

# ISRAEL HIGH-TECH & INVESTMENT REPORT

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## Medical Research at Hospitals is Booming

In the January issue of *IHTIR*, an article detailed the international clinical trials of a genetically engineered substance based on medicinal leeches. The new substance promises to bring improvement to patients who have suffered heart attacks. These clinical trials are carried out at two local medical centers, and are an example of the hundreds of such trials carried out annually at Israel's large medical centers. In the past year alone, 120 trials have been conducted at Sourasky in Tel Aviv.

Why are Israeli hospitals chosen by multi-national pharmaceutical giants or international venture capital funds, in addition to centers in the USA, Germany, France or Switzerland?

The answer is straightforward. It is Israel's quality of medicine and medical practitioners, which is on a par with the best anywhere.

However, there may be an extra reason, namely that research at Israeli hospitals is less expensive than at other medical centers, according to Dr. Itamar Shalit, Deputy Director of Research and Development, Tel Aviv Sourasky Medical Center.

In America, the National Institute of Health has fully funded 70 research facilities. These units often incorporate labs in separate buildings, where every expense is easy to identify. Included in the facility are the equipment, the materials, the wages of the researcher and lab assistants, and outside expert supervision. All these costs are used in calculating a budget.

By contrast, much of Israeli medical research is carried out in hospitals. At Sourasky, for example, there are 34 clinical departments and eight institutes, all served by laboratories scattered throughout the hospital.

The medical research labs are on the hospital's premises and the doctors, specialists and technicians involved also have access to them. When a researcher or doctor orders a test through the laboratory, it is usually the research project that is charged for the service. The cost may be somewhat less than if one employed a private facility outside. However, Uzi Eshel, president of Argomed Ltd., an Israeli medical device development company that is sponsoring clinical trials in Israel and England, is not

convinced that there is any special price advantage. How about the the cost of the researcher? According to Dr. Shalit, academic researchers working on a million-dollar clinical trial may accept remuneration below the going rate. This happens when an academic or a physician /academic is paid by the hospital and by a university. The academic who publishes his research based on clinicals has access to external educational funds which pay him at a rate substantially higher than his academic salary. Under these conditions, the academic may accept less than the going rate from the clinical trial research budget. Professor Zvi Braf, Chairman of Surgery and Chief of Urology, insists that costs in Israel are equivalent to those overseas.

It is a case of everyone being a winner - the customer, the sponsor of the research, the Israeli hospitals, its doctors and patients. Clinical trials use the most up-to-date techniques. Geographical barriers between practitioners are breached, and knowledge is freely exchanged. The knowledge gained finds its way to the patient, who is able to benefit from the latest techniques.

Since there is a continuous demand for clinical trials, we would suggest that hospital administrators consider joining with foreign investors and establish bodies to market the clinical trial capabilities of hospitals. This could become an important additional source of income for medical facilities at a time when international medical costs are soaring along with demand for high-quality medical service.

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Capital Market

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### **Can a Small Israeli Company Penetrate a Massive World Market?**

"I wouldn't be here if I didn't believe that Gambit will develop rapidly," says Reuven Gamliel, 44-year-old founder and president of Gambit Computer Communications Ltd., Yokneam. At this point in time the company is small, with 60 employees and a six-year track record. But it is supplying a sophisticated product for Local Area Networks (LAN) - a \$4 billion a year market that is growing 35% annually.

#### **The Gambit concentrator**

The concentrator is a box the size of a microwave oven, and handles single or multiple LAN applications connecting up to 156 workstations. The concentrator may be connected by fiber optic cable to other concentrators in the same or adjoining buildings. In the Sony buildings in Germany, 50 Gambit concentrators connect 2,000 workstations in seven buildings. In addition to the connectability, users are offered a total-solution management system. This allows for control of the LAN, and even generates statistical reports.

The Gambit concentrators are said to be unique in that they are suitable as turnkey solutions for IBM customers and users of IBM protocols, as well as for users of leading-edge computer architecture such as Switched and Fast. The older, traditional market consists of Ethernet, Token Ring and FDDI protocols. Gambit supplies its product for all these modalities.

Can another novel technology make Gambit's product obsolete? *IHTIR* asked Reuven Gamliel. "New protocol developments in this field are known well in advance of their appearance on the market. There is time for our research and development teams to try to maintain our edge," says Gamliel.

#### **Marketing and distribution**

Gambit's GamOptics System 9000 is installed in various LAN projects in Europe, the USA and the Far East, successfully competing with industry leaders. Marketing is carried out through distributors or multi-national systems integrators.

#### **New developments**

Gambit is still a relatively small company, but has stepped up its research and development to over \$650,000 a year. It is positioning itself to enter the high-speed networking market by supplying Ethernet Switches and fast Ethernet interfaces.

Its corporate philosophy is to work with existing or new partners in order to define new features or conduct joint research and development aimed at creating new technologies. It is actively seeking corporate partnerships.

#### **Financing**

Gambit has obtained \$13 million in public and private financing. In February 1993, it had an IPO on the Tel Aviv Stock Exchange. It has issued shares and convertible options since its establishment in 1988. Private investors include venture capital funds from Israel and Europe.

#### **Sales**

Since 1991 the company's sales have grown steadily.

	Sales in \$ millions
1991	1.1
1992	2.4
1993	3.7
1994	7.0 estimated

#### **Profitability**

The company reported its first profits in Q3 1993. Quarters one and two in 1994 were unprofitable, but 1994 Q3 was profitable and Q4 was in the black. No one is predicting a steady flow of profits in 1995, but the outlook is generally optimistic. The status of "emerging growth company," however, rides on a record of rising annual sales. If Gambit continues to turn a profit over the next year, it will indicate that this status has been truly earned.

At the top of the bull market on the TASE, early in 1994, the company enjoyed a market valuation of approximately eight to nine times its current valuation of \$3.5-\$4.0 million.

#### **A peace dividend**

Chinese Minister of Electronics Quili Hu extended an invitation to Israeli electronics manufacturers to cooperate with companies starting to operate in the newly opened Beijing Science Based Industries Park. An Israeli Electronics Industry representatives reported that there is interest on the part of the Chinese in creating joint ventures, especially in the telecommunications industry. Minister Quili Hu reportedly promised to open the Chinese market to products and technologies which will result from joint efforts. (Ed. note: It is unlikely that the Chinese will invest in joint ventures to be based in Israel. However, there is the possibility for cooperation which will include the use of Israeli technology, highly respected by the Chinese, joined with Chinese manufacturing skills and third party marketing. A number of such projects are in operation in China.

#### **Baxter to market Israeli blood safety device**

Israeli healthcare technology obtained a boost when Baxter Healthcare Corporation - a subsidiary of the multi-national American Hospital Supply Corp. - contracted to market a locally developed device which protects individuals handling donor blood

from AIDS or other infectious diseases.

Baxter Healthcare Corporation, which sold a producing plant in Ashdod to Teva Pharmaceuticals, has signed a multi-year contract with Kiryat Shmona-based Migada, a Teva subsidiary, to obtain the device.

The contract calls for a minimum 30 million units at \$1 a unit to be supplied in the first three years. David Jonas, Baxter Healthcare vice-president, concluded the deal during a recent visit to Israel. Jonas confirmed that Israel is Baxter's largest customer in the Middle East, and that the company considers Israeli technology highly innovative.

#### **Factor in blood vessel growth identified**

A key factor in the growth of new blood vessels - essential to the development of both normal and malignant tissues - has been identified in a Weizmann Institute study published in the December 16 issue of *Cell*.

With tumors, the formation of new blood vessels allows malignant cells to proliferate, enter the bloodstream and travel to distant organs. The Weizmann team has found that a particular chain of sugar molecules, linked to a protein, plays a central role in this process. They are now attempting to design specific inhibitors of this chain to retard blood-vessel formation around tumors, and thereby limit their size and prevent metastasis.

#### **Teva prize for gene deciphering**

The 1994 Teva Pharmaceutical Prize was awarded to a Weizmann Institute scientist, Dr. Levy Ulanovsky and his team, for developing a method that may speed up gene deciphering 20 to 50 times, while drastically reducing the cost.

With existing methods of gene deciphering, or DNA sequencing, special pointers called primers must be produced at regular intervals to define the starting point for "reading out" each subsequent stretch of DNA. The primers are custom-synthesized anew in each case, which is costly and time consuming. The new technique eliminates the need for primer synthesis, thus making DNA sequencing fully automatic. Primers are assembled quickly from three "ready-made" segments selected from a so-called "library" rather than being produced each time from scratch. (Simply keeping all possible primers of a given length in stock would be impractical, since they number in the billions.)

Dr. Ulanovsky of the Institute's Department of Structural Biology developed this method with Dr. Lev Kotler, Dr. Dina Zevin-Sonkin, Dr. Irina Sobolev and Alexander Beskin - all immigrants from the former Soviet Union.

The savings that may be possible by using Ulanovsky's approach are all the more important in

light of the growing expenditures on DNA sequencing worldwide - currently about \$500 million a year, and doubling every 18 months. The approach may also greatly accelerate the multinational Human Genome Project, an ambitious \$3-billion, 15-year attempt to decode all human genes. This project is expected to have a major impact on the understanding and treatment of a wide range of conditions, from cancer and heart attacks to strokes and aging.

To continue his research, Dr. Ulanovsky recently received a three-year \$1.25 million grant from the United States Human Genome Program, which funds the Human Genome Project on behalf of the US government. In addition, the research is funded by the Rich Foundation, administered by the Israel Ministry of Science and the Arts.

#### **Aladdin to buy American security company**

Aladdin Knowledge Systems Ltd., a public company, designs, develops, manufactures and markets HASP, a family of proprietary products that combine hardware and software to prevent unauthorized use of computer programs. Its US subsidiary, Aladdin Software Security Inc., has just signed an agreement to acquire the software protection business of Micro Security Systems, Salt Lake City, Utah.

MSS designs, manufactures and markets the SecuriKey line of software security products, which protect software programs from unauthorized duplication. Sales last year were \$900,000. According to the agreement, Aladdin will acquire MSS's customer base and full rights to its product line for \$500,000. "This is a strategic decision as far as Aladdin's US sales are concerned," said Ami Dar, President of Aladdin Software Security, "and we believe it will enable us to continue Aladdin's penetration and growth in the US market."

#### **Elscent and US-based MRI business**

Elscent has signed a letter of intent to acquire Otsuka Electronics USA Inc. a privately held company based in Fort Collins, Colorado. Elscent, through its US subsidiary Elscent Inc., will acquire all of Otsuka's business assets, including its research and development, production, sales and marketing operations, as well as its existing customer base throughout the US.

At the same time, Elscent announced that the "Esteem", a 1.5 Tesla MRI (Magnetic Resonance Imaging) system produced by Otsuka, will be introduced at the 1995 Radiological Society of North America show in Chicago as part of the company's product line. The "Esteem" is based on a unique small magnet and a powerful active, shielded gradient system. The smaller magnet will enable a reduction in both site preparation and maintenance

**UPDATE**

# PHARMOS

## Conclusion: A Balanced Strategy Should Pay Off

Pharmos is concentrating on novel niche products such as its ophthalmic group. It clearly stays away from products which are being researched by other companies choosing to develop products based on its own technologies. Its work in developing central nervous system products creates an opportunity in that it offers larger companies the possibility to acquire from Pharmos advanced and novel research at an economic price.

Pharmos assets include rich products under development in its pipeline but a shortage of capital calls for extraordinary management measures to assure viability.

Recently it made corporate changes to consolidate operations and cut costs. These moves should materially reduce its annual cash burn rate of \$8 million. It operates research laboratories in Israel and has a development operation in Florida.

Pharmos is a public company with shares traded on NASDAQ/NMS under the symbol PARS. There are 14.5 million shares outstanding. In the past 15 months they have traded at a high of \$7.87 and at low of under \$1.00. Recently they have been trading near the lower levels. At this stage an investment in the Pharmos shares is warranted on the part of speculatively oriented investors.

## Background

Pharmos is an emerging pharmaceutical company specializing in designing and formulating novel drugs for the treatment of eye inflammation, glaucoma and central nervous system diseases, especially related to strokes and head trauma.

Distinguishing it from other biotechnology companies are its products, which are easily identifiable and in various stages of clinical development. Pharmos applies its own technologies to existing novel compounds and so speeds its products through discovery, development and regulatory approval, thereby reducing the overall development risk.

## Products

"Pharmos' mission is to develop innovative pharmaceuticals to provide significant efficacy and safety benefits as compared to currently available drug treatments," says Pharmos chairman Dr. Haim Aviv.

Pharmos' lead product, Lotemax, for the alleviation of eye allergies and inflammation, is a new soft, patented, topical corticosteroid. It appears as effective as, but is safer than, conventional or "hard" steroids. It uses a "site active" drug design concept. Lotemax does not elevate intraocular pressure (IOP) and reduces steroid related side effects. Lotemax has successfully passed Phase II clinical trials and a New Drug Approval request to the FDA is about to be filed. The approval could be granted early 1996. An agreement has been signed whereby Bausch & Lomb Pharmaceuticals will produce Lotemax. Marketing/distribution rights are being negotiated with a number of companies. The U.S. market for prescription steroid based ophthalmics is approximately \$125 million. Other less effective non-steroid drugs make up another \$250 million in annual sales.

Two glaucoma drugs, Adaprolol and Pilocarpine, currently under Phase II clinical trials, use the proprietary technology Sub-Micron Emulsion (SME), a formulation which improves the delivery of drugs not easily soluble in water. The drugs are in the form of tiny droplets which increases their distribution into tissue. This may reduce dosage requirement and the undesirable side effects related to many traditional therapies. Pharmos has initiated development of novel drugs to treat stroke and head injuries. One of these is

Dexanabinol which is intended to block brain edema caused by stroke or head trauma, and decrease the extent of brain damage by enhancing the ability to recover neurological functions.

One of the company's central nervous system drugs is in its early clinical development and is a patented conjugate of the hormone Estradiol to treat central nervous system symptoms related to menopause and estrogen deficiency which may be related to Alzheimer's disease.



Dr. Haim Aviv

Analysts Adele Haley and Richard R. Stover of the Life Science Advisory Group of Stover, Haley, Burns Inc. members National Association of Security Dealers, suggest "the validation of these technologies, confirmed by product approvals, should result in a flow of products over the next five years".

## Technology

Pharmos uses proprietary drug delivery technologies to improve the safety and efficacy of new and known ophthalmic drugs. By altering the chemical structure of the drug, Pharmos is able to design site-specific drugs which improve their therapeutic profile.

The company has also developed an innovative Chemical Delivery System (CDS) to deliver drugs across the Blood-Brain Barrier (BBB). The BBB's function is to prevent unwanted substances from entering the brain. Often, for drugs to reach the brain, high doses must be administered which can cause serious side effects. Pharmos' CDS is designed to attach an active drug to a carrier molecule which allows the active drug to be transported across the BBB at normal doses. Once in the brain, the drug and the carrier molecule slowly separate, allowing the drug to exert its effect.

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### Ophthalmology

#### Lotemax

Ocular Allergy  
and Inflammation

Filing NDA Q1 1995

#### Adaprolol-SME

Glaucoma

Phase II

#### Pilocarpine-SME

Glaucoma

Phase II

### Neurology

#### Dexanabinol

Head Trauma/Stroke

Phase I

#### Estradiol-CDS

Alzheimer's Disease

Phase I

*cont'd from page 3*

costs. The "Esteem" joins two other MRI products to be introduced by Elscint at the RSNA show: the "Prestige," a premium 2.0 Tesla MRI system, and the "Privilege," a super compact, ultra-light, super-conductive 0.5 Tesla system.

#### **Ear surgery removes brain tumor**

An Israeli man in his 50s was suffering a steady loss of hearing in one ear. Examination by computerized scanner showed that a tumor behind the nerve in his inner ear was pushing one centimeter into his lower brain. Two Jerusalem surgeons last month removed the tumor by operating through the ear rather than by opening the skull. This rare surgery was successful, and the patient's hearing has been restored. The unusual procedure was carried out by Prof. Y. Elidan, head of the Ear, Nose and Throat Department at Hadassah University Hospital in Ein Kerem, together with Senior Surgeon Prof. Felix Umansky. They drilled into the ear and, using surgical microscopy, opened the auditory canal to excise the entire tumor.

#### **Preparation to prevent hair loss**

The Tel Aviv Elias Sourasky Medical Center is participating in trials to determine whether an American preparation produced by Merck can keep men from losing their hair. The trials are being carried out under the supervision of Prof. Sarah Brenner, head of the hospital's Dermatology Department. The preparation is based on an enzyme related to testosterone, which is secreted by the hair follicle. The oral preparation is said to suppress the action of enzymes responsible for hair loss. Initial trials are being carried out on men from 18 to 20 who are suffering from the early stages of baldness. If these studies confirm the positive clinical results obtained in the United States, further tests will include women.

#### **The Eisenberg Group opens China**

At the Asia House in Tel Aviv, The Eisenberg Group of Companies is opening a center for the exhibition of products from China and the Far East, ranging from clothing to electronics and consumer goods. It is also offering to help Israeli importers deal with all the problems of sourcing supplies, overseeing their quality and assuring their arrival in Israel. The Eisenberg Group, which has maintained a physical presence in China for several decades, already supplies a similar service to importers in Western countries, and is confident that it can overcome any difficulties related to language and culture.

#### **DNA technology identifies ancient scrolls**

DNA technology is used in medicine, forensics and

many other fields. It is now being applied to the identification and piecing together of fragments of the Dead Sea Scroll, dating from the Second Temple and Roman era, more than 2,000 years ago. Thousands of fragments of these scrolls could not be identified by calligraphy or texture analysis.

But the scrolls were written on animal skins, and modern DNA technology can match up even badly degraded organic material. Each fragment bears the genetic "signature" of its biological parents. A group of Hebrew University researchers joined by a researcher from the Brigham University are busy on a pilot project focussing on 13 fragments.

#### **Motorola Israel assigned new responsibilities**

Motorola Israel is a leading high-tech manufacturer of agricultural irrigation products based on computer technology and telephones. The local company has been appointed by the computer division of Motorola Europe to serve as the Regional Office responsible for sales in the Mediterranean Basin and Persian Gulf countries.

#### **American computer giant orders Israeli jets**

Hewlett-Packard, the second-largest computer company in the United States, has agreed to purchase two executive jets.

The executive jets are produced by Israel Aircraft Industries and are sold under the Astra label. They are long-range, high-speed and cost-effective aircraft which have won more world speed records than any other business jet in this category.

The contract was won in competition with other leading business jet producers.

Hewlett-Packard is an important supplier of computers to Israel. It also buys various products from Israeli manufacturers. Figures from last year are expected to be at 1993 levels, when HP purchased \$50 million worth of Israeli electronic components such as computer chips from Intel, Tower, Orbotech and Vishay.

#### **Three years of prosperity and then ...a sharp fall in 1994**

The value of all mutual funds at the end of 1994 totaled NIS 18.9 billion, declining from NIS 37.1 billion, since January 1, 1994. The change is explained by record redemptions of NIS 11 billion and a drop in value of NIS 7.2 billion. In US dollar terms, the value of mutual funds fell by nearly 50% from \$12.41 billion to \$6.25 billion last year. Long-term investors should be looking closely at the Israeli market, as it now appears undervalued. Accompanying the fall, there has been a shift in the weights of various holding, with a drop in shares and an increase in convertible debentures and debentures linked to the cost-of-living index. While in 1994 mutual funds declined by 22% on the

average, long-term investors were not complaining. The reason can be seen by looking at the earlier performance of one of the share funds chosen at random. Gains for Mivneh were 1993 + 54%, 1992 + 90% and 1991 + 43%

In spite of the fall in the total assets of mutual funds, 29 came into existence in 1994, half specializing in shares.

#### National Consultants report low valuations on TASE

A Bank Leumi report basing itself on a National Consultants study indicates that over 70% of the the Tel Aviv Stock Exchange companies are trading below their economic value. This opinion was based on a study of the ratio of market value to equity value. The bankers' conclusion was that the situation is temporary, and that it is a good time for long-term investors to consider increasing their share holdings.

#### The Capital Market

These are some of the events which will shape the share market in 1995. The cost of living index for 1994 was up 14.5% - well above the government's 8% estimate of a year ago. Popular predictions are that 1995 will see a less drastic rise. In spite of a

solid advance in the Gross Domestic Product, which rose 6% last year, the threat of inflation forced the hand of the Central Bank, and it raised interest rates.

Overdraft rates are high, with some banks charging as much as 30%.

Since the voting into law of a capital gains tax, the measure has been generally accepted. But the details of its administration are still unclear, and there is parliamentary opposition to its being applied in its present state. In the meantime, investors have moved away from the market.

The month of January, until the fourth week, has not been as auspicious as it was in 1994. On January 20 the Mishtanim 100 most popular share index was down from 170, on January 1, 1995 to 159. In the process, daily share turnovers have dropped to \$15-\$17 million a day, while in January 1994 the turnovers were at \$150-\$170 million. High interest rates and the tax question are already reflected in the share market, but there has been an "overshoot" nonetheless.

"The factors built into this market do not justify its

current position," says Nizza Rouso Shtauber, deputy general manager of Ofek, Israel's largest portfolio management firm with more than 5,000 clients and \$1.25 billion under management. For a future rebound she looks to bank and chemical industry equities. Banks because of the high interest rates and chemicals because of the international upward trend in prices. She would keep away from electronics, a sector which is not benefiting from the strong and stable performance of the shekel. The electronics firms mainly sell for export. With interest rates for shekel deposits offering returns of 14%, Bank of Israel shekel loans at 15% and straight bonds yielding over 17%, investors have enough areas to concentrate on until the share market shows signs of recovery.

#### Into space in 1996

Only one year from now the TAUVEK space telescope will be put into orbit. The name is an acronym for Tel Aviv University Ultra Violet Explorer. The telescope is intended to survey ultraviolet radiation issuing from celestial objects, and is the work of Tel Aviv University astronomers. TAUVEK is a joint venture of the university, the

Israel Space Agency and the Ministry of Science & the Arts, and is being built by a leading Israeli high-tech company, Electric-Optical Industries. It will be launched on board the Russian-built international Spectrum Roetgen-Gamma Observatory, the largest multi-wavelength space observatory ever flown, carrying experiments from the US, the UK, Italy, Switzerland, Denmark, France and Finland.

#### Gambit's products to be distributed in Morocco

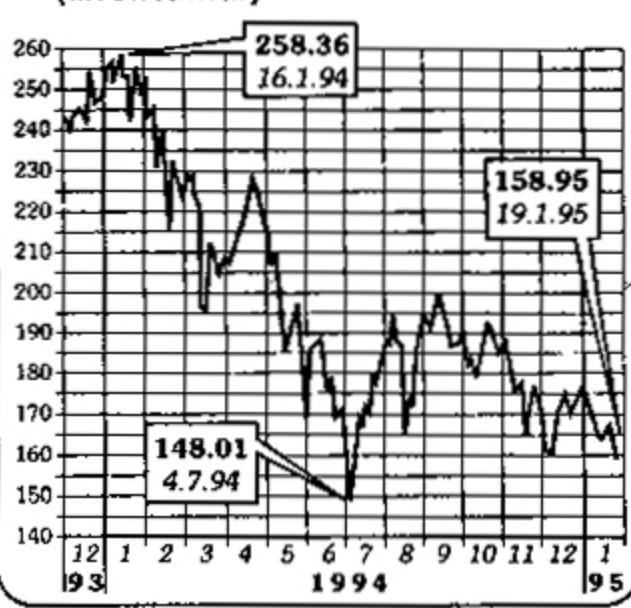
Gambit Communication Ltd. has signed a distribution agreement with the Moroccan company Sigmatel. Gambit's products will be offered to Moroccan users of

IBM environment computers and Local Area Networks. Sigmatel used Gambit's Parisian showroom before undertaking the distribution agreement. Orders have already been placed with Gambit.

#### Dunn&Bradstreet (Israel) in Arab countries

Dunn and Bradstreet has announced that it will begin to market its trade publications in Arab countries. Among the Israeli publications which will be

Two Sided Index (Mishtanim)



presented for sale is *Dunn's 100*, which includes the 100 leading Israeli corporations. Impressed by developments at the Casablanca Conference, Dunn's Israel managers decided to market these products to all Arab countries, but especially to Morocco, Jordan and Egypt.

#### ***ECI Telecom subsidiaries to purchase up to two million shares***

Followers of ECI Telecom were duly impressed with the recent notice that the company's American subsidiaries have adopted programs under which they will purchase, at their own discretion, up to two million ordinary shares of ECI Telecom Ltd. The announcement came after the company's shares declined to \$11 from a January 1994 level of \$24. In the days following the announcement, the shares rose to \$13.

#### ***ECI wins Finland contract***

The company has been awarded a first-time contract by the private telephone companies of Finland for \$5 million of its Synchronous Digital Hierarchy equipment, including multiplexers. This equipment is already installed in a number of countries including Germany, UK and China, among others.

#### ***Vishay expanding Israeli presence***

Vishay Intertechnology (NYSE:VSH), which manufactures resistors, is expanding its Israeli presence. Through Vishay Israel it owns three factories, and a new one is being completed in Migdal Haemek at a cost of \$100 million. Sales for the new facility are expected to reach \$23 million in 1995, and \$250 million by 1998.

#### ***Telegraph raises additional capital***

Telegraph Communications, publisher of the daily newspaper *The Telegraph*, has closed a private placement which realized \$2.3 million for a package of bonds and warrants. The company is public (NASDAQ:TELG).

#### ***EduSoft in contract with Bertelsmann***

EduSoft, (NASDAQ:EDUSF) a subsidiary of the electronic teaching system company Degem Systems, has signed a contract with the giant German publishing company Bertelsmann. As a distributor, Bertelsmann is undertaking to sell a minimum of \$445,000 worth of EduSoft's multimedia product for teaching English in Austria, Germany and Switzerland. EduSoft expects that the contract figures will be exceeded, significantly increasing sales, which have been rising sharply in 1993 and 1994 and have reached the \$10 million level. Though the contract is relatively small, management believes that the German-speaking market represents a vast

potential for EduSoft's products.

EduSoft became a public company in the summer of 1992. Its initial public offering raised \$2.3 million. The shares were recently trading at \$7, down from a 52-week high of \$19.

EduSoft develops, manufactures and markets computer software, educational software and computer software analysis and design systems. Bertelsmann is one of the world's largest publishing companies, with yearly sales of approximately \$12 billion.

#### ***Orbotech's boom in South Korea***

Orbotech (NASDAQ NMS: ORBKF) has increased its annual sales significantly through its South Korean office. Far East sales, excluding Japan, now account for more than 22% of total sales. In 1994, Orbotech sales were above \$115 million, with \$6 million generated by the Seoul office, according to Managing Director Zvi Lapidot.

Orbotech manufactures a line of electro optical systems for the automation of the printed circuit industry.

#### ***Teva spends money on neurological research***

Teva Pharmaceutical (NASDAQ:TEVIY) spends approximately \$45 million a year on research and development. More than half the budget is being spent on neurological research, since the company is working on several innovative products to treat central nervous system disorders. These include Copaxone for the treatment of Multiple Sclerosis and products for the treatment of Alzheimers and Parkinson's diseases.

#### ***Healthcare to distribute in Russia and Turkey***

Healthcare Technologies, the public diagnostic kit company (NASDAQ:HCTLF), has signed distributorship agreements for Turkey and countries of the Commonwealth of Independent States. Dr. Yeshayahu Yakir, Healthcare's CEO, estimated that the Commonwealth agreement would result in \$1.0 million the first year, while the Turkish distributor alone would generate \$640,000 in the first three years.

The Ashdod-based firm produces kits for the detection of infectious disease. Among others, it supplies a rapid diagnostic kit for the detection of the AIDS HIVSAV 1&2 antibodies.

#### ***Corrective surgery for penile defect.***

A novel surgical technique using a mucous membrane from the mouth is available for male babies at Hadassah Medical Center in Jerusalem. The procedure is used to correct problems of urination encountered in hypospadias, which is an inherited condition that interferes with proper urination, and

later in life with proper sex function. When a child is born with this defect, the urine exits below the normal opening, sometimes as low as the scrotum. Urological surgeon Dr. Hezi Landau learned the procedure in Canada. It involves rebuilding the damaged urethra when other procedures have failed. The mouth membrane heals quickly and is not prone to infection.

#### **Bone marrow transplants for leukemia**

Over the past eight years, Prof. Yair Reisner of the Weizmann Institute and Prof. Massimo Marelli of Perugia University in Italy have developed a method that may significantly improve the likelihood that people with leukemia will receive potentially life-saving bone marrow transplants from unmatched donors.

Successful bone marrow transplantation (BMT) requires certain characteristics of the donor and recipient's immune systems to be closely matched to avoid rejection and other complications. Fewer than 30% of leukemia patients have matched donors among their siblings, and only 3% - 5% find a matching relative. The establishment of large BMT registries has increased the success of transplants between unrelated individuals, but many still fail to find appropriate donors.

By eliminating the need for very close donor-recipient matches, the new approach should make BMT available to all who need it.

A report on the first 17 leukemia patients treated with the new approach in Prof. Martelli's clinic appeared in the December 1 issue of *Blood*. Donor marrow from family members who were not entirely compatible with the recipients - all in the terminal stages of leukemia - was successfully implanted in 16 of the 17 patients, six of whom were alive and free of disease three to 16 months later.

Until now, patients received powerful drugs and radiation treatments to wipe out both their immune system and the diseased bone marrow, and were then given an infusion of marrow which would hopefully create a healthy blood system and thus cure the disease. However, despite pretreatment, many patients maintained residual immune reactions that recognized the transplanted marrow as "foreign" and rejected it.

This problem has been solved by Reisner and Martelli by administering "megadoses" of donor marrow, which appears to give donor cells an edge in the competition with recipient cells, thus minimizing the risk of rejection.

The Reisner-Martelli treatment can be modified to treat non-cancerous blood disorders as well. However, results of further clinical trials will determine whether the megadose treatment lives up to expectations.

#### **Daewoo negotiating Israeli production**

Koor Industries and the South Korean conglomerate Daewoo Corporation are negotiating joint production of agricultural machinery at Soltam. The latter is a factory in Yokneam which used to manufacture artillery for local and overseas markets. As defense business declined, Koor began to concentrate on converting the plant for agricultural and other non-military products.

The joint venture will concentrate on developing countries in Africa.

#### **Nexus licenses Samsung Electronics**

Nexus Telecommunications System Ltd. (NASDAQ: NXUSF) and Samsung Electronic Company have signed a licensing agreement according to which Samsung will develop and manufacture two-way pagers for the NextNet communications and location wireless network developed and produced by Nexus. The NextNet network piggybacks on existing paging networks to allow cost-effective two-way messaging services (two-way paging, machine and industrial monitoring and remote meter reading), along with location services (automatic vehicle location and monitoring services). Haim Harel, Nexus president, said: "We have found in Samsung, our first licensee, not only an excellent and experienced developer and manufacturer of pagers (Samsung assembles more than 1,000,000 pagers a year), but a development team which deals with wireless devices including transmitting devices such as cellular telephones. Therefore we can also benefit from Samsung's comprehensive knowledge base in wireless transmission technologies, since it is very applicable to our two-way paging devices."

No financial details were disclosed.

Nexus was founded in 1991, became a public company in June 1994, and is affiliated with BVR Technologies, an Israeli high-tech public company. Nexus has a joint venture program with American Paging Inc., one of the world's largest paging carriers, and will have a beta site in place by mid 1995 for two-way messaging capabilities.

#### **BioTechnology General positioning human growth hormone**

The company's HGH received product approval in Sweden, and in Germany HGH sales began. Genentech's complaint against BioTechnology was dismissed. It asked that BioTechnology be stopped from importing HGH into the US. For 1994 the company's revenues exceeded \$15 million, but it was an unprofitable year. As of the end of October, the cash position was \$18.5 million which is less than one year of budgeted expenditures.