

ISRAEL HIGH-TECH & INVESTMENT REPORT

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Bubbly, Frothy and Volatile

Some of the sounds that accompany “bull markets” are beginning to be heard. They should not be misunderstood. Few analysts consider it appropriate to publicly cast doubts on expectations of higher share prices. As is in their nature they are “bullish” about companies that have as yet to earn a cent. Aiding them are the executives who predict company profitability to be just around the corner. Surely, it is a sign for some investors to snap up the shares, preferably before others do the same.

We would prefer to wake up one morning and hear of “real profits” in lieu of “predicted profits”. Given Imaging, a medical technology company, just for one instance, traded at a year’s low in 2003, at \$6.50. Last month was priced at \$29.50. Net loss for the full year 2003 was \$9.6 million or \$(0.38) per share, compared to a net loss of \$18.3 million or \$(0.73) per share for the year in 2002. that is what we call a “bubbly, frothy and volatile” performance.

AudioCodes, a voice over the Internet company, whose share in the past year traded as low as \$2.20 recently was priced above \$16. The company reported that “its fourth quarter financial results capped a strong performance for AudioCodes in 2003 with annual revenues growing 62% year-over-year and a reduction in net loss”. In the same report the company states that its net loss for 2003 was \$8.4 million, or \$(0.22) per share compared to a net loss of \$14.2 million, or \$(0.37) share in 2002.

Predicting future share price movements for Given Imaging or AudioCodes is hazardous. Given Imaging has brilliant technology, a limited market and so far, only one product.

AudioCodes also is a fascinating technology company but it operates in a highly competitive market. Neither company is likely to report at the end of the current year that profits will double or triple in 2005.

As America’s economy improves company sales will grow. But profits are the basis for share valuation. Warren Buffet agrees. Those who have studied the methodology of the world’s most successful investor, have noticed that all of the compa-

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EI-AI installs Flight Guard system on Boeing 767s
Israeli Technology Improving Quality of Life for the Disabled
Elisra wins \$250m EW contract for Israel Air Force F-16I
BiondVax to raise \$4m for Flu Vaccine
First two F-16I aircraft Land in Israel

nies bring with them a history of profitability. Stock Screens, available free of charge on the .tle help in assessing the quality of "losses".

Wall Street is expensive and share prices may reach unsupportable levels. Only then the speculators and the followers of the herd will remain. There is nothing wrong with "playing stock markets". That is if one can absorb "the pain" when prices fall.

The readers of this report tend not to let their excitement for technology cloud their investment decisions.

We continue to feel that private equity investors will be the true big winners in the future and we will continue to feature companies whose technologies have a capability to change how things are done and can reach profitability in 3-4 years.

Israeli Satellite to Explore the Moon

Science Minister, Modi Zandberg, recently disclosed at a meeting of the Knesset Science Committee that Israel and India would cooperate in launching a satellite to orbit the moon. "India is planning to launch its first satellite to the moon, in 2008. It was proposed that we participate in the project and be partners in the launching and in exploring the moon", he related.

Among ideas being examined, is to launch an Israeli secondary satellite, which will separate from the Indian satellite and circle the moon independently. Israel is examining the development of a cost-effective satellite engine.

Rafael, IAI unveil Surface-to-Air Missile Combo

Israel's Rafael Armament Development Authority, teaming with Israel Aircraft Industries (IAI), has unveiled a surface-to-air missile (SAM) system that incorporates ground-launched versions of the former's Derby medium-range active radar-guided air-to-air missile (AAM) and Python 5, its latest dual-waveband short- and beyond-visual-range-capable imaging infra-red (IIR) AAM.

IAI to Supply Avionics Systems to India

Israel Aircraft Industries (IAI) and India's aerospace company Hindustan Aeronautics (HAL) have signed an agreement, whereby IAI will supply specialized avionics systems for India's Dhruv Advanced Light

Helicopter. The two companies intend to set up a subsidiary to jointly market the helicopter. The HAL Advanced Light Helicopter ("DHRUV") demonstrator, equipped with IAI's Integrated Avionics Package for helicopters was shown at the 2003 Aero India exhibition.

The Indian Army has used the Dhruv for many years. The Israeli avionics package is part of the plan for upgrading these helicopters. The advanced model has been chosen as the main future helicopter for all branches of the Indian armed forces. The Indian defense ministry is the client and is expected to buy hundreds of the upgraded helicopters.

The upgraded version, including the IAI avionics systems, has already passed the prototype phase. and was unveiled at the Paris Air Show in the summer of 2003. The system includes a comprehensive electronic warfare package, a day and night vision system, a targeting system, and flexible munitions carrying capability.

IAI's Modular Avionics Package, developed by the company's Lahav Division, is based on the core avionics, successfully utilised by IAI/Lahav in most of its recent combat aircraft upgrade programmes. Its "Glass Cockpit" concept, comprehensive Electronic Warfare Suite, Day and Night observation and target-

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Subscription Inquiries

Tel. +972-3-5235279 Fax. +972 3-5227799

E-mail: htir_1@netvision.net.il

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ing system, and flexible armament package have all been combat proven.

The package for helicopters can be tailored to customer needs and enables a common architecture to be achieved for assault, attack and multi-role helicopters. Versions are offered for example, for both the Mi-17 and Ka-50-2 helicopters.

Bank of Israel: 2004 GNP to Rise by 2.4%

The Bank of Israel Governor, David Klein, said that the Central Bank is changing its economic forecast to a more optimistic one. According to the new forecast, Israel's gross national product (GNP) will rise by 2.4%, while the business sector's output will increase by 3.7%. In 2003, the GNP rose by 1.2% and the business output by 1.5%.

The Central Bank supports its new forecast with a 2.8% rise in private consumption and an increase of 2% in fixed asset investments. This year's positive data comes after three years of decline in investments and a 5.5% rise in exports, similar to the increase in exports forecasted for this year.

Kermit Plug, head of Research at the Bank of Israel, says that "updated data regarding an increase in global trade, combined with data showing signs of recovery in the second half of the fiscal year, have raised the 2004 forecast starting point as well as the 2003 expected growth results".

Dr. Klein also supports the government's deficit goal, set at 4% in 2004. Assuming a 2.4% growth rate, the Central Bank expects the deficit to be slightly higher than 4% of the GNP.

Treasury Agrees to Grant Defense NIS 900m. (\$293m.)

Israel's Defense Ministry has agreed to float 20% to 30% of the shares it holds in Israel Aircraft Industries. The Ministry of Finance would be the selling shareholder.

The thrust of the accord reached is that Defense will immediately receive an extra NIS 900 million, contingent on the transfer, however, not breaking through the 2004 budget constraints. Defense will also receive another NIS 700 million later this year, contingent on general tax revenues reaching a point that enables the government to remain within its deficit target.

The Ministry of Defense has also agreed to evacuate army bases located on prime real estate, and to return the land to the state without compensation. The lands would ultimately be sold to the private sector.



China Develops First DNA Computer

Rudiments of China's first DNA computer have been developed at Shanghai Jiaotong University.

The computer is an improvement on the proto type developed by Israeli scientists.

Instead of the CMOS chips used in ordinary computers the DNA computers rely on DNA liquor. Each DNA segment works as a microprocessor in the computer. Scientists say the computer can be used for gene expression patterns technology or gene therapy in the future.

Copaxone Sales Rose by 11% in 2003

Sales of Copaxone continued to rise in the fourth quarter of last year, according to the 2003 financial statement of French drug producer Aventis. Aventis markets Teva Pharmaceuticals' (TASE, Nasdaq:TEVA) Copaxone treatment for relapsing/remitting multiple sclerosis in Europe.

Aventis reported that global sales of the proprietary treatment reached \$211 million in the fourth quarter, up 11% from the same quarter of 2002.

A breakdown of the results shows that fourth-quarter Copaxone sales in the U.S. came to \$149 million. The other areas, mainly Europe, were responsible for the remaining \$62 million.

U.S. sales of Copaxone in the fourth quarter rose 3% from \$144 million in 2002. Growth in the rest of the world was 35%.

For the whole year 2003, Copaxone sales were \$765 million, again an increase of 11% from the previous year.

Growth patterns were even more marked: 1% in the U.S. to \$542 million, 50% in the rest of the world to \$222 million.

Copaxone competes with three other drugs for multiple sclerosis: Avonex made by Biogen, Betaseron made by Schering Plough, and Rebif, a product by Serono.

Serono reported that global sales of Rebif (developed by Israeli arm Interpharm) increased 49% in 2003 to \$819.4 million. Fourth-quarter sales reached \$233.2 million, an increase of 36% from the parallel quarter of 2002.

Rebif sales in the U.S., a relatively new market for the drugs, shot up by 60% to \$55.7 million in the fourth quarter, Serono reported. Annual U.S. 2003 sales of Rebif were \$188.5 million. Serono has allied with Pfizer to market Rebif in the U.S. market.

The Israeli developed, produced and marketed Copaxone is the fruit of research by Weizmann Institute scientists including Prof. Michael Sela and Prof. Ruth Arnon. It became Israel's first blockbuster drug after an extensive period of development by Teva Pharmaceuticals.

Glaxo in Drug Delivery Research Alliance with NanoPass

Israeli startup NanoPass Technologies, which is developing microneedle drug delivery and diagnostic tools, has signed a research alliance agreement with pharmaceutical giant GlaxoSmithKline. Glaxo, the world's second-biggest drug company and leader in the field of immunizations, will be supplying the biological materials. NanoPass will supply the delivery instruments.

The two aim to optimize NanoPass's unique MicroPyramid platform to administer immunizations through the skin.

MicroPyramid is a modified chip in which up to 100 hollow micro-needles are embedded. The pyramids are less than half millimeter long and at their sharp point is less than a micron in width. The procedure has been termed a "painless dermal drug delivery".

Each micro-pyramid serves as a micro-needle through which drugs can be administered effectively and without pain. The materials enter the skin from there diffuse to the bloodstream.

The MicroPyramid is particularly suitable for administering high-molecular weight drugs, such as those based on proteins. Insulin is a prime example.

The company says that in most cases, transdermal patches are unsuitable for administering heavy molecules.

NanoPass is meanwhile independently examining the body's reaction time to drugs received via MicroPyramid as opposed to regular needles. Again a prime candidate is insulin, where the response needs to be rapid.

The company's founder, Dr Shuki Yeshurun, commented that the technology could require less of the antigen used in the immunization, in order to achieve the same result.

Yeshurun founded Nanopass in 2000, under the Nayot incubator. The company raised seed money from the Ofer Brothers. It has five active alliances regarding several applications. The company's CEO, Dr Yoram Levin, says it is currently in the process of raising \$5 million in venture capital.

D-Pharm Reacquires Rights to its Epilepsy Drug

D-Pharm Ltd. announced recently that it has reacquired full rights to DP-VPA from Shire Pharmaceuticals plc. DP-VPA is a unique phospholipid derivative of Valproic acid (VPA), a generic drug widely used for the treatment of epilepsy, bipolar disorder and migraine prophylaxis, which generates over \$1 billion in sales annually. DP-VPA is a clinical-stage product that has recently completed a Phase II study in patients with complex partial epilepsy. In this study DP-VPA significantly reduced number of seizures relative to placebo and revealed a superior safety profile.

DP-VPA is a new chemical entity (NCE), rationally designed utilizing D-Pharm's proprietary technology, Regulated Activation of Prodrugs (D-RAP), which enables precise control over drug action at the site of pathology. In preclinical and clinical studies, DP-VPA demonstrated a superior safety and pharmacokinetic profile compared to Valproic acid. The Phase II double-blind, placebo-controlled cross-over study of DP-VPA as add-on therapy for the treatment of complex partial seizures was completed recently. The cross-over design of the study provided that the patients in one group (n=27) were first treated with DP-VPA and then, after a short "no-drug"-period were treated with placebo. At the same time, a second group of patients (n=30) started the trial with placebo and then switched to treatment with DP-VPA. Analysis of the first period of the study showed a significant reduction of seizure

frequency relative to placebo (mean = 30%, median = 23%, $p=0.02$) with no significant adverse events. Furthermore, the data suggest that the no-drug wash-out period was insufficient to eliminate the drug effect in the first group of patients (carry-over effect). This result supports our previous observations of the extended brain-residual time of the drug, suggesting a once-a-day treatment modality.

Alex Kozak, D-Pharm's President and CEO commented; "We are very encouraged by the results from the Phase II trials, and our enthusiasm for DP-VPA has been reinforced by a review conducted by an independent international panel of epilepsy experts. We believe that DP-VPA will reposition the drug (VPA) as an ethical first-line therapy for treatment of epilepsy, migraine and bipolar disorder. We expect to complete 'new device' filing shortly and continue DP-VPA's clinical development

The worldwide market for anti-epileptics is valued at over \$3.0 billion annually and is projected to grow to \$4.5 billion by 2005. More than 25% of epilepsy patients are refractory to current anti-epileptic drug treatments, creating a significant need. The migraine market is growing rapidly with sales expected to double to approximately \$5.6 billion in 2012. Bipolar depression drug sales in the major markets are estimated to reach \$2.3 billion by 2008. Patented formulations of valproic acid (Depakote(R), Depakine(R)) are first-line drugs of choice for epilepsy, bipolar disorder and migraine prophylaxis. These generate more than \$1 billion in total annual sales with over half the sales for migraine prophylaxis and bipolar disorder. Despite excellent efficacy, however, a variety of adverse effects limit valproic acid's maximum dose and extended use. DP-VPA will provide a safer, more efficacious alternative to valproic acid. D-Pharm has filed 'Composition of Matter' patents in all major countries worldwide.

D-Pharm is a clinical stage biopharmaceutical company pioneering the development of CNS therapeutics. D-Pharm is engaged in both drug targeting and drug discovery based on the company's technological platforms: (Regulated Activation of Prodrugs (D-RAP(TM)); Membrane Activated Chelators (MAC); and LipidoMimetixTM. This has enabled the company to generate a rich pipeline of innovative drugs for the treatment of CNS disorders, cancer, and autoimmune diseases.

The company's business strategy is to develop its products through "proof of principle in man" and to seek partners for advanced clinical development and

commercialization.

SCIENCE CORNER

New Type of Nanotube Made of Gold or Silver

Weizmann Institute scientists have created a new type of nanotube built of gold, silver and other nanoparticles. The tubes exhibit unique electrical, optical and other properties, depending on their components, and as such, may form the basis for future nanosensors, catalysts and chemistry-on-a-chip systems.

The study, published in *Angewandte Chemie*, was performed by Prof. Israel Rubinstein, Dr. Alexander Vaskevich, postdoctoral associate Dr. Michal Lahav and doctoral student Tali Sehayek, all of the Weizmann Institute's Department of Materials and Interfaces.

Nanotubes are tiny cylinder-shaped structures (a nanometer is one millionth of a millimeter). Discovered in 1991, the first nanotubes were made of carbon and captured the attention of scientists worldwide when they proved to be the strongest material ever made (100 times stronger than steel), as well as being excellent conductors of electricity and heat.

The new nanotube created at the WIS lacks the mechanical strength of carbon nanotubes. Its advantages lie instead in its use of nanoparticles as building blocks, which makes it possible to tailor the tube's properties for diverse applications. The properties can be altered by choosing different types of nanoparticles or even a mixture, thus creating composite tubes. Moreover, the nanoparticle building blocks can serve as a scaffold for various add-ons, such as metallic, semiconducting or polymeric materials – thus further expanding the available properties.

The tubes are produced at room temperature – a first-time achievement – in a three-step process. The scientists start out with a nanoporous aluminum oxide template that they modify chemically to make it bind readily to gold or silver nanoparticles. When a solution containing the nanoparticles (each only 14 nanometers in diameter) is poured through, they bind both to the aluminum oxide membrane and to themselves, creating multi-layered nanotubes in the membrane pores. In step three, the aluminum oxide membrane is dissolved, leaving an assembly of free-standing, solid nanotubes.

"We were amazed when we discovered the beautifully formed tubes," says Rubinstein. "The construction

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nanotubes out of nanoparticles is unprecedented. We expected the nanoparticles to bind to the aluminum oxide template – that had been done before; but we did not expect them to bind to each other, creating the tubes.”

The discovery process held other surprises for the Institute team. They had set out to accomplish something else entirely – to create a nanoporous template for studying the passage of biological molecules through different membranes. Likewise, having employed annealing – a process that uses heat to bind structures – they found that annealing actually prevented tube formation. “Everything interesting, in fact, happened at room temperature,” says Rubinstein. “This exceptional process, of spontaneous room-temperature binding of nanoparticles to form tubes, is not yet fully understood and is currently being studied.”

Teva Results Exceed Analysts' Forecast

Teva Pharmaceuticals, the Israeli generic drug manufacturer, exceeded analysts' estimates. It reported revenues of \$942 million for the fourth quarter and a net profit of 62 cents per share. The Wall Street consensus had been for sales of \$870 million.

Teva posted a net profit of \$186 million for the fourth quarter, up 36% over the comparable quarter of 2002. Net income was \$691 million for the year 2003, translating to \$2.39 earnings per share.

Teva's president and CEO Israel Makov commented that the record results exceeded even Teva's own ambitious strategic objective of doubling sales every four years and doubling net income in even less time. Sales benefited in the fourth quarter from 12 new products not available for sale in the comparable quarter of 2002 and from increased Copaxone sales, Teva said. North American sales including Copaxone accounted for 65% of Teva's total pharmaceutical sales, rising to \$544 million, from \$471 million in the fourth quarter of 2002, an increase of 15%.

in Europe including Copaxone, which accounted for 26% of the company's total drug sales, increased 40% in the quarter to \$215 million. The main reasons for this increase were sales of new products, higher Copaxone sales and the continued strengthening of the European currencies relative to the U.S. dollar, Teva said.

Teva's board resolved on February 16 to pay a cash dividend for the fourth quarter of 2003 of NIS 0.45 (about 10 cents) per ADR.

BSP Starts Trials with Maccabee Health Services

Biological Signal Processing (BSP), a developer of electrocardiograph (ECG) technology with diagnostic value for detecting and monitoring ischemic heart diseases (IHD), recently announced the beginning of joint trials with Maccabee Healthcare Services.

BSP also reported that the Israeli Government's Chief Scientist Office has approved an R&D grant for the company of \$200,000.

BSP is developing a novel system for the monitoring and diagnosis of ischemic heart diseases. The system will enable early detection and reliable non-invasive diagnosis of heart diseases that result from coronary artery disease -- the leading cause of death in the developed world.

The company's technology is based on proprietary ECG signal acquisition and signal processing methods, and will be implemented in stress ECG systems, patient monitoring devices, and in implantable defibrillators and pacemakers.

Clinical studies will be launched in the first quarter of 2004 in West Virginia, USA, as well as in two leading hospitals in Israel.

The clinical studies to date have tested the performance of BSP's system in stress ECG procedures. The results, presenting high diagnostic efficacy far surpassing that of the standard ECG, were presented in two European cardiology conferences.

Dr. Amir Beker, CEO, a graduate of the 'Talpiot' program of the Israeli Air Force, and a PhD in Medical Physics founded BSP in 2000. The company has raised close to \$1m from individual investors in its last round of financing in 2003, and is planning a \$3-5 million round in 2004 in order to commercialize its prototype system and receive regulatory FDA and CE approvals.

Pharma Exports to Grow by 20%

Israel's pharmaceutical exports are estimated to grow by 20% in 2004 to \$1.7 billion, estimates a Teva Pharmaceutical Industries executive.

According to him, pharmaceutical exports grew by 26% in 2003 to \$1.4 billion. Sales by overseas subsidiaries of Israeli companies grew by 15% to \$1.5 bil-

lion.

Domestic sales rose by 2% to \$435 million. Total domestic and overseas pharmaceutical sales rose by 19% in 2003 to \$1.83 billion. Imports rose by 10% to \$729 million. This includes a 9% increase in drugs for human use, to \$566 million.

Israel's pharmaceutical industry invested \$160 million in R&D in 2003, excluding grants from the Office of the Chief Scientist, 36% more than in 2002.

Firewall Protection for Paper Documents

CrossID, an Israeli startup founded by two engineers previously employed by the telecommunications equipment provider RAD Group, is an innovative, chipless RFID system that can protect sensitive documents, such as intelligence agency reports, financial securities and banknotes. The technology could also be used to create a "hands-free" bar code.

The system uses "nanometric" materials—tiny particles of chemicals with varying degrees of magnetism—that resonate when bombarded with electromagnetic waves from a reading device. Each chemical emits its own distinct radio frequency, or "note," that is picked up by the reader, and all the notes emitted by a specific mix of different chemicals are then interpreted as a binary number. Since the system uses up to 70 different chemicals, each chemical is assigned its own position in a 70-digit binary number.

The tiny chemical particles can be embedded in or printed on paper. Readers can be placed inside copy machines to prevent unauthorized copying. One application would be to require that any document printed on CrossID's special paper be photocopied onto the same type of paper. That way, an intelligence agency, financial institution or even a company wanting to protect its intellectual property could install readers at building exits to prevent unauthorized people from copying documents and leaving the building with them.

Co-founder Moshe Glickstein noted that "previously, there has been no way to protect paper documents. We have created the first firewall for paper documents."

CrossID's technology can be used for applications beyond document protection. It can be used against counterfeiting and for the tracking of goods.

Glickstein says CrossID's big advantage is that the tag

can be printed on just about anything. "Because it's printable, it does not complicate the process of producing the product," he says. "It's as easy to create as a printed bar code. And we can print in invisible mode for extra security. Printing the tags cost less than 1 cent each."

CrossID has built a laboratory prototype reader and proved its concept. It is now in the process of raising \$15 million in funding to create its first commercial products.

Glickstein says that by the end of the year, the company should have its document-protection system ready. A year after that, the system for printing bar codes should be commercially available.

Formula Telecom to Float in Singapore

Formula Telecom Solutions Ltd. (FTS), a subsidiary of Israeli Formula Vision Technologies, will float shares on the Singapore Stock Exchange, be the first Israeli company to offer shares on the East Asia market.

FTS, which makes billing and customer-service software for phone companies, intends to raise \$25 million-\$30m, selling 25-30 percent of its shares on the Singapore market, Formula Vision declared. Reports said the IPO would be completed in June or July. The company has chosen a leading Singapore investment bank to issue the shares.

The company, which owns 51 percent of FTS, said it values FTS at \$10m. The subsidiary will probably post net income of over \$4m. for 2003, it added.

FTS sees the offering of its stock in Singapore as a launching pad to help sell products within the region, and hopes to capitalize on the growth spurt in the country's capital markets.

Singapore's benchmark All-Equities Index has risen some 60% since March 2003.

Herzliya-based Formula Vision was spun off from software holding company Formula Systems two years ago in exchange for \$80m. in debentures. In December, Formula bought back 60% of the company in exchange for about \$35 million in debt that Formula Vision owed.

Formula Vision has holdings in 16 closely-held companies, including Babylon, a maker of translation software. As we closed out this issue we learned that the company succeeded in raising \$20 m.

Computer Aided Hip Replacement Surgery

Orthopedic surgeons at Hadassah University Hospital-Mt. Scopus in Israel have performed hip replacement surgery with the assistance of a computer navigation system.

Hip replacement is considered the treatment of choice for painful, end-stage arthritis and more than 150,000 procedures are performed in the United States each year. Hip replacement, a significant and complex orthopedic procedure, is increasingly in demand as populations age and the hip joint becomes more brittle.

Zimmer and Medtronic - developed the hardware and software for the operation and they chose Hadassah to perform the surgery because of its orthopedists' expertise in computer-assisted surgery, including the removal of shrapnel from the bodies of terror victims.

Israeli Technology Assists the Disabled

An Israeli company Galileo Mobility, has developed a wheelchair, which could offer millions of people with severe physical disabilities new levels of freedom and independent movement.

The new wheelchair, created by Galileo Mobility Instruments, will allow for quadriplegics and others with severe disabilities to go for walks in the country, have picnics on the beach, enter and exit the car alone, reach high shelves, climb and descend stairs unassisted, and even to lower themselves to the floor to play with their children.

The innovation behind the invention is a new kind of wheel- the "Galileo Wheel". The track and tire, which make up the wheel can transform from a wheel to a track to a stair climber as the need arises. "There are so many vehicles, like tractors, all-terrain vehicles, tanks, and snowmobiles that have tracks rather than wheels, and yet they only need that track for specific short periods. The majority of the time they could use wheels, which are far more efficient and comfortable. Track causes a lot of problems," explains Avishay Novoplanski, one of Galileo's founders .

Novoplanski together with Gil Michaeli developed the technology behind the new wheelchair. The

two men began work on the project while they were still studying. Novoplanski, who is 38, studied industrial design engineering at the Bezalel College in Jerusalem, while Michaeli, 32, studied engineering at Zur Industrial University in northern Israel.

The wheelchair, which is still at the prototype stage. is Currently, powered wheelchairs enable users to lower or raise themselves into a specially adapted car, go up and down curbs, and to climb stairs with the aid of a handrail.

Galileo's electronic wheelchair is the same dimension and weight as the standard powered wheelchairs but lets users go over obstacles and all types of terrain and climb stairs facing the direction in which they are going. It does not require a handrail or any other type of assistance. It can also tilt the user to a standing position, or to a reclining position.

"You can control the wheelchair by the zip and puff system, with just a straw in your mouth," Michaeli said. "It does not require any movement from your upper body or hands." Michaeli believes that some manual wheelchair users will buy a Galileo chair for vacations or for leisure purposes such as walks in the countryside. "With our wheelchair they can very easily reach anywhere," he says.

High-Tech Rooted Military Units Provide Hi-tech Leaders

The "Talpiyot" program is perhaps the best reflection of the army's technological drive. The unit, one of the most selective in the military, was formed in the wake of the 1973 war, when Israel was caught off guard and lost some 2,500 of its soldiers.

In Israel, where military service is mandatory, more than 5,000 young people apply yearly for service in Talpiyot. Of these, approximately 50 are eventually accepted. At the outset they are tested extensively for their knowledge in math, physics, group dynamics, leadership skills and intelligence.

Those who survive elimination go on to careers as officers in some of the military's most prestigious operations, mostly in research and development projects. From there, the 500-odd Talpiyot grads have tended to find their way to the upper echelons of business and academia, he said.

"You learn self-confidence, not to be afraid of anything. No subject is too complex to go after, and no answer should be taken for granted," said a Talpiyot



grad. The Nasdaq-traded biotech company Compugen was formed by three of Almogy's Talpiyot comrades. A fourth, Mor Amitai, now runs the company.

Amitai says some of the most complicated work he ever did was during his time in Talpiyot. "The experience of sometimes succeeding, almost always as part of a team, involving something that really seemed impossible, I think this is something we took with us," he said.

Lotem, is another highly secretive unit. It is active in all aspects of telecommunications. Like Talpiyot, it is highly selective. Many of its soldiers studied engineering entering the military. Others are trained by the army as programmers or technicians. The unit encourages soldiers to take calculated risks and not be afraid of failure. "Lotem," is reputed to be one of the army's secret units that have turned Israel's military into an electronics-warfare source of power. They also serve as incubators for Israel's high-tech industry. Lotem, it is known, manages the military's computer and communications systems.

El-El installs Flight Guard system on Boeing 767s

Israel Aircraft Industries' (IAI) Flight Guard anti-missile system for civilian airliners reportedly has passed the development stage and is currently being installed on El Al (TASE: ELAL) passenger jets.

El Al recently has purchased the first systems from IAI subsidiary Elta Electronic Industries. Initial installation

of the system on El Al's Boeing 767s is expected to end within two months.

The estimated cost of one system is several hundred thousand dollars, which means that two systems will probably be installed initially. The Ministry of Defense, which will pay for the purchase of the new systems, has budgeted NIS 6 million for El Al's purchases.

The Elta defense system has been installed already on 160 planes in 12 countries. The system has been installed on Israel Air Force Blackhawk helicopters, cargo planes all around the world, and jets for VIPs and heads of state.

Elisra wins \$250m EW Contract for Israel Air Force F-16I

Elisra Electronic Systems has begun deliveries of electronic warfare (EW) systems for Israel Air Force (IAF) F-16I jets. The contract is estimated to be worth \$250 million for deliveries through 2008.

The new EW systems are designed to defend the planes against heat-seeking and radar-guided missiles. Elisra chairman and CEO Danny Biran said, "This is an advance EW suit, and the first of its kind in the world. This sophisticated system uses the missile engine's heat signature to identify and locate missiles fired at the plane."

The new system is automatic, and does not require the aircrew's intervention. Elisra developed the system over three years. It will jointly offer similar systems for civilian aircraft with Rafael in the coming years.

BiondVax to raise \$4m for Flu Vaccine

Israeli start-up BiondVax Pharmaceuticals has opened its first financing round to raise \$4 million. Founded in 2000, BiondVax hopes to raise the capital from private investors and venture capital funds. It will use the money to finance human clinical trials of a revolutionary intra-nasal flu vaccine, a cheap, multi-year vaccine effective against several flu strains. The vaccine is in the advanced research stage.

Prof. Ruth Arnon has been developing the vaccine for 20 years. She also developed Teva Pharmaceuticals (Nasdaq: TEVA; TASE:TEVA) Copaxone. BiondVax founder and CEO Dr. Ron Babekof said the company's business model called to reach Phase II human clinical trials in 2006 at a cost of only \$4 million. "If this stage succeeds, we can link up with a major strategic

partner to carry out Phase III clinical trials. The strategic partner will pledge additional resources and register the vaccine worldwide."

First two F-16I aircraft Land in Israel

The first two F-16I jets landed in Israel at the Ramon Israel Air Force base in the Negev. The two planes flew from the Lockheed-Martin plant in Forth Worth, Texas, , and after a stopover in Europe they will continued their flight to Israel.

Israel will receive 100 more F-16Is over the next five years. The IAF will establish four squadrons of F-16Is, which the IAF has names "Sufa (Storm). When deliveries are completed, the F-16 will constitute the majority of IAF combat jets, forming the IAF backbone, along with the F-15.

The F-16I procurement was the largest defense deal in Israel's history, at an estimated \$4.5 billion. When the deal was signed, the plane's chief contractor, Lockheed-Martin, committed to make \$1.45 billion in reciprocal procurements, and already made \$1.1 billion by the end of 2003.

\$600 million of the reciprocal procurements were channeled to Israeli subcontractors of the F-16I which the IAF has names "Sufa (Storm). When deliveries are completed, the F-16I will constitute the majority of IAF combat jets, forming the IAF backbone, along with the F-15.

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Pipeline Security System Launched

Magal Security Systems, Ltd. (Nasdaq: MAGS; TASE: MAGS) announced the launch of a new pipeline security system, known as PipeGuard.

The company said in a statement that at the end of 2002, there were an estimated 3 million miles of unprotected oil and gas pipelines worldwide, out of which 2 million miles were in the USA alone. "Although the need has been strongly recognized by the oil and gas industry for years, and in spite of increasing threats since the 9/11 events and current instability in Iraq and elsewhere in the Middle-East, there is no effective solution for securing buried pipes against damage caused by terror attacks, sabotage, theft or other third party threats," Magan stated. PipeGuard uses Magal technology to guard buried pipelines, regardless of pipeline length, with the ability to detect potential attack, and alert authorities before potential harm or damage occurs.

Magal stated that the target market for the product, which is patent-pending, includes oil and gas companies, owners and operators of pipelines or communication cables, and government agencies dealing with security and the environment.

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- Vision guidance systems for robots
- Monoclonal antibody
- Insulin core diagnostic kits
- Telecom systems which double or quadruple telephone line capacity

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