Public Company is Seen as a Major Beneficiary

The Israeli Government has given the green light to begin construction of a 217-mile (350-kilometer) fence designed to shield the country from homicide bombers. Israel's government insists the fence -- which will stretch along the area between Israel and the West Bank -- is only to provide security, and not to form a permanent border.



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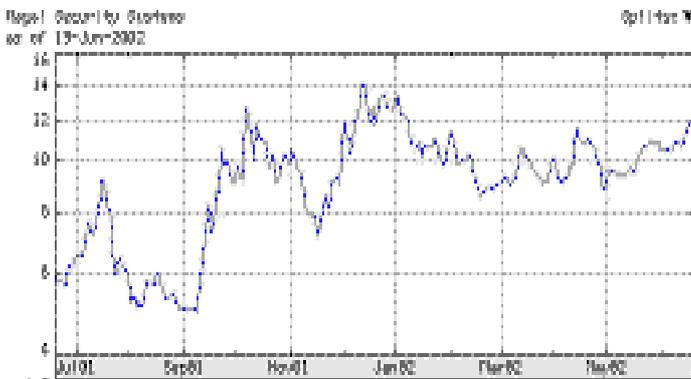
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Eventually, the barrier will be a combination of fences, walls, ditches, patrol roads and electronic surveillance devices. The first 68 miles (110 kilometers) of the \$200 million project is to be completed within a year. In Yahud, a satellite city near Tel-Aviv, Magal Security Systems, Ltd. (Nasdaq:MAGS), is Israel's premier supplier of security and anti-intrusion systems. Magal is a likely major beneficiary of orders from the Ministry of Defense.

In May 2002 Magal CEO Mr. Even-Ezra predicted: "We believe that if the Israeli Government decides about a physical separation between Israel and the Palestinian Authority, Magal will play a major role."



About Magal Security Systems, Ltd.:

Magal Security Systems Ltd. (Magal) is active in computerized security systems, which automatically detect, locate and identify the nature of unauthorized intrusions. Magal also supplies Video Monitoring Services.

Its products are currently used in more than 70 countries worldwide to protect national borders, airports, correctional facilities, nuclear power stations and other sensitive facilities, from terrorism, theft and other threats. Israeli-based Magal has subsidiaries in the U.S., Canada, the U.K., Germany, Mexico and an office in China.

IAI / ELTA Awarded \$5.6 Million Contract for Missile Warning Systems

The Israel Air Force has purchased Elta's proven Electronic Missile Warning Systems, to protect its new fleet of Black Hawk helicopters. Elta Electronics Industries, a subsidiary of Israel Aircraft Industries (IAI), will provide the Electronic Warfare Systems, designed to protect against missiles, threatening the helicopter during its flight over endangered areas. The contract's value is \$5.6 million. Elta's Missile Warning System is an effective and proven system. Israel Air Force has purchased the systems, with options to acquire additional installations in the near future.

Elta's Missile Warning System has also been sold to numerous Air Forces worldwide and, in many cases has saved the lives of crew and passengers in aircraft threatened by incoming missiles. This battle proven system is capable of detecting an approaching missile, warning the crew and automatically activating countermeasures to divert the missile from its course. IAI / Elta, the Israeli house for radar, intelligence systems and electronics is among the top companies in its field, competing successfully with other global leaders.

Syria reportedly has begun production of a modified Scud, the extended-range version of its 'Scud-C' short-



range ballistic missile, according to US and Israeli defense officials. Israeli defense officials reportedly said Syria could produce as many as 30 missiles a year, approximately equal to that of current 'Scud-C' production.

North Korea and Iran are believed to be assisting with Syria's missile development efforts, providing liquid-fuel technology and material. The missile has a range of 420 miles, uses a motor similar to the 'Scud-C' but has larger diameter fuselage, allowing it to carry more fuel and thus achieve a greater range.

It is capable of carrying a payload of up to 1,550 pounds that separates after burn-out, allowing for greater stability and improved accuracy. The warhead has been designed to deliver biological and chemical weapons, the officials added. Syria produces chemical but not biological weapons

Elbit Could Win a Part of a Massive UAV Contract

One of Europe's largest Unmanned Air Vehicle (UAV) contracts is to be awarded this summer. The competing teams recently gave presentations to the UK Defense Procurement Agency which will select two contenders for the £1 billion Project Watchkeeper. The contenders are the British BAE Systems, the American Lockheed Martin, Northrop Grumman and the Thales. established in France more than a century ago. Thales is a global electronics company serving aerospace, defense, and Information Technology markets worldwide.

With operations in more than 30 countries and 65,000 employees, the Thales Group generated 10.3 billion Euro in revenues in 2001.

Joseph Ackerman, CEO of Israel's Elbit was quoted on the Jane Defense website dedicated to the Eurosatory Exhibition: "We have strengths in tactical and higher level air vehicles, as well as command and control technology.

Elbit also brings expertise in exploiting existing bandwidth, something that DPA's analysts rank highly. Local rivals Elisra Electronic Systems and Tadiran Spectralink have also teamed up for the European UAV market.

An Elbit Systems Ltd. subsidiary Silver Arrow, is a specialist UAV system house for various mission applications with state-of-the-art development, production and logistic support capability. The Hermes 450 UAV is the latest generation, incorporating accumulated experience and expertise acquired from previous versions in service with the IDF.



The Hermes 450 UAV meets intelligence requirements for ground forces, supplying real time battlefield data around the clock. It also assists in locating enemy targets and adjusts artillery fire.

The mobile Ground Control Station (GCS) that was presented at EUROSATORY 2002, is deployed together with the supported ground forces, features sophisticated computerized systems and advanced displays for UAV mission management.

Tadiran's Smallest Military Computer

One of the highlights of Tadiran Communications' exhibit was its Rugged Personal Digital Assistant, the RPDA-88. It is said to be the smallest military-rugged pocket computer, unaffected by harsh conditions such as water, sand, snow or bad weather. To prove its ruggedness it was demonstrated submersed in water.



RPDA-88 is produced in four models, the smallest of which weighs less than 380 gm. Its touch-sensitive color-reflective display, built-in loudspeaker and

microphone, make it possible to put situational awareness and

communications capabilities, in the soldier's palm. Incorporating powerful computing capabilities, a radio communications controller and a GPS receiver, the RPDA-88 can be used for mapping, message routing and transfer, situational awareness, mission planning and other digital battle space applications. The modular design of the RPDA-88, enables the operator to reconfigure hardware and software for any specific mission while in the field.

EUROSATORY 2002 Opens a Window to Israel's Defense Industries

Since its inaugural in 1992, EUROSATORY Exhibition that was held in Paris in June, has acquired a great international reputation among the companies involved in the manufacture and trade of land and land-air defense equipment.

The previous EUROSATORY exhibition featured more than 20 national pavilions including over 700 exhibitors from 34 countries. It was visited by more than 30,000 visitors from over 100 countries. The current event, Eurosatory 2002, not surprisingly, attracted even greater interest, as terrorist attacks in various parts of the world require new and sophisticated methods to fight the terror.

Since the earliest days of Israel's existence, the country's survival has depended upon close cooperation between the Israel Ministry of Defense, the Israel Defense Forces and the Defense Industry. Even today, as civilians have become the daily targets of various terrorist groups, over 80% of all planned attacks are aborted through sophisticated early warning technologies and intelligence capabilities. Within this category, Israel's broad spectrum of border security solutions, which are being implemented worldwide, comprise everything from passive sensors, to day and night surveillance, electronic fences and cutting edge command and control systems.

It was the Israeli Defense Industries responsibility to design this new system in accordance with the IDF needs and technical specifications.



A Border Security System as Defined by the Israel Defense Forces

The solution is a combination of addressing the customer's "worst case scenario" in relation to the available budget.

The Israeli Defense Industries border security system consists of the following elements:

Passive Sensors - deployed at tactical points for early warning.

Observation Aerostat - Including day and night surveillance capabilities.

Observation Towers - Including Day/Night and Radar surveillance system

Hovering observation and surveillance is provided by interface to an unattended aerial vehicle (UAV) which is an integral part of the system

Mobile Observation System - Including Day/Night and Radar Surveillance system

Electronic Fence- For intrusion detection



All the information and data produced by the system is transmitted to the Command & Control Center that provides the required information for the commanders at all command levels.

At EUROSATORY 2002 the Merkava Mk-3 was exhibited for only the second time. The newest generation is the Merkava Mk-4. Its features include upgraded performance functions, such as enhanced mobility and ballistic capabilities.

The History of the Merkava Tank

The State of Israel made a historical decision in August 1970 to develop and build a Main Battle Tank. Until that time, Israel could not equip its armored corps with new tanks, due to the continuous embargo, by all nations to sell modern tanks to Israel.

The need to introduce modern tanks to the Israeli Army became acute when Israel faced a tremendous build-up of hostile military formations beyond its borders. The opposing armies were equipped with the best weapon systems of that era including modern tanks and anti-tank systems. The decision to develop the Israeli tank named Merkava (Chariot in the biblical language) was essential and inevitable.

The Israeli development team led by General Israel Tal, integrated state-of-the-art technology with lessons of war in the concept and the design of the Merkava in all its versions.

The first Merkava tanks, Merkava Mk.1, were fielded in April 1979. Those tanks took part in actual operations during the Peace for Galilee War and proved themselves to be more effective than all other tanks in the theatre.

The second generation, Merkava Mk.2, was first delivered in 1984.

The Third generation, Merkava Mk.3, was introduced in 1990 and became the backbone of the Israeli Armor Corps. An advanced version of Merkava Mk.3, with an improved Fire- Control System was fielded in 1995.

The Merkava Mk.4, the fourth generation, has been unveiled. It features upgraded performance throughout all functions, such as enhanced mobility and ballistic protection.

Rafael's Mine Breaching system- "Carpet"

RAFAEL the Armament Research & Development Authority basing itself on the belief that security tasks cannot be achieved using a single piece of equipment



or sensor, but rather a full string of sensors and equipment integrated presented a comprehensive system.

The heart of this system is a central command control and operation system that coordinates and routes information and activities. The Israeli Defense Force's (IDF) border security concept incorporates the following activities:

Detection and warning

Surveillance and tracking of suspected targets

Establishment of operational intelligence and support of information received from other sources

Improvement of reaction time and capabilities of reaction forces

Prevention of infiltration

Creating a deterrent

Supporting routine operational activities

EUROSATORY Exhibitors

17 Israeli companies comprised the Israel National Pavilion, organized by SIBAT, the Foreign Defense Assistance and Defense Export, of the Israeli Ministry of Defense.

These included:

Azimuth Technologies Ltd.

Bental Industries Ltd.

Elbit Systems Ltd.

Elisra Group

Hydromechanical Engineering Ltd.

Israel Aircraft Industries Ltd.- I.A.I

Israel Military Industries Ltd.- I.M.I

Kinetics Ltd.

Meprolight (1990) Ltd.

New Noga Light Ltd.

Plasan Sasa Composite Materials
RSL Electronics Ltd.
Rafael Armament Development Authority Ltd.
Reshef Technologies Ltd.
Soltam Systems Ltd.
TAT Technologies Ltd.
Tadiran Communications Ltd.

Heron UAV

The Heron UAV (Unmanned Air Vehicle) is an operational, fourth generation long-endurance medium-altitude system, based on leading-edge technology with new fully automatic take-off and landing features. It provides deep-penetration, wide-area, real-time intelligence to national agencies, theater commanders and lower echelons.

The Heron provides ample modular space up to 250 kg for customer furnished equipment, is interoperable with other MALAT UAV systems and has demonstrated 52 hours of continuous flight.

Washington Post Report: Israeli Submarines Can Launch Nuclear Missiles

According to a Washington Post report, Israel has the capability to deliver nuclear cruise missiles from diesel submarines that are installed on three Dolphin class submarines. These are armed with cruise missiles capable of carrying nuclear warheads.

The modern Dolphin submarines, were built for the Israel Navy, in German shipyards during the late 1990s. The IDF said at the time of purchase, that it was "to enable the Israel Navy to meet all the tasks faced in the Mediterranean Sea in the 21st century."

The Washington Post reported that the Pentagon had monitored cruise missile tests Israel subs carried out two years ago in the Indian Ocean off the coast of Sri Lanka. The source of that information was a report published in the London Sunday Times June 18, 2000 which stated that the missile is said to have hit a target more than 900 miles away.

Israel's decision to enhance its nuclear attack capability with submarine launched missiles derives from mounting concern about the possibility of a non-conventional strike, launched by Iran or Iraq, the Washington Post report said. Sea-launched missiles would boost Israel's deterrent capability, making clear to an enemy that if a surprise attack wiped out Israel's land-based nuclear arsenal, it would still have the ability to retaliate with weapons of mass destruction.



BIRD Israel-US Conducts Conference Call Introductions

The BIRD Foundation recently presented a conference call in which Israeli companies from the cardiovascular sector introduced themselves to relevant American companies, including Genzyme, Guidant, Edwards, Philips Medical Systems, Siemens Medical Solutions and Massachusetts General Hospital. BIRD hopes that the American companies avail themselves of R&D financing provided from a binational fund.

The Israeli companies that made presentations included: Remon Medical Technologies, which develops implants to monitor physiological parameters; Levram Medical Systems, a developer of therapeutic applications for cardiac rehabilitation; and SagaX, a developer of devices for use in the treatment of vascular emboli, atheroma and related applications.

"Although many Israeli companies have been affected by the global economic crisis, and some severely so, Israeli industry is still receiving a vote of confidence," said Dov Hershberg, Executive Director of the BIRD Foundation.

The conference call was initiated and organized by Benny Soffer, Israel's economic consul in the United States and BIRD's representative in Boston. Approximately forty American and Israeli companies called in and listened to the presentations.

BIRD- Binational Industrial Research and Development Foundation, initiates on a regular basis, introductions and meetings between American and

Israeli companies, in order to generate cooperation for the development of strategic products in the fields of telecommunications, biotechnology, semiconductors, software and other hi-tech sectors.

VENTURE CAPITAL

Corporations are Slowly Assuming a Greater Role in Venture Capital

The number of active corporate VC firms in the United States shrank from 381 in 2000 to 272 at the end of 2001, according to the National Venture Capital Association. Total corporate venture investments fell from \$15.8 billion in 2000 to \$4.7 billion in 2001, as the number of corporate venture deals dropped from 1,934 to 880.

Orange S.A., one of France's largest companies is investing and Applied Materials Inc., a Santa Clara, California, multinational maker of semiconductor manufacturing equipment is doing the same.

Israel's Orbotech Ltd., a NASDAQ-listed Israeli maker of printed circuit board inspection equipment, began a VC unit in June 2001 and has already invested \$7 million in three companies.

Intel with its research and development and marketing units is Israel's largest industrial exporter. It has its own venture capital arm as does General Electric Medical. With venture capital scarcer, corporations have the opportunity to cut better deals. Some corporate investors mainly want to identify those companies they may wish to acquire someday. Others want to tap into promising technologies. Some act like traditional venture capitalists, purely interested in return on their investment.

One of Israel's high-tech giants is Comverse Technologies (Nasdaq:CMVT). The company, in 2001, began investing in local startups and is providing many young companies with a springboard to international markets.

Boston Scientific to Invest \$100m in Israeli Medical Sector

Boston Scientific (NYSE: BSX) a leading American medical device maker plans to invest \$100 million over the next few years in the Israeli medical equipment and biotechnology sectors. The company recently launched an independent Israeli representation as part of its expanding activity here, inaugurating new offices north of Tel Aviv.

According to Boston Scientific Israel CEO Doron Debbie, the company decided to expand its activity to Israel due its business, professional and technological potential. In June BSX celebrated the start of its activities with a festive gathering attended by entrepreneurs and some of Israel's leading physicians.

Debbie said the company, which will employ twenty people in its new offices, will expand its investment in Israel in three areas: the marketing and distribution of the company's innovative technology, clinical trials in association with the Israeli scientific establishment and cooperation with relevant Israeli ventures.

Boston Scientific has previously invested in four Israeli companies: stent-maker Medinol, Mel Medical Enterprises, SightLine, and venture capital fund Vitalife.

The company also has exclusive distribution agreements in Japan and the U.S. with laser-maker Lumenis (Nasdaq:LUME).

The Israel High-Tech & Investment Report received the Following Patient Guidance from Given Imaging (Nasdaq:GIVN)

Please let your readers know that there is now a Physician Locator available on our website (www.givenimaging.com). To access the Locator, log onto the website and click on the U.S. flag. At the U.S. home page, click on the Physician Locator icon, which is a map of the U.S. You will be asked for your name, e-mail address, city and state. After submitting this information, the system will automatically send you a return e-mail listing the participating Given sites nearest your location.

In March 2002, Medinol Ltd., in which Boston Scientific holds a 22% stake, announced the termination of its exclusive distribution agreement, stating that Boston had consistently breached agreements between the companies. Medinol is suing Boston Scientific in New York courts for its alleged theft of intellectual property.

Mel Medical Enterprises was established in 1998 as a Boston subsidiary engaged in the development of minimally invasive systems for treating both cancerous and benign growths.

Security and Defense Exhibition in Tel Aviv

In May, publicly traded Israeli company NICE Systems (Nasdaq:NICE) announced that it will consolidate all its security-related activities into a newly-created Security Group.

In June 2002, Israel's annual Security and Defense Exhibition was held in Tel-Aviv, NICE exhibited some of its new products, some of which have been purchased by Australian and American customers.

The new group, which combines digital video recording and threat analysis, is expected to represent about 25% of NICE's total revenue this year.

"We have concluded that this huge market opportunity is best served by combining our extensive security-related operations in order to fully exploit the synergies between them," said Haim Shani, president and CEO of NICE Systems.

"Within the \$15 billion monitoring and identification segment of the total security products market, we estimate that our current target addressable market is \$1

Some Food Advice to Startups

If you're interested in corporate investors, start by feeling out suppliers, customers and others you do business with. Also network heavily with other entrepreneurs, bankers, angel investors and professionals such as attorneys and accountants. Most corporate investments come through referrals, especially from traditional VCs who want the benefits of corporate sponsorship for their investments.

Corporate investors, however rarely invest by themselves, preferring to join in with traditional venture investors, usually in later financing stages. But they do invest in young firms.

to \$1.5 billion. Nice Systems computer-camera locates suspicious objects left behind in airports, train stations and other public areas. The device also alerts guards if a car stops outside an embassy or airport for too long.

Many foreign security experts who normally attend this conference to follow the latest in high-tech security advances, did not participate. A wave of Palestinian suicide bombings on buses, city streets and cafes influenced many anti-terror experts from visiting Israel for the conference. Only about 500 showed up as compared to 3,000 attendees in previous years. The conference organizers offered free insurance to help convince security experts to make the journey to Tel Aviv ,after many insurance companies in the United States and Europe refused to cover them.

Kata, a Jerusalem based designer, producer and marketer of protection solution products, recently added an armored baby car seat to its product range. It consists of bullet-proof panels built around a regular baby's car seat and weighs about 70 pounds. The armored seat protect the baby's head and its body from the side and back. The car seat which sells for \$2,000 is intended for Jewish settlers who have been targeted by Palestinian gunmen on West Bank roads.

On offer for use by bomb squad sappers, is an x-ray device fitted to a robot which produces an x-ray image of the bomb, showing the wiring and indicating the nature of the explosive used. The device was invented with input from Israeli sappers, who regularly detonate many suspicious objects.

BIOTECHNOLOGY

U.S. Patent Reinforces Mindset's Leadership in Alzheimer's Disease Drug Discovery

Mindset BioPharmaceuticals (USA) Inc., announced that New York University School of Medicine, and the University of South Alabama have been issued a U.S. patent relating to OXIGON®, the company's industry-leading product for the treatment of Alzheimer's disease. The patent, issued on May 28, 2002 No. 6,395,768, covers the use of indole-3-propionic acid compounds to inhibit the deposition of toxic amyloid fibrils that lead to Alzheimer's disease as well as prevent damage from oxidative stress. Mindset is the worldwide exclusive licensee of this platform patent.

OXIGON® is currently in preclinical development and is scheduled to enter clinical development early next year. It was selected for the next clinical trial by the prestigious Alzheimer's Disease Cooperative Study (ADCS). The ADCS is a consortium of leading clinical investigators chartered by the National Institute of Aging in the United States to conduct clinical trials for promising new Alzheimer's therapies. The ADCS plans to sponsor the first trial in Alzheimer's patients with OXIGON®.

The preclinical development of OXIGON® is also supported by grants from the National Institute of Aging and from the Institute for the Study of Aging, a private philanthropic organization in New York, whose mission is to catalyze and fund drug discovery

and development, for the prevention and treatment of cognitive aging, Alzheimer's disease and related disorders.

"The US patent reinforces our leadership in developing innovative therapies for the treatment of Alzheimer's Disease, by providing strong protection for our core technology platform. Innovative therapies based on this technology, could exert strong therapeutic effects through a unique dual mode of action, that targets key mechanisms in the pathogenesis of Alzheimer's disease, as well as other major diseases including Parkinson's disease, motor neuron disease and stroke," said Dr. Daniel Chain, President and CEO of Mindset BioPharmaceuticals.

About Mindset

Mindset BioPharmaceuticals (USA) Inc. is a privately-held biotechnology company with a Jerusalem based subsidiary, carrying out research and development. Mindset is lead by a world-class scientific team and is backed by two leading investment groups, MPM Capital and Clal Biotechnology Industries.

Mindset is emerging as an innovative leader in developing new therapeutic products for the treatment of Alzheimer's disease and other neurodegenerative diseases. The company has two major therapeutic programs: a unique small molecule pharmacological approach, which targets two key mechanisms that underlie the pathogenesis of Alzheimer's disease and an immunotherapeutic program based on immunizing patients against the harmful affects of Alzheimer's toxin, the so-called amyloid protein.

Mindset also has developed a unique platform for lead drug candidate selection, and optimization, using transgenic mouse models to study drugs effects in Alzheimer's disease and other neurodegenerative disorders including cognitive impairment. MindGenix Inc., a subsidiary of Mindset based in Albany, NY, offers contract research in the transgenic models.

About Alzheimer's Disease

Alzheimer's disease is a disorder, affecting approximately 8 million Europeans and Americans and the number is expected to rise dramatically with an increasing elderly population. With symptoms ranging from forgetfulness to language difficulties, from changes in mood and personality to loss of insight culminating in the destruction of brain cells, this devastating condition is one of the leading causes of death and disability in the western world.

Drugs currently available for the treatment of the

disease appear to affect the symptoms of the disease, rather than the underlying pathogenesis. There is an urgent need to rethink the goals of Alzheimer's disease treatment and to create drugs that will not only alleviate cognitive problems associated with the malady's early stages, but more importantly, slow progression and even prevent the disease altogether.

Israel-India Report

Dynamic Software Industries Strive for Common Ground

The most vigorous trade promotion effort ever launched in Israel by India was marked by the recent visit to Tel-Aviv by a high level delegation from NASSCOM, the National Association of Software Services and Companies. It is the industry association of IT Software and Service companies in India.

Describing the Indian miracle

NAASCOM President, Mr. Kiran Karnik, declared, "Not only is the Indian Software and Services industry growing quantitatively, and qualitatively. We are seeing multi-year contracts coming to India, reflecting the confidence in our abilities. Furthermore, Indian companies now service nearly 220 global customers. Indian vendors are also increasingly participating in large global bids against worldwide IT majors."

NASSCOM forecasts Indian software exports to maintain a 30% growth in financial year 2002-3 to approximately \$9.5 billion. The contribution of software exports reaches 16.5% of total exports.

"The 30% export growth is enviable in view of the 2% export growth for the whole Indian economy", Mr. Karnik added.

Elaborating on the future outlook, Mr. Arun Kumar projected that "the industry should start seeing a recovery in the third and fourth quarter of the financial year, and thus we are optimistic in sustaining our growth rate on a much larger base for the next year. We expect an export turnover for IT Software and Services sector of \$9.5 billion FY03."

Software is a multi-billion dollar industry

The Israel Association of Software Houses figures speak for themselves. In 1990, software exports from Israel amounted to \$90 million. By 2000, overseas sales had soared incredibly to \$2.6 billion and even if the staggering average annual growth of 25% should

not be maintained in 2001, the forecast is that exports will surpass \$3 billion by the end of the year. Domestic sales have been growing by 10% per annum and overall sales for the industry are expected to top \$4.2 billion in 2001.

There are currently about 35,000 computer specialists in Israel, 14,500 of whom are employed in more than 400 software houses. Not only are these experts highly qualified and educated at the finest universities in Israel and abroad, they also possess extensive experience and technical know-how and are endowed with an unrivalled spirit of initiative and enterprise.

Issues of Intellectual Property and Confidentiality

NASSCOM president Kiran Karnik said copyright laws in India are among the strictest in the world, and there was therefore no reason to worry about confidential data being leaked by Indian companies.

The case for intellectual property privacy and protection, according to the Economist points that. "piracy is a cheap way to climb the lower rungs, but it takes you only so far. Failure to respect intellectual property rights deters high-tech. Firms will not bring technology to countries where it can be stolen with impunity. Furthermore, if poor countries do not reward innovation, their people will have no incentive to innovate. Several Indian biotech firms that export their products are wary of selling them at home for fear of piracy".

Amiram Shore President of IASH is adamant on this subject and as a matter of current policy the Israeli Association of about 100 software houses opposes helping the Indians in this area of business. Mr. Shore's concern, is that unique technological know-how developed by the Israeli software industry, which he describes as among the most innovative and advanced in the world, would be transferred to Indian companies, and position the Indian companies to compete with Israel.

Mr. Shore said the Israeli programmers are more skilled than those in India and it was therefore inadvisable to transfer know-how to programmers there. "Americans had used Indian programmers to convert programs from old languages like Pascal or Fortran to C++. That is an example of proper use of the skills of Indian programmers," he added.

The Indian representatives, for their part, say their programmers have become more professional in recent years and are now capable of handling complex projects. "It has been four years since we last did those sorts of conversions," said NASSCOM Vice-chairman Run Kumar.

Overview: Similarities and Disparities

The population of India dwarfs that of Israel by a ratio of 200 to one. Both nations are democracies, both were born in the middle of the 20th century, and both have major technology achievements to their credit. In Full diplomatic ties between India and Israel were finally established in 1992. Since the establishment of diplomatic relations between India and Israel in 1992, bilateral merchandise trade has increased by an average of 30% every year reaching close to a billion US dollars in 1999. With the exception of 1995 trade volumes have grown steadily, by 12% in 1996, 17% in 1997, 3% in 1998 and 47% in 1999 as compared to the previous years.

In 1999, bilateral trade registered an impressive jump reaching \$994 million, a five-fold increase since 1992. The balance of trade has been in Israel's favor with the exception of 1998 when a surplus of \$9.4 million was recorded in India's favor. Besides diamonds, which accounted for 60% of India's exports to Israel in 1999, major export items from India include textiles, cotton yarn, organic chemicals and machinery. The volume of non-diamond exports has increased steadily from almost nil in 1992 to \$ 177 million - in 1999. A number of new items have been introduced into the export basket in recent years.

Both countries have experienced threats to their internal stability. The Pakistan Indian border dispute related to Kashmir have impacted India's software industry.

President Kiran Karnik said in the past year, about 60 collaborative ventures have been made with Israeli companies and about 30 of them had contracted for outsourcing from Indian companies.

An Understandable but Unspoken Nightmare

IHTIR's figures indicate that the productivity of each individual member of Israel's software Industry is \$162,000. The comparable figure for India's counterpart is \$16,250. Should the know-how existing in Israel be transferred to India and thus raise that country's software productivity only to half of the Israel's figure, the Indian industry would produce not \$8.5 billion, but \$40.5 billion per year.

Where Is there a Clear Case for Cooperation?

The size of the Indian industry which according to most future projections, will grow in the number of people, involved as well as in quality of expertise, and could

lead to cooperation if at the initial stage the Israelis conduct their own software development. Israelis will need to persuade the Indian software industry to relinquish its drive for Israelis to outsource to them its research and development.

What type of cooperation could benefit both countries? Most likely a combination of their individual strengths. India's growing massive global marketing and technical presence when united with Israel's proven development and technological skills could hatch global outreach companies, with the size and corporate muscle to innovate products and capture major markets.

PROTEIN-PROTEIN INTERACTIONS

A team of scientists from the Weizmann Institute of Science had the best result in the CAPRI (Critical Assessment of Prediction of Interactions) Challenge, an international competition in which participants submit predictions of structures of protein-protein complexes prior to experimental determination. The competitors were given three prediction targets, and sixteen teams from around the world submitted possible solutions.

The Weizmann team was the only group to submit an acceptable prediction for each of the three targets. Prediction of the structure of protein-protein complexes is an increasingly prominent field of endeavor in the current post-genome era, since new sequences and links between proteins are now regularly being discovered.

Docking is a predictive method that uses computer algorithms to create three-dimensional models of the interactions formed between two protein molecules when they make contact, or "dock," with one another.

The CAPRI Challenge, which requires that all competitors predict interactions for the same unbound molecules, provides a useful basis of comparison of different docking algorithms. The participants are given the structures of individual molecules and are requested to submit their predictions for the resulting complexes by a certain date, after which the experimental structures are made public. An independent group of assessors tests and compares all

the predictions. Predicting the ultimate complex structure of two unbound protein molecules is an exceptionally difficult task, since the proteins change their shapes in response to one another's presence.

The CAPRI Challenge provides a service to the scientific community by establishing identical criteria for the comparison of different docking approaches. Independent groups can focus on certain interactions (e.g., geometric or electrostatic) to the exclusion of others and usually represent even those interactions in an approximate form. Also, different groups use different molecular complexes for the development and testing of their prediction methods, and some structures are easier to predict than others.

The CAPRI Challenge is a blind test in which the molecules and conditions are equivalent for all participants. The improvement of docking algorithms fostered by such competitions helps the scientific community not only understand the processes by which proteins bind to one another, but also to predict the effects of intervention such as drug administration on such processes.

Competitors predict interactions for the same unbound molecules, provides a useful basis of comparison of different docking algorithms. The participants are given the structures of individual molecules and are requested to submit their predictions for the resulting complexes by a certain date, after which the experimental structures are made public. An independent group of assessors tests and compares all the predictions.

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