

ISRAEL HIGH-TECH & INVESTMENT REPORT

A MONTHLY REPORT COVERING NEWS AND INVESTMENT OPPORTUNITIES
February 2005 Vol. XXI Issue No.2

JOSEPH MORGENSTERN, PUBLISHER
You are invited to visit us at our website: <http://ishitech.co.il>

The Breeze of Peace and a New Central Bank Governor

The breeze of peace currently blowing through the Middle East could prove to be as illusory as the hopes that maintain its momentum. Chairman of the Palestinian Authority Mahmoud Abbas in his well publicized statement said "the Palestinians extend hands to our neighbors. We are ready for peace based on justice. We hope that the Israeli response will be positive".

However, before we allow ourselves to be swept away as the media reported expressions such as "the promise of a new era", or "a precious opportunity", we can not help but notice discrepancies between contradictory statements.

On the one hand, Abbas has been called "a 'moderate' and 'a strong and courageous opponent of violence'". On the other, he has been photographed during the pre-election activities on the shoulders of wanted terrorists and, the London-based daily Al-Quds al-Arabi, reported his funneling of at least \$100,000 to wanted terrorists during the campaign.

Abbas well known as a Holocaust denier. He has denounced "the Zionist enemy" and has promised a mass Palestinian return' to Israel.

Yet, as long as the disengagement plan is on track no longer a unilateral plan, but seen as belonging to both sides, the Palestinians have an incentive to maintain a calm atmosphere. Whether the Palestinian Authority can impose restraint is doubtful.

If the Israeli reaction is one of skepticism it is small wonder. The rockets continue to be fired on the Gaza area settlements, and violence along the borders has not stopped. Israelis continue to be maimed and killed.

Perhaps the most surprising development has been the welcome appointment of Prof. Stanley Fischer to the post of the Governor of Israel's Central Bank. Prof. Fischer, rightly so, is seen as one who will not

bend to political pressures. More importantly Israel will gain from his economic acumen and international connections.

Indications are that new substantial investment funds will flow into Israeli high-tech industries as well as into the Israeli Stock Exchange, which is regarded as a promising emerging market. The only positive reaction has come from Tel-Aviv Stock Exchange investors. The

<http://ishitech.co.il>

The Breeze of Peace and a New Central Bank Governor
Stanley Fischer Accepts Appointment as Bank of Israel Governor

Genetically Engineered Spider Silk Fiber in Insect Cells
Remon Medical Raises \$26m.

Retalix Enters France

BIRD-F invested \$17m in 2004

Intel Boosts Investment in the Digital Home

High Tech Crisis is Over

Israeli Companies on Wall Street

Israeli Invents Earthquake Detector

Teva Backs Transpharma's Drug Delivery Platform

OECD Increases R&D Spending

Adamind wants to Float

Keryx shares soar after successful Phase II trial

Hebrew University professor profiled by 'Nature'

Most Active Israeli VC Funds in 2004

VC Indicator: VC funds to raise more, valuations to rise

Novel Technology for Identifying Explosives

Supercom Obtains Contract for Biometric visas

SanDisk acquires MDRM for \$15m.

S&P Upgrades Israel's Debt

CommTouch Reviews- The Year of Spam

IDE Technologies to set up Desalination Plant for Kalpakam

local stock market has been an excellent performer and since 2003 has added 83%. Massive turnovers have been accompanied by impressive price gains.

Prof. Stanley Fischer Accepts Appointment as Bank of Israel Governor



Prime Minister Ariel Sharon and Finance Minister Benjamin Netanyahu have recommended the appointment of Stanley Fischer for the post of Governor of the Bank of Israel.

Stanley Fischer as a young man worked on a kibbutz (agricultural settlement) where he learned to speak Hebrew. He has had many years of contact with the State of Israel and the Israeli economy, including service as US administration representative vis-a-vis the Israeli economy's mid-1980's stabilization plan. He has also taught at the Hebrew University in Jerusalem. Prime Minister Sharon said that, "Fischer is an economist with a global reputation and the State of Israel will be blessed through his talents, principally in the era of globalization in the economic markets".

The fact that a person of his caliber is willing to cut his ties with Citibank, to immigrate to Israel and serve as Governor of the Bank of Israel, is a wonderful opportunity for the Israeli economy."

Fischer, 61, is the Vice Chairman of Citigroup, the largest financial corporation in the world, and is considered to be one of the most senior economists in the world. He has previously served as First Deputy Managing Director of the International Monetary Fund.

Before he joined the IMF, Prof. Fischer was the Killian Professor and Head of the Department of Economics at MIT (Massachusetts Institute of Technology). From January 1988 to August 1990 he was Vice President, Development Economics and Chief Economist at the World Bank.

He has held visiting positions at the Hebrew University, Jerusalem, and at the Hoover Institution at Stanford. He is credited with helping to create a policy that reduced Israel's hyperinflation of the 1980s.

Genetically Engineered Spider Silk Fiber in Insect Cells

Scientists from the Hebrew University of Jerusalem and from Germany have succeeded in producing self-assembled spider web fibers under laboratory conditions, outside of the bodies of spiders. This fiber is significantly stronger than the silk fiber made by silkworms.

The achievement by the research team is described in an article in a recent issue of *Current Biology*. The development opens the way to commercial development of this spider fiber for a variety of applications.

Silk has been in use for thousands of years. However, unlike silkworms, spiders are not subject to domestication and commercial growth in practical quantities.

Scientists have attempted to create spider's webs independently of the spider itself through genetic engineering by manufacturing the proteins, which constitute the silk fibers of the webs, through the use of bacteria, yeast, plants and mammalian cells in tissue culture. But these efforts were unsuccessful in producing

Israel High-Tech & Investment Report

Published monthly since January 1985

Publisher and Editor in Chief

Joseph Morgenstern, B.A. Chem.

Technology Review Board

Prof. S.J. Joel-Cohen, MD, FRCS. FRCOG (1996-2002)

Prof. Hylton Miller, M.B. Ch.B.

Dr. Clive L. Carpel, M.B. Ch.B.

Copy Chief

Debbie Mor

Web Master

Marty vonBokel

Graphics Consultant

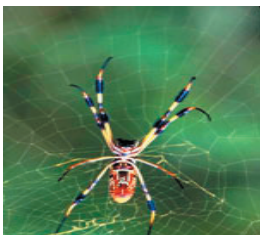
Daniel Morgenstern

Subscription Inquiries

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

E-mail: htir_1@netvision.net.il

Annual subscription \$95.- per year, for 11 issues,
Israeli residents add 17% VAT



fibers with properties similar to the natural material.

The Israeli-German scientific team has succeeded, through techniques of genetic engineering, by creating spontaneous production of spider web fiber in insect cell cultures. These fibers were equal in their chemical resistance characteristics, to those produced by the spider. Mass production of such fiber in the future, can be used industrially in various areas, which require fine applications. The Yissum Research Development Company of the Hebrew University and German partners are focusing on commercializing the research.

Spider webs consist of fibers (spider silks) produced by specific proteins. In order to artificially synthesize these proteins, the researchers utilized sections of the genes of the garden spider (*Araneus diadematus*), which are involved in the manufacture of these proteins.

The spider spins its web from various types of fibers, including the fiber known as dragline silk, which is characterized by great strength and elasticity. It is six times stronger than nylon and steel fiber of equal diameter, and serves the spider as a “lifeline” in case of falling. This fiber is made up primarily from two proteins, ADF-3 and ADF-4, which are genetically similar and are produced in a gland in the abdomen of the spider. The process by which these proteins pass from the moment of their production until their excretion, as fiber was not understood until now.

In their laboratory experiments, the researchers introduced the genes, which encode the two dragline silk proteins, into an insect-infecting virus, known as baculovirus. These genetically engineered viruses were then grown in cultures of cells derived from a type of caterpillar called the fall armyworm.

Since spiders and insects are both arthropods and since their genomes are more closely related to each other than to those creatures with which prior experiments were conducted, we felt that we would be able to produce spider fibers using these insects,” said the researcher. “For this purpose, we developed a methodology for producing great quantities of the appropriate proteins, which is based on infecting the insect cells with the genetically engineered virus, in

order to produce the fiber.

After the engineered viruses infected the insect cells, the cells began producing the proteins, and subsequently “spider” fibers spontaneously formed in them. However, – unlike in spiders – these laboratory-produced fibers were made up only of the ADF-4 protein, while the ADF-3 protein remained dissolved. Nevertheless, these fibers were identical in their diameter to that of real spider fiber and were found to be equal to -- and in certain aspects even exceed -- the chemical resistance quality of the spider-created fiber.

The scientists believe that that the variability in the behavior of the proteins they produced as compared to what occurs in nature, shows a high level of sophistication in the spider fibers. It seems that the protein ADF-4 makes it possible for the rapid production of fiber, while the other protein, ADF-3, regulates production and prevents early fiber production, which could be fatal to the spider.

The researchers are now hoping to be able to create conditions, which will make it possible to produce the spider fibers in quantity without the limitations of having to do this within insect cells.

“The research enabled us to determine the close connection that exists between the sequence, structure and functions of the proteins,” said Dr. Gat. “From a practical viewpoint, mass production of fibers, whose diameter is one-thousandth of a millimeter, is likely to be useful in the future for manufacture of bulletproof vests, surgical thread, micro-conductors, optical fibers and fishing rods; even new types of clothing may be envisioned.”

Remon Medical Raises \$26m.

Israeli company Remon Medical Technologies, Inc., a privately owned medical systems company, has announced that it has completed raising a total of \$26 million. Remon Medical’s technology is integrated into minute implants, requiring no antenna, wires, or connecting leads -- allowing a tiny device leads implanted deep inside the body to communicate by means of radio waves with other implanted devices and external systems. The company’s intra-body communication, a novel proprietary technology enables communication between its implantable sensing or actuating platforms and other active implantable devices in a totally wireless fashion. Remon Medical



continues its clinical trial of the Remon Impresure, a device that offers on-demand, non-invasive means to monitor intra-aneurysm pressures following endo-vascular graft procedures. The device was implanted and is being used successfully in 21 patients in the Mount Sinai Hospital (New York).

Remon Medical also develops the Remon HeartLook, a device for measurement of pulmonary artery pressure

the most important hemodynamic indicator in heart failure. A one-time, minimally invasive catheter-based procedure will provide unlimited, non-invasive home-based monitoring of the CHF patient's hemodynamic status.

Retalix Enters France

Retalix (Nasdaq:RTLX) announced its first top-tier deal in France. STIME, or Societe de Traitements Informatiques des Moyennes Entreprises, will be using Retalix StoreLine as the in-store solution at 3,000 supermarkets and specialty chains of the French-based Mousquetaires-Intermarche group. The deal should generate for Retalix, \$2.5 million to \$5 million over seven to ten years.

BIRD-F invested \$17m. in 2004

The Israel-U.S. Bi-national Industrial Research and Development Foundation (the BIRD Foundation or BIRD-F) invested around \$17 million in 18 technology projects during 2004. All the projects in which money was invested were part of the BIRD-F's US and Israeli companies cooperation project. Most of the investments made by the foundation last year were in the telecom, homeland security and bio-technology fields.

The BIRD Foundation encourages cooperation between Israeli and US companies in different technology fields, and assists in identifying strategic partners from the two countries, in order to develop joint products. The foundation works in full cooperation with the Office of the Chief Scientist of the Israeli Ministry of Industry and Trade and the American National Institute of

Standards and Technology (NIST).

"In 2004, the foundation was approached by over 800 Israeli companies and contacts were created with dozens of leading companies in the US market", said BIRD Foundation managing director Dov Hershberg.

Hershberg said that international telecom companies are beginning to feel cautiously optimistic, and indicating there will soon be a change of direction, and a return to large investments in long-term development.

The BIRD Foundation has invested in four homeland security projects. In cooperation between Spacelogic and Arinc, BIRD has invested in the joint development of a system to examine luggage at airports.

Elbit Systems and Sabeus Sensor Systems will jointly develop a security system based on optic fibers.

StarBand, who operates the satellite Internet enterprise in which Gilat Satellites is a partner, will cooperate with Israeli company VCON and together they will develop a remote security surveillance and control system based on two-way satellite communication.

Israel's Mate and US Tyco will jointly develop video-based recognition and identification systems. Each of the above projects was directly awarded around \$1 million by the BIRD Foundation.

During the past year, the BIRD Foundation invested in ten telecom projects. Leading players such as Texas Instruments, JDS Uniphase, Kyocera Wireless Corp. and other companies participated in the projects.

Intel Boosts Investment in the Digital Home

Intel Corporation announced that its venture investing organization, Intel Capital, has made additional investments in companies developing innovative technologies for the digital home.

One of the new investments, made from the \$200 million Intel Digital Home Fund, includes a first-time investment in Gteko Ltd., an ease-of-use networking and support software company.

Gteko, based in Ra'anana, Israel, provides software and support services for leading technology companies, including HP, Cisco-Linksys and Canon, which automate certain technical support functions, such as first-time set up of a home network, for millions of computer users.

High-Tech Upturn

“High-tech exports grew 19% in 2004 in comparison with 2003, to \$12.9 billion, a level similar to the record exports in 2003, before the global crisis,” said Motorola Israel general manager and Israel Association of Electronics and Information Industries chairman Elisha Yanay.

Yanay believes that the global high-tech industry will continue to recover, and that, as a result, Israeli electronics and information technology exports will grow a further 10% in 2005, to \$14.2 billion. He added that the industry will take on another 2,800 employees.

Detailing the industry’s performance in 2004, Yanay said that the highest rate of growth, of over 50%, was in exports of industrial electronic equipment, which totaled \$2.22 billion.

Telecommunications equipment exports grew 20% in 2004, to \$2.88 billion; electronic components exports grew 10%, to \$2.11 billion; medical equipment exports grew 10%, to \$1 billion; software exports grew more than 10%, to \$3 billion; and security equipment exports grew 5% in 2004, to \$1.77 billion.

According to Yanay, 3,700 people joined the high-tech workforce in 2004, representing 7% growth over 2003. Some 57,200 people are currently employed in the industry. This is about 9,000 less than in 2000, before the crisis broke, despite the fact that output in 2004 was the same.

In Yanay’s view, the reasons why there are so many fewer employees in the high-tech industry than there were in 2000 is that the industry became more efficient in order to maintain its competitiveness, and that work was outsourced to sub-contractors in the Far East, where costs are far lower.

Yanay warned that “the migration of jobs to East Asia is a global phenomenon, one which is extremely dangerous for the Israeli industry, and everything should be done to make development and production in Israel more worthwhile, so that only work that cannot be carried out in Israel will be sent overseas.”

Yanay called on the government to help maintain this growth momentum by raising the incentives offered by the Chief Scientist to the levels at which they were before the recent cut. The 2005 budget cuts aid for research and development by 30% in comparison with 2004 levels, and by 50% in comparison with 2001.

After a couple of dormant years Israeli firms took advantage of a window of opportunity in 2004. Twelve Israeli companies held Initial Public Offerings or placed secondary issues on Wall Street. The total sum raised exceeded \$1.1 billion.



Lipman Electronic Engineering (TASE, Nasdaq: LPMA), Bank Hapoalim (TASE: POLI) subsidiary Signature Bank, Ness Technologies (Nasdaq:NSTC), PowerDsine (Nasdaq: PSDN), Syneron (TASE, Nasdaq:ELOS), Shopping.com (Nasdaq:SHOP) and GuruNet Corporation (AMEX:GRU) came on stream with initial public offerings that generally were well received by the investment public.

Tower Semiconductors (Nasdaq:TSEM), M-Systems (Nasdaq:FLSH), Given Imaging (TASE, Nasdaq:GIVN) and Retalix (Nasdaq:RTLX), successfully placed secondary offerings.

The Top Performer

The best performer was medical-technology company [Syneron](#) (TASE, Nasdaq:ELOS), founded by Shimon Eckhouse. Its stock rose by 150%, lifting the company’s value to \$650 million.

The Largest Offering

Ness Technologies, the Tel Aviv-based software company along with some of its shareholders sold \$140 million worth of shares at \$12 each. Its stock is up to \$15, thereby generating 24% for its backers.

Internet is Back in Style

That would be Shopping.com, created by the amalgamation of Dealttime.com with Epinions.

The comparison-shopping website shot up 60% on its first day of trade, like little GuruNet of Jerusalem, which achieved the same feat. Shopping.com was certainly helped by the splash Google made on the marketplace, restoring the good name of Internet stocks worldwide.

The most headlines

Yet the offering that made the most headlines was M-Systems', albeit a few months after the event. Since its February offering, M-Systems stock has risen 7%, but the road was a rocky one.

The company issued stock for a fourth time at \$18.5 per share. It started well: by April the share price had reached \$23. But in August, black clouds started to gather and the share price dived to \$11. Since then it has been gradually clawing its way back up. In December alone it rose 25%.

Four months after the offering, Citigroup, which had heartily sold \$120 million worth of shares for the Israeli firm, downgraded M-Systems stock to Sell.

What to expect in 2005

Prospective offerings are likely to include Saifun Semiconductors, EZChip, a subsidiary of LanOptics (Nasdaq:LNOP Veraz, an ECI Telecom (Nasdaq: ECIL) unit; by XTL Biopharmaceuticals (LSE:XTL), already listed for trade in London; and maybe also by Medvision, which is listed in Belgium but has been eyeing a Nasdaq listing for quite some time.

Israeli Invents Earthquake Detector

An Israeli invention provides early warning in the event of an earthquake like the one which devastated southeast Asia last month. The device is as small as a shoebox and will cost consumers less than \$200.

Israeli inventor Meir Gitlis developed the system, which has received much attention in the wake of the disastrous earthquake which devastated much of southeast Asia's coastline. Gitlis said that he doesn't claim his early warning system could have made much of a difference, but any advance warning would have been better than none and indeed could have saved lives.

"Since the disaster occurred in the Far East, we've gotten requests from companies to use our sensor technology and to develop an instrument warning against tsunamis," Gitlis said.

Gitlis's "Earthquake Alert" is based on the same seismological principles as earthquake monitoring systems used by weather centers and government agencies worldwide. It con-

tains an array of pendulums that react naturally to vibrations, sending a signal through an electronic circuit to a chip. After analyzing the frequency, the computer chip determines whether the movement was caused by a sonic boom, a bomb or indeed caused by the tremors of an earthquake.

"An earthquake is like lightning or thunder, first comes the primary waves which run through the ground very quickly," said Gitlis. "The instrument can sense the primary wave which occurs tens of seconds before the secondary wave, which is the destructive wave. The advance-warning of a half minute enables people to find cover."

Gitlis said that Israel's Azrieli Towers in Tel Aviv – the country's tallest buildings - have installed the Earthquake Alert in the skyscrapers' elevators. In the event of a quake, the system stops the elevators at the nearest floor, allowing people a chance to escape.

Researchers at the State University of New York (SUNY) at Buffalo tested the sensor recently and concluded that it is reliable and does not react to false alarms.

Teva Backs Transpharma's Drug Delivery Platform

Israeli biotechnology company TransPharma Medical has entered a long-term strategic agreement with Teva Pharmaceuticals (TASE, Nasdaq:TEVA). The two companies will be developing a drug delivery platform to administer drugs without using pills, capsules or needles.

TransPharma has been working on technologies to administer medications via the skin, directly into the bloodstream. Teva and TransPharma agreed to cooperate on up to five selected molecules for transdermal application.

TransPharma's chief executive, Dr. Dafna Heffetz, says the agreement will marry the company's unique transdermal platform with Teva's vast promotional capacity. She also believes, the collaboration, could lead to methodology, to introduce enormous molecules, such as proteins, noninvasively.

The two companies will cooperate on development, and Teva will have the exclusive commercialization rights throughout the world. In exchange, TransPharma will receive payments based on milestones, R&D

costs, and royalties. Transdermal drug patches offer the advantages of ease of use, absence of pain, disposability, control of drug delivery and avoidance of first-pass metabolism by the liver. However, current transdermal patch designs are not capable of transporting large molecular drugs through the skin barrier, especially peptides and proteins, which include many drugs that are marketed, or will emerge, from the biotechnology industry. As a result, a variety of approaches are being investigated by companies for enhancing transdermal drug delivery. They include the use of iontophoresis, ultrasound (sonophoresis), electroporation, heat and microneedles. One product in the offing is for the delivery of nitroglycerine for angina pectoris.

TransPharma Medical Ltd. (Yehud, Israel) is headed by its founder Dr. Daphna Hefetz. It employs microscopic passageways for the controlled transdermal delivery of macromolecules. Radiofrequency energy is used to ablate the outer layer of skin, thereby creating microchannels of precise dimensions, called RFMicroChannels, that enable the controlled passage, of small and large molecules through the skin, via an applied adhesive patch.

Since TransPharma's establishment it has raised \$15.5 million.

OECD Increase R&D Spending

The latest 'Science, technology and industry outlook' from the Organization for Economic Cooperation and Development (OECD) highlights increasing research investment by its member countries and identifies three challenges for the future.

The OECD puts increased research spending down to its member countries 'taking more seriously the need to invest in research and development as a means to boost economic performance and remain competitive in the face of rapid growth in capabilities in countries such as China and Israel.'

Indeed, China doubled its research and development (R&D) spending between 1995 and 2002, from 0.6 per cent of GDP to 1.2 per cent. Over the same period, Israel increased its spending from 2.74 per cent to 4.72 per cent of GDP.

While research investment did increase within the OECD between 1995 and 2002, the magnitude of that growth was more moderate - from 2.09 per cent to

2.26 per cent of GDP. This is still marginally lower than its peak of 2.28 per cent in 2001.

Adamind Wants to Float

Adamind Ltd ("Adamind), a specialist in media adaptation software products for the MMS (multimedia messaging) market, announced its intention to float on the AIM of the London Stock Exchange.

Adamind develops and sells software to global mobile operators that primarily enables delivery of images, ringtones, audio and video between mobile phones. Multimedia messaging, also known as MMS, is considered to be the next significant revenue driver for mobile operators while its use is being hindered by basic incompatibility between mobile handsets making content impossible to view by the receiving side.

Adamind's products solve the handset incompatibility problem by real-time, "on the fly" adaptation of the content via a central software solution, residing within the operator's MMS server infrastructure. The products are sold through system integrators and strategic global MMS infrastructure vendors such as Openwave, LogicaCMG and other top class vendors to mobile phone operators worldwide. Adamind has already gained commercial deployments for MMS in over 80 tier-1 and tier-2 operator customers across the globe.

Keryx Shares Soar after Successful Phase II trial

Keryx Biopharmaceuticals (Nasdaq:KERX; LSE:KRX) rose 26.27% in New York recently to \$2.95, after the company reported that it had been approved to go ahead with Phase III trials of its KRX-101 drug for the treatment of diabetic nephropathy. Keryx said it expected to begin Phase III and Phase IV studies for KRX-101 within approximately the next three months.

Diabetic nephropathy is a progressive and life-threatening kidney disease which afflicts millions of diabetics in the US alone.

R&D Outlays to Rise in 2005

According to a national forecast a steep rise in federal spending on military systems is expected to drive total funding for research and development in the U.S. up 3.6% to \$312 billion in 2005. U.S. industrial outlays on R&D, however, are expected to remain essentially

flat for the fifth consecutive year.

Companies plan to increase R&D spending on new products and services by just 2% to \$191 billion for 2005, a figure that falls short of predicted rates of inflation. Despite strong corporate profits, spending hasn't followed, helping to keep a lid on U.S.-based industrial R&D investment. Increasingly, U.S. dollars are being spent overseas in centers in China and India, according to an annual report by the Battelle Memorial Institute and R&D Magazine.

Hebrew University Professor Profiled by 'Nature'

A Hebrew University of Jerusalem 34-year-old, American born scientist has been featured in the new issue of the British journal *Nature*. to mark one century since Albert Einstein's publication of three of his landmark theories at the age of 26.

Dorit Aharonov of the HU's Benin School of Engineering and Computer Science is working on a new computational model based on the law of quantum physics that has caused a revolution in the theory of computer science.

The three other young theorists profiled in *Nature* are from Harvard University, the Massachusetts Institute of Technology (MIT) and Germany's Max Planck Institute.

Quantum computers, if ever built, will be able to solve certain computational problems dramatically faster than any standard computer. Many labs around the world are racing to create large-scale quantum computers.

Aharonov is trying to overcome the main problem with quantum computers: Large-scale quantum systems are very sensitive to errors whose effect might ruin the computation process. In her doctoral project, Aharonov – with adviser Prof. Michael Ben-Or – showed how to protect the quantum computer from errors by theoretical means. She hopes to develop new techniques for solving difficult computational problems through the laws of quantum physics.

"I was very happy about being chosen by Nature," said Aharonov, who was born in Washington, DC, and earned her academic degrees at HU. She has done post-graduate work at the Institute of Advanced Study

at Princeton University (where Einstein was a faculty member) and at the University of California at Berkeley. "This shows the great importance that the world scientific community attributes to quantum computation. The field brings together ideas from physics and mathematics to investigate fundamental questions, such as: "What is the computational power of nature and how does the transition between classical and quantum physics occur?"

Her studies have revealed some connections between the fault tolerance of quantum computation and a long-standing, open question in physics: Why are most phenomena that we see around us classical, while the underlying physics is quantum?

Most Active Israeli VC Funds in 2004

IVC Research Center has released its compilation of the most active Israeli VC funds in 2004. The criteria for the rankings were the number of *first* investments, the number of total investments made and by the cumulative number of first investments made in the past three years.

JVP tops the list of most active funds based on *first* investments with nine first investments (compared to two in 2003). Closely trailing are Vertex with eight first investments (compared to 6 in 2003) and Giza with seven first investments (compared to 5 in 2003). Next in the ranking are Evergreen and Cedar, with six first investments each, and Gemini, Star, Israel Seed, Ascend and Apax with five first investments. Results for the three leading funds - JVP, Vertex and Giza – included First investments made in companies operating in their respective managed incubators - JVP Studio, Technion Entrepreneurial Incubator and ATI.

IVC also ranked the cumulative number of first investments made by funds since the beginning of 2002. This ranking is led by Giza with a total of 18 first investments. A close second was Vertex with 17 first investments, followed by Pitango (14), Evergreen (13) and Cedar (13).

"First time investments made by funds are important in light of the fact that the average time-to-exit is five to six years. Accordingly, recent investments will only bear fruit years from now" said Zeev Holtzman, Chairman of IVC Research Center and Giza Venture Capital. "Venture capital investments are a marathon: the true results will be revealed in time". Holtzman

added that “due to relatively more comfortable terms of investment in the past two to three years, VC funds have begun picking up the pace of new investment. Since more new funds are planning to get underway during 2005, we project further increases in first investments over the coming year.”

Pitango heads the list of the leading 10 funds ranked by total number of investments (First and Follow-on) in 2004. Pitango has now made the most total investments for the third year in a row. Pitango made 36 investments in 2004, compared to 18 in 2003. Next on the list is JVP with 20 investments, compared to 10 in 2003. Following closely are Giza, Gemini and Star with 17 investments each, Infinity with 16 and Evergreen with 15. All of these funds exceeded their 2003 numbers.

The leading 10 funds made 54 first investments in the aggregate (about 30 percent of the total number of deals), compared to 45 first investments in 2003, an increase of 17 percent. Comparing 2004 activity to 2002 shows an increase of 59 percent in the number of first investments made by the leading 10 funds. Ayala Chiel, who carried out the research at IVC, said “the increase in first investments over the past two years is evidence of the continuing recovery in Israel’s high-tech industry, particularly over last year.”

Total investments by the leading 10 funds showed a significant 33 percent increase to 180 in 2004 from 134 in 2003. These figures include 126 Follow-on deals in 2004, as compared to 89 in 2003, a 42 percent increase.

VC Indicator: VC funds to raise more as valuations to rise

Accounting and consulting firm Deloitte-Brightman-Almagor published its VC Indicator survey for the fourth quarter of 2004 and expectations survey for the first half of 2005. The survey found that all the 47 venture capital funds covered predict that start-ups will raise more money than in 2004. 56% of the funds predict that up to 25% more companies will raise money in the first half of 2005, compared with 2004. 28% of the funds predict that over 25% more companies will raise money in the first half of 2005, compared with 2004. 16% of the funds believe that the number of companies raising capital will not change.

The survey also found that 32% of venture capital fund managers predict that it will be easier raise capital

in the next six months, compared with 21% in the previous quarterly survey. 62% of venture capital fund managers believe that there will be no change, as compared with the current situation.

The respondents also predict that they will raise new funds during 2005. Pitango Venture Capital and Gemini Israel Funds were the only venture capital companies to complete new funds in 2004. Israeli venture capital funds are expected to raise \$1.5-2 billion altogether in the current wave of financing rounds.

60% of the respondents believe that foreign investors will continue their involvement in Israeli venture capital funds, and 40% predict that this involvement will increase. 73% of managers who predict that foreign involvement in Israeli funds will increase believe that it will have a positive effect on the local venture capital industry. 48% of managers believe that greater foreign involvement will boost the number of funds and companies able to raise capital, and the size of the rounds.

25% of managers believe that greater foreign involvement will boost the added value the funds can offer their portfolio companies, such as greater exposure to foreign markets, opportunities, and opening new doors.

On the other hand, 21% of the respondents believe that greater foreign involvement will have a detrimental effect. 13% of managers believe that foreign investment will increase the values of Israeli companies at the time of investment.

Novel Technology for Identifying Explosives

Israeli researchers have developed a device that identifies a previously undetectable explosive commonly used by terrorists. Once a suspicious substance is located, a small sample is placed in the device, named Peroxide Explosive Tester (PET), to determine whether or not it is in fact triacetone triperoxide (TATP). The PET – which resembles a three-color ballpoint pen – then releases three chemical mixtures that change color when they interact with TATP.

“TATP and other explosives of the peroxide family are used extensively by terrorist organizations around the world because they are easy to prepare and very difficult to detect. Many of the devastating suicide

attacks by terrorists over the past few years involved TATP, including the bus explosions in Israel,” said lead researcher Professor Ehud Keinan of the Technion-Israel Institute of Technology. “They are also dangerous to those who prepare them. This is the reason for the frequent ‘work accidents’ that have occurred in the terrorists’ labs.”

The researchers are in negotiations to commercialize the PET, and interest from law enforcement agencies has been high, according to Keinan.

Findings detailing the unique qualities of TATP, published January 6, 2005 in the *Journal of the American Chemical Society*, result from collaborative research by Technion Prof. Keinan, who is also a faculty member at The Scripps Research Institute; Prof. Yehuda Zeiri of Israel’s Nuclear Research Center in the Negev; Professors Ronnie Kosloff and Joseph Almog of the Hebrew University of Jerusalem; and their co-workers.

Supercom Obtains contract for biometric visas

Supercom (OTC BB:SPCBF, Euronext: SUP), a smart card technology company, announced a contract with an unnamed European government to deploy biometric visa issuance systems at its embassies around the world.

The system will be built on SuperCom’s proprietary platform technology, and will be tailored to meet the customer’s specific requirements.

To combat counterfeiting and fraud, the integrated system will capture the fingerprints of each visa applicant and store the images on a chip integrated in each visa, enabling automatic and positive identification of the person each time the visa is used.

Ra’anana-based Supercom’s technology targets governmental and commercial secured identification markets. The company produces secure documents such as passports and driver’s licenses, serving as a “one stop shop” for technological integration and support source for smart card system integrators, according to Wall Street analyst Scott Greiper.

The company has won contracts from the British and Hong Kong governments, a passport project for the Ukraine, and others, these attest to the credibility of its technology.

In October 2004, the company won a portion of the American ePassport program, the biggest project of its kind in the world. Chips embedded in U.S. passports will contain personal identifiers such as biometric data, which will be read by a contactless reader. Altogether the project involves the production of some 50 million passports, generating some \$250 million over five years for the vendors.

SanDisk Acquires MDRM for \$15m.

SanDisk Corporation has announced the acquisition of MDRM, a privately-held Israeli company that is focused on developing end-to-end solutions for distributing secure content through flash memory cards, for \$15m.

MDRM has reportedly worked closely with SanDisk and has adapted the SanDisk flash controller to create a version of SanDisk’s Cruzer USB flash drive that is capable of delivering valuable content in a protected and secure environment.

The first application of this technology is BookLocker, which allows students in grades K-12 to carry electronic versions of their textbooks on a device weighing less than 1 ounce.

Following the acquisition, MDRM has been renamed SanDisk Secure Content Solutions and will continue to promote BookLocker with other partners through the US educational system. This is SanDisk’s first acquisition in Israel. The company has a development centre at Tefen that employs 45 people working on various projects.

S&P Upgrades Israel’s Debt

Credit rating agency Standard & Poor’s raised its outlook on Israel’s debt from negative to stable. The Finance Ministry has been hoping for such an announcement from the three major ratings agencies for several weeks.

In view of the change, S&P raised Israel long-term foreign currency debt rating to A minus and short term to A-1. The agency raised the shekel’s ratings to A+ and A-1.

The S&P decision is very significant for the Israeli business sector, as well as for the state, making it easier to raise financing abroad and lowering its cost. S&P wrote in a statement released yesterday that the decision was based on positive economic indicators

as well as the government's fiscal discipline. "The revision of the outlook reflects the narrowing of the budget deficit in 2004, prospects for medium-term fiscal consolidation underpinned by the U.S. loan guarantee program, renewed economic growth, and a significant improvement in the balance-of-payments," said Standard & Poor credit analyst David Cooling. "At the same time, geopolitical risks have also stabilized, following a reduction in the level of violence, and the prospect of a new Palestinian leadership to reinvigorate the stalled peace process."

S&P said fiscal outcomes were modestly better than those budgeted in 2004. Expenditure restraint and a stronger-than-anticipated recovery in economic growth enabled the government to meet its deficit target of 4 percent of gross domestic product, according to the ratings agency. At the same time, the agency forecasts the general government debt-to-GDP ratio will stabilize at 108 percent of GDP.

Growth prospects have improved, the analyst said, with the composition of growth more evenly balanced between exports and domestic demand. In 2005, real economic growth is expected to remain at close to 4 percent, reflecting the strengthening external demand and a sharp recovery in private consumption and investment.

According to S&P, Israel's GDP is forecast to expand by an average of slightly under four percent annually for the next five years.

"External vulnerability has declined significantly, and the current account is forecast to remain almost balanced for the foreseeable future, reflecting the recovery in global technology markets, which are a key export sector for Israel," Cooling said.

Commtouch Reviews- The Year of Spam

Commtouch (Nasdaq:CTCHC), the innovator of anti-spam solutions featuring Recurrent Pattern Detection technology, said that in the last 2 months of 2004 the number of daily spam attacks more than doubled to an average level of 1.35 million spam outbreaks per day, and some days exceeded 1.5 million per day.

Additionally, Commtouch observed that the average duration of a spam outbreak shortened dramatically -- lasting from 2 days at the beginning of 2004 to an average of 7 hours by the end of 2004.

Some key facts about spam trends that Commtouch's Spam Detection Center and the Commtouch Spam Lab identified in 2004 follow:

'Now You See Me, Now You Don't' Spammer Game. In December 2004 the number of domains registered by spammers to host their websites exceeded 38,400 domains, and the total number in 2004 exceeded 369,000 domains. Assuming a cost of about \$10 per domain, spammers spent in 2004 over \$3,690,000 for domain registration. The domains registered in December (38,400) were used to create over 6,612,000 URLs directed to spammer websites. Commtouch's Spam Detection Center found that on a monthly basis over 99.94% of the URLs were new compared with the URLs associated with spam messages in previous months. Each such domain would be utilized by the spammer for a few days only to avoid detection by those anti-spam and content filtering technologies which do not have the technological ability to detect and stop spam in real-time.

Spammers Say 'Want to Buy A Watch?' The most notable spam message in 2004 was comprised of no less than one hundred million emails attempting to sell a 'Genuine Replica of Rolex.' Viagra and drugs with similar effect continued to be sold by spammers and appeared in a portion of approximately 25% of the total amount of spam. The percentage of spam that attempted to sell drugs/pharmaceuticals represented 31.5% of the total amount of spam. Consumer goods related spam accounted for 25.7% of spam. Mortgage and loan refinance email represented 8.4% of spam. The percentage of porn spam increased from 4.7% of all spam in 2003 to 5.4% during 2004.

CAN-SPAM Isn't Canning. Commtouch found that CAN-SPAM compliance reached by the end of 2004 a steady level of about 10% of all spam. Many spam messages professed to be 'spam compliant' without any basis in fact

"The declaration of compliancy is just one ruse of spammers attempting to create an appearance of legitimacy," said Avner Amram, executive vice president at Commtouch. "The bottom line is that we continue to witness incredible numbers of spam email and spam outbreaks. The only realistic conclusion is that compliance to CAN-SPAM legislation is meaningless for most spammers, and the Act has proven to be ineffective."

Uncle Sam King of Spam

In December 2004 over 40% of spam originated in the

United States, a downturn from a high of 65% earlier in the year. At the end of 2004, spam was originating from 174 countries.

The Most Do Not Host

The activities of a few countries have far-ranging consequences globally; only four countries host 99% of the websites that are referenced in spam email messages. "In December 2004, China hosted 64% of spammer web sites, the United States almost 29%, Commtouch Software Ltd. (Nasdaq:CTCHC) is dedicated to protecting and preserving the integrity of the world's most important communications tool -- email. A global developer and provider of proprietary anti-spam solutions, Commtouch has an installed base of over 25 million users.

IDE Technologies to set up Desalination Plant for Kalpakkam

Israel-based IDE Technologies Ltd has won a tender worth \$11 million for setting up four desalination plants for Kalpakkam nuclear plant in India.

The plants would generate 11,000 cubic metres of water per day for the nuclear plant as well as for drinking purposes, it said.

"India is an important target in our expansion plans and the deal will help us in penetrating various markets around the world", said Avshalom Palver, the CEO of the company.

While the other plants set up by IDE in India so far worked on multi-level refining process propelled by steam, the new plants would use condensed vapours for refining run by thermal power or electricity, the release said.

IDE has already set up nine desalination plants in India for refineries, power stations and various other industries in the last ten years, according to the release.

BioLineRx Expands Drug Pipeline

BioLineRx Ltd., Israel's leading specialized drug development company, today announced that it has signed in-license agreements to develop and commercialize three new therapeutic product candidates. The three compounds are BL-1030, a small molecule for the treatment of Inflammatory

Bowel Disease; BL-1050, a novel HIV therapeutic; and BL-2010, an innovative technology for the treatment of resistant cancer. The worldwide exclusive license agreements were signed with Rimonyx Pharmaceuticals, Ltd. of Nes Ziona, Israel for the development of BL-1030; Yissum, the technology transfer company of The Hebrew University in Jerusalem for BL-1050, and Ramot at Tel Aviv University Ltd., the technology transfer company of Tel Aviv University, and Bar Ilan Research & Development Company Ltd. (BIRAD), the technology transfer office of Bar Ilan University for the development of BL-2010.

BioLineRx plans to develop these projects through its pre-clinical development unit, BioLine Innovations Jerusalem, and to submit the projects for funding by the Israeli Office of the Chief Scientist under the National Biotech Grant that BioLineRx received in November of last year.

BioLineRx was created to leverage expertise and resources to bring a carefully selected group of innovative technologies through pre-clinical and clinical development toward regulatory approval and marketing.=



Please enroll me as a subscriber to the Israel High-Tech & Investment Report.

I understand that if not satisfied, I may cancel my subscription at any time and receive a refund of the unexpired portion. I enclose a check for \$95 (or the Israeli shekel equivalent and 18% v.a.t.) and am sending it to POB 33633, Tel--Aviv 61336.

I am providing you with my name, title, mailing address, e-mail, telephone and fax numbers.

The Israel High-Tech & Investment Report is a monthly report dealing with news, developments and investment opportunities in the universe of Israeli technology and business. While effort is made to ensure the contents' accuracy, it is not guaranteed. Reports about public companies are not intended as promotion of shares, nor should they be construed as such.