Developments in science and technology in Israel in 1996 / compiled by Commercial Section, British Embassy, Tel Aviv.

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22 October, 1996

ISRAEL: SCIENCE AND TECHNOLOGY

I enclose our annual report on Science and Technology issues in Israel. I am grateful to Edward Murad, our senior locally engaged Commercial Officer, for its compilation.

This year has seen further progress in the Peace Process, some projects are moving ahead in a number of areas including direct flights and road transport between Israel and Jordan, linking of the electricity grids, joint international airport at Eilat/Aqaba, pipeline for natural gas from Egypt and a trilateral programme to support industrial R & D by the U.S., Israel and Jordan.

Two British companies, one of whom first ventured into the Israel market in April 1995 - have won tenders for the supply of equipment to oil spill response centers in Eilat, Ashdod and Haifa. The latter two are within the framework of the MARPOL programme of the E.U.

Israel's most far reaching scientific agreement is the one signed in March 1996 which enables it to participate in the European Union's Fourth Framework Programme on Research and Technical Development. Israel will contribute Ecu 30 million annually to the Programme allowing industries and research bodies to participate in the EU's call for proposals in specific R & D fields.

DEVELOPMENTS IN SCIENCE

AND TECHNOLOGY

IN ISRAEL IN 1996

Compiled by:

Commercial Section
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Political

1. Following the elections in May 1996, Prime Minister Benyamin Netanyahu, Israel's first directly elected Prime Minister, appointed Benny Begin as the Minister of Science and the Arts.

2. Mr. Raphael Eitan has been appointed as the Minister of Agriculture and also the Minister of the Environment. The newly set up Ministry of National Infrastructure, under Minister Ariel Sharon, has taken responsibility for the water sector, except water for agriculture, which remains under the Ministry of Agriculture. The Ministry of Energy has been absorbed by the new Ministry of Infrastructure which includes responsibility for the natural gas project, electricity and oil.

3. In August Dr. Shuki Gleitman, the Chief Scientist, was appointed as acting Director of the Ministry of Industry and Trade. He continues to hold the post of Chief Scientist.

General

4. Israel's far reaching scientific agreement is the one ratified in 1995 and signed in March 1996, which enables it to participate fully in the European Union's Fourth Research and Technical Development Framework Programme. The inclusion of Israel in the programme is an indication of the country's high standing in science and is a fruit of the peace process. The agreement increases both the funding and scientific scope of Israeli-EU collaboration.

5. There is more emphasis than ever on Science & Technology with science-based industry now accounting for some half of Israel's exports. International companies are opening up design centers, R&D or production facilities in Israel. Intel set up an R&D center in Haifa in 1974 and a microchip production plant in Jerusalem in 1980. In June 1996 Intel laid the foundation stone for a state-of-the-art chip plant in Kiryat Gat in which $1.6 billion will be invested. Today IBM, Motorola, Digital and Microsoft have design and R&D facilities in Israel. Siemens has entered into partnership or acquisitions in Israel's communications, semiconductor and energy sectors. Recently Siemens and Elscint Ltd (a major Israeli manufacturer of CT scanners) have announced cooperation to combine efforts in both R&D and the development of state-of-the-art components for use in computerised tomography systems.

6. Madge Networks (UK) has acquired Lannet Data Communications (Israel) for $300 million. This is the most significant British investment in Israel to date. Sales increased from $50 million in 1993 to $70 million in 1994 and to $105 million in 1995, of which, 90 percent is exports. Madge is planning to set up a plant in Jerusalem at an investment of $10 million to produce computer networking products for worldwide distribution. The facility will employ 200 engineers and technicians.

7. Israel has the world's largest number of scientists and engineers per capita engaged in R&D (135 per 10,000 compared to 85 per 10,000 in the USA.) Israel is 16th in number of scientific publications - well

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6. Madge Networks (UK) has acquired leader Data Communications (Israel) for $100 million. This is the most significant British investment in Israel to date. Sales increased from $50 million in 1993 to $90 million in 1994 and to $165 million in 1995, of which, 90 percent is exports. Madge is planning to set up a plant in Jerusalem at an investment of $10 million to produce computer networking products for worldwide distribution. The facility will employ 300 engineers and technicians.

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up in the ranks of scientific super powers. When adjusted for Israel's size (Israel's $80 billion GDP is only 1.1% of that of the USA), Israel emerges as the world's most prolific producer of scientific and engineering knowledge by a wide margin. But more will have to be done to convert this scientifically competitive advantage into export excellence. In 1995 Israel ran a $10.2 billion trade deficit. Much of Israel's scientific capability remains trapped in the laboratory; only a fraction of it is transferred to the marketplace. It is only in the last couple of years that Israel's Hi-Tech industry has become a player in global markets.

8. Israel and Jordan are considering the establishment of a jointly-owned electrovoltaic field somewhere in the deserts near the border between the two countries, to produce up to 80 mw of nonpolluting power through the direct conversion of sunlight into energy.

9. A trilateral pilot programme, known as Project Tride for Trilateral Industrial Development to support industrial R&D, is being launched by the US, Israel and Jordan. The three governments will contribute a total of US $1 million, or 50 percent of the costs. The other half will come from three private companies chosen to participate in the venture. The Israel-US Binational Industrial R&D Foundation (BIRD) will provide professional and technical support. Suggested areas of trilateral investments in TRIDE include communication technologies, agriculture, education and health.

Natural Gas

10. A tender for a master plan for the import and supply system for natural gas from the Delta Region in Egypt across the Sinai Desert into Israel has been awarded to Tahal Consulting Engineers Ltd (Israel) and Gasunie (Holland). Egypt would supply the equivalent of two million tons of oil per year and within ten years this would increase to the equivalent of eight to nine million tons. Infrastructure investment in the project, named "Peace Pipeline," is estimated at $600 million, with construction and laying of pipelines taking three years. The Ministry of National Infrastructure is reported to be in favour of restricted government involvement to be limited to organising and supervision, including setting up procedures, laws, regulations, environmental and safety standards, preparing tenders and selecting bidders.

A number of companies, including British Gas, Amoco and Gas de France, are negotiating with local partners to participate in the major project when final agreement will be signed between Israel and Egypt.

On 31 October, 1995 a Memorandum of Understanding was signed at the Amman Economic Conference between Israel and Enron for the supply of at least two million tons of natural gas a year from Qatar to Israel. The gas will have to be liquified and shipped by tankers to a terminal either on the Red Sea or the Mediterranean where it would be converted back to gas. The economic feasibility of the project is doubtful because of the investments in liquifaction and deliquification plants and much longer transport distances than that from Egypt.

11. The construction of the Alexandria Peace Refinery is due to start at the end of 1996. The refinery represents the largest Arab-Israeli joint venture to date involving state-of-the-art environmentally friendly 100,000 barrels per day output. The refinery is equally owned by private Egyptian and Israeli partners (40 percent each) and 20 percent by the Egyptian government. The European Investment Bank has extended ECU 220 million credit to the project valued at $1 billion. The refinery is to come on stream in late 1999.

12. On 16 May, 1996 the Israeli AMOS I communications satellite was launched successfully by the Ariane launch vehicle from Kourou in French Guiana. AMOS, which was designed and manufactured by Israel Aircraft Industries and is considered a technological achievement, was constructed at a cost of US $120 million. AMOS is designed to serve as a regional satellite whose customers broadcast to TV cable lines and to carry out distribution on-line information and point-to-point communication in the areas which include most of the Middle East and as far as Switzerland.

13. On 11 December 1995 President Bill Clinton announced at a press conference with Prime Minister Shimon Peres a plan for US Israeli cooperation in space-based experiments in sustainable water use and environment protection. This is part of US effort to support Israel's advances in science and technology. These experiments in, which Israeli astronauts will be trained to participate, will take place in unmanned space vehicles in the shuttle programme and in the international space station. The US Israel cooperation will help promote Israel's space-related industry and will give prominence to Israel's scientific achievement.

14. In October 1995 the US waived its opposition for the sale of super computers to Israel. Two computers were purchased from IBM (capable of performing over 17 billion calculations per second) and from Cray (capable of performing 3.2 billion calculations per second). The two super computers have helped narrow the gap in high-level computing power that Israel needed for its S&T development.

15. The Israel Export Institute has established a relationship with the Swedish Council for Research and Development an official body which coordinates Sweden's participation in EU R&D funds and assists cooperation in participating in such funds.

The Swedish Council will offer aid to Israel's corporations to locate European partners for the submission of requests for project financing under the EU R&D programme.

16. The US Food and Drug Administration has agreed to recognise clinical trials carried out in Israeli hospitals. This is a major economic and scientific achievement and is expected to raise the quality and increase the funding of research in Israel. It will also provide a shortcut for local companies whose products may be tested on patients in Israel instead of abroad.

17. In September 1996 The Bundesinstitut fur Gesundheitlichen Verbraucherschutz und Veternarmedizin (BGVV) awarded the Good Laboratory Practice (GLP) certificate to Makhtashim Chemical Works Ltd, a major Israeli manufacturer of agro chemicals. This is the first time that an Israeli company - and the only one in the Near East

- that has been awarded such an approval. This approval, which is accepted in the EU, USA and other countries, is recognition of the high standard of the Israeli physical and chemical laboratory testing standards.

Employment of New Immigrants

18. In spite of the large immigration into Israel from the CIS (which has given the local Hi-Tech industry, including the software/computer sectors a considerable pool of additional manpower), and notwithstanding the proliferation of computer training colleges, demand continues to outstrip supply and may remain a problem over the foreseeable future.

19. There is a huge demand for skilled personnel in Israel's burgeoning high-tech industry. Experts believe that Israeli high-tech companies are currently short of over 3,000 computer programmers and engineers. Universities are not turning enough engineering graduates to fill the jobs in the rapidly expanding high-tech industry.

The big wave of immigration from the CIS, which brought multitudes of qualified engineers, was a blessing. As many as 60 percent of working age immigrants hold degrees from institutions of higher education - more than one-forth of them are engineers and architects and one in twenty is a physician or dentist. Now that the wave has abated (75,000 new immigrants arrived in 1995) and so many more start-up companies joining the industry, recruitment of qualified engineers, is posing a problem.

20. Some companies offer prospective recruits scholarships in exchange of a commitment to later join its ranks. Some of the larger companies no longer insist that recruits come with computer or engineering backgrounds. Formal training courses are offered for those who have degrees in physics or the natural science where job opportunities are not plentiful.

21. There is concern that lack of engineers to meet market demand will act as a brake on the sector's growth. The high-tech industry may lose the momentum brought about by a fortuitous coincidence of the massive immigration from the CIS and the peace process.

22. Industrialists have stated that if universities doubled their engineering classes, they would cover part of the costs. A challenge for the future is the need to provide more technological education.

23. In June 1996 the Technion Israel Institute of Technology announced a programme to expand enrollment (just over 10,000 today) by about 35 percent by the end of the decade. The programme will be submitted to the Planning and Budgetary Committee of the Israel Council of Higher Education. The inauguration of a faculty of aeronautical engineering at the Technion in the Fifties - then considered a white elephant - led the way to the development of an aircraft industry in Israel. The training of more engineers in computers, electronics and other high tech fields will provide a similar foundation for new industries.

Significant funding will be needed to support the concurrent increases required in university enrollment to meet the needs of the high-tech industry into the 21st century.

24. One sector in which Israel excels is software. While export figures are not inclusive in demonstrating potential and capability, achieving some $300 million in exports in 1995, 25 percent more than in the previous year, is an indication of the industry's potential. The software industry has some 200 companies employing a total of 8,000 computer and software professionals.

25. When local software companies need to hire new staff, particularly when required to carry out an international project whose potential profitability is higher than that of a local project, they offer higher salaries and thus push up pay levels in the industry as a whole.

Venture Capital

26. The venture capital market serves an important function in the Israeli Hi-Tech industry by providing funds to start-ups set up by engineers/scientists with no prior entrepreneurial experience and lack the equity needed to finance their inventions and innovations. They approach venture capital funds to obtain finance and no less important to establish an association with a financial partner for introductions to potential strategic partners.

In general, Israeli start-up companies have proven successful in the R&D stage but some lack marketing skills and venture capital funds, especially those with foreign affiliations play an important role in giving direction to marketing strategies and facilitating contacts with foreign companies.

27. A major catalyst for the venture capital industry in Israel is Yozma Venture Capital Ltd, which was set up in 1992 by the government of Israel with a capital of US $100 million. The government's objectives in setting up Yozma was to establish a venture capital industry in Israel and to encourage foreign venture capital funds and local corporations to invest with Yozma in high tech start-ups. Through Yozma, the government has helped to create a venture capital industry that's already larger in relative terms than its counterpart in Europe. Yozma joins as a partner with local and foreign investors in new venture capital funds. In each case it has invested up to 40 percent of the total capital of each fund up to a maximum of $8 million. The private partners have a buyout option to purchase Yozma's interest in the fund any time during the first five years under pre-set terms.

A successful fund, therefore, could buy out Yozma's interest, thereby further improving its performance.

Yozma started actual operation in January 1993. By September 1995 it had helped create nine funds with $200 million in capital. Yozma's partners include: Advent International Corporation, The Van Leer Group of the Netherlands, The Walden Venture Capital Group, Oxton International Corporation, TVM Techno Venture Management of Germany, AVX, a subsidiary of Kyocera of Japan, and Daimler-Benz.

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Recently the focus of Yozma has shifted from participation in the establishment of new funds to direct investment in startup companies, together with foreign firms to serve as strategic partners to help them in penetrating the international marketplace.

In the last three years Yozma, together with foreign and local partners, has directly invested in 14 start-up companies, some of whom have matured to warrant a public floatation.

Yozma has helped turn the Israeli venture capital market into a $500 million industry, with some 25 active venture capital funds, both private and public. Successful high tech companies which are becoming world wide leaders in their fields are emerging side by side with the establishment of venture capital funds. Only four years ago there were one or two professional venture capital funds operating in Israel. Except for some successful Israeli high tech companies (most of which are publicly traded on the NASDAQ in the United States, making Israel the second largest supplier of foreign stock on NASDAQ after Canada), few companies were able to become independent world wide players in their fields. Most of Israel's brain power has been utilized by international corporations through subcontracting and sourcing programmes.

28. Major corporations such as IBM, Intel, Digital, Microsoft and others have established operations in Israel, including R&D facilities. Attempts to establish strategic relations have created business opportunities in the field of investments and acquisitions.

Last year witnessed five acquisitions: Shany Computers (error-detecting software) acquired by Intel, Nicecom (ATM switch products for high speed LANs) by 3 COM, Ubiqut (software for multimedia communications and internet) by America On Line, Ornet Data Communication Technology by Siemens, Pegasus Technologies (3D wireless mouse) by HBO and Lannet Data Communcations by Madge Networks (UK). The latter is the largest ever single British investment in Israel. Madge, who in June 1995 bought Lannet for $300 million, is planning to set up a plant in Jerusalem at an investment of $10 million to produce computer networking products for worldwide distribution. The facility will employ 200 engineers and technicians.

29. Today Israel possesses what many analysts believe to be the greatest concentration of high tech start-ups anywhere outside California's Silicon Valley. It is considered the second most fertile place for entrepreneurial high tech in the world after the US.

30. A number of Israeli Hi-Tech companies who have successfully raised capital in the NASDAQ market in New York (which has a total listing fo some 70 Israeli companies) are now beginning to look at the UK capital market. In July 1996 an Israeli data communications equipment manufacturer, BATM Advanced Communications, has become the largest of Israeli companies (out of fourteen foreign companies on AIM) to raise capital at A.I.M. The BATM launch, which raised £12 million, will help it fund a new manufacturing R&D facility in Israel and expand sophisticated equipment to speed up the assessing of computer information.

Hi-Tech Incubators

31. There are now 28 Hi-Tech incubators for 190 projects employing more than 800. A total of 450 projects have been initiated since the incubator's conception five years ago when immigration from the former CIS reached its peak. 156 projects have achieved the objectives set by the Office of the Chief Scientist and continued on their own. 103 of these have signed agreements with partners for the commercialisation of their inventions.

32. The incubator budget, which was $1 million in 1991, increased over the years and is now $33 million. The Hi-Tech incubator system is designed to support immigrant scientists.

33. The OCS covers 85 percent of the costs for a period of two years, after which the scientist has to go on his own or use other channels of support to commercialise his invention. The immigrants receive legal aid, entrepreneurial training and access to equipment.

Office of the Chief Scientist (OCS)
Ministry of Industry and Trade (MIT)

34. The budget of the Office of the Chief Scientist (OCS) of the MIT was increased significantly in the last few years and totalled $346 million in 1995, compared to $310 million in 1994.

35. In 1995 the OCS gave grants totalling $295 million, compared to $256 million in 1994. The number of projects approved for funding was 1220, compared to 1271 in 1994. The number of companies approved for funding was 781; of whom, 218 were start-ups and 291 were new companies.

36. The percentage breakdown of grants by sector was:

	1995	1994
Electronics	37.00	38.00
Communications, including broadcasting and data transfer	28.00	23.00
Software	16.00	11.00
Chemicals, including pharmaceuticals and biotechnology	7.00	12.00
Medical	6.00	7.00
Other	6.00	9.00
TOTAL:	100.00	100.00

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Grants by the OCS range from 20 percent to 66 percent of approved R&D expenditure.

37. Dr. Shuki Gleitman, the Chief Scientist at the MIT, visited Britain in November 1995 as a guest of HMG. In the course of his two-day visit, he addressed the Financial Times Conference on Biotechnology, which gave him a chance to highlight the potential for R&D cooperation with the Israeli biotechnology industry.

R&D International Cooperation

Israel has scientific agreements with a number of countries. The most far-reaching bilateral ties are with the USA, Germany and France.

Israel/USA

Israel and the USA have four major endowment foundations. The main one is:

38. BIRD Israel - US Binational Industrial R&D Foundation, established in 1977 with an endowment of $60 million and was increased by $50 million in 1984 to $110 million. Since the first project was initiated in 1979, BIRD has supported 430 joint projects involving a US company and an Israeli company as a team. In 1995, 39 US Hi-Tech companies entered projects with Israeli companies.

39. A breakdown of companies by sectors which have benefited from BIRD is as follows:

	1995	1994
Software	28%	28%
Electronics	16%	18%
Communications	22%	14%
Medical, including biotechnology	12%	12%
Semiconductors	8%	11%
Other	14%	17%

40. In the financial year ending 30 September, 1995 BIRD realised an income of $14.5 million, $8.5 million of which was interest income on the endowment and $6.0 million from repayments by successful grantee companies. Cumulative endowment income over the 18-year history of the Foundation amounts to $106.4 million, and cumulative repayment income totalled $34 million.

41. BIRD derives its primary income from the interest on the $110 million endowment that was contributed in equal parts by the two

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41. BIRD derives its primary income from the interest on the $110 million endowment that was contributed in equal parts by the two

governments. About $83 million bears interest at a rate dependent upon LIBOR, the balance bearing interest that is linked to the Israeli Cost of Living Index.

42. Harris Corporation, a $3 billion US hi-tech company, and a young Israeli hi-tech company were honoured with the 1995 BIRD Joint Venture of the Year for the development of a new wireless system for business telecommunications.

43. Projects approved in 1995 include:

(i) Aerotrans Corporation, USA, and Cyclone Aviation Products Ltd, Israel - composite high pressure oxygen tanks

(ii) American Paging Inc. and Nexus Telecommunication Systems Ltd, Israel - two-way paging systems

(iii) Caere Corporation, USA, and Shonut and Probabilistic Solutions Ltd - Arabic optical character recognition products

(iv) Diasonics Ultrasound Inc., USA, and Elscintec Systems Ltd, Israel - Generic modular digital front-end for diagnostic ultrasound

(v) Geotek Communications Inc., USA, and MIS Mobile Information Systems Ltd, Israel - dispatch and fleet control systems based on wireless data communications

(vi) Corrometrics Medical Inc., USA and Medco Electronic Systems Ltd, Israel - noninvasive foetal ECG monitoring system

(vii) Encyclopaedia Britannica Educational Corp., USA, and Technological Educational Development Ltd, Israel - innovative science and technology curriculum programmes.

44. The US partners in BIRD projects range form multi million dollar Fortune 500 stars to niche market leaders. The Israeli partner can be young companies just emerging from the start-up phase or successful public corporation. Whatever the combination, BIRD teams the marketing expertise, distribution network and global leverage of American companies with the innovative spirit of Israeli hi-tech companies. BIRD not only supports projects through funding, but engages just as actively in matchmaking. BIRD funding is provided in the form of a grant which does not entitle it to equity or intellectual rights. If the project is a commercial success, the Foundation receives repayment, a pre-tax expense to the grantee - up to a maximum of 150 percent of the grant. Companies not realizing commercial benefits from the project are not under an obligation to repay BIRD.

Israel-US Science & Technology Commission

45. In July the Israel-US Science & Technology Commission approved three projects:

Sea Water Desalination Project - $8 million project to Ralph M. Parsons Co., USA, and I.D.E., the Israel Desalination Engineering Co., Israel, to design and develop a sea water desalination technology and to plan and build plants with a capacity of 300,000 cubic meters a day capable of supplying the demand of a population of two million at a cost of less that $0.50 per cubic meter.

Advanced Ultrasound System - $48 million project to Silicon Graphics, USA, and Elscint, Israel, to develop a high performance compact and low cost real-time diagnostic system, employing powerful computers and computer graphics and software. The system is expected to revolutionise diagnostic ultrasound by significantly enhancing clinical efficacy and increase the range of the radiation free sonography procedures.

46. The first projects to win the support of the Israel-US Science & Technology Commission were jointly announced in February 1995 by the late Secretary of Commerce Ronald Brown and the then Israeli Minister of Industry and Trade Micha Harish.

47. The Commission supports joint ventures between US and Israeli companies to develop and commercialise medium to high risk technologies in a number of areas. The awards are based on selection process by the National Institute for Standards and Technology (NIST) in the US and the Office of the Chief Scientist (OCS) in Israel. The awards to the joint ventures are made on a cost sharing basis with the private sector paying at least half of the cost over a four year period. Products range in size from $6 million to $13 million with the government's share being divided equally between the two governments. Support is subject to a recoupment of two percent on the sale of products developed with Commission support up to the amount of the award. To date, the Commission is committed to projects totalling $47 million.

48. The US-Israel Binational Agricultural R&D Fund (BARD) is devoted to joint agricultural research. Its $110 million endowment fund has financed over 600 projects since its establishment in 1979.

49. The US-Israel Binational Science Foundation (BSF) provides funding for basic and applied research in a variety of scientific fields. Both countries contribute equally to the $100 million endowment fund which finances an average of 300 projects a year in the fields of life sciences, chemistry, physics, mathematics and other areas.

Israel/Germany

50. There are elaborate scientific relations between Israel and Germany. Cooperation is mainly in basic science and not in industrial R&D. The German government, particularly through the

German Ministry of Research and Technology (BMFT), is the main supporter of these activities. BMFT has also helped establish a number of interdisciplinary research centers at Israeli institutions.

In 1986 the German Israel Foundation for scientific research and development (GIF) was established. The two governments contribute equally to this DM 300 million fund which finances some ninety joint research projects a year.

Israel/UK

51. The UK-Israel Scientific and Technology Research Fund was officially launched simultaneously in the UK and Israel at signing ceremonies between representatives of both governments on 12 June, 1995. The aim of the fund is to encourage joint academic research in the fields of biotechnology, molecular biology, electro-optics and high performance materials.

The total budget of the fund is £1.8 million over a three-year period. The British and Israeli governments provide one-third of the Fund each, while the remaining third comes from two private British sponsors.

52. A number of British universities are currently active in Israel, offering a range of largely second degrees (a majority of which are MBAs). These include the Heriot-Watt MBA (taught locally in Hebrew), the Coventry BSc in engineering and the Bradford Executive MBA.

53. The Israel Britain Business Council (IBBC), which was established in March 1995 on the initiative of the Prime Ministers of Britain and Israel to accelerate the growth of two-way trade through the involvement of leading entrepreneurs in both countries has established working groups to focus their activities on Finance, Health, Education, Hi-tech and R&D, Infrastructure and Tourism. The joint working groups have developed plans for initiatives and a series of missions, seminars and conferences. The Council meets bi-annually with the next Council meeting scheduled for February 1997 in London. The Chairmen of the Hi-Tech subcommittee are Mr. Henry Knobil, Chairman of the British Israel Chamber of Commerce, and Mr. Hanan Achsaf, President of Motorola Israel Ltd. An Israeli Hi-Tech mission has visited Britain in October 1996 for a seminar on accessing EU R&D funds and matchmaking with UK firms. There are plans for a DTI-supported Hi-Tech mission to visit Israel in February 1997 focussing on the telecommunications sector.

54. Mr. Robin Sleight of GEC Marconi has been seconded to the DTI as the Export Promoter for Hi-Tech.

55. The British Council and the DTI have jointly published "Israel: A Science Profile." (see OTIS 96/199696)

German Ministry of Research and Technology (BMFT), is the main supporter of these activities. BMFT has also helped establish a number of interdisciplinary research centers at Israeli institutions.

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Israel/EU

56. On 25 March, 1996 Israel became the first non-Member State to participate as an associated State in the Union's Fourth Framework Programme of (non-nuclear) scientific research and technological programme. Each side has access to the other's R&D programmes. Israel, which has an advanced R&D capability, will contribute around ECO 30 million annually to the Programme - that has a budget of ECU 12.3 billion for the next five years - allowing industries and research bodies to participate in the EU's calls for proposals in scientific R&D fields. According to the agreement, Israel can also sit as an observer at EU meetings, which decides how the research funds are to be allocated. The inclusion of Israel in the programme is an indication of the country's high standing in science and is expected to further boost the level of research at Israeli universities and institutes. Israel expects the programme to bring tangible benefits to its high-tech industries, particularly through the formation of strategic partnerships with EU firms.

Israel/Singapore

57. Israel and Singapore are in the final stages of concluding a cooperation agreement for the establishment of an R&D Fund. Each government will contribute $1 million to support joint industrial R&D projects.

Miscellaneous

58. Negotiations are going on between the OCS and its counterparts in Ireland, Belgium and India to set up joint R&D Funds.

59. Volkswagen is setting up a magnesium research center at Ben Gurion University of the Negev at an investment of DM 50 million. The research activities are classified into material-oriented and processing/application-oriented work. Equipment for the Institute will include scientific apparatus for a recycling laboratory, a casting laboratory and fine metallurgy laboratory for the investigation of material fatigue and creep behaviour, as well as computer simulation. Israel is expected to become a major world center for the development of various magnesium technologies.

Volkswagen is a strategic partner in Dead Sea magnesium (DSM) Ltd, which is 65 percent owned by Dead Sea Works Ltd and 35 percent owned by Volkswagen. DSM is building a 27,000 ton per annum magnesium production plant in Sdom on the southern shores of the Dead Sea.