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KEY POINTS ON U.S.-ISRAEL RELATIONS

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Israel's Participation in the SDI Program

By Dr. Aron Moss

Director of the SDI Cooperation Program Office and Head of the Research and Technology Base of the Israel Ministry of Defense Directorate of Defense R&D

On 6 May 1986, Israeli Minister of Defense Yitzhak Rabin and U.S. Secretary of Defense Caspar Weinberger signed a Memorandum of Understanding (MOU) and accompanying letters at the Pentagon. Israel thus became the third country to join the United States in the Strategic Defense Initiative (SDI) program.

The pact, which American officials described as similar to the memoranda signed by Great Britain and West Germany - the other two signatories - establishes a framework for Israeli laboratories, industries, academic and research institutions to bid for SDI contracts. However, in contradistinction to the German agreement which was concluded between the German Minister of Economy and the U.S. Secretary of Defense, the Israeli-American pact was concluded on the level of defense ministries, in accordance with the mutual desire of both parties concerned. This reflects the perception that Israel's participation in the SDI program is essentially a defense establishment-related matter.

Israel's signing the MOU has both political significance and practical considerations. In regard to the latter, Israel sought to obtain the identical rights for its government and industry as those of American companies - to bid for R&D contracts and subcontracts. Among the rights Israel sought was the right to advance notification of impending bids (readily given to American industries) so as to allow sufficient preparation time, and access to classified information relating to the SDI program that the U.S. Government makes available to American companies on an ongoing basis in the form of "Briefings to Industry."

The memorandum and its annex relate to three broad areas of cooperation: basic technologies, industry-to-industry contracts, and government-to-government contracts. The annex to the MOU outlines extremely broad areas in which Israel is eligible to participate. In essence, almost all relevant technologies are open to Israeli participation.

On the level of basic technologies, Israel will assist the U.S. in its search for technologies and processes which may be integrated into the SDI program 10-15 years hence. The Israeli SDI Cooperation Office, will be

responsible for locating those basic technologies in Israel relevant to SDI and encouraging research establishments, industries, and institutions of higher learning to present proposals. Inasmuch as the Americans are extremely open to ideas, we have every intention of being liberal in our judgment.

In preparation for our initial contacts with the Americans, we made a survey of existing technologies in Israel which may have applications to the SDI program, and we were astounded by the vast spectrum which this list encompassed. Fields in which Israel may make a distinctive contribution include lasers, secure communications, and artificial intelligence.

In the second area of participation, company-to-company agreements, we see Israeli industries serving as subcontractors to U.S. prime contractors. Our aim is to refrain from competing with American companies, but rather to complement them. In this area, again, all opportunities are open to Israeli science-based industries, and we intend to encourage our companies to avail themselves of all the promotional means and marketing facilities at their disposal to conclude contracts with American firms on a one-to-one basis. We shall keep a low profile in these industrial negotiations and restrict our intervention to the bare minimum, i.e., reviewing the agreements just prior to their ratification.

Shortly before the signing of the SDI memorandum, a group of high-ranking representatives of American industries involved in the SDI program visited Israel, met with their Israeli counterparts, and toured Israeli industries. The contacts made will be followed up by both sides.

In the near future the Americans will announce a bid for the development of a defensive system against short-range ballistic missiles, designed to meet the needs of Western Europe. As this is a field of particular interest to Israel, our office may encourage Israeli industry to participate in this endeavor as partners or subcontractors to American or European industries.

In certain areas where Israel has demonstrated unique capabilities and which have direct relevance to the development of conventional means for the IDF, our office

NEW PRODUCTS

The new "Alpha" M - 787 double action (proximity and point detonation) fuse from Reshef Defense Technologies Ltd. is compatible with all 60, 81, 82, 120, and 160mm mortar bombs. It has a unique feature which results in a superior immunity to interference, when compared to a similar fuse. It is powered by an air driven alternator that serves as a second safety signature in addition to a set back integrator. Safe separation distance is 200 meters.



Compatible with 105, 155, and 202mm(8") Howitzers and 130mm - M46 and 175 guns, the new "Delta" M -137 electronic artillery fuse, also from Reshef Defense Technologies Ltd., has a maximum deviation of just 0.1 second, which its manufacturers claim is far more accurate than its nearest competitor.

"Delta" has a 3 to 199.9 seconds electronic time delay feature that is manually preset by the operator. Point detonating is also possible, and the setting system is digital with positive self locking. Both "Alpha" and "Delta" were designed and manufactured by Reshef Defense Technologies Ltd. according to IDF specifications, as well as all relevant Western specifications for safety, ballistics and performance. circle no 4

Aran Electronics Ltd. has produced the Speedo camera, to be used for industrial research and military purposes. It is self-contained, without any extra boxes or wires, and can be used with all standard video recorders, monitors, or transmission devices. It may be operated handheld or stationary, with or without remote control. The camera has a unique optional system that enables it to pick up one field of each frame for enough time lapse to ensure complete discharge of previous picture and receive a clear picture, free of previous memory.

It is equipped with an automatically synchronized shutter for cap-

turing objects in high speed motion clearly without blur and free of any mechanized vibrations. The shutter is mounted on a high quality standard camera and can be adjusted from 1/500 to 1/1,000 of a second, or in a non shuttered model if desired. circle no 5

Elbit has produced Opher, a low-cost terminal guidance kit (LCTG) for general purpose bombs. It uses existing weapon delivery accuracy and adds only the minimum smartness necessary to correct the 8-15 mrad ballistic trajectory to a point target hit.

The LCTG is intended for deployment on a large scale basis, against grouped targets such as battle tanks and armored vehicles. It is also effective against surface-to-air missiles and ships. It is suitable for any attack aircraft, is accurate and immune to disturbances due to autonomous control and guidance system, is versatile in that it can attack from both high and low altitudes, and requires no additional pilot training. circle no 6

Elta's EL/S-8811 and EL/S-8812 are compact tactical video receiving systems (TVRS), designed to provide real-time video battlefield pictures directly to the front edge battle area (FEBA). The EL/S-8811 is a



An unusual replacement stock for the Uzi carbine, a semi-automatic version of the Uzi submachine gun, has been designed and developed by Concept Ltd., a Tel Aviv-based design firm. The new stock, known as the Barracuda, was designed according to ergonomical considerations and field experience. It provides the user with a positive hold on the carbine, in every conceivable shooting position. The pistol grip and the foregrip are anatomically sculptured and fit comfortably into

vehicular TVRS consisting of four major components: receiver, controller, processor, and display unit. This configuration has full system capabilities. EL/S-8812 - Manpack TVRS is designed for use by infantry and marines as a manpack unit. The receiver is carried in a backpack harness. Both systems facilitate reception and display of signals transmitted from video information sources such as MRPV (mini remotely piloted vehicles), manned reconnaissance aircraft and high power video binoculars for day applications. circle no 7

Tadiran's PRC-434 Aircrew Rescue Radio is a highly advanced radio transceiver developed specifically for use by downed aircrew or other survivors in combat zones. Compatible with conventional rescue systems, the PRC-434 features 3,000 available channels in the UHF frequency range; multi-mode operation; and automatic activation upon aircrew bailout. Designed for easy operation, even by a partially disabled survivor, it has single-handed operation and a digital readout and tone signal indication. It is powered by a long duration safe lithium battery. The design of the radio is thoroughly human engineered in view of expectable adverse conditions of use and the probability of operation by an injured survivor. circle no 8

the palm of the hand. The underside of the foregrip is flat, for resting the carbine on a support. The strange-looking inward-curved lower part of the butt permits the shooter to hold the carbine firmly against his shoulder when firing from a support. Development of the stock is a joint venture of Concept, and a kibbutz-based polyurethane products plant, Polyrit, which is responsible for its production. circle no 9

Information appearing on this page was supplied by the producers themselves.

may accept prime contractorship for a project. As such projects will no doubt involve a large number of Israeli corporations, our office will act as prime contractors during the initial stages. At a later date, however, we may select an Israeli company to serve as prime contractor, and the SDI-Cooperation Program Office will revert to the status of program manager.

There is a common misconception that SDI is a defense pact on the operational level. The U.S. has made it clear that the SDI program is a research program only, and there has been no effort or plans to integrate Israel into a defense system. Indeed American treaties and agreements with the Soviet Union (such as the ABM treaty) preclude the production and deployment of defensive weapon systems against strategic ballistic missiles.

So long as the US does not change its policy there will be no operational deployment of these systems, and tests will be carried out chiefly on the ground or by simulators.

The U.S. is planning to invest approximately \$26 billion for SDI-related technological development during the next five years. Israeli participation can only account for a very small percentage of that sum. Yet it is our belief that the dividends to be derived as a result of Israel's participation, will be beneficial to the U.S..

Though Israel has not had experience in space technology, the Americans have expressed their high esteem for the Israeli science base. They believe that Israeli scientists and engineers will be able to adapt their knowledge and experience to the SDI program needs and make substantial contributions.

Israel brings to the program many unique capabilities and relevant experience. Israel possesses vast experience in high-tech defense-related areas. Because of its small size, communications among all echelons of Israel's defense-related R&D community are greatly facilitated. By way of illustration, any defense industry plant in the country is accessible by a maximum three-hour drive from our Tel Aviv office. The distance from drawing board to testing site is likewise only hours away. Thus, on-the-spot visits and face-to-face in-depth consultations can replace tedious and time-consuming bureaucratic correspondence. Since most members of the R&D community know each other personally, difficulties can be cleared up rapidly and amicably. Due to Israel's informality and minimal red-tape, ideas are immediately communicated from user to developer and time required to develop a working solution to a problem is considerably shorter than elsewhere. Israeli scientists and engineers, most of whom do reserve military service, are very familiar with the practical demands of military systems. These

considerations may account for some of the reasons for the extremely low failure rate in Israeli defense developments and relatively low R&D costs, and why we believe that the potential contribution of Israeli scientists, institutions and science-based industries to the SDI program far outweighs the American investment.

Though the SDI research program is for military purposes, we may expect that there will be considerable civilian spin-offs, for the benefit of all. There are three stages in the life-cycle of military research programs: The development of technologies, their application to the program in the form of development of weapon systems, and the development of a wide array of civilian products using the basic technologies developed for military purposes. This life-cycle has been most dramatically illustrated by Project Apollo in which the spin-offs of micro-electronics include the microcomputers which have become a household item, and the digital watches we all wear. It may be assumed, therefore, that the SDI research will eventually have many civilian applications. Israeli industry will be encouraged to look for civilian applications for the projects being developed for the SDI program.

Any agreement regarding advanced technology transfers requires give and take, and acceptance of limitations regarding end-use. This has always been the case during the history of Israel's receipt of American defense-related technology or materiel for its own defense development, and Israel has accepted and honored restrictions on the end-use of Israeli products which may employ American technology, components or subsystems.

As regards Israel's participation in SDI, the situation is somewhat more complicated inasmuch as there is a two-way flow of information with the bulk flowing from Israel to the United States. While there may initially be some transfer of American know-how to Israel so that Israeli researchers will not have to start from scratch in certain areas, Israel, in the SDI program, will essentially be developing technologies and products with its own know-how that will be transferred to the United States.

Though the U.S. will maintain licensing rights to knowhow accumulated and products developed in the course of the SDI program, Israel, in its negotiations over the MOU, sought the right to use and to have a say in the end use of knowhow it develops. This, to ensure that such knowhow or products will not be transferred to countries which may be hostile to Israel.

The SDI memorandum is another link in a large chain of Israel-American cooperation. We are confident that Israeli participation in the program will make a meaningful contribution to the program's success and will be beneficial to both parties.

Dr. Aron Moss holds a Bachelor of Aeronautical Engineering from the Technion-Israel Institute of Technology, a M.Sc. in Astronautics from the Polytechnic Institute of New York, and a Doctorate in Management Science from the University of Paris.

A former IAF officer, he has been employed by the Ministry of Defense since 1965 where he occupied R&D managerial positions. From 1979-82 he served as Defense R&D Attache at the Israeli Embassy in Washington.

THE EVOLUTION OF THE GROUND CORPS COMMAND

by Jeff Abramowitz

Commonly – and erroneously – known as the Ground Forces Command, the Ground Corps Command (GCC) has been assigned the task of building up the IDF's field units and preparing them for battle. Under its authority are the four combat corps units of the IDF – the Armored Corps, the Paratroop & Infantry Corps, the Artillery Corps and the Engineers Corps – as well as another unit, set up as a direct result of the establishment of the Command – the Field Intelligence Body. During wartime all these units are deployed by the IDF territorial commanders, who integrate them with the forces already under their command.

IDF units are by tradition born in battle. Few, if any of them were born in a battle quite like the one which precipitated the establishment of the Ground Corps Command.

The Beginning

Set up finally in 1983, the Ground Corps Command as it exists today is the culmination of a long, and at times vociferously acrimonious struggle within the IDF to create a command which would be responsible for coordinating the actions of the IDF ground forces. The prevailing philosophy in the IDF – which has continually been proven correct – is that any victory achieved by the IDF will be a land victory; although the Air Force and Navy can, and often do achieve spectacular successes, these would be worth nothing if the ground forces did not succeed in their mission. The ground forces are considered the fulcrum upon which an IDF victory depends, and it is for this reason that the IDF is structured essentially as a ground army. Hence over the years the General Staff developed into a body which commanded the ground army as well as the Air Force and Navy, whose task it is to complement the ground forces.

This structure, however, was in itself problematical. The General Staff, by virtue of the fact that it commanded all branches of the IDF, had to deal with a wide range of subjects, not all of them directly related to the ground forces. This meant that the ground forces did not receive the attention they deserved. Furthermore, while the Air Force and Navy had direct advocates sitting on the General Staff, in the persons of their commanding officers, there was no one officer on that body who could speak on behalf of all the ground forces.

It was a cumbersome set-up, and as early as 1953 there was a proposal to set up, "within a few weeks", a special command which would be responsible for the combat

doctrine and training of the ground forces. Nothing much came of this proposal, nor of a similar one of that same year whereby the IDF would create the post of Chief Officer of the Ground Forces. It is a measure of the importance accorded the issue that the same proposal, or ones very similar, were raised again and again – in 1956, in 1966, in 1969, and in 1972. None of them made much, or indeed any, headway; in 1972, for example there was stiff opposition to the General Staff even studying the idea.

Then came the Yom Kippur War. Perhaps no event changed Israeli thinking so completely as did the surprise attack launched by Egypt and Syria at 14:00 hours on Saturday, 6 October 1973. It was an event which served as a catalyst for a great many others, and after the final ceasefires, when the shooting stopped and the post-mortems began, the defense establishment had time to begin an evaluation.

The war had been won, at least militarily, but it was felt that the Israel Defense Forces which emerged from the war were in bad need of an overhaul. In the first few days of the war when IDF losses had been heavy the outcome of the war had hung in the balance. The general consensus, it would appear, was that some sort of change was needed, that there had to be a re-evaluation of sorts, not just in the IDF combat doctrine, but also in the IDF structure. There was also some criticism of the way the ground forces had performed, especially during the first, critical days of the war. The feeling grew that what was needed was a body which would coordinate the training of the combat corps units.

The combat doctrine of the ground forces was also examined. Following the successes of the 1967 Six Day War, the IDF ground army was restructured around the philosophy of the tank as the decisive battlefield weapon, able to decide the course of any military engagement fought on land, and in particular in the expanses of the Sinai desert, where it was assumed the next major battlefield would be. According to the doctrine developed in the wake of the 1967 war, tank brigades were trained to fight as the cutting edge of the armed forces, which were now reorganized around them in conveyor-belt formations. Their task was to support the advance of the tanks, which pulled forward the entire army. Everything depended on the tank brigades; the infantry was trained and equipped to fight in a supporting role, its main role being to mop up in the wake of the tanks.

This was essentially the doctrine Israel used at the start of the Yom Kippur War, and the Egyptians, by using infantrymen armed with anti-tank missiles, were able to

National

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Israeli participation in SDI expected to help both sides

By Warren Strobel
THE WASHINGTON TIMES

Israeli participation in the Reagan administration's Strategic Defense Initiative will help both Israel and the program, but it isn't clear how the Middle East nation will fare in winning SDI contracts.

Participation in the multibillion-dollar research program would fulfill several Israeli goals. Its prime goal appears to be construction of a defense against Soviet SS-21 missiles stationed in Syria. Such a defense is one of the first technologies expected from the SDI program.

Participation also would keep Israel at the vanguard of warfighting technology and would help cement its alliance with the United States.

Of advantage to the United States is Israel's unparalleled research and development track record.

Calling SDI "a project of great interest to the future of the world and

the Free World," Israeli Defense Minister Yitzhak Rabin, along with Defense Secretary Caspar Weinberger, on May 6 signed an agreement outlining Israel's participation in the program.

Technologically, "we both can add to each other," said Emanuel A. Winston, a Chicago-based expert on Middle East affairs.

"Israel has the advantage of being involved in a very expensive type of research which they [Israel] might not otherwise be able to afford," Mr. Winston said. "They give as good as they get."

Small in number, but highly accurate, the Soviet SS-21 missiles in Syria could destroy Israeli military control centers and airfields almost without warning. No defense against them exists. Similar missiles threaten U.S. allies in Europe.

"It [SDI] simply eliminates what Israel needs most, which is quick response time," said Joyce Starr, di-

rector of Near East studies at Georgetown University's Center for Strategic and International Studies. She called the missiles "not only a high priority threat for Israel, but the highest priority threat."

Israeli officials believe that more advanced SS-23 missiles soon will be on their way to Syria, she said.

Miss Starr, who last month led a delegation of 24 U.S. contractors to

Israel, a tiny nation surrounded by often-hostile Arab states, faces weapons arrayed against it that have been made in countries across the globe, Mr. Winston said.

"The mix of weapons systems is so extraordinary, Israel has to have... almost a surrealistic approach to defense," he said.

Heavily dependent on technological experts, Israel excels in the de-

velopment of lasers, computer software and propulsion systems. It out-performs the United States in such development technologies as remotely piloted vehicles.

Proponents of Israeli participation in SDI said it could serve to catalyze the program, to further U.S. aims and to bolster Israel's sagging economy.

"From the U.S. standpoint, it's good to have anybody support SDI," said skeptic Peter Stares, a Brookings Institution analyst. "From Israel's point of view, I'm not sure how much they can hope to gain from it."

"The Israelis see it more as a way of getting a handle on the technology in the U.S.," he said.

Observers say the Israeli decision is unlikely in itself to coax support from U.S. allies in Europe, where the SDI program remains controversial. Great Britain and West Germany also have agreed to participate in SDI. Blessed with greater experience in handling the Pentagon and U.S. industry, they both may have an edge when it comes to bidding for lucrative research contracts and subcontracts.

The two countries "are more familiar with the players," Miss Starr said. "It's going to take a great deal of work and follow-up by the Israelis, if they're really serious..."

"They [Israel] basically need to get their act together and get over here and start dealing with contractors," said Charles Fooks, spokesman for the conservative National Jewish Coalition.

"It'll be tough, of course," said an Israeli Embassy spokesman. "But that's the name of the game."

There are other drawbacks.

"The most serious strategic implication for Israel of participation in SDI is its possible effect on Soviet global military planning in the future," Dore Gold, a researcher at Tel Aviv University's Jaffe Center for Strategic Studies, wrote in a December 1985 paper. "Israel could become a significant Soviet nuclear target."

Said Miss Starr: "These long, long-term major question marks are important, but don't have enough weight to weigh in against the advantage of the short-range opportunities."

NEWS ANALYSIS

Israel in talks credited with paving the way for the SDI agreement, said Israeli Prime Minister Shimon Peres "was not politely supportive, he was openly and enthusiastically supportive" of the SDI concept.

"Whether they would have moved as quickly without the direct threat of the SS-21s and without Peres — I suspect that those were the two prime elements," she said.

Charles D. Brooks

Israeli SDI Participation Benefits U.S. and Israel

In March 1983, President Reagan formally announced a pioneering defensive strategy predicated on the notion that it is better to save lives than avenge them. The president's plan, called the Strategic Defensive Initiative (SDI), was designed to replace the doctrine of Mutually Assured Destruction (MAD), a dangerously obsolete and immoral doctrine of holding civilian population centers hostage to nuclear attack.

In Israel, a nation faced with the ultimate challenge of ensuring self-survival, the president's vision and the invitation to U.S. allies to participate were met with great interest. After preliminary discussions, Israeli Defense Minister Yitzhak Rabin formally responded to the American invitation agreeing "in principle" to participate in the initial research and development phases of the SDI program.

The strategic, economic and political implications of Israeli involvement in SDI are significant. The most immediate benefit to Israel will be the development of missile interception technologies. The invitation sent to the allies specifically states that the program will "examine technologies with potential against shorter-range ballistic missiles," and antitactical missile technologies are likely to be among the first to be developed.

The use of surface-to-surface missiles against major cities in the Iran-Iraq war has alerted the Israeli defense establishment to the urgent need for such technologies. Syria, Israel's foremost adversary, has already deployed highly accurate and lethal SS-21 missiles capable of reaching Israeli population centers, air bases, storage depots and other vital facilities.

Gen. Dan Graham, USA (Ret.), founder and director of High Frontier, the organization from which many of the concepts for SDI arose, has noted these implications for Israeli defense planning. Obtaining defenses against SS-21s, he said, "would enable Israel actually to defend itself . . . rather than simply deter attack by threat of retaliation."

While the threat of retaliation has served Israel well in the

past, this option may no longer be effective in light of the changing realities of modern warfare and the increasingly fanatical character of Israel's enemies. Such threats are unlikely to deter enemies whose scant regard for human life is reflected in suicidal bombings in Lebanon and the use of poison gas in the Gulf war. To guard against the growing ballistic missile threat, Israel must move beyond deterrence to develop a defense against missile attacks if she is to survive.

cide bombings in Lebanon and the use of poison gas in the Gulf war. To guard against the growing ballistic missile threat, Israel must move beyond deterrence to develop a defense against missile attacks if she is to survive.

In a paper presented in testimony before the Senate Armed Services Committee, W. Seth Carus, a military analyst for the American-Israel Public Affairs Committee (AIPAC), called attention to Israel's growing vulnerability to missile attack. Carus pointed out that by 1990 Arab armies will possess large numbers of surface-to-surface missiles armed with sophisticated warheads. As the Arab inventory of SS-21 missiles grows, he

noted, a missile attack on vital Israeli installations would leave the country dangerously vulnerable. In addition, he wrote, existing technologies alone would be insufficient to defend against such attacks, even if Israel knew of them in advance.

Dr. Robert O'Neil, director of the London-based International Institute for Strategic Studies, has also pointed out the inherent benefits of Israeli

See BROOKS, Page 21

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Charles Brooks is the outreach director for the National Jewish Coalition in Washington, D.C., and also serves as a liaison for High Frontier to the Jewish community. He was educated at DePauw University in Indiana, The Hague Academy of International Law and holds a master's in international relations from the University of Chicago.

Omnibus Trade Reform Bill Signals Change in Foreign Business Practices

By DAVID SILVERBERG
Defense News Staff Writer

WASHINGTON — A comprehensive trade bill introduced in the House last Friday will alter fundamentally the way this nation does business abroad or become a political football fit only for election-year gaming.

In its present form, the legislation would have far-reaching effects on industries that produce militarily sensitive or high-technology goods. Companies in these businesses have been buffeted by stringent export controls and massive imports, and the measure is written to modify or reduce controls on militarily sensitive items and to reduce the adverse impact of the controls that remain. It also is intended to force open some foreign markets to American exporters. (See box on right.)

The House Ways and Means Committee and the House Foreign Affairs trade subcommittee reported out their draft legislation last week. Those drafts are being consolidated by the office of House Speaker Rep. Thomas "Tip" O'Neill (D-Mass.) into a single omnibus bill which also will include agricultural and financial reforms.

After the House considers the bill, it will go to the Senate which, until last week, seemed content to wait for developments in the House and simply consider whatever was delivered to its side of the Hill. However, there are now growing indications that the Senate may take a more active role in shaping the legislation's ultimate form. Sen. Bob Packwood (R-Ore.), chairman of the Senate Finance Committee may hold hearings on the legislation when it comes to the Senate.

The administration already has



Rep. Thomas 'Tip' O'Neill

plans to consolidate a number of trade reform measures into one bill.

made plain it will oppose any legislation it considers protectionist. U.S. Trade Representative Clayton Yeutter, the first witness to speak at the Ways and Means trade subcommittee hearings, vehemently opposed any changes in current U.S. trade law, with the exception of strengthening protection for intellectual property rights. Treasury Secretary James Baker, speaking to the U.S. Chamber of Commerce before the Tokyo economic summit, warned that the administration would oppose any diminution of the president's authority or legislation smacking of protectionism. And Sen. Bob Dole (R-Kan.), Senate majority leader, speaking at an April 24 meeting of the American Committee on East-West Accord, an organization promoting East-West trade, noted that some

of the proposed reforms force the administration to take specific actions.

"I don't think that any administration can support that," he said. The executive branch would lose its freedom of action and much of its authority.

At the same time, Dole hinted at a spirit of restlessness in the Senate on trade matters. At a meeting of leading senators and the president on April 23 to discuss trade, the senators brought word "that many of us in the Senate don't feel we've been properly consulted by the administration" on trade policy, he said. But it remains to be seen whether that will translate into any sort of rebellion against administration policy when the legislation actually is considered.

Representatives of industries that produce high-tech and militarily sensitive goods brought their woes to the subcommittees when the draft legislation was being considered. Most industry representatives continue considering the final drafts before pronouncing judgment. However, import-export associations which have followed the legislation closely already have reached their conclusions on the final results.

"From a free trade perspective, we have a lot of hesitation on this legislation," says Eugene Milosh, president of the American Association of Exporters and Importers. Milosh is upset with numerous provisions, including the provisions requiring the United States to retaliate against unfair trade practices abroad and the transfer of authority to the Trade Representative. He feels some of the measures will invite foreign retaliation.

"The focus of the legislation

Highlights of Import-Export Measures In Trade Reform Bill

- Gives greater policy and decision-making authority to the U.S. Trade Representative (USTR) at the expense of the president in a wide variety of areas.
- Requires action, and in some cases retaliation, when foreign violations of trade agreements or unfair trade practices are discovered, and sets time limits and deadlines for taking action.
- Requires investigations by the USTR when a foreign country is discovered unfairly harming U.S. exports.
- Requires negotiations with countries with large, unwarranted trade surpluses with the United States. If negotiations are unsuccessful, calls for presidential action to meet surplus reduction goals — but Congress has ultimate authority over the action.
- Provides greater industry input in determining relief for U.S. industries affected by foreign imports.
- Widens the definition of dumping, the practice of selling items for less than the cost of production, to include preferential loans (loans at concessionary rates) and adds factors to be considered in determining if dumping has occurred. Businesses or individuals injured by dumping would have the right to bring suit against dumpers in the Court of International Trade and the U.S. government would be prohibited from purchasing dumped products.
- Provides for actions against resource input subsidies, the practice of a government selling a natural resource or the right to remove it to a domestic industry at below market value. The reform bill authorizes the United States to impose a countervailing duty against the ultimate manufactured product.
- Decontrols over a three-year period half the items on the list of militarily sensitive technologies that have to be licensed for export.
- Eliminates re-export controls to member countries of the Coordinating Committee of the Consultative Group of Nations (CoCom).
- Puts the burden of proving that sensitive items are available in communist countries on the Commerce Department rather than the exporter.
- Tries to remedy the lack of U.S. access to foreign telecommunications markets by requiring mandatory investigations and negotiations.
- Strengthens protection of intellectual property rights (trademarks, patents, copyrights).
- Creates a program to expand U.S. trade abroad.
- Establishes an interagency group on counter-trade, the practice of bartering goods, services or technology as part of a larger purchase.
- Gives a legal mandate to a fund designed to fight the foreign practice of "bribe" and "specific business deals."
- Strengthens prohibitions against bribery in international commerce, either on the part of foreign firms doing business in the United States or U.S. firms doing business abroad.
- Requires annual country by country reports on foreign economic and trade policies.

has become market-closing rather than market-opening," agrees Paul Murphy, vice president for government affairs of the National Foreign Trade Council, an organization of about 600 U.S. companies doing business overseas.

Jules Katz, assistant secretary of state for economic and business affairs in the Ford and Carter administrations, calls the proposed legislation "monstrous" and cites as particularly objectionable the provisions requiring mandatory action. What is worse, he argues, is that the United States itself would not meet the standards it establishes in the legislation.

Nor should sponsors of the bill expect much support from con-

sumers if Consumers for World Trade is any indication. The 1,000-member nonprofit organization, which lobbies on international trade matters on behalf of consumers, also opposes the legislation.

"I wish I could say something nice about it, but I can't," says the organization's president, Doreen L. Brown.

Almost as damaging to the legislation as the lack of outside support is the possibility that it will become a partisan political issue. The bill is a Democratic initiative coming just before mid-term elections, and it has the potential to become a club used against an administration committed to free trade principles.

Israel Aircraft Reports Successful Lavi Engine, Systems Test

By TONY BANKS
Defense News Correspondent

TEL AVIV — A prototype of the Israel-made Lavi ground attack plane, completed a successful engine run-up and systems check one month ahead of schedule, the Israel Aircraft Industry announced last week. The test included a maximum thrust run-up of the Pratt & Whitney 1120 engine that powers the airplane.

Major portions of the turbojet with afterburner are made under license in Israel by Bet Shefesh Engines Ltd.

In addition, the company performed a successful onboard check of the Lavi's electronic, fuel

and hydraulic systems.

David Ivi, head of the IAI, said recently that the first prototype of the Lavi would be in the air by September 1988. According to IAI officials, other parts of the Lavi project are proceeding on schedule and the prototype will fly in December.

Earlier in the week an Israeli daily newspaper reported that the first test flight would be postponed by several months due to the late delivery of the Lear Siegler-made control system. Doron Suslik, the IAI spokesman, tells *Defense News* that he would neither confirm nor deny the report. But Phil Hermann, a foreign press liaison officer, says that the Lavi will fly on schedule.

Brazil, Chile Arms Deal Expected

By SUSAN BRANFORD
Defense News Correspondent

SAO PAULO, Brazil — Military sources say that before the end of the year Brazil should sign a deal with Chile for the sale of military equipment worth about \$1 million.

Talks began in March during the International Air Fair in Santiago. In April it seemed they might flounder after the Pinochet regime was strongly criticized during the 42nd session of the United Nations' Commission on Human Rights. But, partly because Brazil does not have a

strong internal lobby pressing for a boycott of military sales to Chile, the negotiations continued, if very discreetly.

The Chilean armed forces are considering purchases for EE-T Osorio tanks, the Astros 2 multiple rocket launcher and Tucan military trainer planes. The Osorio is produced by Engesa, Brazil's main armament manufacturer. It weighs 35 tons and is equipped with a 120mm cannon.

It is considered similar to the West German Leopard and is believed to cost about \$74 million.

Israeli Participation Will Enhance SDI Benefits

BROOKS, from Page 19

participation in SDI. O'Neill believes that Israel's involvement will allow Israel to remain abreast of the technologies central to a tactical missile defense.

Avram Schweitzer, a journalist with Israel's respected *Ha'Aretz* newspaper, perhaps best describes the benefits of SDI interception technologies:

"To be in on this kind of technology... could mean the purchase of peace for Israel, or more realistically, the imposition, by non-aggressive means, of a per-

manent state of non-belligerence along its borders."

Besides the utilization of missile interception technologies, Israel will also benefit in other ways from participation in SDI. Israel's industrial future will be greatly enhanced by being at the forefront of the SDI technological revolution while spinoffs could include new computer systems, energy sources, communication devices, medicines and consumer products. Research funds from SDI will help revitalize the universities and the Israeli scientific community.

SDI cooperation will be of critical importance to the Israel defense industrial base that will otherwise be subject to foreign aid cutbacks generated by the Gramm-Rudman-Hollings deficit reduction bill. In particular, SDI will provide jobs and revenues to defense-related industries who have already been forced to cut back on research and development activities because of lack of funds.

America will also benefit from Israeli involvement in SDI. Israel's high state of technological and

scientific capability can be utilized in SDI research. The Israeli Defense Forces demonstrated an unforeseen mastery over command, control and communications by downing more than 80 Syrian jet fighters with no losses during the recent Lebanon conflict. Their expertise in battle-tested technologies would immensely enhance development of weapon systems. In addition, the Israelis are known for their rapid turn-around times from research and development to making weaponry operational. Israeli involvement can serve to catalyze the entire SDI program by accelerating the pace of the effort.

Israel's acceptance of Reagan's

invitation to participate in SDI should yield invaluable dividends particularly in the critical area of development of ballistic missile interception technologies. Unable to match the quantitative advantage in weaponry accumulated by her numerous adversaries, Israel's involvement in SDI should enable her to maintain a qualitative edge necessary for survival.

Israel can only be part of this strategic, technological, economic and political revolution if SDI is funded and promoted by Congress. With the help of Israel's friends in America, SDI may prove to be the most important project ever undertaken by the two allies.

SPF

Though Egypt is fully confident of the Sudanese people's awareness and realization of the dangers surrounding them, we call for further vigilance, because the troublemakers have begun to raise their ugly heads to practice their abnormal hobby of fomenting sedition.

Israel's Role in U.S. Space Defense Program Viewed
PM071226 Cairo AL-AHRAM in Arabic 3 Apr 85 p 13

[Dr 'Abd al-Mun'im Sa'id article: "The United States and Israel: Star Wars"]

[Text] Richard Murphy's visit to a number of Arab countries with the aim of exploiting the Jordanian-Palestinian accord and President Husni Mubarak's proposals for motivating the peaceful settlement of the Arab-Israeli conflict during his recent visit to Washington is drawing nearer; at this time the United States is taking steps that are diametrically opposed to this goal.

U.S. Defense Secretary Caspar Weinberger has invited Israel to participate in the "star wars" research program, that is the antimissile defense system. The invitation was made as part of an invitation to the U.S. allies as well as Japan and Australia. Undoubtedly Reagan's new step is related to his policy of global confrontation with the Soviet Union through his "special defense" [as published] program. He is trying to reduce opposition to the program from the United States' friends by giving them the feeling that they are participating in it, despite the fact that U.S. technological superiority in this field is unquestionable. He is also at the same time, trying to forestall any attempt by

Moscow to drive a wedge between Washington and the other Western capitals.

However, what is of interest to us here is not the "star wars" program as such, for this is a matter of interest to other capitals that pursue the same global policies. What concerns us is why Israel is to participate in this program. On one hand such participation is directly opposed to the settlement process which Washington is allegedly seeking because it means deepening the U.S.-Israeli strategic understanding at a time when Israel is occupying Arab territories, building settlements on them, repressing their inhabitants, and committing all sorts of barbaric actions. Washington cannot conceivably expect Israel, whose economy it fully subsidizes and whose military machine is U.S.-financed so that it can attain strategic superiority over the Arabs, to yield to requests for making concessions at the negotiating table. As if all this is not enough, Washington is now inviting Israel to participate in the "star wars".

What is surprising is that Israel, although an advanced state, has nothing to offer this complex research program. Israel's advanced technological status is largely due to the West in general and to the United States in particular. Therefore, we would imagine that Israel will not be participating in the program as much as being informed of it and of its results. Thus Israel will once again receive a precious gift of military technology that combines the utilization of space satellites, space stations, laser weaponry, and energy guidance systems in order to strike at land targets. It is as if the superiority in conventional and nuclear weapons to which Washington has contributed is not enough: Space weapons have to be added to them.



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more than 100%. While the executive agreements that conclude base negotiations are just promises to make a "best effort" to obtain congressional support for an aid package, Congress confronts a virtual *fait accompli* when the "commitments" finally appear in the annual security assistance request. These multiyear base agreements must be a prime target for reform if Congress is to bring future security assistance into line with budget realities and preserve future flexibility to adjust aid to changing needs abroad.

Pressure for a reform has yet to find expression in Congress, at least not in the authorizing committees where aid to Israel is virtually unquestioned and only modest cuts are proposed elsewhere in foreign aid. The day of reckoning will come later in the appropriations process where final funding levels are determined and the total foreign-aid program must be reconciled with budget realities that will require major cuts in domestic programs and severe limitations for the administration's defense program. If in this context the foreign-aid pie cannot be increased, Congress and the administration will be forced to come to grips with the implications of increases for Israel and Egypt, of long-term base commitments, and the indefinite dependencies spawned by the security assistance program.

End Dependency

At that point Congress may have to consider such painful alternatives as cutting out all funds for the Lavi, holding Israel military aid at the 1985 level to make room for emergency economic aid, and cutting aid to base-rights countries below the "best effort" levels specified in base agreements.

The overall 1986 security assistance program should be cut by at least \$1 billion as a contribution to reducing the budget deficit and as a signal for the administration and recipient countries to plan on a declining level of aid in the future, especially after the next round of base negotiations. Congress should also enact legislation requiring the president to submit plans for ending the indefinite dependency of security assistance clients or justify why this cannot be done in each case.

These measures would force the executive branch to reevaluate the purposes and long-run costs of a program that has suffered from an absence of long-range planning, normal budgetary discipline and congressional restraint. Billions in this and future budgets are at stake.

Mr. Shaw, a senior associate of the Carnegie Endowment for International Peace, headed the military assistance branch of the Bureau of the Budget and the Office of Management and Budget, 1967-1980.

STAR WARS OFFICIAL SUGGESTS ISRAEL'S DEFENSE CAN BENEFIT FROM THE SYSTEM

By Judith Kohn

WASHINGTON, May 23 (JTA) -- The director of research and technology for the United States Strategic Defense Initiative (SDI), commonly dubbed "Star Wars," suggested today that the development of a nuclear defense program in space could have a direct impact on Israeli defense capabilities against conventional weapons.

Asked in a WORLDNET satellite interview with European and Israeli journalists whether the SDI, in which the U.S. has invited Israel to participate, could also serve to intercept short range missiles in the Middle East, Lt. Gen. James Abrahamson, director for the SDI organization, an office of the Defense Department, said that some of the very short range tactical missiles that threaten Israel as well as Europe are "a very difficult problem."

But he added, "I believe that as we are successful with that, then it can contribute not only to the nuclear strategic defense, but also to the many, many conventional threats that are indeed facing many of our allies in different ways than they are threatening the United States. But I think the answer is yes, simply and clearly yes. Advanced technology can be applied not only in the strategic arena, and that is one of the benefits of a participative program."

Israeli participation in the SDI has been a topic of debate in the Knesset since Defense Secretary Caspar Weinberger extended the invitation -- also proposed to NATO allies and Japan and Australia -- last month. Israeli Minister of Science and Industry Gideon Patt has endorsed the idea, recommending that Israel seek to become involved in "civilian aspects" of SDI research. He said that Premier Shimon Peres and Defense Minister Yitzhak Rabin were favorably disposed to Israeli participation.

Abrahamson said Israeli participation in the SDI could cover a broad range of areas, including some of the more conventional applications of some of the advanced technology, meaning improving missiles -- making missiles more effective.

NATURE VOL. 314 25 APRIL Pg. 660

Star wars**Israel attracted by spin-off***Rehovot*

ISRAEL is almost certain to accept the invitation it has received from the United States to participate in the Strategic Defense Initiative ("star wars") research programme.

If the government does so, it will enjoy the support of most of the scientific community, which hopes that the project will provide research funds that are no longer available from other sources and also create positions for young scientists who might otherwise leave the country.

Professor Josef Singer, president of the Haifa Technion and an aeronautical engineer who has himself done defence research, supports Israeli participation but warns his colleagues that they should not expect the United States "to spend billions of dollars and to engage thousands of scientists and engineers".

Singer points out that the US armed forces have already spent millions of dollars over the past 30 years in support of research projects at institutes in Israel. "And", he says, "while Israel stands to gain more in resources and know-how, it also has a contribution to make. Otherwise, it would not have been invited to

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Star wars**France rallies European forces**

THE French government is determined to shake Europe awake, and to encourage all the nations of Europe to take a great leap forward in science and technology, by creating a new European research organization with considerable powers and funds, dubbed "Eureka". Or it may be that the French government is scared stiff of participation in the US Strategic Defense Initiative (SDI, or star wars) because it feels this might suck France dry of some of its best weapons technologies, and wishes to form a common European industrial and research front. Eureka would be that front.

Which is the truer picture of French intentions? Probably both are true, which has made it a little difficult for Western European foreign ministers to respond to an urgent letter, proposing the flexible and rapid creation of Eureka, addressed to them last week by their French opposite number, M. Roland Dumas.

In the letter, Dumas says that Eureka (which in a rare French linguistic concession he gives the English name "European Research Coordination Agency") would set up major programmes half-funded by Eureka and half by industry in optronics, new materials, high-powered lasers, artificial intelligence, high-speed and ultra-miniaturized microelectronics and space. Any European state should be able to join in any programme, Dumas suggests,

leading to a "variable geometry" Europe for research. But what research? Dumas' shopping list is remarkably similar to one that might be drawn up by SDI, rather than the new technologies in general (where is biotechnology, for example?), but the letter does not mention SDI by name.

Nevertheless, French interest in creating what the Prime Minister, M. Laurent Fabius, calls "a European area for research" is well known, and long pre-dates interest in SDI. France has doubled its government civil research spending since President Mitterrand came to power in 1981, but now realizes that France cannot go it alone against the United States and Japan. Thus Pierre Papon, director-general of the principal French research council, the Centre National de la Recherche Scientifique (CNRS), which has 10,000 researchers, made a detailed tour of Europe last year seeking bilateral research agreements, and the present research minister, ex-president of the French space agency the Centre National d'Etudes Spatiales (CNES), has also shown himself a dedicated European.

But these individuals and others in the French science political scene may be getting impatient at the pace of European integration in science and technology. ESPRIT, the European programme of research in information technology, flagship of the European Economic Community (EEC) programme in integrated "pre-competitive" research, has been extremely slow to spend real cash, and for the moment can claim only that it has brought a few European companies to the same table. The only really working institutions of any size seem to be the European Organization for Nuclear Research, CERN, which has only a moderate economic impact, the European Space Agency (ESA) of which Curien has been chairman, JET (the European fusion experiment, with impact only far in the future) and the European Airbus.

France wants much more, and earlier this month Jacques Delors, the new French president of the European Commission (the EEC bureaucracy), tried to provide it. In a written presentation, he asked European ministers at a summit meeting to double EEC research spending from its present three per cent of the Brussels budget to six per cent, and he linked the increase with the need for Europe to respond to SDI. Ministers — who at present in the 10-nation EEC must agree any proposal unanimously — threw out both ideas. Many states were, it seems, prepared to increase the research budget, but by nothing like the factor of two, and the SDI link was described by

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SCIENCE...CONTINUED

Mirrors of such precision may significantly enhance the quality of future astronomical telescopes. Moreover, the diamond lathe could make them in any size and of any kind of irregular shape, so as to permit novel telescope designs. At the other extreme in size, the lathe could be used to grind perfect contact lenses for eyes with unusual impairments.

Weapons laboratories are developing special multilayered mirrors capable of focusing and bending X-rays, which pass right through ordinary mirrors. These X-ray optics will find applications in the emerging field of X-ray astronomy.

The batteries of supercomputers operated by the weapons laboratories, when not employed in designing weapons, are being used to develop mathematical models helpful to astronomers, weather forecasters, shipbuilders and others. The mathematical modeling of events that take place inside a hydrogen bomb explosion, for instance, is applicable to the explosion of a supernova star.

Livermore has also shed light on the nature of the cores of such giant gassy planets as Jupiter and Saturn. By subjecting hydrogen to the intense pressures produced in an explosion,

scientists have reproduced conditions in planetary cores, where hydrogen becomes a metallic solid.

Eager to Share Discoveries

Computer modeling of the turbulent flow of gases, important factors in a nuclear explosion, may have some bearing on global weather patterns and forecasting. Another type of computer modeling under development at Livermore and elsewhere is expected to help in the design of boat and ship hulls, and one current project aims at improving yacht design for the next America's Cup regatta.

By and large, American weapons laboratories are eager to share the discoveries and technology they turn up, provided they can do so without violating national secrets. The difficulty, spokesmen for the laboratories say, is that commercial manufacturers often insist on exclusive rights to whatever processes or inventions they get from the laboratories, and this is sometimes impossible.

"Maybe the most important thing we do for private industry," said Suzanne Monaco, director of Livermore's technology transfer department, "is to show people what can be done. We have a kind of can-do attitude toward every problem we approach, and it rubs off on the outsiders we try to help."

Star wars**US pressure on Japan***Tokyo*

THE US Strategic Defense Initiative ("star wars") seems to have found a fan in Japan's Prime Minister Yasuhiro Nakasone, who has been extolling its virtues in recent Diet speeches after his meeting with President Ronald Reagan in Los Angeles earlier this year. Pressure for Japan to make its support official is being kept up by a series of visits from US experts. The real issue, however, is how far Japan is prepared to move from its pacifist constitution, which prevents participation in collective military efforts.

At the end of last month, US Defense Secretary Caspar Weinberger formally asked Japan as well as other US allies to inform the United States within 60 days whether it is willing to participate in the US research programme for the Strategic Defense Initiative (SDI). Weinberger's request was immediately followed up by a series of visits to Japan by US military experts and a delegation from the North Atlantic Treaty Organization (NATO) to

"explain" SDI and to look for areas of cooperation.

Although the 60-day deadline has subsequently been dropped by the United States as a bureaucratic "error", further teams of US experts are expected in Japan, starting this week.

Japan's space technology is of course still relatively backward and largely developed under US licence. But where Japan has something to offer is in its electronic communications technology, particularly in the use of extremely-high-frequency microwaves to transmit huge quantities of data from satellites to the ground.

Japan's defence agency has, in fact, already completed a study of SDI aimed at assessing the efficiency of both chemical and nuclear-pumped X-ray lasers. Although the study seems to say only that enormous improvements in aiming accuracy would be required to shoot down intercontinental ballistic missiles, that it was carried out at all is an indication of the

extent of Japanese interest.

In theory, Japan should have no military forces at all; Article 9 of the constitution (forced on Japan by the United States at the end of the Second World War) says that "land, sea and air forces, as well as other war potential, will never be maintained". In fact considerable "self defence" forces have been in place for years. But until very recently the Japanese government has regarded supplying military technology to foreign countries as going much too far. In 1983, however, considerable pressure by the United States forced Japan to accept a bilateral agreement allowing the transfer of military technology to the United States — again, US interest lay largely in the communication field.

Star wars would be another step up in Japan's military involvement with the United States, but would be seen as a step onto a slippery slope by opposition socialist parties. Government representatives have already had to resort to semantic juggling to make a possible involvement respectable. Military technology transfer is as yet possible only to the United States, but SDI

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ISRAEL...CONTINUED

participate." He expects there to be benefits for Israel in the high-technology industries. And off the record, other Israeli scientists say that star wars research, although primarily aimed at finding a way to bring down Soviet ballistic missiles, may help to improve Israel's military potential closer to Earth. Specifically, they speculate about the development of an innovative deterrent that might compensate for the fact that shortage of money and manpower make it difficult for Israel to match the military build-up of its Arab adversaries.

A dissenting opinion comes from Professor Giora Shaviv, an expert on space research at the Haifa Technion, who dismisses the invitation to Israel as a propaganda move and says that Israeli researchers "have no real role to play" in the star wars scheme. A small number of politicians and academics have raised the subject of the moral and political implications of Israel's participation in the US programme.

Meir Stiglitz, who teaches a course on nuclear weapons at the Hebrew University's International Relations Department, claims that Israeli leaders are so blinded by the immediate benefits of cooperation with the United States in this sphere that they overlook the potential long-range dangers. As he sees it, these include the possibility that Israel may become a "desirable and legitimate" target for Soviet nuclear missiles, and might be attacked in order "to send a message" to the United States. **Nechemia Meyers**

FRANCE...CONTINUED

some participants as "half-baked", rushed and ill-prepared. There seems to have been no collaboration between Delors and the French government over the issue, and it may be that Delors had had wind of the Eureka proposal and wished to put up an EEC stake, fearing the likely weakening effect of Eureka on Commission power in research.

Nevertheless, Delors was unsuccessful, and now Dumas has proposed Eureka, determined, it seems, to see something happen for European research. But the announcement of his initiative last week in Paris was not made through the usual channel, the Wednesday council of ministers meeting, but direct from the ministry of foreign affairs itself. Staff of CNRS "read about Eureka in the press". There seems to have been "a little problem of communication" between the foreign ministry and the research council, though Pierre Papon "has since become involved in discussions".

Moreover, the links with defence have clearly become stronger, as Dumas' letter to foreign ministers was delivered a few days in advance of this week's meeting of the Western European Union, a recently-revived forum in which seven of the major European states discuss defence matters. The letter is intended for discussion "on the margins" of the meeting. Dumas will no doubt be expressing concern about French industry, in which spending on armaments has become the principal compo-

nent. Last year, for the first time, France exported more arms to the United States than it imported from that country. And recently a number of French companies including Thomson, the nationalized electronics company, have gone well into the black through trade in armaments, much of it to the Middle East. Often this trade relies on high technology weapons, such as Exocet, the missile which was so dangerous to British ships in the Falklands conflict. France does not seek a one-way drain of expertise or experts to the United States through premature involvement in the star wars programme.

Thus Dumas is concerned by the position of Britain, where foreign minister Sir Geoffrey Howe has criticized SDI so strongly (on strategic grounds) that France fears Britain may not participate at all. Dumas is slightly happier with West Germany, with which France has increasingly been developing a special relationship in Europe. There, Chancellor Kohl has expressed full support for Eureka but has gone further than the French by agreeing separately with the United States to take part in the SDI research programme. Kohl will send a team of negotiators to Washington to discuss the matter, he has told the Bundestag.

Some united participation in SDI is what France wishes to see. And it is even preparing its public SDI as "star peace", not "star wars", defence minister Charles Hernu claimed on French radio last week. "And France must have its place in this star peace", he proclaimed.

Robert Walgate

Leaders View U.S. Space Defense, Arab Relations

Prime Minister Peres
TA181246 Tel Aviv BAMAHAHE in Hebrew
17 Apr 85 pp 10, 11, 55

[Interview with Prime Minister Shim'on Peres by Brigadier General Yosi Eldar, chief IDF education officer; Lieutenant Colonel Avi Lavsky, chief editor; Arab affairs correspondent Hayim Raviv, and assistant editor Yosef Argaman — in the Prime Minister's Office on 8 April]

[Excerpt] Question: Why do you support Israel's participation in the U.S. "star wars" plan?

Answer: We have received an invitation the exact nature of which we have not determined. The invitation was extended in principle, and we accepted it in principle. I still do not know what the United States is offering us. In principle, however, star wars is not just another U.S. strategic move. It is a new dimension in the technological, scientific, and strategic spheres.

The ascent to space constitutes a revolution in human life, and we still do not grasp the scope of this revolution. What is termed "star wars" is actually a departure from earth and a journey to a world with completely new conditions. I expect the Americans to reach the peak in their star wars technology within a decade. Perhaps toward 1992, which will mark 500 years since the discovery of America, we will discover a new America and a new world, different from the ones we have known.

I also expect American interest in international conflicts on earth to be lessened. The United States will move in completely new dimensions. It is not a matter of buying a ticket in order to fly from earth to space. This ticket is far more revolutionary in all possible areas: new metals, new communications, new movement, new computers, everything will be new, and in 10 years everything will be judged according to this new yardstick.

Question: Is this why Israel should join the project?

Answer: Yes. It is like joining a new era. Imagine if Columbus had invited an Israeli to join his ship. I, for one, would have supported this invitation, no matter what he was going to discover.

Question: However, this plan has an aspect that is actually anti-Soviet.

Answer: The truth is that Israel does not have an anti-Soviet policy. However, the Soviets have an anti-Israeli policy, and all our attempts to change that fact have failed. The Soviet Union's anti-Israeli policy does not stem from the fact that Israel poses a danger to it. It stems from the fact that the Soviet Union methodically and in all areas supports the Arab side. It has not behaved in this manner because it loves the Arabs more than the Israelis, but because in its global calculations vis-a-vis the Americans, it decided that it was preferable to join the Arab side.

Question: With your permission, let us descend from space to reality in order to discuss something that is closer to our hearts,

and perhaps even more so to our stomachs. How soon will we extricate ourselves from the economic muddle? Do you think you can succeed where others have failed?

Answer: I do not like the words "you can succeed." The country will succeed — this is not a personal matter. The answer, in my opinion, is yes! To bring about this success we must exert efforts in several spheres, and it will not happen overnight. Superficially speaking, I could say that if Israel would decrease its imports by 15 percent and increase its exports by 25 percent, it would then be out of the muddle.

Can Israel increase its exports by 25 percent? Undoubtedly. Will anything happen to us if we decrease our imports by 15 percent? Certainly not. Therefore, we have the potential to extricate ourselves from our present situation. The real problem is how to recruit this potential in a country that is truly democratic in essence, a country that has lived with sweet illusions for a very long time.

Question: Is the problem entirely economic?

Answer: Naturally, in order to make the changes we must make some structural changes in the economy, not only changes in personnel. The outstanding thing in Israel is that out of 1.4 million workers, only some 450,000 are in production, whereas the rest are in services. I doubt whether the services really serve the citizens. I think they are more of a burden.

In every period of our lives we have built more and more administrative networks, building new ones without disbanding the former ones. We must, therefore, make structural changes. Our concrete objectives for this year are to decrease imports by at least 15 percent, the balance of payments deficit to between \$1.5 to 2 billion, monthly inflation — which is the greatest of all evils — from double digit to single digit, begin a new policy of investments and growth, and do all this without causing unemployment. Because today you find modern society divided into new classes: a class of employed workers that lives comfortably, and a class that is pushed aside and barely manages to exist.

Question: Whom in particular are you referring to?

Answer: Unfortunately these classes are mostly divided into age groups. Who is the victim of unemployment? Primarily the younger generation. It is not absorbed, and everything is closed to it. This generation in Israel is composed of released IDF soldiers. I am trying to prevent this situation with all my might. The question regarding the solution of our economic situation is whether to proceed at a fast pace, to make changes and risk unemployment, or whether to proceed at a slower rate in order to prevent unemployment. I chose to proceed slowly and prevent unemployment. Despite all the bleak prophecies made at the beginning of the year that unemployment will soar, we in fact are a country without unemployment, and I am very proud of it. It is true that the healing process is taking longer; however we are avoiding another disease, because in healing one part of the body you run the risk of infecting another part.

PHANTOMS

(Continued from Page One)

and air refuelling systems.

- Strengthening of both the nose and main landing gear to allow an increase in aircraft gross weight.
- Installation of a new communications system.
- Replacement of the existing radar with a modern unit.
- Provision of a "smart weapons" capability by adding the necessary software packages to the mission computer and weapons delivery/navigation system.
- Increased service life by more than 2,000 flight hours through structural modifications, correction of fatigue problems, engine improvements and other changes. This would include replacement of the main wing spar.

IAI is carrying out the F-4 modernization programme in two phases. The first consists of installing the new engines, adding conformal fuel tanks and installing modern avionics tailored to the air-to-air mission.

The second phase will include installation of canard surfaces, wing refurbishment, including structural modifications to alleviate fatigue and other problems that have been defined over the years, plus installation of a 600-gal. belly mounted fuel tank.

Work has started on Phase 1, and the first flight of the modified Phantom is planned in 12-15 months, according to the magazine.

According to IAI sources, the "upgrading" could become one of the IAI's major income earners within a short time. In addition to upgrading Phantoms, the IAI, *Aviation Week* reports, is geared to modernize and refurbish Dassault-Breguet Mirage 3/5/50 and F-1 series, the McDonnell Douglas A-4 Skyhawk, the Kfir, the Northrop F-5 and Soviet Mig-21s - the last two being only in the planning stage.

Aviation Week reports that negotiations are underway with a number of potential clients.

The PW 1120, 400 of which were planned to be built for the Lavi, will eventually be produced in Israel at Beit Shemesh Engines, though there is some doubt about this. The company, despite an injection of capital and new management, remains in trouble.

PERES URGES

(Continued from Page One)

to the country's challenges and not to other challenges."

Labour Secretary-General Uzi Baram also spoke about the deteriorating coalition relations. He argued that they are part of "a deliberate Likud attempt to heat up the atmosphere prior to the Histadrut elections." The Likud-Labour wrangles are "not the kind that threaten the national unity government," he said. Baram added that

coalition storm, Shamir asked the Likud ministers to exercise restraint and self-control. According to Shamir, the Likud ministers were only responding to Labour provocations.

The unrest in the coalition is chiefly a function of the coming Histadrut elections, Shamir said.

The consensus was that Likud ministers must do nothing that might undermine the government, lest the Likud not get its turn at the helm, when Peres is to step down in Shamir's favour.

Washington hoping Israel to join 'Star Wars' studies

By WOLF BLITZER

Jerusalem Post Correspondent
WASHINGTON. - U.S. officials are hoping that Israel will agree to participate in President Ronald Reagan's controversial Strategic Defence Initiative (SDI).

Israel's involvement in the research and development of the so-called "Star Wars" system, U.S. officials said, could help ease congressional opposition, especially among Israel's many supporters.

Defence Secretary Caspar Weinberger has written to the Nato allies, Japan, Australia and Israel, seeking their cooperation in the scheme. He has given them until the end of May to respond.

In a letter to Defence Minister Yitzhak Rabin, Weinberger wrote:

"Many of our allies have informally expressed an interest in participating in this research programme. At the same time, some of our friends have sought clarification of our policy and attitude toward such cooperation. I am writing to you today both to make clear my government's views on this important subject and to begin a direct dialogue with you thereon."

U.S. and Israeli officials yesterday agreed that the inclusion of Israel in the SDI proposal represented a step forward in Israel's achieving full ally status with the U.S. The willingness to include Israel with America's other allies has grown out of the U.S.-Israeli strategic cooperation agreement of November 1983, they said.

ARAB PUPILS

(Continued from Page One)

down the school's steel door, while other policemen broke into the building through a side door.

Police arrested the first 30 students to leave the building, only to discover that more students were hiding in the basement. Five of the students reportedly suffered serious blows to the head and were treated on the spot before being locked up.

A Jerusalem police officer said among those detained were several persons not belonging to the school, who came there in the morning to agitate the students.

Police found dozens of empty bottles, piles of stones and iron poles in

Ibrahimiya is a private high school and the two-year preparatory college has been added recently.

Elsewhere in East Jerusalem, where there was only partial response to a strike called, there were some disturbances. An Egged bus passenger was lightly injured when the bus was stoned in Wadi Jos. Tires were burned in the Street of the Chain in the Old City, and stones were hurled at passersby in various parts of the Old City.

Families of the Ashkelon security prisoners held a quiet demonstration in front of the International Red Cross offices in East Jerusalem (Itim)

(Detailed report - Page 6)

tion, which requires no further endorsement.

able to Washington. He declined to detail the other evidence.

Shultz had raised the issue on a (Continued on Page 2, Col. 7)

/F.SDI JP 3/27/85

Israel among those approached U.S. offers share in 'Star Wars' research to allies

LUXEMBOURG (Reuter). - The U.S. yesterday formally invited 17 allied nations, including Israel, to join its "Star Wars" space-weapons research programme and gave them two months to say if they are interested.

Defence Secretary Caspar Weinberger, here to attend a meeting of Nato's nuclear planning group, sent a two-page letter to allied governments offering a slice of the research into President Reagan's Strategic Defence Initiative (SDI).

The offer was made to the 13

defence ministers at the meeting, and to France, which is not part of Nato's military structure. A senior U.S. official said the same invitation was extended to Japan, Australia and Israel.

In the letter, Weinberger asked his fellow defence ministers as a first step "that you send me, within 60 days, an indication of your interest in participation in the SDI research programme and of the areas of your country's research excellence that you deem most promising for this programme."

The senior U.S. official singled out Britain, West Germany and France as European countries "at the cutting edge" of research into the kind of technologies required by SDI.

France, Europe's leading civilian space power, has been cool to the idea of joining the U.S. research programme, preferring a joint effort by Western Europe.

West Germany has been keenest about taking a share, but has also called for a joint European approach to SDI.

Both American and European officials said Weinberger's offer was welcomed by other ministers, who expressed support for the "Star Wars" research.

But West German Defence Minister Manfred Woerner told reporters his government wants a thorough dialogue with Washington not just on the technical aspects.

Britain, West Germany and France, while supporting research, have all voiced reservations about deployment.

Jerusalem today in an attempt to resolve the price dispute among the three partners.

The committee is due to discuss proposals for freezing prices after allowing across-the-board increases. The two proposals on the agenda are that of Histadrut secretary-general

The committee is also discuss immediate price in some 330 items. At a Monday, Histadrut re Trade Union Department Haim Haberfeld opposes increases for some 70 items

(Continued on Page 2)

Child allotments may soon be tax-free

By AVI TEMKIN
Post Economics Reporter
Parents are likely to stop having

tax bracket or above pay for the allotments for children.

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'Denver Boot' hits Tel Aviv streets today

Jerusalem Post Reporter
TEL AVIV. - From today, "Denver Boots" will be clamped onto the wheels of cars parked illegally in Tel Aviv's streets as well as on sidewalks.

The locking devices were introduced in Tel Aviv 10 days ago for cars parked on pavements only.

As of today they will be put onto cars parked at bus stops and at spaces reserved for handicapped drivers, diplomats and others.

So far 550 cars have been locked into immobility by the "boot," it was learned. Mayor Lahat told reporters this week that there has been a decrease in the number of illegally parked cars in places where the boot has been in use.

No injuries, damage in Afula bomb blast

AFULA (Itim). - A bomb exploded in Independence Square here yesterday causing no casualties or damage.

The device, which police said was very small, was hidden under a concrete bench. Several people were arrested for questioning.

STRIKE. - Students of the Practical Engineers College, run by the Technion and the Labour Ministry went on strike yesterday to protest the conditions of the institution.

(Continued from Page One)

ders, some of them politically important (today)."

State papers, according to the Archives Law, should be declassified and opened to the public after 30 years unless reasons of state security or defamation of character require their continued secrecy for a further 20 years or more.

But the government, with the exception of the Foreign Ministry and the Prime Minister's Office, has no standing declassification and screening apparatus.

If someone wished to see Justice or Agriculture Ministry papers from 1948-49, for example, Alsberg can decide if he or one of his staff should do the screening; if he should apply to the ministry concerned to do the screening; or if he should release the files. As the ministries concerned have no screening personnel (or budget for it), such applications almost invariably end in failure.

In 1982 Charles Kamen, a sociologist then employed at the Central Bureau of Statistics, asked

Health and Labour and Social Affairs have "cast off all responsibility with regard to these children," he added.

Peres: Must not miss joining in U.S. 'Star Wars'

Jerusalem Post Reporter
HAIFA. - Prime Minister Peres sees Israel's participation in the U.S. "Star Wars" programme as an opportunity not to be missed "in our own effort to be a land of science and high technology."

"I warn the opponents that if we refuse, the Americans will go without us, and that would be unfortunate for us," he told the Friends of Haifa University at a dinner on Tuesday night.

Peres also stressed the importance of higher education, saying that "we have nothing to look for from the land, which is poor in resources, but we can assure our future from our people."

Education Minister Yitzhak Navon told the university's board of governors that he didn't understand how the government could make such extensive cuts in the higher-education budget.

Honorary PH.Ds were awarded by the university to Peres, Morley Mitchell Cohen of Canada and Shlomo Zalman Strochlitz of the U.S.

Other doctorates were conferred on the late Prof. Benjamin Akzin, the university's first pro-rector, and on Jacques Attali, economic adviser to French President Francois Mitterrand.

STATE PAPERS

state, was allowed, on an "informal" basis to look through many of the ministry's files after they were cursorily screened by an official of the office of the Arab Affairs Adviser.

In early 1984, as other researchers began to seek for permission to see Minority Affairs Ministry documents, Kamen was abruptly informed that he could no longer see any of the ministry files.

The files, which number several hundred, were given for screening to Naomi Niv, a translator and editor, who is the wife of Irgun Zva'i Leumi historian (and former member) David Niv. She had been appointed by then Prime Minister's Office director-general (and former Lehi member) Mattityahu Shmulevitz and then Prime Minister's Adviser on Arab Affairs, Binyamin Gur-Arye. Alsberg had endorsed the appointment.

But the guidelines given Niv - who is not a trained archivist or historian - by Gur-Arye and his assistant, Yitzhak Reiter, were not those laid

Ethiopian kids become the I

By LIORA MORIEL
Jerusalem Post Reporter

BEERSHEBA. - An unusual anthropology course is enabling students at Ben-Gurion University of the Negev to get credit toward their BA while helping Ethiopian children with their homework several hours a week.

"The idea is to teach a regular course in anthropology with such topics as cross-cultural conduct, acculturation and cultural relativism in a scientific way, without stereotypes...and to deal with the subject matter not only theoretically but also to go out and learn in the field," says Dr. Shmuel Ben-Dor, head of the university's behavioural science department and the man behind the project.

The project also has an Ethiopian adviser, Rahamim Yitzhak, one of the first Ethiopian Jews to study at an Israeli university. "My purpose is to bridge the gap between the Israeli and the Ethiopian society," Yitzhak says. "The lecture is important, but the one-on-one relationship between the student and the child is even more important."

Ben-Dor said that the course evolved before the mass immigration of Ethiopians took place last year. "One of our graduates, Gadi Ben-Ezer, started working with Ethiopian youths in Ashkelon two years ago...the two of us, along with two students, began a series of talks with Ethiopian immigrants about their absorption problems. We realized that we simply don't comprehend what's going on."

To understand the newly arrived

community better. Beceived the course now B-GU. Sixteen students and, through Youth Ali, pian children were conti

The first problem t was how the students w sented to the children an lies. At first the stu themselves teachers, b which helped the stude children's respect, soon

"One student was act out by a child," Ben- "Rahamim went to inv found out that the chil because the student w teacher. They had gonc for example, which t

French TV k

PARIS (JTA). - Fi controlled television y cided against screening charges the war-time I munist Party with betra resistance group. The ' Terrorists, retraces the Manouchian group," : anti-Nazi resistance figl Nazi-hunter Serge I cused the television auti ing "given in to Com pressures and to the p to search into its past."

The group, led by a Missak Manouchian, a of 21 other refugees, European Jews, was e German firing squad 1944. The group was af French Communist and had carried out 1: tions which includec

Tourist claims escort attacked

TEL AVIV (Itim). - offered to escort a won Ben-Gurion Airport hi her and threatened to k the journey, it was a Aviv District Court yes

According to the Mario Viner, 28, from Rachel Reich, from the face and tried to ch car safety belt. He r cash and belongings than \$20,000, it was all



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Peres Doubts U.S. Agreed to International Conference
TA301019 Jerusalem Domestic Service in Hebrew
 1000 GMT 30 May 85

[Text] The prime minister does not believe the reports from Washington about an agreement between the United States and Jordan to hold an international conference on the Middle East. Our correspondent Gershon Meller reports that in the course of a visit to 'Akko, Prime Minister Peres said that in a message he received from the Egyptian president, Mubarak also expressed his misgivings about holding such a conference. According to Peres, during his last meeting with U.S. Secretary of State George Shultz the two were in agreement that such a conference would serve no purpose. The Soviet Union supports the extreme Arab positions and would only confront Israel with an extremist rejection front. According to the prime minister, an international conference would attempt to circumvent the need for genuine negotiations to settle the dispute.

Peres Urges Participation in U.S. Space Defense
TA300718 Jerusalem THE JERUSALEM POST in English
 30 May 85 p 3

[Excerpt] Haifa — Prime Minister Peres sees Israel's participation in the U.S. "Star Wars" programme as an opportunity not to be missed "in our own effort to be a land of science and high technology."

"I warn the opponents that if we refuse, the Americans will go without us, and that would be unfortunate for us," he told the Friends of Haifa University at a dinner on Tuesday night.

Peres, Shamir Discuss Tabah Arbitration

Shamir 'Might' Agree
TA290749 Tel Aviv HADASHOT in Hebrew
 29 May 85 p 7

[Report by Ilan Kfir]

[Text] Foreign Minister Yitzhaq Shamir might agree to transfer the Tabah dispute to international arbitration, if Egypt returns its ambassador to Tel Aviv forthwith. Shamir's new approach came to the fore in political consultations he held in Jerusalem with the prime minister, and results from the fact that Egypt firmly stands by its objection to the conciliation process he had demanded earlier. Prime Minister Shim'on Peres supports a political process with Egypt according to which Israel will accept international arbitration on Tabah in exchange for the return of the Egyptian ambassador to Israel and the full implementation of the normalization accords.

Egypt has thus far continued to maintain its opposition to returning its ambassador to Tel Aviv before the arbitration process has begun. Israel, on the other hand, insists that the Egyptian ambassador return immediately after Israel makes an official announcement on its readiness to engage in arbitration procedures.

Yesterday the prime minister sent an oral message to President Mubarak, informing him of the inclination to transfer the Tabah problem to international arbitration. A breakthrough on Tabah would lead to a summit meeting between Mubarak and Peres in the very near future.

In political contacts between Egypt and Israel, the Egyptians probed the possibility of erecting memorials to the Egyptian soldiers who fell within Israeli territory.

The delegation of directors general headed by Avraham Tamir and David Kimche departs for Cairo today for the next round of talks with Egyptian Administration officials, in a bid to work out a political package deal between Israel and Egypt.

Peres Sends Message to Mubarak
TA291447 Tel Aviv IDF Radio in Hebrew 1405 GMT
 29 May 85

[Text] Israel will propose transferring the Tabah issue to international arbitration with the aim of deciding the dispute within 6 months. This is the message conveyed by Prime Minister Shim'on Peres to Egyptian President Husni Mubarak via the Egyptian petroleum and mineral resources minister. This suggestion is also acceptable to Foreign Minister and Vice Prime Minister Yitzhaq Shamir.

Peres' Office Denies Arbitration Formula Concluded
TA300930 Tel Aviv HA'ARETZ in Hebrew 30 May 85 p 1

[Report by 'Aqiva Eldar]

[Excerpts] The vice prime minister and foreign minister will today confer with Prime Minister Shim'on Peres to complain about Energy Minister Moshe Shahal's interference in the Tabah issue. Shamir asked for an urgent meeting with Peres to determine whether the remarks attributed to Shahal — to the effect that he had agreed with the Egyptian minister of petroleum, 'Abd al-Hami Muhammad Qandil, on the formulation of a letter of arbitration regarding the dispute over Tabah — are correct.

The Prime Minister's Office last night stated that Mr Peres had not approved any formula of arbitration which was allegedly concluded in the talks between Shahal and Qandil.

Minister Shahal last night rejected the foreign minister's complaint that he had interfered in the Tabah issue. According to Shahal, all the contacts during Qandil's visit on finding a formula for arbitration were held with the foreign minister's knowledge and even his blessings.

Shahal, Tamir, Egypt's Qandil View Talks
TA290903 Tel Aviv ITIM in Hebrew 0820 GMT May 85

[Text] Ben-Gurion Airport, 29 May (ITIM) — Egyptian Petroleum and Mineral Resources Minister 'Abd al-Hadi Muhammad Qandil said at the end of his visit to Israel that he does not remember having mentioned after the meeting with the prime

Israel Explores Participation In U. S. Strategic Defense Initiative

Paris—Israel has sent a working team to the U. S. to "explore the meaning" of the U. S. invitation to participate in the Strategic Defense Initiative (SDI) development program, according to Israeli Defense Minister Yitzhak Rabin.

Rabin said at the Paris air show that Israel is seeking clarification of what is being offered by the U. S. and what the cost and benefits to Israel will be.

Entry Vehicle

Rabin said the SDI program could be the entry vehicle into the next generation of high technology, including such developments as advanced computers and space technology. He emphasized, however, that Israel has not been invited to participate in any nuclear research.

Israel is expected to respond to the U. S. invitation within a few weeks.

Rabin said that Israel's prime concern is to maintain a defense capability that would enable it to meet any external

threat and to develop a high-technology industry that could compete with the industries of other nations.

Israel will continue development of the Israel Aircraft Industries Lavi strike fighter, he said, under the same agreement that had been reached earlier with the U. S. concerning funding of the aircraft.

The Lavi is being developed to meet Israeli air force needs, he said, and any export sales would be subject to restrictions placed by the U. S. on the export of U. S.-supplied high-technology components, such as the Pratt & Whitney PW1120 engine. But Rabin said that Israel had not discussed with the U. S. any specific export deals concerning the Lavi.

He added that radar stealth technology was not among the data supplied to Israel by the U. S. for development of the Lavi.

About 30-35% of the total cost of the Lavi will be accounted for by the avionics suite, he said, compared with about 10% of the cost of the earlier Kfir fighter.

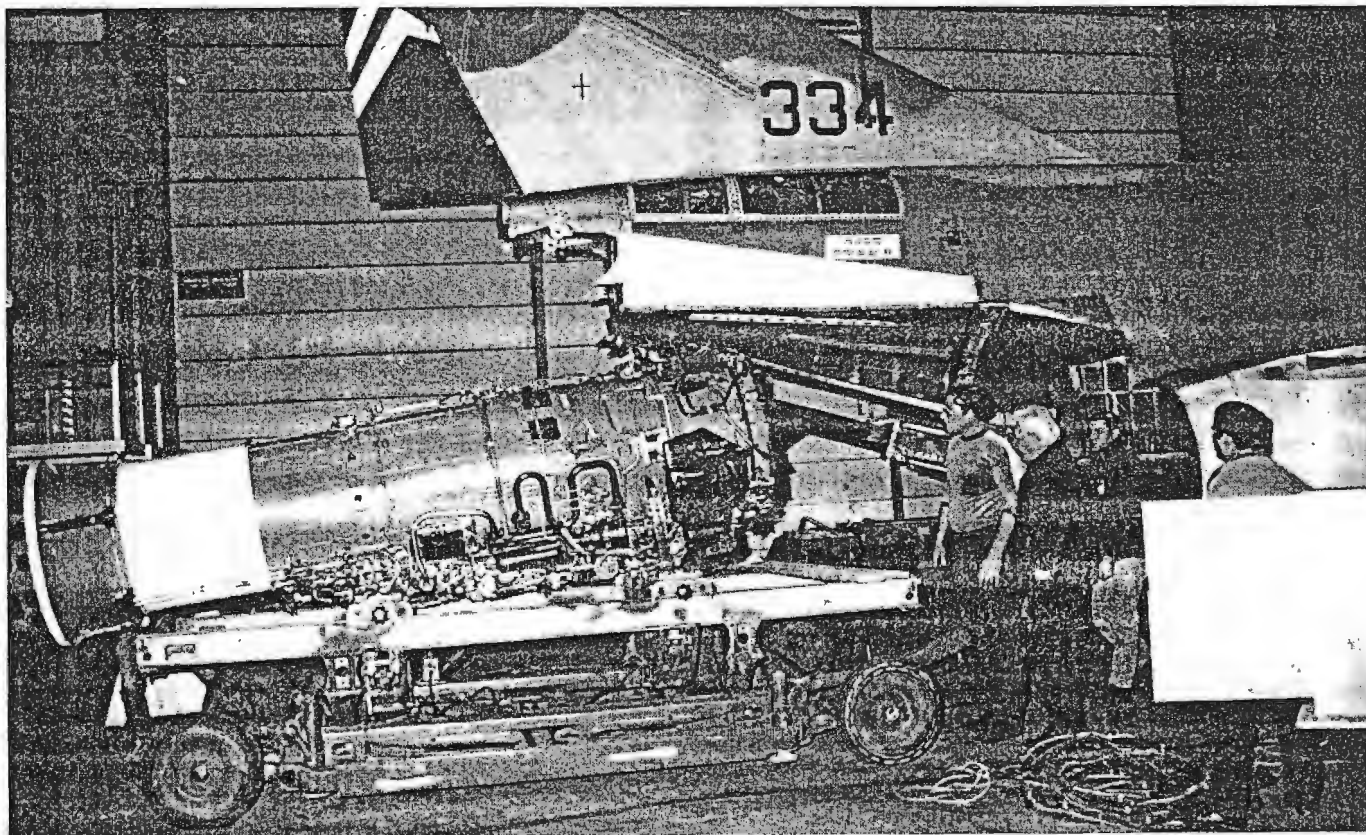
The Lavi will have a MIL-STD-1553B-type data bus system and will have an avionics suite that will be largely software-driven, he said, which will allow new systems or components to be added with a minimum of changes in the hardware. This will reduce the need to update or modernize aircraft in the future, as the improvements basically will be changes in the system software rather than hardware modifications.

Component Production

Rabin said Israel still plans to produce about 85% of the components of the Pratt & Whitney engine for the Lavi at the Bet Shemesh engine facility.

He said the economic recovery plan being instituted at the Bet Shemesh company was not based on the production of the PW1120. The recovery plan was, however, being coordinated with Pratt & Whitney, which owns a minority interest in the Israeli company. □

Israelis Install Pratt & Whitney PW1120 Engine on F-4 Fighter



Pratt & Whitney PW1120 turbofan engine is shown being installed in the engine bay of an Israeli air force McDonnell Douglas F-4 fighter. The testbed will make its first flight later this year, with the PW1120 on one side and a standard General Electric J79 on the other side. In 1986, it is expected to fly powered by two PW1120 engines. Testbed

flights are part of IAI Bedek Div.'s program to extend service life of the F-4 and improve its capability in air-to-air and air-to-ground roles. The aircraft is the first of two testbed aircraft under consideration and will have new engines only. A possible second testbed would have canard control surfaces and a refurbished and strengthened wing.

jr SDJ

US-ISRAELI COOPERATION IN SPACE

A public debate has erupted in Israel over the invitation to participate in the "Star Wars" project (Du/I-60). Reaction to the idea has been generally favourable among the military and science communities and major political figures have expressed interest in the offer. Defence Minister Yitzhak Rabin sent US Defence Secretary Casper Weinberger a message of thanks for inviting Israeli participation, and Prime Minister Shimon Peres was reportedly impressed by the potential technological progress inherent in the US initiative.

It is believed that Israeli participation would not only benefit local advanced-technology industries, but also grant new opportunities to Israel's underemployed scientists. Such cooperation is seen as a continuation of on-going programmes.

Research and development is currently being carried out in the Technion, the University of Tel Aviv, the Weizman Institute, and various high-tech companies, which could be of great value to the American programme. In fact, Israeli scientists have participated in aeronautic and space research projects funded by the US Army for a number of years. Presently, research in rocket propulsion and computerized avionics systems is being carried out in the laboratory of the Faculty of Aeronautics at the Technion in Haifa, with United States Air Force funding.

The Israel Space Agency was set up two years ago and an agreement was signed with NASA concerning the construction of a laser-beam satellite-tracking station in Israel. Part of a worldwide network, the station will soon be in operation in a former police station outside of Jerusalem. Israeli scientists will also be involved in one of the Space Shuttle projects.

Pentagon spokesman, Richard Birch, has stated that private Israeli companies would be invited to participate in the SDI project. They would be allowed to take part following government confirmation and the receipt of satisfactory guarantees that classified information would not change hands. Meanwhile, Israel's military attaché in Washington, Uri Simhoni, and project head, General James Abramson, have met to discuss the issue and a delegation of Israeli scientists has been invited to Washington in order to be briefed so that they may later make concrete proposals. As we go to press, the Israeli government had made no final decision regarding participation in the Strategic Defence Initiative.

US SECRETARY OF NAVY VISITS ISRAEL

Secretary John Lehman's April visit in Israel was described by Israeli sources as "highly successful." Lehman stressed the close relations between US and Israeli armed forces and raised a number of ideas concerning possible American aid to the Israel Navy. During a tour of Israel Shipyards (where he arrived on the Israeli-built missile boat *Moledet* of the Reshef class), he stated that "the Israel Navy needs defensive equipment as the answer to threats to her security. We will continue to ensure the defensive

capability of the Israel Navy." The US Secretary was greatly impressed by the high level of training, dedication, and morale among navy personnel.

Lehman met with Defence Minister Yitzhak Rabin and discussed the military situation and Israel's defence requirements. It was agreed that Israel would purchase three conventional diesel submarines at a price of \$350 million. The vessels will be built in Haifa, Israel Shipyards will undergo modernization and engineers will be introduced to new technology. The upgrading of the Haifa Shipyards will enable the US Sixth Fleet to receive technical services which were until now available only in a few European ports. American investors have expressed interest in acquiring a 50 percent partnership in *Maspenot*, the Israel Shipyards.

Advanced weapons systems developed in Israel especially for the navy will be fitted into the new submarines. It is also possible that these systems will later be purchased by the US Navy or that other systems will be jointly developed by both countries.

Additional deals were also announced during the Lehman visit. Israel will purchase a number of American-built missile boats. Conversely, the United States will lease 12 more Kfir F-21A fighters for a west coast-based squadron, joining the 12 Kfirs now in operation on the east coast. The US Navy is interested in purchasing 10 more Mastiff mini-RPVs from Israel. The Navy purchased 12 of these aircraft from Tadiran a year ago.

TERRORIST ATTACK BY SEA FOILED

An Israeli missile boat discovered and destroyed a terrorist vessel 166 kilometres off the coast of Tel Aviv on April 20. The terrorists opened fire upon detection and their boat was consequently sunk. It was reported that the boat had carried 28 men on board, eight crewmen and the rest trained to carry out an attack on Israel's largest city, Tel Aviv. Eight terrorists were pulled from the water and three rubber craft as well as RPGs, Kalachnikovs and other weapons were found. Abu Jihad, right-hand man of Yassir Arafat, announced from Tunis that he had personally briefed the terrorists. It is believed that an attack was planned on the IDF Headquarters for Israel Independence Day on April 26, an act which would have severely affected the morale of the country.

Israel Navy Commander, General Avraham Ben Shoshan, had lectured on the topic of terrorist attempts to penetrate Israel's coastal waters only one day before the terrorist vessel was sighted and destroyed. Shoshan stated on April 19 that the PLO was in process of acquiring sophisticated means for attacking by sea. He suggested that attacks would continue as Israel's entire industrial and civilian infrastructure is situated near the coast and presents an attractive target. The Navy Commander also surveyed the growing Arab fleets. Every Arab state except Jordan and Lebanon now employ sophisticated missile boats and naval equipment held by Arab countries is often more advanced

than that owned by European states. The Libyan navy is being modernized at an especially fast rate.

IDF BUDGET: CUTS TO THE BONE

Defence Update continues to follow developments resulting from cuts in the IDF budget. Measures taken to conform to budgetary demands placed on the military by Israeli cabinet decisions are now being felt by almost every soldier. Assistant Army Chief of Staff, General Dan Shomron, outlined the IDF work plan for the coming year to a group of journalists for military affairs on April 17. The general stated that "the IDF in 1985 will be a poorer, smaller and thinner army. The period of austerity now being entered by the IDF will bring about painful reductions in the conditions of army service as well as relatively serious damage to reserve duty training." In addition to shortened reserve duty stints already detailed in Defence Update (DU/I-58), budgetary cuts will also affect food rations. There will be two meatless days every week. Soldiers will also receive less clothing and equipment and less fuel will be allotted to unit vehicles. Furthermore, new building projects will be cancelled and officers' cars which fall into disrepair will remain out of service. Lastly (for the time being), pilots will train fewer hours in actual flight while devoting more time to training on simulators. Shomron stressed that the regular army will be less affected than the reserves with regard to training.

OUT BY JUNE SIXTH

The IDF will complete its withdrawal from southern Lebanon by June 6th, the third anniversary of the beginning of the Lebanon war. All interim stages prior to final withdrawal have now been completed and the IDF is currently situated on what is considered to be the "security line." Following total withdrawal, the Southern Lebanese Forces will control the security strip on Israel's northern border with as yet unspecified backing from the IDF. The strip ranges from 8 to 15 kilometres in width and is intended as a buffer zone between northern Israel's towns and terrorists based in Lebanon.

The topic of continued terrorist activity following withdrawal from Lebanon was recently addressed by Defence Minister Yitzhak Rabin when he stated that any future attempt to carry out attacks in Israel will be met with full force. "With attacks on Israel, we're not talking any more about defending IDF troops in Lebanon, but rather about defending the State of Israel and her citizens. For this, we'll take much harsher steps than we've taken until today."

Detroit Jewish *April 19-5*
NEWS

Israel Invitation To 'Star Wars' Program Wins Applause From Science Ministry

Jerusalem (JTA) — Minister of Science and Industry Gideon Patt said last week that he favored Israel's participation in the Reagan Administration's controversial Strategic Defense Initiative (SDI), dubbed Star Wars by the media.

The Likud-Liberal's statement on a radio interview was the first public reaction by a Cabinet minister to U.S. Defense Secretary Caspar Weinberger's recent

invitation to Israel to join the SDI research.

The U.S. invited its NATO allies, Japan, Australia and Israel to participate. Patt made the point that this was "a significant compliment" to Israel inasmuch as Washington approached only those countries it believes have the scientific and technological know-how to contribute to the research.

Patt conceded that there would be political "connotations" for Is-

rael if it joined the project, far exceeding any that may arise from the recent agreement to allow the U.S. to erect a Voice of America radio transmitter in Israel to relay broadcasts to the Soviet Union. Many Israelis opposed the transmitter on grounds that it would involve Israel in the propaganda war between the U.S. and the USSR.

Patt said that Israel should seek to become involved in "civilian aspects" of SDI research.

NEWSSTAND

Why Israel Should Take Part in the 'Star Wars' Project

BY ISRAEL LANDRES

TEL AVIV—Israel's possible participation in America's "Star Wars" project has sparked a public debate here. The dispute is over two main questions. In principle, can Israel refuse the American offer to take part in the project? And from a practical point of view, what can be Israel's contribution to the program and what are its potential benefits to our economy?

It seems obvious here that one of the main reasons for the American offer is the hope that Israel's involvement in the program will encourage some of the more liberal critics of the scheme on Capitol Hill to support it. But this aspect of the offer is not discussed by the Israeli press.

Israel a U.S. Ally

The prevailing view here is that Israel should say yes to the American proposal. *Maariv* says that even if it's highly doubtful whether Israel has anything to contribute to the "Star Wars" project, "when the U.S. asks all its friends and allies throughout the world to lend a hand to the scientific effort involved in manufacturing weapons that will be able to intercept nuclear missiles as they make their way to the West, Israel cannot be the exception and argue that it is willing to agree only

to a one-way system of relations in which the U.S. gives and we take." As for those who are apprehensive about the Soviet reaction to Israeli participation, "they seem to forget that to date Moscow has not shown any excessive fondness for Israel—and it would be difficult to cause a worsening in relations that haven't existed for 18 years."

Technological Gains

Yediot Ahronot thinks that Israel should not respond negatively to the offer because Israel cannot allow itself to disregard the "great technological advantages that will accrue to it through participation in the project." Other reasons, the paper says, include the fact that "Israel is situated in a region in which initial use of missiles is beginning to be made although, fortunately, not nuclear missiles."

Moreover, the popular evening paper argues, an Israeli rejection of the offer will lead to a brain drain of laser experts, something Israel can hardly afford. As for the possible Soviet reaction, since Israel has already supplied the U.S. with details about Soviet weaponry, is it reasonable to assume that Moscow will be moved to anger precisely by Israel's minor contribution to what is after all a research project and in any case will not show concrete results until the 21st century?

Davar contends that an intelli-

gent Israeli reaction to the American offer can benefit Israel without doing it any harm. "Since laser technology is in any case on the agenda of the Israeli defense establishment, obtaining U.S. funding for such projects will allow Israel industry to make progress—in medical and other areas as well—while intensifying the precedents for U.S.-Israel industrial cooperation." As for the inter-bloc aspects of the matter, "our position on one side of the fence has long since been decided." Concluding, *Davar* says that the subject calls for "a quiet and substantive clarification."

An Expert Dissents

On the other hand, some dissenting views have also been expressed. Space scientist Prof. Giora Shaviv, who was recently engaged in establishing the Space Research Institute at the Herta and Paul Amirson Institute for Space Research, says that the U.S. invitation to Israel is more of a political gimmick than a scientific project with content. Shaviv, quoted by *Maariv*, believes that Israel has very little to contribute in this sphere, which is highly advanced and requires vast investments.

Shaviv says that Israel's ability to participate in the program is limited because it has no experience in high-powered lasers, its know-how in particle acceleration is in the area of nuclear physics, and the country hasn't gone into the kind of research required for "Space Wars" because it lacks the money. "Our scientists aren't doing research that's relevant to 'Star Wars,'" Shaviv says. Nevertheless, he adds, there are a few areas where Israel might be able to make a contribution.

While Shaviv doubts the practical value of Israel's contribution to

the project, Mapam's *Al Hamishmar* warns against the political implications of Israeli involvement. "No doubt," the paper says, "some in Israel will cast a covetous glance at part of the \$26 billion, and what it can do for Israeli industry, while others will argue that Israel's economic dependence on the U.S. renders a negative reply out of the question. This is, however, a fateful decision for Israel. Anyone who is aware of the weight that the USSR attaches to this U.S. plan must respond with a polite but firm 'no' to U.S. invitation."

"Israel," leftist *Al Hamishmar* concludes, "has as many reasons as European countries not to get involved in 'Star Wars' for security reasons and has the added consideration of the fate of Soviet Jewry."

Against Paternalism

Haaretz, commenting on reports that the Jewish Agency is spending \$50,000 annually to maintain each Ethiopian immigrant family in Israeli hotels, warns that this method of absorption is not only expensive but self-defeating: "The Jewish Agency's playing guardian to the immigrants may well teach them to be too choosy regarding work and living places, thus in fact putting off the date when they will be forced to stand on their own two feet. The moral damage caused by prolonged stays in absorption centers and hotels will be severe."

The independent paper recommends halting the immigrants' isolation from the rest of society and the "paternalistic treatment" being given by the Jewish Agency. "It's the only way the Ethiopian immigrants can rebuild their self-respect, which may be damaged so long as they feel they are being treated like children who require supervision." ▲

Medical Spinoffs

29 TISHRI 5745 OCTOBER 25, 1984

'THE JEWISH INHERITANCE IS ENTREPRENEURSHIP'**Israel's High-Tech Revolution**

BY LOUIS RAPOPORT

JERUSALEM—A visit to Scitex, a high-tech firm headquartered in Herzliya, is a culture shock to Israelis.

Suddenly, you are not in funky, run-down Israel, where offices and businesses have a Third World look. Nowhere else in the country is such order to be found. The grounds are meticulously landscaped, and the 175,000 square feet of mostly open-space work area is immaculate, plush plastic, on the model of Itex Corp. in Massachusetts, where Scitex's founder Ephraim Arazi worked in the 1960s as a principal engineer.

Arazi founded Scitex in 1968, with the help of Itex, the Israel Discount Bank and the government-funded Israel Research and Development Company. By 1973, the company was exporting \$3.5 million in computer-aided systems for the textile industry. Last year, Scitex sold up to \$100 million worth of advanced computer design systems for printed textiles, packaging, wall and floor coverings, and color separation equipment.

It is a study in chutzpah for a nation with a population the size of Queens and a lotus-eater work ethic to challenge Silicon Valley. But the encouraging fact is that despite the primitive phone and mail services, the debilitating tradition of sinecures, and the prevalence of questionable business practices, Israel is a dynamic center of energy, blessed with a large number of highly educated and talented people.

High-tech is the most positive news to come out of Israel in years. Ten years ago, high-tech products accounted for 1 per cent of all exports. Today, that figure is 34 per cent, and by 1992, it is expected to exceed 60 per cent. Israeli high-tech industries have shown a 20-30 per cent annual growth rate; in the case of Scitex and its neighbor Elscint, the annual growth rate is a phenomenal 40-plus per cent.

In the Galilee, Judea and Samaria, the Negev and Jerusalem, plans are under way for Silicon Valleys. The most ambitious project is the new Galilee high-tech town of Ir Haveridim, being built by industrialist Stefan Wertheimer, a former Knesset member who



THE THREE WHO MADE THE REVOLUTION. FROM LEFT: EPHRAIM ARAZI, AVRAHAM SUHAMI AND STEFAN WERTHEIMER.

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High-Tech

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owns the Iscar companies.

Wertheimer recently told visiting foreign industrialists: "Don't send us presents, don't give us money. Invest in Israeli firms, buy our products on the market, help us create a younger generation of high-tech entrepreneurs." Wertheimer said that Israel needs 1,000 such entrepreneurs. Like Prime Minister Shimon Peres who was a pioneer in building up the defense industry infrastructure under David Ben-Gurion, Wertheimer sees Israel entering "the third stage of Zionism." The settlement of the land and its defense have been achieved; now Israel must create an economy centered around high-tech.

The foreign firm with the biggest single investment in Israeli high-tech is Motorola, a concern with a \$5 billion annual turnover. Motorola's chairman, Robert Galvin, who was in Israel this summer for the Jerusalem Economic Conference, had high praise for the government's incentives and termed the climate for investment "excellent."

In order for innovative Israeli companies to make it big, foreign investment and marketing help are essential. Motorola is one of 150 U.S. firms which have recently invested in Israel, and the number is growing rapidly. According to U.S. Undersecretary of Commerce Lionel Olmer, new opportunities will be opened up by the U.S.-Israel Free Trade Area, and one can expect a

Louis Rapoport is a Jerusalem Post reporter, and this article is published simultaneously in the Long Island Jewish World and the Philadelphia Jewish Exponent.

big increase in Israeli exports once the FTA comes into effect.

The high-tech sector owes its origin to the sophisticated defense industry, itself a beneficial side effect of the state of war that has plagued Israel since its foundation. After Charles de Gaulle's shut-off of spare parts for Israel's Mirage fighters, the country's largest company, Israel Aircraft Industries, expanded its activities to designing and building combat jets. Spin-off industries developed in the 1970s with venture capital from Israeli banks and from American friends of Israel, such as New York financier Fred Adler.

In the early 1970s, Adler backed a new enterprise called Elscint, founded by Avraham Suhami, a young, Turkish-born physicist. Today, Elscint is in the international forefront in the field of medical imaging. Adler was recruited by Dan Tolkowsky, head of the investment arm of the \$12 billion Israel Discount Bank. Tolkowsky, a former commander of the Air Force, also helped propel Scitex into the high-tech stratosphere, where it is transforming the graphics and printing industry with computer devices that automate the reproduction of color images.

Israel "turned me on," Adler says. "I always get turned on by brains, and I found brains, brains, brains in Israel. I felt like a kid in a candy store."

One hears the same theme constantly: Israel has more MIT graduates per capita than any country outside the U.S., a skilled labor force, top technicians and scientists who have made significant strides in the fields of avionics, agrotechnology, communications, military and medical electronics and solar

energy.

Over the past decade, the government has invested about \$1 billion in setting up new industrial enterprises and expanding existing ones in order to boost exports. But in the wake of recent draconian budget cuts, such aid is likely to dry up. Israel's total exports last year—goods, services and industrial products—amounted to \$11 billion.

Two firms stand out among the dozens of Israeli high-tech success stories: Elscint and Scitex. Elscint's Suhami, 49, is a driven man who, like Wertheimer, is a great believer in entrepreneurship as the only way to save Israel. Suhami agrees with Peres that the salvation of the economy depends on high-tech, but Suhami equates Peres with French socialists like François Mitterrand. Suhami says that Peres is pushing a new brand of socialism that has been blended with high-tech in the belief that it will bring wealth. "But the socialist twist is to redistribute that wealth. It's not working in France." Only the American way works, Suhami says, which means high-tech mixed with entrepreneurship, not socialism. In his view, the entrepreneur produces wealth that filters down to the people around him and then to the society as a whole. "Those are the nuclei of wealth. You have to be driven. You have to be an empire builder."

Suhami believes that Israel has to change its character if it is to survive. "The Jewish inheritance is

creativity and entrepreneurship," he says. "If you put lids and controls over that, you are suppressing our best qualities, chasing the best people out." Suhami argues that the Israeli environment is all wrong—the inequitable taxation system, the underground economy—and it drives away people like Aryeh Feingold, who went to Silicon Valley and founded Daisy Corporation. Suhami says that Feingold built a \$100 million company in three years, but must people like Feingold go to Silicon Valley?

On a recent visit to Israel, Feingold said that Israel has the same potential as Silicon Valley, and he has set up shop in Herzliya, alongside Suhami's Elscint.

Elscint is Israel's only multinational high-tech firm dedicated solely to the development, manufacture and marketing of medical imaging systems. It operates manufacturing facilities in Israel, France, Italy, England and the U.S. The company's latest breakthrough is in developing systems of Nuclear Magnetic Resonance imaging. Elscint is in head-on competition with two Silicon Valley firms, ADAC and Diasonics.

In his drive to build an empire, Suhami has crossed swords with Israeli bankers and others in the financial community who are critical of his "American-style" tactics in raising Research and Development (R&D) funds and who felt that Suhami was cutting them out.

Two years ago, Suhami decided

Feeling
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to try to raise \$60 million for R&D. "We tried to promote a public issue the way it is promoted in the U.S.," Suhami explains. "The chief executive goes on a road show around the country, takes an active part in selling the issue."

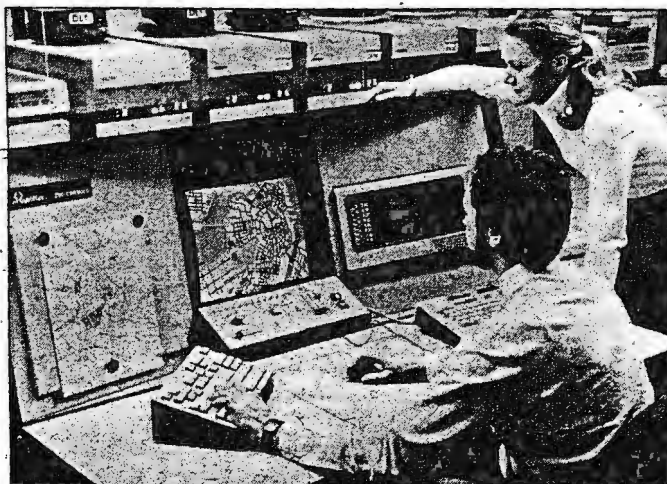
According to sources in the financial community, Elscint may have overstepped the limits by making promises to well-heeled investors who ended up getting 60 per cent of their capital back in government tax breaks; the company guaranteed the rest, plus some. "This was new to Israel," a source says. "It was important for him to offer the issue before the end of the tax year. In the anxiety to place this as quickly as possible, mistakes were made. It wasn't a proper way to offer securities. Never before has an Israeli company tried to raise \$60 million for R&D. He had to face a very cautious Israeli public which had just been burned in the stock market and by the banks when their shares collapsed."

"An investor now can make a profit twice," Suhami says, "capital gains on shares, and dividends on products developed by the R&D company." He expects that sales will reach \$160 million this year, a 45 per cent increase over 1983, and Elscint is the first Israeli company to be listed on the New York Stock Exchange.

At Scitex, there is no union and no works committee; the more than 1,000 employees are hired on a contract basis. This is most unusual in Israel, where the Histadrut labor federation represents most of the country's workers, while owning enterprises that amount to one-third of the economy.

Scitex is constructing a building more than twice the size of the present complex on a nearby six-acre plot of land. It will include a sports club, rooftop swimming pool and other facilities for the employees and their families. For Israel, the work environment is exceptional. Free courses are offered to workers and their families in basic computer language. There is folkdancing, and there are even get-togethers for singles from Scitex and other technology companies and centers like the Weizmann Institute.

High-tech people are a class apart. They are unaffected by the economic turmoil. Their products are manufactured for foreign markets and are paid for in dollars. So workers at Scitex or Elscint aren't



A computer system designed and manufactured by Scitex.

concerned by the inflation, now approaching the mind-boggling annual rate of 1,000 per cent. There is a threat of massive unemployment everywhere in the economy, except in the high-tech sector.

In the midst of the unprecedented stress caused by the current economic nightmare, high-tech has become a messianic hope. Israelis who aren't engineers or technicians and who now face unemployment, dream of getting a job with one of the glamour high-tech companies.

Most of them will not even get an interview. Take Rami, a 38-year-old sabra who worked in a real estate office until they let him go a few months ago—business is way down. Last month, he went to the employment bureau, and they told him that since he wasn't college educated or a skilled worker, they could only offer him a job as a street cleaner. He went home to his wife and two children and cried. His wife held out one hope: Perhaps her cousin who worked at Scitex could arrange an interview there. But Rami did not pass muster.

According to Scitex, its productivity per employee is \$70,000 annually and is about to reach \$100,000, which will put it ahead of Silicon Valley giants like Hewlett-Packard (which has opened a subsidiary in Israel). With 15 per cent of the annual revenue plowed back into R&D, tremendous growth is forecast for the second half of the 1980s. A recent product is the Insight system, which automates aspects in the manufacture of printed circuits. Clients include Teledyne

and Litton in the U.S. and Matsushita in Japan. Another outstanding new product is Satlight, a transportable device that is expected to revolutionize the transmission of color film. It was tried out at the Los Angeles Olympics, and dozens of European magazines and newspapers, as well as the Reuter news agency, used the Scitex system to transmit photos across the world.

According to financial consultant Joseph Morgenstern, who has written a book about Israeli high-tech firms, Scitex is one of the best investments in the field, with the highest potential for future growth. "Scitex is blessed with perhaps Israel's best management team," said Morgenstern. Among Morgenstern's other favorites are high-tech biotechnology firms like InterPharm Labs and Bio-Technology General,

which are based on findings of the Weizmann Institute. "They offer interesting and speculative appeal," he said. Both companies are traded in the U.S. over-the-counter market, as is Scitex.

InterPharm, which has produced interferon from the foreskins of circumcised babies—now that's a Jewish company—is developing a technique for genetically engineering cells to produce the powerful anti-viral agent. Bio-Technology General makes pharmaceuticals and growth hormones in genetically engineered bacteria. One spin-off field of the defense industry is electro-optics. Morgenstern sees rapid growth potential in Laser Industries of Tel Aviv, the world's leading supplier of carbon dioxide surgical lasers. Another firm, Oprotech Ltd., has developed devices for inspection of printed circuit boards by optical techniques.

Morgenstern believes that American venture capitalists will continue to play a major role in promoting Israeli high-tech. He cites the example of New Yorker Israel Rosen, who raised more than \$50 million for 20 Israeli firms by means of limited R&D partnerships.

Americans like Rosen, Fred Adler and Elmer Winter—current chairman of the Committee for Economic Growth of Israel—are working to rally support for high-tech. Winter has pointed out that big U.S. companies aren't intimidated by the chaos that has engulfed most of the Israeli economy. For instance, Intel has made a \$150 million investment in Israel; and National Semiconductor has just begun a \$50 million investment project.

Israeli high-tech is where you should put your chips.

INPUT/EMPLOYEE

Israeli Star Wars Approval Delights U.S.

BY WOLF BLITZER

Senior Reagan administration policymakers are delighted by Israel's initial decision, already conveyed officially to Washington, to participate in the research and development of the proposed Strategic Defense Initiative (SDI), or "star wars" program.

Israel, together with the NATO allies, Japan and Australia, was invited by Defense Secretary Caspar Weinberger to take part in the controversial project, which faces very stiff opposition from arms control advocates in Congress and from some of the West European allies.

If it should get off the ground, U.S. officials said, the SDI will represent the largest single U.S.

scientific undertaking since the landing of an astronaut on the moon in 1969.

The administration has made no secret of its hope that Israel's involvement in the program—even if only modest—will encourage some of the more liberal critics of the scheme, especially on Capitol Hill, to support it. Many of those opponents are extremely pro-Israel.

U.S. and Israeli officials in Washington said that both Prime Minister Shimon Peres and Defense Minister Yitzhak Rabin support Israeli involvement. So do the top Likud leaders, including Foreign Minister Yitzhak Shamir and Minister-Without-Portfolio Moshe Arens.

U.S. officials have cited potentially significant political, economic

and military benefits for Israel.

On the political side, they pointed to the angry Arab reaction to Israel's involvement in the project. Official Arab protests have been made to the State Department. Israeli officials have traditionally believed that it is in Israel's best interest to project close ties with the Americans as a deterrent to Arab aggression.

On the economic side, they said, Israeli defense-related industries might be brought into various aspects of the project, thereby winning lucrative contracts. In recent months, Israel has been anxiously seeking such contracts.

On the military side, Israel's scientific and other technical specialists would be directly involved in

the latest state-of-the-art development of weapons to counter surface-to-surface missiles.

The specific goal of the SDI is to find some "defensive weapons," based in space or on earth, which will make the Soviet Union's nuclear arsenal obsolete. U.S. scientists have spoken of using new generation laser and radar technology.

U.S. and Israeli officials agreed there are important spillover benefits in countering conventional, or non-nuclear, missiles as well.

Israel, they said, faces mounting problems in the area of combatting surface-to-surface missiles. The Soviet Union has installed, for example, new SS21 missiles in Syria, capable of reaching much of Israel's populated centers and air bases. ▲



HEALTH



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armed forces. After the three-year obligatory period (two years for women) most Israelis have continued as reservists until they are 55. Thus, all the junior- and middle-level managers in industry are active participants in the reserves. In times of war or crisis, the reservists are called up when their units are mobilized. Not only are these

Israelis close to military requirements, but many are liable to have to use the equipment they are designing. Israeli military equipment is noted for its practicality and user orientation.

This closeness between designers and users, coupled with the country's relatively small size, greatly shortens the time lag between a new or urgent

military requirement and a fielded, operating response—thus, more timely equipment. In such a compact community, often only a "first name" phone call between the operational user and the equipment manufacturer is necessary to advance communication and answer needs, a fact industry sources mentioned constantly as an important influence on equipment and system design.

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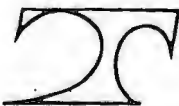
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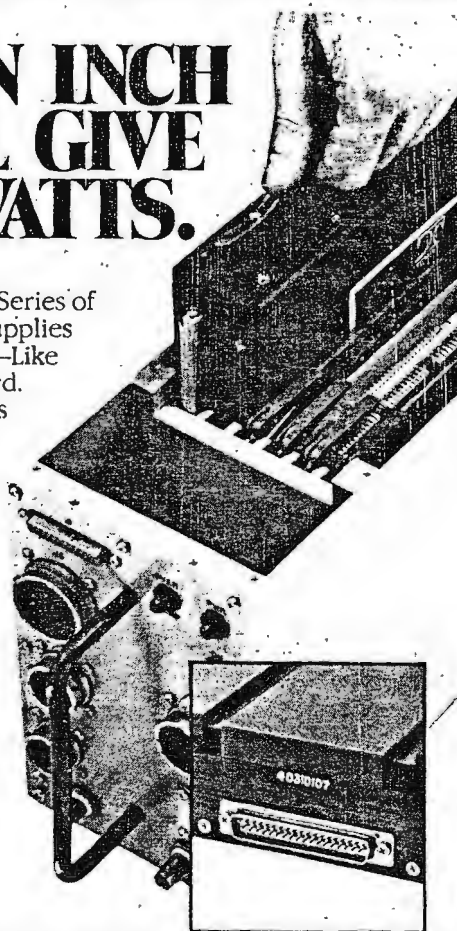
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Experience Sells

The principal sales thrusts for international marketing of Israeli defense products are the phrases "combat-proven" and "...based on 35 years experience, not just five weeks." In the highly competitive export market, every advantage must be emphasized.

The Israeli defense industry's annual international sales volume is difficult to ascertain. An estimate can be gleaned from the annual defense budget, which was \$100 billion (U.S.) in 1981. The export market is estimated to be about 10 to 12 percent of the domestic budget, or approximately \$1 billion. Several officials said the percentage of defense exports should not be allowed to exceed more than 20 percent of the defense budget.

Since Israel has few natural resources such as mineral deposits, petroleum, forests, hydroelectric potential, or even good agricultural land, it must rely on other factors to achieve economic viability. The key to Israeli R & D and industrial design for commercial and military products is reliance on innovation and cleverness. To remain competitive without an advantage in inexpensive materials or labor, Israeli industries must concentrate on producing better designs with minimum non-recurring costs. R & D efforts must be limited to those areas that will result in production quantities of the developed item. In general, it is to Israel's advantage to buy or license developments, processes, and ideas, rather than fund the development themselves. Further, the risk of failure in the R & D effort is eliminated, several sources said.

Cleverness vs R & D

Although Israel remains committed to R & D efforts, the Ministry of Industry and Trade, through the office of Chief Scientist Prof. A. Lavie,

High-Tech Interview

Sami Friedrich, General Director of the Ministry of Economy and Inter-Departmental Coordination, is the man in charge of the Jerusalem Economic Conference (JEC). To find out what participants can expect from their Israeli hosts at the Conference and afterwards, Pinchas Levinson interviewed him for *The Israel Economist*.

With the nation's attention focused on its export capacity this month, a clear statement of how the Government, industry and other sectors view prospects for economic development and growth is warranted. I began by asking Sami Friedrich how discussions on the impending Free Trade Area (FTA) are faring.

Sami Friedrich: The FTA is one of many elements of a larger concept that is now held in Israel, of integrating ourselves into the world's business economy. This integration depends on government agreements as well as ties with multinational corporations. The FTA provides an opportunity for us to receive a unique status in world trade. With it, we will have preferential treatment in both the European Economic Community and the US, making our productive capacity more attractive to both sides and third parties than in the past.

The negotiations over the FTA are an involved process that have been ongoing for many months. While a long list of technical obstacles remains to be overcome, the important point to remember is that the agreement has strong political backing from both sides, particularly from the White House. Lionel Olmer, US Undersecretary of Commerce, will discuss the FTA concept at the JEC.

On the other side of our integration into the world business economy is our relationship with multinational firms. This concern will be addressed at the JEC by Robert Galvin, Chairman of Motorola Incorporated, in a talk on the role of an Israeli subsidiary and the strategy of the multinational.

What benefits can Israelis expect from the FTA?

Two distinct time periods are applicable when speaking of FTA benefits. The benefits to the Israeli consumer will be immediate. Slightly later, at the beginning of the adjustment process, most of the costs will be paid. The adjustment process to expose our economy to the rigors and rewards of competition will require the phasing out of segments of activity. Only then can our comparative advantages be realized and maximized, a long-term goal. There is now a willingness from government and an understanding from many audiences, including industry, that there is no point in possessing nominal illusory assets or in creating illusory earnings that are not based on a real competitive advantage or a real sustainable



proposition. A consensus has emerged that fundamental economic realities must govern production decisions. "Living on real terms," with the implication that there are limits to government intervention, is now a more widely accepted concept.

Clearly the FTA will benefit both sides. It marks a new philosophical turning point in our relationship with the US. We want to compete fairly with US producers and to lessen the burden of foreign aid. These points are well understood by the US administration.

In what industrial or service sectors does Israel hold a comparative advantage?

We possess no "philosophical stone" that tells us where we might direct our efforts most efficiently. Comparative advantages lie in a country's culture, tradition or activities for which its people are fit (through natural inclination or necessity). We possess few natural resources, little low cost labor, and no extensive capital market or huge domestic market enabling us to create artificial competitive advantages (except for defense goods).

What we do have is our national skill at innovation and adaptiveness — and these are the acute factors necessary for success in technology, where changes are the name of the game. Our philosophy has been translated into success in many areas, among them aeronautics, medical instruments, electro-optics and possibly in the future, genetic engineering.

Much as we would like to do without

our expertise in defense systems, we presently have the comparative advantage of operationally proven gear.

Will the supply of scientists and engineers keep up with projected demand?

The predicted gap in the supply and demand has fostered in government institutions, universities and industry a improved sense of urgency in policy preparation. Policies are being devised and with implementation, the problem will be overcome. This issue will be addressed in detail by Dr. Yosef Singer, President of the Technion, at the JEC.

Our message is not "here are brains for sale," rather, let us cooperate on the basis of our innovative processes either in equity funding, joint ventures or marketing.

The potential in the immigration of Jewish scientists and engineers, as well as in the return of Israelis who specialized in high-technology should not be dismissed.

Who wants to invest in Israel these days?

Recently, a \$130 million investment was made by Intel, and a \$40 million investment was made by National Semiconductor. The JEC represents the first successful attraction of companies, not specific individuals, to see what Israeli minds can produce. The target of a multinational company enabled us to isolate 40 statistical headings, all technically related fields, to yield 4,000 firms in North America and Europe of whom we concentrated promotion efforts. The diverse audience from the corporate world that will be here this month attest to a lively interest in investing here.

How significant has the growth in science-based exports been?

Recording performance is a problem but one stunning measure is that science-based companies' exports have grown from \$40 million in 1973 to \$1.4 billion last year. That is not a growth; it is more like an explosion and it indicates the wave of the future.

We should not expect from a conference or gathering any spectacular or immediate results, although we have tried to make this conference as complete as possible. Only 20% of the time will participants sit in plenary sessions. The majority of the time, the participants will be exposed to Israeli products, production and development processes (15 tours and workshops are scheduled).

We have established a business center in which we have been gathering hundreds of business proposals by various companies in Israel. While we do not expect a rapid transformation to result from the JEC, we think it best viewed as indicator of the immense work that has been accomplished by our industrialists and scientists is gaining worldwide recognition. The JEC is a boost and a catalyzer. The responsibility for implementation still remains with the business sector. ■

DEFENCE

T-46A flight-test delayed

FARMINGDALE

The first flight of the Fairchild T-46A basic trainer has been delayed. Originally scheduled for late April or early May, the flight will now not take place until early summer.

Fairchild says that the delay is necessary because it has been waiting for certain components to be delivered from other companies. It says that the delay will affect the initial production schedule, but that the overall delivery schedule will remain on target, with peak production in 1989.

The company also points out that the US Air Force will not incur any additional cost as a result of the delay—Fairchild will pick up any extra cost involved.

Other tests on the aircraft, such as windtunnel tests and ground testing of the major systems, are taking place ahead of the first flight-test.

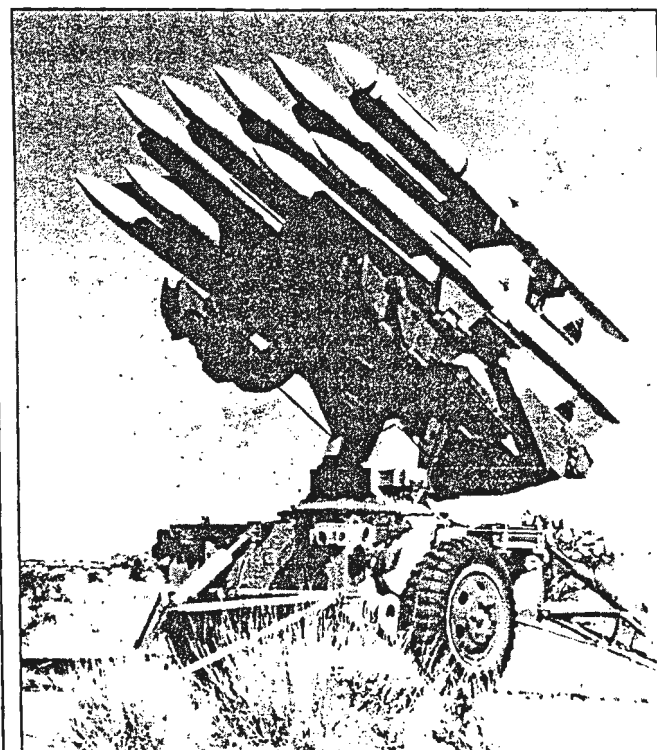
Angola buys French

LUANDA

Angola has signed a FF450 million (\$46.5 million) contract with Aérospatiale for the supply of six SA.342 Gazelles and four Dauphin 2 patrol helicopters, reports Gilbert Sedbon from Paris.

The order is the first in a total contract for up to 25 helicopters for the Força Aerea Angolana, established in 1976 towards the end of the civil war. The service is already equipped with six Romanian SA.316B Alouette IIIs built under Aérospatiale licence, and has a further 30 on order.

The force is otherwise largely equipped by the Soviet Union, Cuba, and East Germany, with Cuban pilots operating front line fighters such as the MiG-17, MiG-21, and MiG-23. Helicopter assets include Mi-8 Hip transports and gunships



Sparrow Hawk evolves

Raytheon has combined the Hawk air defence missile launcher with the latest AIM-7M Sparrow semi-active radar guided missile. Called Sparrow Hawk, the system is equipped with nine missiles, and is designed to complement standard Hawk systems. Firing tests have been successfully carried out by the US Marine Corps.

plus Mi-24 Hind gunships.

Other Western types in the inventory include Pilatus PC-6s and PC-7s, plus two Fokker F.27s.

Tests prove attack AT-3

TAIPEI

Taiwan's AT-TC-3 two-seat military jet trainer is now rolling off the production line following flight tests which have proved the aircraft in the secondary, light ground attack role, reports Gilbert Sedbon.

Since the maiden flight of the first production AT-3 in February last year, the aircraft has undergone a series of intensive pre-full-scale production tests, according to a senior Taiwanese military spokesman.

Tests have shown that the aircraft, primarily an advanced trainer, has signifi-

cant ground-attack and combat capability. A variety of weapons can be carried on five stores stations and on two wingtip pylons. The AT-3 is also equipped with two 0.5in machine guns.

The Aero Industry Test Centre, which designed the AT-3 with Northrop assistance, has orders from the Taiwan Air Force for 50 of the aircraft. The AT-3 has staggered tandem seating, an unswept supercritical-section wing, and is powered by two Garrett TFE-731-2-2L non-after-burning turbofans.

AT-TC-3 attack trainer Leading data

| | |
|------------------------|--------|
| Wing span (ft) | 34 |
| Length (ft) | 42 |
| Height (ft) | 14 |
| empty weight (lb) | 8,500 |
| Max t/o weight (lb) | 16,500 |
| Max speed (kt) | 485 |
| Power/thrust (Kn) | 15.57 |
| Rate of climb (ft/min) | 8,000 |
| Service ceiling (ft) | 48,000 |
| T/o run (ft) | 1,500 |
| landing run (ft) | 2,000 |

Israel asked to join Star Wars

TEL AVIV

The USA has invited Israel to take part in its Strategic Defence Initiative Programme, and Israeli Prime Minister Shimon Peres and Defence Minister Yitzhak Rabin are said to be keen to accept the offer.

The Israeli Space Agency was set-up two years ago. Since then an agreement has been reached with Nasa to install a laser satellite tracking station in the hills above Jerusalem, to study movements of the earth's crust. This and other research taking place in Israel could contribute to the American "Star Wars" programme.

Concern has been expressed from the Israeli left-wing politicians that involvement in the project could jeopardise future Jewish emigration from Russia.

NEWS SCAN

Singapore is studying several options to replace its Northrop F-5Es. Competitors include the Dassault Mirage 2000, General Dynamics F-16 (not F-16/79), and the Northrop F-20A Tigershark. A separate review is nearing a decision on re-engineing Singapore Air Force McDonnell Douglas A-4 and TA-4 Skyhawks with either the Turbo-Union RB.199 or General Electric F404.

Beech Aircraft has delivered the 40th and final C-12F operational support aircraft (OSA) to the US Air Force. The C-12Fs, military versions of the Beechcraft Super King Air B2000C, are on lease to the USAF for five years under an \$86.6 million contract. OSAs operate as light transports and medevac or advanced pilot-training aircraft.

Raytheon has successfully demonstrated a steerable shell in range tests at Fort Bliss, Texas. Rounds as small as 20mm or as large as 16in can be manoeuvred to counter targets taking evasive action. Tests were carried out using a 40mm projectile.

Lack of debate over 'Star Wars'

J. POST

7.27.85

By SHLOMO AVINERI

IT NOW APPEARS that Israel is about to decide in favour of participating in research with the U.S. aimed at what is popularly known as President Reagan's "Star wars" strategy. Both the decision to participate, as well as the way in which it is about to be taken, raise serious doubts about the method used to arrive at fateful decisions for Israel's future.

The United States Strategic Defence Initiative is a novel concept, introduced by President Ronald Reagan as part of his confrontational policy vis-à-vis the Soviet Union. Its details are complex and highly technical, and it is not my intention to describe them here: ponderous articles in the U.S. press merely hint at the complexity of the issues involved. None of this has ever found its way into the Israeli press or public debate.

My intention is to focus merely on the Israeli aspect of the problems posed by possible Israeli cooperation in the project, and my doubts are both on the substantive and procedural level.

No one can seriously challenge the proposition that being invited by the U.S. to participate in the research to develop SDI is a sign of the present close relations between Israel and the U.S. Few countries outside of Nato were invited by the U.S. to participate, and Israeli scientists should be justly proud of the compliment thus paid to our research capabilities in some of the most sophisticated areas on the very frontiers of knowledge. Nor is there any doubt that Israeli participation will be financially rewarding.

On the other hand, there is no doubt that the SDI is the most controversial piece of policy as yet offered by the Reagan Administration. Whatever its justification in terms of the putative balance of power between the U.S. and the USSR, serious doubts have been raised about its advisability from practically every corner.

• Within the U.S., "Star Wars" is both contested both in Congress and in public opinion. It will launch, it is said, a new era of escalation of the arms race, exacerbate relations with the USSR and have a catastrophic effect on the balance of power inside the USSR. There is little doubt that the USSR will retaliate in kind, thus giving more power within the Soviet hierarchy to the military segments of Soviet society at the expense of those civilian sectors who may be more interested in the development of consumer goods production and thus less involved in polarizing relations with the U.S. Some of the harshest critics of SDI in Congress are among Israel's best friends, and they certainly will be put in an uneasy position if Israel responds positively to the initiative.

• Among American allies in Europe, there are serious doubts about SDI. Some have politely declined; others have responded that they have to study the matter further. In some countries, detailed parliamentary debates have ensued, and in one case parliament has voted not to proceed with cooperation on SDI, against the wish of the government. In Israel, on the other hand, the media – and the government – appear in the last six months to devote more time to the price of frozen poultry than to Israel's involvement in one of the most momentous, and controversial, weapons systems to be developed since World War II.

THE OTHER aspect is, of course,



the future of Israeli-Soviet relations. Maybe Israel should be happy with the present state of its relations with the Soviet Union. But in the last week we have heard repeated expressions of hope by President Chaim Herzog, by Foreign Minister Yitzhak Shamir and by the director-general of the Foreign Ministry, David Kimche, that the recent changes in the Kremlin may portend better relations with the Soviet Union. How can one express such views and at the same time get involved in a project which is considered, rightly or wrongly, by the Soviet Union as the most confrontational tool of U.S. policy vis-à-vis the Soviets? It is very easy to make rhetorical statements about better relations with the Soviet Union; but this entails at least some caution about rushing, without any serious debate, into SDI.

This leads me to the last set of issues, namely, the way in which the debate, or rather non-debate, about the project has been going on in Israel. It is known that the defence establishment is naturally interested in getting involved in the project; so is the electronics industry, for obvious reasons. But not all that is good for the Israel electronics industry is naturally and automatically good for Israel. There has been no public debate, no independent studies about the political and military costs entailed in this involvement.

Examples: it is conceivable that the Soviet Union might intensify its support for Syria as a response to our involvement with SDI. Has this ever been discussed publicly? Have the Ministry of Defence committees dealing with SDI seriously con-

sidered what this means in terms of our ability to counter Syrian-sponsored terrorism aimed at Galilee? Who, at all, is aware of these considerations?

To the best of my knowledge, the government has never had before it any position paper, not to speak of several opposing position papers, on this issue. Nor has it been seriously discussed in the Knesset Foreign Affairs and Defence Committee. The public in Israel knows more about the South Lebanese Army than about SDI.

In the past, Israel has paid more than enough for decisions taken hastily, without public debate or serious consideration. In some cases, security considerations make it difficult to discuss issues publicly: not in this case.

Most of the debate in the U.S. is public, and so it could be here. The present minister of defence, who justly thinks himself a first-rate expert both on security and Israeli-U.S. relations has, however, made some serious mistakes in the past in assessing consequences of certain policies where cooperation with the U.S. was involved (the in-depth bombing against Egypt in 1970, for example). He should not be reluctant to risk public debate; it may correct even his own views, reluctant as he has been in the past to listen to outside advice. But no person, knowledgeable and sharp-witted as he may be, is infallible.

Two last points: the present U.S. secretary of defence is not known for being among those in the Reagan Administration who usually favour more involvement with Israel. Why this generosity all of a sudden? Isn't that another version of the ill-fated Memorandum of Strategic Understanding of Ariel Sharon's days?

Secondly, during the recent TWA hijacking to Beirut, the U.S. was playing its cards very close to its chest and left Israel – its strategic ally – whistling in the dark. When the chips were down, Israel was not really treated by the U.S. as an ally, but as a nuisance. Some people in the U.S. Administration may not be overly unhappy that Israel's standing in American public opinion has suffered during the last terroristic outbreak. Should this not cause us to insist on more specific reciprocity?

I am not suggesting that Israel should reject any form of participation in SDI. Perhaps, after due consideration, and an intensive public debate, we should go ahead. But the public is entitled to know more, and the government which takes inordinate time in discussing minor affairs of secondary importance, should at least shoulder the responsibility and not leave such a momentous decision to a small group of people whose interest – legitimate as it may be – in participating in the project should not be the only voice heard. This is not as dramatic a decision as going to war in Lebanon, which was likewise taken without due consultation inside the government: the consequences may be even more tremendous, though spread over a number of years and therefore less immediately perceptible.

All this is sufficient reason not to allow the government to take a decision without a serious public debate. The military-industrial complex, as President Dwight Eisenhower once reminded all of us, should not be the exclusive arbiter of political decisions.

The writer is professor of political sciences at the Hebrew University and a former director-general of the Ministry of Foreign Affairs.

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Participation in SDI Reportedly Already Begun
TA160920 Tel Aviv HA'ARETZ in Hebrew 16 Aug 85 p 3

[Report by science affairs correspondent Yerah Tal]

[Excerpt] HA'ARETZ has learned that despite the fact the Israeli Government has still not reached an official decision about participating in the U.S. Strategic Defense Initiative project, a special team in the Defense Ministry's research and development department is already preparing material on the subject of military-technological research and development to be proposed to the Americans.

A senior source in the Science and Development Ministry told HA'ARETZ that Israel has actually started participating in the "star wars" project already. A public announcement of this decision, however, will only be made — if at all — at a later date, when it will be convenient for Israel, and once European countries announce their participation in the project. So far, only Portugal has declared that it will participate.

Israel Seeking An Anti-Missile Defense

BY WOLF BUTZER

The major pro-Israeli lobbying organization in Washington has called on the U.S. to develop an effective defense against conventional ground-to-ground missiles which it could then share with Israel.

"Israel's enemies are now being armed by the Soviet Union with a new generation of highly lethal surface-to-surface missiles, more accurate and more deadly than any previously available weapons," said Thomas Dine, executive director of the American Israel Public Affairs Committee (AIPAC). "Unfortunately, there are no comparable defensive systems available today that Israel could obtain to protect its vulnerable cities from bombardment."

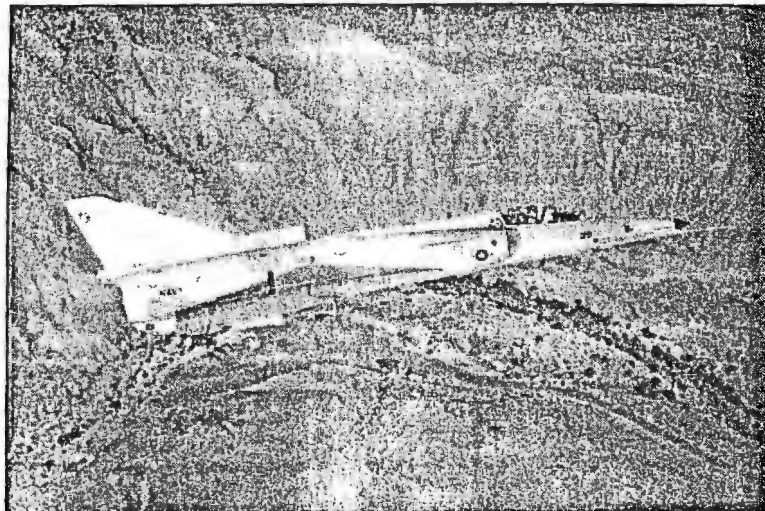
Dine was testifying on Jan. 30 in open-door session before the Senate Armed Services Subcommittee on Strategic and Theater Nuclear Forces. The panel had convened to examine possible new defenses against tactical ballistic missiles.

Dine said this was a subject "of particular interest to those concerned" about the supply of such missiles by the Soviet Union to "its client states in the Middle East."

"These missiles threaten American security interests and the security of our only reliable, consistent and democratic ally in that part of the world," he said.

The hearing came as the Reagan administration has actively continued to push its controversial Strategic Defense Initiative (SDI) program, better known as "Star Wars." Israel has been invited to participate in the initial research and development stage of the SDI project.

Israeli officials, in accepting the U.S. invitation, have been anxious



Israeli Kfir jet in service of U.S. Navy.

to learn if some of the new missile defense technologies proposed in the SDI program might have a spillover benefit in conventional warfare. Thus, there are clear benefits for Israel in eventually receiving these state-of-the-art technologies.

During the hearing, Dine submitted a detailed paper on the threat these new ground-to-ground missiles, especially the Soviet-made SS-21s recently deployed in Syria, pose for the security of Israel. The paper was written by W. Seth Carus, AIPAC's senior military analyst.

"When fired from Syria," Carus said, "the SS-21 can reach targets throughout northern Israel, including one of Israel's main air bases, Ramat David. If deployed in Jordan, however, all of Israel would be brought within range."

An accompanying map showed the clear vulnerability of virtually all of Israel's major air bases which were identified as Ovda, near Eilat; Ramon, Hatzetim, and Nevatim in the Negev; Tel Nof and Hatzor near

the coastal plane; and Ramat David and Mahanayim in the north.

"If there is a danger of an Arab attack," Carus said, "Israel will be forced to strike first, because it will not be able to take the risks of waiting and absorbing an Arab attack. Although such a strategy will make the Middle East a more dangerous place, the absence of a viable defense against tactical ballistic missiles will leave Israel with no alternative."

The paper suggested that "tactical ballistic missiles directed against (Israeli) cities could easily result in 5,000 dead and wounded Israeli civilians in a future Arab-Israeli war."

Thus, Carus called for a new defense against such missiles. "Although the Israeli military could take steps to develop defenses on its own," he said, "the development of such systems is too great a challenge to be handled by one small country."

"Clearly, any progress made in

the United States to develop answers to the dangers posed by tactical ballistic missiles could have a fundamental affect on Israel's future security. And, it should be stressed, the benefits resulting from the development of such a system would be shared by other American allies who also find that they must deal with the growing threat of tactical ballistic missiles."

Meanwhile, Israel received some bad military-related news the other day—portending possibly even worse news down the road.

Because of the Gramm-Rudman budget cuts, Israel Aircraft Industries (IAI) is now in danger of losing a proposed \$10-12 million contract to sell mineplows to the U.S. Marine Corps. The mineplow, which is attached to the front of M-60s and other tanks, clears away mines.

The Israeli company had been negotiating the deal with the Marines for nearly three years. U.S. officials said all the arrangements had been virtually completed until the Gramm-Rudman law forced a re-evaluation.

IAI officials had hoped that this initial sale to the Marine Corps would encourage other foreign nations to purchase the mineplows, which have been shown to be very effective.

Recently, IAI, in a joint venture with Tadiran, announced the sale of a new generation of unmanned reconnaissance aircraft—known as remotely piloted vehicles (RPVs)—to the U.S. Navy.

In addition, the U.S. Navy is expected to lease another 12 Israeli-built Kfir fighters for use during training exercises. A first batch of 12 Kfirs, based at the Oceana Air Naval Station in Virginia, already has been leased by the Navy to simulate Soviet-made MIG-21s. This proposed second shipment would be based in Arizona.

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'Jerusalem Post' interview

Teller here to address 'Star Wars' seminar

By MOSHE KOHN

Jerusalem Post Reporter

Edward Teller does not like the designation "Father of the H-Bomb" that the news media and other sloganeers conferred on him a long time ago.

But Prof. Teller is proud of the role he has played in the development of nuclear energy in the free world, and he is richly endowed with the quality of irony that is said to characterize people born and educated in Hungary and pre-Hitler Berlin. So he lives with the unwanted title by putting it in its place: "Let me put it this way: I never got a Father's Day card from the H-Bomb, and I think that that relationship is not as close, and not of the same nature, as my relations with my children."

Teller, 77, is here — "Oh, it must be about my 20th visit; I have lost count," — to deliver the keynote lecture in a seminar today on the U.S. Strategic Defence Initiative (SDI). He is perhaps also the father, or at least a main midwife, of "Star Wars," as the SDI was dubbed right at the outset in the American news media, and he has urged Israel to accept the U.S. invitation to participate in the project.

Teller, scientific consultant to the Hoover Institution in Stanford, California, and professor at large at the University of California, believes that the title he was given, and the term "Star Wars" are part of the same syndrome or illness, the improper use of words, that prompted the Jerusalem-based Institute for Advanced Strategic and Political Studies (IASPS) to initiate the seminar. The physicist, who has also long been a warrior in the battle for precise thinking and precise use of language, said in an interview at the Tel Aviv Hilton: "I believe that words are being used to change opinions in an illogical manner, to catch attention in an improper manner,



Edward Teller

(Yosef Lior)

and I dislike expressions of this kind."

The seminar, the first organized public discussion on SDI in this country, is to take place this morning in the Lev Auditorium of the Shenkar Building at Tel Aviv University. In addition to Teller's keynote address, the half-day meeting will include a talk on the role of high-powered lasers in SDI by Hebrew University physicist Shaul Yatsiv; one on the developments in computer science for SDI by the head of TAU's computer sciences department, Prof. Micha Sharir; a summary of the strategic, political and technological issues by Knesset Member and physics professor Yuv-al Ne'eman, who heads TAU's Sackler Institute of Advanced Studies, which is co-sponsoring the seminar; and a summary of the philosophic and semantic issues by the founder and head of IASPS, philosophy and American history professor Robert Loewenberg.

I pointed out to Teller that many people regard the SDI as a "typical" U.S. aggressive over-reaction to a "supposed" Soviet threat. I cited Prof. Shlomo Avineri's recent remark (in an article in the July 12 *Jerusalem Post*) that the Soviet Union, "rightly or wrongly," considers

this project "the most confrontational tool of U.S. policy vis-a-vis the Soviets."

Teller responded almost vehemently: "Defence is aggression?! Like black is white! I believe the Arabs are freedom fighters and the Israelis are terrorists."

Nevertheless, many people, who presumably know what they are talking about, urge that continuing to talk is better than an endless and probably fatal arms race.

Teller: "Excuse me, the Soviet Union did not say that we should continue to talk. That is simply a misstatement. The correct statement is that the Soviet Union broke off talks because we (the U.S.) started talking about defence. The Soviets talked about defence for many years. When we imitated them by also talking about defence, they called aggression. Yes, black is white and white is black."

To Teller, then, the aim of IASPS, to improve the language of discourse, "seems highly reasonable. A lot of science concerns itself with an attempt to talk precisely, to talk understandably, and even the common man in the U.S. understands that it is better to call a spade a spade."

In the case of the Strategic Defence Initiative, clear talk — and, of course, the prerequisite clear thinking — "means that one should emphasize the possibility that defence may not be completely independent of attack, but this should not be a cause for saying that by working for defence one strengthens the attack. By working on defence one primarily discourages attack. And it is much better to deter war by demonstrating that attack will not succeed than by the threat to retaliate."

Accordingly, Teller prefers to call the American project Strategic Defence Response."

Accordingly, too, says Teller, "I considered it improper that the atom bomb was dropped (on Hiroshima 40 years ago) prior to demonstration."

On the other hand, Teller says, "I personally feel no guilt" in this connection.

He said: "I am not a western liberal. I used to be a liberal in Hungary, when that word carried very different implications. For instance, in my youth a liberal was supposed to listen to other people's opinions, whereas modern liberals rarely do so. As one who is —"

other sloganeers conferred on him a long time ago.

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He said: "I am not a western liberal. I used to be a liberal in Hungary, when that word carried very different implications. For instance, in my youth a liberal was supposed to listen to other people's opinions, whereas modern liberals rarely do so. As one who is not a modern radical liberal, I also lack one of their further attributes: I do not feel any personal guilt in connection with the atom bomb."

"I believe that to develop an atom bomb was unavoidable and necessary. That it was developed in a democracy rather than in a dictatorship was a real blessing. And had we not developed it - if you imagine the Nazis developing it, which they didn't; if you imagine the Soviets developing it first, which they didn't - the consequences would have been fatal in a very precise sense of the word."

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woman said she did not yet know when the expulsion would take place.

Meanwhile, three other West Bankers slated for deportation are waiting for the High Court of Justice to rule on their appeals. Tzemer said she expected the court to convene on December 16.

Refugee Camp Entrance Reopened After 2 Years
TA091148 Jerusalem Domestic Service in English
 1100 GMT 9 Dec 85

[Excerpt] The Israel army this morning reopened the main entrance to the Qalandiyah Refugee Camp north of Jerusalem. It was closed 2 years ago following the stoning of Israeli vehicles by camp residents.

Commentary Calls on Israel To Join 'Star Wars'
TA091840 Tel Aviv MA'ARIV in Hebrew 9 Dec 85 p 10

[Commentary by Moshe Zaq: "Pollard and 'Star Wars'"]

[Text] When President Reagan was asked, following the Israeli air attack on the terrorist base in Tunisia, how he was so sure that it was the terrorists who were hit, he publicly stated that he trusts Israeli intelligence.

President Reagan's faith in Israeli intelligence was somewhat shaken following the Pollard affair, and it makes no difference whether Israel's central intelligence branches were not involved in the affair. The fame of a good intelligence body depends, among other things, on the talent of not being caught in the act, and on quick reaction in case of a mishap. The picture which emerged in Washington was that Israel did not prepare an appropriate cover in case of a "professional accident," as is the custom among professionals; 3 weeks have passed since the beginning of this affair and Israel has still not managed to extricate itself from it.

The Israeli authorities are still arguing with the administration over the extent to which Israeli officials should be interrogated or questioned by U.S. investigators, whereas the U.S. Justice Department continues to declare that Israel has still not returned all the documents which Pollard is accused of having given to Israel.

This argument between Jerusalem and Washington can continue unnecessarily for months if each side sticks to its claims. However, this will not benefit either side.

Already at the beginning of the affair Israel could have freed itself from the attempt to present it before U.S. public opinion as unreliable and ungrateful by a clear and unequivocal statement that it accepts the U.S. invitation to join the research program known as "star wars."

Israel was the only country not tied to the United States in a military treaty which was invited to participate in this program. This was a special privilege which the United States accorded to Israel both due to its influence on U.S. public opinion and its

scientific capabilities. Signing the agreement with the United States in the midst of the crisis of confidence between Jerusalem and Washington would have blocked the anti-Israeli wave which has swept the U.S. media.

A timely Israeli initiative, which would have given it the status of the first country to join the U.S. program, would have impressed the Washington establishment more than the self-flagellation which emanated from the admission published in Jerusalem.

Israel has lost the first place, because meanwhile the British secretary of state for defense has managed to sign an agreement with his U.S. counterpart on Britain's participation in "star wars."

The British did not argue with the Americans over the program itself, but rather over the share which the British research institutes are to get of the \$26 billion allotted by the United States for this purpose. The British demanded that the U.S. body responsible for the "Strategic Defense Initiative" present British companies and research institutions with larger orders. The British got what they wanted because they were the first to sign the agreement with the United States last Friday. The Israeli Government, contrary to this, has still not signed. It settled for a statement by the prime minister, who said during his visit in Washington that Israel is in principle willing to participate in this research program. Meanwhile, Israeli companies and research institutions have taken the initiative and offered their research plans to the U.S. body, each one on its own. They all received the same answer — that the United States will consider the detailed plans after Israel signs the agreement, whereas the government delayed the signature. The government did not sign even when this could have extricated it from the burden of the Pollard affair, under which it has labored in the last few weeks.

Today as well, if the government were to announce its willingness to sign the agreement with the United States, it would thereby take the sting out of the Pollard affair and would regain the image of a faithful ally in the eyes of U.S. public opinion. It is preferable that Israel join the U.S. research program as soon as possible, not only as a maneuver, but also for substantial reasons:

— First, Israeli science and technology can benefit from the enormous grants accompanying the "star wars" program.

— Second, this research program might result in a technological revolution, and countries which do not participate in it are eventually doomed to technological inferiority.

Israel will not need the services of the Scientific Liaison Bureau to follow scientific developments if it joins the most advanced scientific program in the world in time and rebuilds the framework of mutual trust which has been damaged due to the Pollard affair.

Israel will certainly not want to miss this opportunity for scientific advancement. There is therefore no reason to wait until we are the last ones to join "star wars," using the signature also as a means to quickly put an end to the current crisis.

If Israel quickly signs the agreement with the United States, relations between the two countries will greatly improve and the shadow of the Pollard affair will be left behind. Another, no less important thing: It will give us back the confidence of President Reagan, the father of the "star wars" program.

Briefs

November Immigration Statistics — There was a decrease in immigration in November and these are the figures. During that month only 745 immigrants arrived, as well as another 83 returning residents. This is a decrease of 20 percent in immigration compared with October, when 930 immigrants arrived in Israel. However, compared with November 1984, this is a decrease of 60 percent in the number of immigrants. Here is the geographical breakdown for November 1985: 103 immigrants from Africa and Asia; 138 from West Europe; 248 from East Europe; 138 from North America; and the rest from Latin America. [Text] *[Tel Aviv IDF Radio in Hebrew 0818 GMT 8 Dec 85 TA]*

Increase in Exports — Since the beginning of this year exports rose by 8 percent compared with the same period last year. Our correspondent on economic affairs Me'ir Einstein has reported that it emerges from the Central Bureau of Statistics data that an increase was noted in industrial exports and exports of diamonds; as opposed to this, there was a decrease in agricultural exports. [Text] *[Jerusalem Domestic Service in Hebrew 1200 GMT 8 Dec 85 TA]*

Trade Deficit Increases — Israel's trade deficit has increased by approximately 7 percent in the last 2 months, this in comparison to the monthly average of August and September. Our economic affairs correspondent notes that this trade deficit increase stems from an increase of 5 percent in imports over the same period. Our correspondent adds that in the last 11 months Israel's trade deficit has decreased by 25 percent in comparison with the same time last year. [Text] *[Tel Aviv IDF Radio in Hebrew 1237 GMT 9 Dec 85 TA]*

Why 'Star Wars' is important for Israel

By AVI HOFFMANN
Post Defence Reporter

Some of the new technologies that will evolve under the umbrella of the U.S. Strategic Defence Initiative "Star Wars" could be extremely important for Israel, a leading foreign military expert told *The Jerusalem Post* last week.

Dr. Robert O'Neill, director of the London-based International Institute for Strategic Studies, thinks Israel would be well advised to join President Reagan's SDI programme to ensure that its defence industries "move up with the leading edge of technology." In addition it is advisable to show support for the programme to maintain a good political relationship with the U.S., he says.

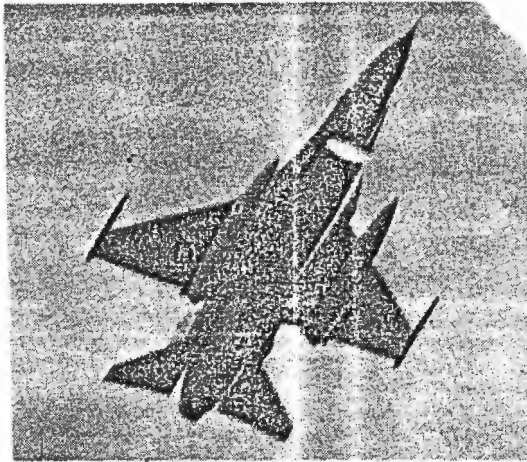
West European politicians and strategists are reversing their initial opposition to SDI, he said. It will become even more popular in Europe once people understand what it is about, O'Neill added.

A major part of the success of SDI, he said, will depend on improvements in computer technology, battle-management systems and detection systems, rather than the "space junk" that people imagine is the essence of SDI. "Star Wars" is only a small part of the whole programme, he said.

If Israel participates in SDI, the country will be in a better position to update aviation electronics and to keep combat command and control systems close to state of the art, O'Neill said. This will have special relevance against tactical ballistic missiles, he said. Syria already deploys SS-21 surface-to-surface missiles, he said, and these pose a threat to major strategic targets in Israel. SS-21 is very accurate and has a 120 km range.

At present, he said, the strategic balance is not swinging against Israel, which can be reasonably confident in handling Syria, the only realistic adversary facing Israel today.

O'Neill foresees a significant shift in tomorrow's



Participation in SDI will help Israel to update aviation electronics systems...

battlefield, with armour playing a less prominent part. The tank is becoming more vulnerable, and more expensive, and the generals will have to use armour on a more selective basis, he said. Attack helicopters and other modern anti-tank weapons pose severe threats to armour, he said. In addition, defensive measures such as detection and sighting systems, obstacles, minefields and artillery are being constantly improved, he pointed out.

O'Neill's scenario envisages deep-penetration raids by limited columns of armour, supported by commando-type special forces, rather than large masses of armour rolling across borders. He described a massive pre-emptive attack by armour in the modern battlefield as "a very dodgy business."

Asked to characterize the next war Israel might be involved in, he said it would be short, because of the destructiveness of the weapons involved.

Israeli airpower is still a viable option, he said, but would have to be used more carefully than in the 1973 war because of the improved anti-aircraft capability of the enemy.

Long-range missiles had significantly affected the naval arena and Israel would have to think about bigger and more ships as well as enhanced surveillance efforts to counter the threat, said O'Neill.

Week ending Nov. 26, 1985

'Israel needs SDI'

By AVI HOFFMANN
Post Defence Reporter

Israel may be missing an opportunity to advance its security interests by delaying formal acceptance of SDI, the U.S. Strategic Defence Initiative ("Star Wars"), a leading researcher in strategic studies told *The Jerusalem Post* last week.

The U.S. invitation to Israel and 17 other allies to join in research on space-based missile defences gave Israel a chance to fulfil its goal of increasing strategic cooperation with the U.S. and gain other important political and economic benefits, said Dore Gold, senior research associate at Tel Aviv University's Jaffee Centre for Strategic Studies.

Gold recently completed a study of Israel's potential role in the SDI project.

Despite hints by senior government officials that Israel was about to participate in the project, no formal public announcement has been made. Prime Minister Peres expressed enthusiasm about SDI to President Reagan during his visit to Washington in October. Despite this, said Gold, Israeli-American contacts on the project have, for reasons which are unclear, been conducted with a very low profile.

There are at least four ways that a positive response on SDI could benefit Israel, Gold asserted in his study.

It could deepen Israel's strategic partnership with the U.S.

It would define more sharply than before the alliance between

Washington and Jerusalem, and this greater clarity has a deterrent value *vis a vis* Israel's enemies.

By being invited to participate in a global strategic endeavour (as opposed to a regional military grouping) Israel is seen as more than just a regional client of the U.S.

Participation in SDI research will further the development of Israel's own missile interception technologies and will involve key sectors of the economy in the frontiers of Western technology.

Gold also acknowledged that there were possible negative implications for Israel if it joined SDI. It could establish Israel as a strategic adversary of the USSR and could ultimately lead to it becoming a Soviet nuclear target. Israel could also become involved in America's domestic debate on SDI, with possible alienation of anti-SDI friends of Israel.

However, wrote Gold, the overall assessment tends to favour Israeli participation. Israel should not be concerned that this will upset a possible breakthrough in Israeli-Soviet relations. Indeed, Gold said, the opposite is more likely. The Soviet stake in improved ties with Israel can only grow as Israel's strategic link with the U.S. tightens.

A leading foreign strategic expert gave backing to Gold's views when he visited *The Jerusalem Post* in November. Dr. Robert O'Neill, director of the International Institute for Strategic Studies in London, said that Israel would be well advised to join SDI and reap the political and technological benefits of a partnership with the U.S.

'Israel needs SDI'

By AVI HOFFMANN
Post Defence Reporter

Israel may be missing an opportunity to advance its security interests by delaying formal acceptance of SDI, the U.S. Strategic Defence Initiative ("Star Wars"), a leading researcher in strategic studies told *The Jerusalem Post* last week.

The U.S. invitation to Israel and 17 other allies to join in research on space-based missile defences gave Israel a chance to fulfil its goal of increasing strategic cooperation with the U.S. and gain other important political and economic benefits, said Dore Gold, senior research associate at Tel Aviv University's Jaffee Centre for Strategic Studies.

Gold recently completed a study of Israel's potential role in the SDI project.

Despite hints by senior government officials that Israel was about to participate in the project, no formal public announcement has been made. Prime Minister Peres expressed enthusiasm about SDI to President Reagan during his visit to Washington in October. Despite this, said Gold, Israeli-American contacts on the project have, for reasons which are unclear, been conducted with a very low profile.

There are at least four ways that a positive response on SDI could benefit Israel, Gold asserted in his study.

It could deepen Israel's strategic partnership with the U.S.

It would define more sharply than before the alliance between

Washington and Jerusalem, and this greater clarity has a deterrent value vis a vis Israel's enemies.

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Israel Acts to Take Part In 'Star Wars' Research

Local Defense Needs Are a Consideration

By Fred Hiatt
Washington Post Staff Writer

Israel yesterday became the third U.S. ally to formally seek participation in President Reagan's Strategic Defense Initiative, joining West Germany and Britain in an effort to obtain "Star Wars" research contracts.

The SDI program, which is controversial in this country and among many U.S. allies, is intended to develop weapons to shoot down Soviet nuclear missiles. Israel is more interested in adapting SDI technology to its conventional defense needs, chiefly shooting down shorter-range ballistic missiles based in Syria, officials said.

"We expect to do the things with in this research and development program in the way that it will help our own problems along," Israeli Defense Minister Yitzhak Rabin said yesterday. "Every research and development, for example in the field of lasers, helps everything."

Rabin's comments came after a Pentagon ceremony at which he and Defense Secretary Caspar W. Weinberger signed a memorandum of understanding laying out ground rules for Israeli participation in Star Wars research. The contents of the agreement are classified, and officials revealed few details worked out during six weeks of negotiation.

Weinberger said that Israeli participation will "advance the research program in significant ways,

and that in turn will, I think, advance the cause of peace and freedom." Rabin said that SDI is "a project of great interest to the future of the world."

The Reagan administration has sought similar agreements with as many allies as possible to demonstrate broad political support for the program. In return for offering such support, Israel will have a better chance of winning subcontracts from U.S. corporations in SDI research, according to Joyce R. Starr, director of the Near East Program at Georgetown University's Center for Strategic and International Studies.

Starr recently led a delegation of U.S. arms makers to Israel to explore the possibility of cooperating on SDI work. She said the executives were impressed with some of the technology being explored in Israel, particularly in lasers, computers, and "command and control" of complex weapon systems, but made clear to the Israelis that a government-to-government agreement would have to be signed before subcontracts could flow.

A number of countries, while expressing interest in obtaining contracts from the multibillion-dollar SDI program, have been reluctant to endorse the program's goal, which is to develop a space-based system of weaponry that might ultimately cost hundreds of billions of dollars. The West Germans, for example, sent their economics minister to Washington in March to sign the agreement rather than their defense minister, as Weinberger wanted, to show that they viewed the pact as a commercial arrangement more than an endorsement of SDI's goals.

In Britain, the Defense Ministry took the lead in signing the pact late last year. Japan and Italy also reportedly are interested in pursuing SDI contracts, but no other agreements are being negotiated now, according to Frank J. Gaffney, deputy assistant defense secretary.

Gaffney said the pacts with Israel, West Germany and Britain do not guarantee those countries any contracts, but will allow them to sidestep some Pentagon bureaucra-



BY LARRY MORRIS—THE WASHINGTON POST

Rabin and Weinberger sign SDI pact as Pentagon aide John McNeill looks on.

cy—which, "as anyone familiar with the procurement process knows, does have its disadvantages," he said.

"There's no floor, there's no ceiling," to the dollar value of contracts Israel can compete for, Gaffney added.

CAPITAL COLLAGE

Jordan's Arms, Arafat's Warrant, Stars and Wars

BY DAVID SILVERBERG

It was a wild but ultimately gratifying week last week for congressional friends of Israel and pro-Israel lobbyists as they grappled with—and eventually forced postponement of—the Jordan arms sale.

The week was characterized by uncertainty and rapidly changing circumstances. On Thursday, Sen. Richard Lugar (R-Ind.) was deep in discussion with Secretary of State George Shultz and the word was that there was a strong possibility that the administration would withdraw the sale. According to congressional sources, Lugar thought that Senate opposition was still so high that the sale would not be able to go through.

That was the good news. But in order to fight the sale, opponents had to wrestle with something called an "expedited procedure." This is a Senate procedure under which time limits are set for consideration and debate on a bill and amendments and reconsideration of the bill is prohibited.

This particular "expedited procedure" was the brainchild of Sen. Chris Dodd (D-Conn.) who slipped it in as an amendment to a funding measure in December. Dodd was the lone senator to vote against a compromise delay on the arms sale in October. (That compromise delayed the sale until March 1, thus ostensibly giving King Hussein a chance to join the peace process. The compromise also kept the sale from almost certain defeat on the Senate floor.)

Dodd voted against the compromise because he felt it did not give the Senate an adequate opportunity to consider the arms sale. He feared the sale would go through automatically in March—as indeed it nearly did. His procedure gave Congress the opportunity to vote on it one more time. However, his procedure was so complex and confusing it had even lobbyists' heads spinning. When someone observed that the situation was "murky," a lobbyist replied, "Drop the 'y.' It's just murky."

Under the procedure, Congress would have ten calendar days in which to vote on a resolution of disapproval. Opponents ultimately decided to introduce their resolution of disapproval on Monday, Feb. 3. The resolution received the signatures of ten senators, led by Sens. Edward Kennedy (D-Mass.) and John Heinz (R-Pa.).

Kennedy, Heinz and Sen. Frank Lautenberg (D-N.J.) were also ready to send a letter to President Ronald Reagan pointing out Jordan's failure to join the peace process and noting four anti-Israel resolutions that Jordan had voted for in the United Nations. The letter was as important as the resolution. The resolution was going to have only ten signers, but the letter was to have been a real indication of the opposition in the Senate. By Friday, the letter had 29 signers.

All that was rendered moot by the administration decision not to proceed with the sale. The State Department issued a statement call-

ing Jordan's arms needs "legitimate" and acknowledging that "the issue has become controversial."

The delay does not mean the arms sale is dead. It will continue to hang over the head of Israel and her friends in Congress like a sword of Damocles, waiting for the moment the administration feels it can drop. With the legislative veto struck down by the Supreme Court, all parties will continue to grope in the murk for a proper procedure for dealing with arms sales in general. In the meantime, everyone involved continues to scan the horizon for signs of peace from Jordan.

Arafat Warrant (Cont.)

The idea of issuing a warrant for the arrest of Yasir Arafat for the 1973 Khartoum murder of U.S. ambassador Cleo Noel started as a seed in the hand of a pro-Israel professional and now, like the roots of a tree, it is burgeoning outward in many different directions.

As reported in earlier *Collage* columns, the warrant has been sitting on Attorney General Edwin Meese's desk for weeks now and advocates of issuing the warrant have been working hard to get the Justice Department moving on it. There have been articles advocating issuance of the warrant in the *Los Angeles Times* and *The New Republic*. Influential people close to the Attorney General and high in the government have also been pushing it.

Now Congress is adding its voice. This past week Sen. Frank Lautenberg (D-N.J.) and Sen. Charles Grassley (R-Iowa) are circulating a letter urging the Justice Department "to assign the highest priority to completing this review and to issue an indictment of Yasser Arafat if the evidence so warrants."

According to one congressional source, the letter is making considerable progress. "The interesting part of this is that we're getting both the very conservative senators and the very liberal," says this staffer. On the liberal side, this source cites interest from Sens. John F. Kerry (D-Mass.), Howard Metzenbaum (D-Ohio) and Chris Dodd (D-Conn.). On the conservative side are Sens. Jesse Helms (R-N.C.) and Orrin Hatch (R-Utah).

An offshoot of the warrant project is the idea, being explored by several congressional offices, of using the new Racketeer Influenced and Corrupt Organizations Act (RICO) along with other legal tools against the PLO and other terrorist groups in the United States. Two offices particularly involved in this research are those of Sen. William Armstrong (R-Colo.) and Rep. Jack Kemp (R-N.Y.).

Jews and Star Wars

Last week the American Israel Public Affairs Committee (AIPAC) submitted testimony to the Subcommittee on Strategic and Theater Nuclear Forces of the Senate Armed Services Committee on the threat of missiles to Israel. (For more on the testimony, see Wolf Blitzer's article on page 6).



Sen. Edward Kennedy

The testimony marked another step in a push among conservative Jewish and pro-Israel organizations to help move the President's Strategic Defense Initiative (SDI) forward. From AIPAC's perspective, anti-ballistic missile defense gives Israel a chance to defend itself against Arab missile attack.

Another organization, the conservative, Republican National Jewish Coalition, has prominently featured the writing of General Daniel O. Graham, an ardent supporter of SDI. The National Jewish Coalition supports SDI, according to its legislative director, Howard Kohr, both because it is important for U.S. defense but also because "Israel stands to benefit from this technology both economically and militarily."

Last April the Jewish Institute of National Security Affairs (JINSA) hosted a lecture by Robert Jastrow, a scientist involved in developing SDI.

"JINSA is supportive of the concept of defense against Soviet nuclear weapons," says Shoshana Bryen, executive director of JINSA in explaining the organization's stance. "The Soviets have always had a program of nuclear defense. The U.S. gave it up in SALT I in 1972. And what we support is the concept of defense."

Religious Broadcasters

This week Washington hosts the annual convention of the National Association of Religious Broadcasters (NRB), the organization which encompasses television and radio evangelists. Its roster of 1,100 members is a veritable who's who of electronic preachers.

There will also be some Jewish activities. The fifth annual National Prayer Breakfast in Honor of Israel is scheduled for Wednesday morning. The keynote address will be delivered by former United Nations ambassador Jeane Kirkpatrick and the guest of honor is Soviet refusenik Yossif Mendelevitz. Greetings will be extended to the audience by Pat Robertson, host of the 700 Club, Sen. Jesse Helms (R-N.C.), Sen. Albert Gore (D-Tenn.) and Ben Armstrong executive director of the NRB.

There will be an Israel booth among the exhibitors on the floor and in the afternoon Rabbi Joshua Haberman of Washington Hebrew Congregation is scheduled to square off in debate with Rev. Jerry Falwell in what is billed as "The Great Judeo-Christian Debate." Unfortunately, the event is open to invitees only. Next week *WJW* will bring full coverage of the day's events.

Clarification

In the article "Helms Feted by Jewish Conservatives," Sen. Jesse Helms was reported to have quoted Sen. Robert Dole to the effect that the Genocide Convention would not come up for consideration during the current session of Congress. According to Jess Hordes of the Anti-Defamation League of B'nai B'rith, Sen. Helms in fact stated that Sen. Dole said the Convention would not come up early in this session.

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APIRO Hebrew Union were ordained U.S., yesterday ctor of divinity rusalem.

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Municipal workers from Umm el-Fahm demonstrate yesterday outside the Prime Minister's Office in Jerusalem, demanding that Arab local council budgets be treated on an equal footing with Jewish local councils. One sign declares that the next step in their fight will be a hunger strike with their families outside the government offices.

F. Israel SBI (Eliahu Harati)

Teller coming for 'Star Wars' seminar

By Aaron Sittner
Jerusalem Post Reporter

Physicist Edward Teller, who was instrumental in developing the hydrogen bomb, is to arrive in Israel this week to participate in a seminar on the U.S. Strategic Defence Initiative in which this country has been invited to participate.

The one-day seminar has been organized by the Institute for Advanced Strategic and Political Studies (IASPS) in cooperation with Tel Aviv University's Institute of Advanced Studies.

Prof. Robert Loewenberg, direc-

tor of IASPS told *The Jerusalem Post* yesterday that the August 15 meeting at Tel Aviv University will concentrate on exploring Israel's scientific and technological ability to fit into SDI.

Among the subjects to be discussed are the role of high-powered lasers in SDI, and the qualifications of Israeli industry to participate in the programme.

Among the seminar panelists will be Knesset Member Yuval Ne'eman, professor of nuclear physics at Tel Aviv University; Prof. Shaul Yatsiv of the Hebrew University's

Racah Institute of Physics; and Prof. Micha Sharir, chairman of the department of computer sciences at Tel Aviv University.

Loewenberg told *The Post* that such seminars "are necessary to establish the proper context before a political decision is made by the government" on whether or not to accept the U.S. invitation to join SDI, popularly referred to as "Star Wars."

According to Loewenberg, Israeli expertise in robotics and electronic control systems bodes well for Israeli participation in SDI.

Court bars 'emergency' for hospitals

By ILAN CHAIM
Jerusalem Post Reporter

Government hospitals will not be able to return to functioning in an emergency format before Friday, the High Court of Justice ruled yesterday.

The hospitals were ordered to do so last week by the Health Ministry, in an apparent effort to focus attention on the hospital funding crisis. The court extended an interim injunction issued last week barring the ministry from directing its hospitals

to function on Shabbat schedules and to treat only the most urgent cases.

The court postponed dealing with the substance of the petition, which was filed against the ministry by the Histadrut, saying the Histadrut was not actually a party to such a petition.

The justice invited the Histadrut's Kupat Holim Clalit health fund to join the petition as an interested party, giving it five days to do so. Only then will the court hear the petition.

55 Soviet Jews came here in July

Jerusalem Post Staff

Last month 174 Jews left the Soviet Union, of whom 55 came to Israel, a spokesman for the Public Committee for Soviet Jewry announced in Tel Aviv yesterday.

Among those reaching here were several Zionist activists, he added.

He also said that earlier this month activists still in Russia sent a letter to the Central Committee of the Communist Party asking it to find and punish anti-Semitic thugs who have been harassing the Volvovsky family in Gorky.

Leonid Volvovsky, a religious Jew who has applied to go to Israel, was arrested on June 25.

Knesset body opposes Mormon centre

By HAIM SHAPIRO
Jerusalem Post Reporter

The Knesset Interior Committee has called on the Mormons to display

sion courses in Israel, will be used as a centre for missionary activities.

The leaders of the Utah-based university have offered a signed

Israel TV to screen

defused

By DAV
Jerusalem

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By JUDY

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SDI

Cooperation With U.S. in Medical Uses of SDI
TA191736 Jerusalem Domestic Service in Hebrew
1700 GMT 19 Aug 85

[Text] Israel and the United States will cooperate in applying research done in the framework of the "star wars" project in the area of cardiac medicine. This research will be coordinated on the Israeli side by Prof Dani Gur, a heart surgeon at Tel Hashomer Hospital. This was concluded today by Prof Edward Teller, the father of the hydrogen bomb, and Health Minister Mordekhay Gur. Our correspondent notes that among other things, the teams will examine the possibility of utilizing nuclear energy to activate pacemakers, and of using isotopes, the harmful effects of which are negligible. The Americans will finance the research.

POST Favors Participation in 'Star Wars' Research
TA110921 Jerusalem THE JERUSALEM POST in English
11 Apr 85 p 9

[Commentary by Hirsh Goodman: "Star Wars Opportunity"]

[Text] "Star Wars," as President Ronald Reagan's new strategic defence plan has been dubbed by some unkind pundit, may prove to be totally impractical in the long run. That is not the point. What is the point — at least where this country is concerned — is that the U.S. administration intends to spend \$26 billion pursuing the dream of a defensive weapon that will limit the chances of a nuclear holocaust, and Israel has been asked to be part of that effort. It is an effort that will engage some of the best minds in the world in probing the outer limits of scientific knowledge and taking applied science to its furthest horizons.

Israel has to be part of that effort, for Israel's industrial future and ultimate security depend on the ability to remain in the forefront of developing technology. No matter how small the slice of the Star Wars cake that will eventually be allocated to Israel, it will mean a life-giving accretion to the almost non-existent research funds of the Israeli scientific community. It will mean jobs for exactly the type of people we need to keep in this country. It will mean an exchange of knowledge and information with top scientists in the field.

It will mean that if this project is successful, Israel will be in on the ground floor of a system that could make it unnecessary to bomb the next Iraqi reactor.

President Reagan's intention is to build a defensive system in space that would aim to "kill" incoming enemy nuclear missiles before they could reach their targets, negating the need for a counter-strike. Theoretically, this would reduce the possibility of nuclear war at this stage, for it would render the atomic weapons in the hands of the aggressor useless while still in their silos.

As a result the element of deterrence that has miraculously kept the world from destruction during the second half of the 20th century, but has prevented neither nuclear proliferation nor the multiplication of nuclear warheads, will undergo a basic rethinking. And just as well. There are already enough active warheads to blow up this planet several times over, leaving not a single particle in existence.

Pakistan now has nuclear potential. India has it. Libya, Egypt and Saudi Arabia are pursuing nuclear knowledge. The threatened whites in South Africa are said to have it. Europe is on its way to becoming a virtual forest of tactical nuclear

weaponry — weapons that could conceivably be used, as opposed to the strategic varieties, in submarines and under the wings of aircraft patrolling the skies.

Israel's geography and demography dictate, in my opinion, that Israel does not have an effective nuclear option based on deterrence. A random nuclear strike against Israel would be catastrophic; Israel's response — if it has one — on the other hand, could only be relative. Israel would pay a total price, the aggressor a bearable one. Hence the incentive for the other side to use its weapons. It is crucial, therefore, for Israel to be involved in the development of an alternative strategy, no matter how improbably its ultimate application may be.

The only other alternative is to use force to prevent the other side from attaining a nuclear capability, as Menachem Begin decided to do in the case of the Iraqi reactor. Such a strategy is myopic at best, given that the weapons we wish to destroy, or even the potential means of making them, may be supplied by our closest ally, making pre-emption politically impossible.

Critics of the Star Wars programme are against space being turned into a celestial battlefield. Space is one segment of the universe that should be free of potential war; a sort of last refuge of sanity. But it already is a battlefield, and has been so for some years. There are hundreds of spy and communications satellites in orbit, "killer satellite" programmes to destroy the other sides' ability to communicate and function in war.

Advance work has been proceeding on satellite destroyers for years — probably before Reagan ever conceived (or brought) the idea of a celestial defence system that would destroy weapons instead of destroying people. Is Star Wars any more insane than the idea of a neutron bomb that would only kill people and leave buildings intact, as conceived by Jimmy Carter, the "human rights" president? After all, what is the sense of sanitary space, if there is no earth to enjoy it.

Reagan, through Defence Secretary Caspar Weinberger in late March, approached 18 countries to take part in research and development of the initial stages of the programme. Israel was among them. This in itself shows how highly the Americans regard Israel's current technological and scientific capability. There was another implication: that America considers Israel a long-term, stable ally which can be trusted to participate in its most secret and most serious defence effort.

Defence Minister Yitzhaq Rabin was right both in thanking the U.S. for the request, and in saying that he would recommend a positive response. Inherent in Star Wars participation, no matter how unrealistic the proposal may be at this stage, are potentially real answers to this country's economic and defence needs. Israel does not have a credible nuclear option. It cannot keep up with the money being spent on sophisticated conventional weapons by the confrontation states. Its economic situation is living off money from the scientists we rely on to continue providing the qualitative edge that keeps us secure. On all these counts, President Reagan's invitation is one to be grateful for.



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PART V

"Star Wars"

Weinberger's Letter

A similar letter sent by Defense Secretary Casper W. Weinberger to NATO allies, Japan, Israel and Australia on the Strategic Defense Initiative (SDI) or "Star Wars" as it is widely known, caused a stir in Israel. "The United States will," Weinberger writes, "consistent with our existing international obligations, including the ABM treaty, proceed with cooperative research with the allies in the areas of technology that could contribute to the SDI research program. Pursuant to this policy, the United States is permitted - and is prepared - to undertake such cooperative programs on data and technology short of ABM component level as may be mutually agreed with allied countries."

If your nation is interested in exploring possible cooperative efforts or contributions, I would ask, as a first step, that you send me within 60 days an indication of your interest in participating in the SDI research program and the areas of your country's research excellence that you deem most promising for this program."

The Israeli government will make its decision only after future clarifications sought from the U.S. government and after consultations with the relevant institutions and industries concerned. In a statement for the press, the Defense Ministry spokesman announced that "a positive approach" will be adopted in considering Weinberger's letter. However, a public debate is already raging with politicians and scientists on both sides of the issue.

What Benefit to Israel

Politicians supportive of a positive response point to the compliment Israel received by being treated as an ally of the U.S. They claim that Israel has long sought to reach this status and it cannot now shirk the responsibilities derived from such a relationship. (The same argument is made in regard to the U.S. request to put a Voice of America broadcasting station aimed at the Soviet Block on Israeli territory.) They also argue that strong cooperation with the U.S. helps Israel in its relationship with the Arab world and enhances Israel's posture in the international community.

The political arguments against Israeli involvement in the SDI are not less convincing. Politicians on the left side of the political spectrum maintain that Israel should not give up hope of renewing diplomatic relations with the U.S.S.R. and it should not add further complications to efforts to enable Soviet Jews to immigrate to Israel. These politicians and political observers claim that Israel should at least try to seek some preliminary understanding with the U.S.S.R. before a decision is taken both on the V.O.A. station and "Star Wars".

Those who support a favorable answer to the U.S. on both issues claim that Israeli-Soviet relations are not going to be adversely affected since the Soviet Union already categorizes Israel as an American ally. A negative answer to a Republican Administration they claim, will cause strained relations with Washington without benefitting Israel's relations with Moscow.

Israeli politicians and friends of Israel who oppose "Star Wars" argue that the U.S. approach to Israel was made out of a need to reduce opposition on Capitol Hill to appropriating money for the project. (President Reagan asked for \$4.6 billion in FY 1986 and a total of \$26 billion for research). Most of the opposition may come from the House's Liberal Democrats, many of whom are staunch supporters of Israel who may feel reluctant to vote down a

project from which Israel could derive scientific and economic benefits.

These benefits, though hard to quantify at present, may be the decisive factor in formulating Israel's answer. Scientists are divided in their view whether Israel could contribute significantly to the research related to the Strategic Defense Initiatives. Those who support collaboration claim that Israel should not miss this opportunity to entering the 21st century and should not lag behind the leading countries in space research. They point out Israeli achievement in astrophysics, research of the high altitude atmosphere, certain aspects of space telecommunications and guidance, etc. Israel is engaged in building a station to follow satellites through the use of laser beams. Laser will also be used to measure movement of continents from a center now being established near Jerusalem. Cooperation between research institutions in Israel and the U.S. is not new but some scientists in Israel view the U.S. invitation enthusiastically, hoping to gain U.S. grants which will compensate for the heavy cuts in R & D budgets in Israel. This is also the view generally held by the high tech industry in Israel which may benefit from orders from the U.S. during the research phase and later if the project proves to be feasible.

Other scientists in Israel have expressed doubt as to Israel's potential contribution and one of them went so far as to say that the U.S. invitation was a "political gimmick". They argue that Israel has no experience with powerful Laser techniques (although it has experience in Laser beams and some of their uses.) Secondly, Israel has particle accelerators but no experience with a neutral particle accelerator which is at the center of the "Star Wars" idea. (Linear accelerators on satellites are to generate the neutral particle beams, a stream of fast-moving hydrogen atoms which will destroy the "brains" of missiles carrying a number of warheads.) Israel, according to this view, has not been involved in research relevant to "Star Wars".

Peres, Rabin, Shamir - in Favor

Initial reactions by government ministers show a majority in favor of giving a positive answer to the invitation to join the research phase of the SDI. Prime Minister Peres, who is looking for ways to strengthen the high tech industry, is expected to support the idea and so is Defense Minister Rabin who would like to help the defense industries and research institutions. Ministers Arens and Patt have already expressed their positive views publicly. Vice Prime Minister Shamir is known to be supportive though he would like to have the results of the review called for by Rabin before giving a formal answer. Ariel Sharon's opinion is as yet unknown. Sharon's relations with the U.S. Administration have been strained ever since the "Peace for Galilee" operation and that may influence his decision.

Given the views in the Cabinet it is clear that Israel will respond positively to the U.S. invitation to take part in the research related to "Star Wars."

verbatim

INTERVIEW WITH PRIME MINISTER SHIMON PERES BAMAHANE, TEL AVIV, ISRAEL, APRIL 17, 1985

Excerpts...

Q: Why do you support Israel's participation in the U.S. "star wars" plan?

A: Star wars is not just another U.S. strategic move. It is a new dimension in the technological, scientific, and strategic spheres.

The ascent to space constitutes a revolution in human life, and we still do not grasp the scope of this revolution. I expect the Americans to reach the peak in their star wars technology within a decade. Perhaps toward 1992, which will mark 500 years since the discovery of America, we will discover a new America and a new world, different from the ones we have known.

I also expect American interest in international conflicts on earth to be lessened. The United States will move in completely new dimensions. It is not a matter of buying a ticket in order to fly from earth to space. This ticket is far more revolutionary in all possible areas: new metals, new communications, new movement, new computers, everything will be new, and in 10 years everything will be judged according to this new yardstick.

Q: How soon will we extricate ourselves from the economic muddle?

A: It will not happen overnight. Superficially speaking, I could say that if Israel would decrease its imports by 15 percent and increase its exports by 25 percent, it would then be out of the muddle.

We have the potential to extricate ourselves from our present situation. The real problem is how to recruit this potential in a country that is democratic and has lived with sweet illusions for a very long time.

Q: Is the problem entirely economic?

A: Naturally, in order to make the changes we must make some structural changes in the economy, not only changes in personnel. The outstanding thing in Israel is that out of 1.4 million workers, only some 450,000 are in production, whereas the rest are in services. I doubt whether the services really serve the citizens. I think they are more of a burden.

We must, therefore, make structural changes. Our concrete objectives for this year are to decrease imports by at least 15 percent, the balance of payments deficit to between \$1.5 to 2 billion, monthly inflation — which is the greatest of all evils — from double digit to single digit, begin a new policy of investments and growth, and do all this without causing unemployment. Because today you find modern society divided into new classes: a class of employed workers that lives comfortably, and a class that is pushed aside and barely manages to exist.

Q: Whom in particular are you referring to?

A: Unfortunately these classes are mostly divided into age groups. Who is the victim of unemployment? Primarily the younger generation. It is not absorbed, and everything is closed to it. This generation in Israel is composed of released IDF soldiers. I am trying to prevent this situation with all my might. The question regarding the solution of our economic situation is whether to proceed at a fast pace, to make changes and risk unemployment, or whether to proceed at a slower rate in order to prevent unemployment. I chose to proceed slowly and prevent unemployment. Despite all the bleak prophesies made at the beginning of the year that unemployment will soar, we in fact are a country without

unemployment, and I am very proud of it. It is true that the healing process is taking longer; however we are avoiding another disease, because in healing one part of the body you run the risk of infecting another part.

Q: Sir, what are the lessons you learned from the Lebanese war in the political and military spheres?

A: The political lesson is that we should make war only when we have no other choice, and we should withdraw from the territories when we do have other choices, and not the other way around. This is almost a strategic rule for a country like ours, where the people's support is essential to the IDF's activities. When we entered Lebanon we had other alternatives, and we are withdrawing without any other alternatives. This is exactly the opposite of what should have taken place, the opposite of the ways in which we have acted in the past.

As for the military viewpoint: We must understand that we have to meet every military challenge with the appropriate military tools. For example, the use of a regular army is of limited value in the war against terrorism, if for no other reason than that the IDF will never adopt the terrorists' rules of the jungle. This is not a matter of courage; it is a matter of self-imposed restrictions. I am not saying that we cannot occasionally use the regular army against terrorists. However, I would not recommend a regular army to permanently face a terrorist organization.

Q: Turning to the peace issue, how do you assess the struggle between the pragmatic Baghdad-Amman-Cairo axis and between the radical axis led by Syria?

A: I do not think these axes have been created against the background of the conflict between the Arab states and Israel. I think that the main event in the Arab world today is the Iran-Iraq war, and the groupings we see are between the supporters of Iraq and the supporters of Iran. The Egyptian-Jordanian-Iraqi axis is opposed to the Khomeini-Shi'ite-extreme fundamentalist axis whose main components are Iran, Libya, and Syria.

Q: Nevertheless, Mubarak and Hussein have held many meetings recently in order to consolidate some sort of suggestion for a dialogue and an arrangement with Israel.

A: This is true, and it stems from two considerations: First, they need fuel to feed their new coalition, and undoubtedly the peace issue is this fuel. They are also interested in reducing tension in the region. They do not want to face two fronts. Another thing we must take into account is that they are fighting to win the heart of the United States. They want the United States to go with them all the way.

Q: Do you expect a meaningful improvement in our relations with Egypt, and more specifically, will you meet Mubarak?

A: Let me rephrase your question: Is there a need for improving our relations with Egypt? Certainly. Can they be improved? Certainly. Is a meeting between Mubarak and myself possible within this framework? Yes.

Q: Can you indicate when such a meeting will take place?

A: No.

Q: People say that it is imminent.

A: Yes. However, I do not want to be bound by the calendar.

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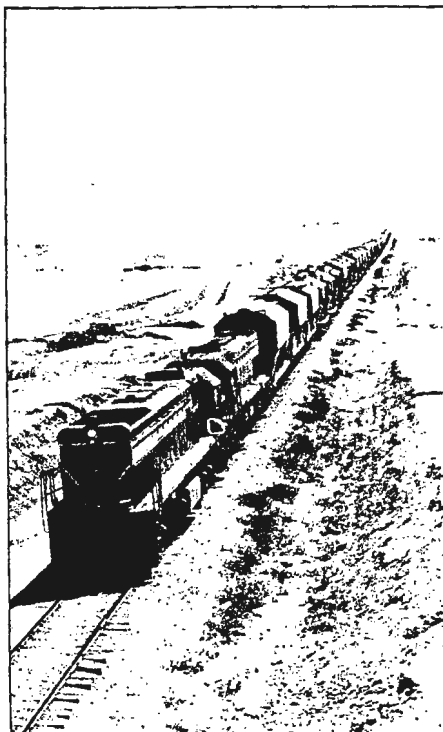
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cause transportation and travel problems. The rail line will help ease these problems by supplying combined transport, meaning direct access by train to the central stations along the routes and from there to the central stations along the routes and from there by road to and from various destinations. In addition, secondary routes in the Arava provide access to plants and factories requiring heavy transport.

* The railroad is known to be low in operational costs and requires less fuel consumption. In view of potential worldwide energy shortages, this factor takes on greater importance in contemplating long-distance shipping from Eilat and the Arava to the center of the country.

* While the economic viability of the railroad is measured by the expected freight business, it is reasonable to assume that passenger services will be run. Because of its mild winter climate, Eilat attracts tourists from Israel and abroad all year round. The intention is to operate comfortable and air-conditioned trains including vista-dome cars and dining cars. Auto-carrier trains will be provided and will travel directly to Eilat from Ben-Gurion airport. The distance between Eilat and Tel Aviv is



estimated at about four hours by train.

The importance of the rail line to Sdom and Eilat goes beyond its direct influence on the Israel State Railways and is vital for national, commercial and political reasons. The transportation link between Eilat and the center of Israel connects three seas and provides for industrial growth, rendering this project so very vital.■

Reprinted with permission from Negev, Spring '84.

* * *

Israel Railways carried 5.7 million tons of freight in fiscal 1983, compared to 5.4 million tons in 1982, according to figures recently released. The railroad carried 2.8 million passengers, the same number as the previous year.

Income, however, showed a drop of 13% in real terms, including a 20% fall in passenger revenue. The total intake was IS2.2 billion in fiscal 1983, which ended last March 30.

The railway's deficit during the past year grew by 16% to IS400.8 million despite the increase in freight and various efficiency measures.

An Israeli Space Program

At the beginning of 1983 Israel's Minister of Science and Development, Yuval Ne'eman established the Israel Space Agency to coordinate Israeli space research and to pioneer new ventures. The Agency's establishment was not widely publicized, in part because of doubts as to the contribution that a tiny country such as Israel could make in such an expensive field, generally considered to be reserved for the superpowers.

Research achievements

However, Israeli space science is well-developed. A straight line leads from Israel's successful launching of a meteorological research rocket in 1961, via Israel's military missiles (a spin-off of that research) to the present Space Agency with its varied space, communications industrial-economic interests. Israel's well-developed electronics industry missile expertise and physics research provide a good basis for, and stand to benefit from, developments promoted by the Space Agency.

Israel needs to be independent in space science and satellite communication. Long-term national strategic planning must provide the wherewithal to forestall a situation where, for example, the services of the communications satellite presently transmitting Israel's commercial, political and other messages might be suspended. Israel must be prepared to meet the challenge of Arab-Sat, a com-

munications satellite owned by a 19-nation Arab consortium, including the PLO, which when set in the sky over the Middle East in 1985 will grant the Arabs great intelligence advantages.

Without publicity

Tel Aviv-born Prof. Dror Sadeh heads the Agency. Prof. Sadeh, who studied physics at the Hebrew University and at the Sorbonne, specialized in astro-physics in the US and is now chairman of the Department of Astro-Physics at Tel Aviv University. Undeterred by the lack of publicity, he is gratified that the Agency is being allowed to carry on its work far from the public eye.

The Agency's staff is tiny: five paid administrative staff members support several score physicists, planetary scientists and engineers who provide their services voluntarily. As part of a collaboration agreement, NASA the US (National Aeronautics and Space Administration) gave the Israel Space Agency knowledge it has acquired by years of hard work — a gesture of confidence in Israel's ability to develop successful research projects in space science.

The hope and possibility of independently placing an Israeli-made satellite in orbit are still remote. Therefore, at first the Agency is hoping to be able to utilize occasional space room in the American or European space shuttles for small experiments.

Modest Goals

For the present, Israel's Space Agency will concentrate on practical and productive areas, such as remote sensing, micro-gravity, space bio-medicine and X-ray investigations. Such basic research can provide ideas which, when applied, will contribute to a great expansion of Israel's science-based industry. New products, jobs and profits will be created, as occurred in the US. On this basis, the Agency is trying to mobilize research money from local industry.

Tel Aviv University and the Technion are establishing a joint Center for Space Studies, to prepare a body of talented young people trained in space sciences. One of the nascent Center's first tasks will be to produce space, astronomy and astro-physics textbooks in Hebrew for the science track in Israeli secondary schools.

Eventually — an Israeli Satellite?

The Space Agency will aid and collaborate with the Space Studies Center, as it is already collaborating internationally with NASA and the European Space Agency. The objectives are to get as much as possible out of Israel's small research budget by hitching a ride on someone else's space shuttle, and sharing the knowledge discovered.

Yitzchak Dinur

Leaders View U.S. Space Defense, Arab Relations

Prime Minister Peres

TA181246 Tel Aviv BAMAHAHE in Hebrew
17 Apr 85 pp 10, 11, 55

[Interview with Prime Minister Shim'on Peres by Brigadier General Yosi Eldar, chief IDF education officer; Lieutenant Colonel Avi Lavsky, chief editor; Arab affairs correspondent Hayim Raviv, and assistant editor Yosef Argaman — in the Prime Minister's Office on 8 April]

[Excerpt] Question: Why do you support Israel's participation in the U.S. "star wars" plan?

Answer: We have received an invitation the exact nature of which we have not determined. The invitation was extended in principle, and we accepted it in principle. I still do not know what the United States is offering us. In principle, however, star wars is not just another U.S. strategic move. It is a new dimension in the technological, scientific, and strategic spheres.

The ascent to space constitutes a revolution in human life, and we still do not grasp the scope of this revolution. What is termed "star wars" is actually a departure from earth and a journey to a world with completely new conditions. I expect the Americans to reach the peak in their star wars technology within a decade. Perhaps toward 1992, which will mark 500 years since the discovery of America, we will discover a new America and a new world, different from the ones we have known.

I also expect American interest in international conflicts on earth to be lessened. The United States will move in completely new dimensions. It is not a matter of buying a ticket in order to fly from earth to space. This ticket is far more revolutionary in all possible areas: new metals, new communications, new movement, new computers, everything will be new, and in 10 years everything will be judged according to this new yardstick.

Question: Is this why Israel should join the project?

Answer: Yes. It is like joining a new era. Imagine if Columbus had invited an Israeli to join his ship. I, for one, would have supported this invitation, no matter what he was going to discover.

Question: However, this plan has an aspect that is actually anti-Soviet.

Answer: The truth is that Israel does not have an anti-Soviet policy. However, the Soviets have an anti-Israeli policy, and all our attempts to change that fact have failed. The Soviet Union's anti-Israeli policy does not stem from the fact that Israel poses a danger to it. It stems from the fact that the Soviet Union methodically and in all areas supports the Arab side. It has not behaved in this manner because it loves the Arabs more than the Israelis, but because in its global calculations vis-a-vis the Americans, it decided that it was preferable to join the Arab side.

Question: With your permission, let us descend from space to reality in order to discuss something that is closer to our hearts,

and perhaps even more so to our stomachs. How soon will we extricate ourselves from the economic muddle? Do you think you can succeed where others have failed?

Answer: I do not like the words "you can succeed." The country will succeed — this is not a personal matter. The answer, in my opinion, is yes! To bring about this success we must exert efforts in several spheres, and it will not happen overnight. Superficially speaking, I could say that if Israel would decrease its imports by 15 percent and increase its exports by 25 percent, it would then be out of the muddle.

Can Israel increase its exports by 25 percent? Undoubtedly. Will anything happen to us if we decrease our imports by 15 percent? Certainly not. Therefore, we have the potential to extricate ourselves from our present situation. The real problem is how to recruit this potential in a country that is truly democratic in essence, a country that has lived with sweet illusions for a very long time.

Question: Is the problem entirely economic?

Answer: Naturally, in order to make the changes we must make some structural changes in the economy, not only changes in personnel. The outstanding thing in Israel is that out of 1.4 million workers, only some 450,000 are in production, whereas the rest are in services. I doubt whether the services really serve the citizens. I think they are more of a burden.

In every period of our lives we have built more and more administrative networks, building new ones without disbanding the former ones. We must, therefore, make structural changes. Our concrete objectives for this year are to decrease imports by at least 15 percent, the balance of payments deficit to between \$1.5 to 2 billion, monthly inflation — which is the greatest of all evils — from double digit to single digit, begin a new policy of investments and growth, and do all this without causing unemployment. Because today you find modern society divided into new classes: a class of employed workers that lives comfortably, and a class that is pushed aside and barely manages to exist.

Question: Whom in particular are you referring to?

Answer: Unfortunately these classes are mostly divided into age groups. Who is the victim of unemployment? Primarily the younger generation. It is not absorbed, and everything is closed to it. This generation in Israel is composed of released IDF soldiers. I am trying to prevent this situation with all my might. The question regarding the solution of our economic situation is whether to proceed at a fast pace, to make changes and risk unemployment, or whether to proceed at a slower rate in order to prevent unemployment. I chose to proceed slowly and prevent unemployment. Despite all the bleak prophecies made at the beginning of the year that unemployment will soar, we in fact are a country without unemployment, and I am very proud of it. It is true that the healing process is taking longer; however we are avoiding another disease, because in healing one part of the body you run the risk of infecting another part.

followers prevented several Arab residents from entering the area. Some carts belonging to vegetable vendors were overturned. In the end, the military governor permitted Rabbi Levinger to enter the casbah.

IDF Asks MK's To Evacuate

TA191627 Jerusalem Domestic Service in Hebrew 1600 GMT 19 Aug 85

[Text] The military governor of Hebron arrived at the casbah house a short while ago and asked the MK's who are staying there to evacuate the place. Our correspondent Shalom Oren reports that they are currently discussing this.

This evening the IDF again closed down the Hebron casbah area and is barring the entrance of those who do not live there. The MK's in the casbah house are allowed to come and go as they please.

MK's Refuse To Leave

TA191908 Jerusalem Television Service in Hebrew 1800 GMT 19 Aug 85

[Excerpt] The three Tehiya MK's are adamant in their refusal to evacuate the house they seized in the Hebron casbah. Our correspondent Rami Gubernik reports that the Hebron military governor arrived at the site early this evening and passed on to them the defense minister's demand that they leave the house immediately. They rejected the demand, making their evacuation conditional on a Jewish family moving into the house in their place.

It was learned today that the Association for the Restoration of the Jewish Quarter in Hebron has purchased dozens of houses in the town, through an Arab resident who bought the property from the original owners. Our correspondent reports that these purchases were made without the approval of the military governor and have not been officially registered.

The spokesman of the Association for the Restoration of the Jewish Quarter in Hebron this evening confirmed that between 40 to 140 pieces of property have indeed been purchased via Arab mediators. He claims that the decisive majority of the houses in Hebron are not registered; he did not comment on the point of the military government's approval for these deals.

Our correspondent Menahem Hadar today located the owners of the house seized in the Hebron casbah. They told him that if they had known that the house would end up in Jewish hands they would not have sold it. One of them today published a paid advertisement in the paper *AL-FAJR* in which he tells about the deal and shirks responsibility for the sale of the house to the settlers. Today Hebron was also visited by Minister Moshe Arens who decided at the time on settling the Jewish quarter in Hebron.

IDF Evacuates MK's

TA200432 Jerusalem Domestic Service in English 0400 GMT 20 Aug 85

[Text] The group of right-wing MK's occupying an apartment in Hebron were evacuated without resistance last night by the Army. According to the defense minister's media adviser, the seven MK's were issued with an order by the head of the Central Command, who said that the group had misused its parliamentary immunity. The MK's left the building on their own volition, but protested the decision to evict them. They said they would petition to the High Court of Justice against the defense minister, and challenge the legality of the eviction. One of the seven, Tehiya MK Ge'ula Kohen, said she was certain the group would return and again try to occupy the apartment in the Hebron casbah.

Following the evacuation, the Army closed off the apartment and posted guards outside. The casbah area, which was yesterday declared a closed military area, is expected to reopen this morning.

Cooperation With U.S. in Medical Uses of SDI

TA191736 Jerusalem Domestic Service in Hebrew 1700 GMT 19 Aug 85

[Text] Israel and the United States will cooperate in applying research done in the framework of the "star wars" project in the area of cardiac medicine. This research will be coordinated on the Israeli side by Prof Dani Gur, a heart surgeon at Tel Hashomer Hospital. This was concluded today by Prof Edward Teller, the father of the hydrogen bomb, and Health Minister Mordekhay Gur. Our correspondent notes that among other things, the teams will examine the possibility of utilizing nuclear energy to activate pacemakers, and of using isotopes, the harmful effects of which are negligible. The Americans will finance the research.

U.S. Arms to Jordan, Saudi Arabia 'Firmly' Opposed

TA200420 Jerusalem Domestic Service in Hebrew 0400 GMT 20 Aug 85

[Text] Israel's Embassy in Washington has received instructions from Jerusalem to firmly oppose the supply of U.S. arms to Jordan and Saudi Arabia, regardless of whether the weapons are defensive or offensive in nature. Our correspondent in Washington Razi Barqay reports that early next month the administration is scheduled to submit to Congress a request for the sale of helicopters and various kinds of missiles to Saudi Arabia, as well as three combat squadrons to Jordan. Israel's friends in Congress are preparing to fight the administration on this issue.

match: farms that grow out of season vegetables, for instance, are sometimes located far from herds that produce the organic fertilizer they need. That distance can make the whole process prohibitively expensive: transportation costs may increase the cost of using wet and very heavy manure beyond all reason.

Veteran farm settlements in the Hadera area are now trying to overcome this difficulty, by developing a technically and economically viable system for the conversion of fresh cattle manure into a dry product; in that form it could be easily stored, transported and applied to the fields. Several methods already have been tried, including ways of drying, pelletizing and granulating the material. The most promising approach, it seems at this time, will use both heat and pressure to turn the manure into dry bricquets — a form very convenient for storage and transportation; just before their application to the fields, those bricquets are pulverized in a hammer mill or some similar installation.

The Technion team provided vital services in this development effort, by testing the plant nutrient content of the various products. They also conducted controlled growing experiments, to ascertain the practical benefit growing crops derive from dehydrated organic fertilizer.

PRICE RISES REDUCE GASOLINE CONSUMPTION

Tel Aviv — The consumption of gasoline dipped sharply in July, in response to significantly higher prices. The quantity actually sold was 3.4% below that of the preceding month, and no less than 12% below July 1984.

Although most of the petroleum fuel used in Israel is distributed by three privately owned firms, all stations sell fuel at uniform prices set for them by government decisions. Including a hefty tax increment, high fuel prices are generally conceived as a convenient way of "mopping up purchasing power", as well as an incentive to reduce consumption of an imported commodity.

The sharp price rises of the last few months have also caused more drivers to use 91 octane gasoline, rather than the more expensive high test 96 octane. The one now costs drivers here the equivalent of about \$2.40 per U.S. gallon, while the other is priced at about \$2.80

ISRAEL RESEARCHERS SUBMIT "STAR WARS" R&D PROPOSALS

Tel Aviv — High technology firms and civilian research institutes already have submitted proposals for 28 separate R&D projects, within the framework of President Reagan's proposed Strategic Defense Initiative (SDI). While no official decision has as yet been taken on this subject at any

governmental level, many here are convinced that Israelis have much to contribute to such a program, and are likely to benefit from it.

Discussions of this subject are now in progress here. Last month a seminar was held at Tel Aviv University, with the participation of a group of U.S. scientists, headed by Prof. Edward Teller. The event proposed to explore Israel's ability to fit into the program, in terms of its scientific and technological capabilities. A group of U.S. Defense Department officials is also expected for talks with various official agencies here.

The public debate on this subject here has been surprisingly low key. Although very sensitive to anything likely to be disapproved by the Soviet Union — the fate of a large Jewish community in that country is never far from people's considerations — only very few Israelis have expressed outright opposition. Most of those who have put their opinion on record seem to favor participation, mainly because it will give high tech industries here an opportunity to grow.

However, the program may also appeal to Israelis because of its very nature. Although the feasibility of an antimissile system anchored in space is far from certain, people tend to think well of an effort that could lead to the ultimate emasculation of nuclear threats anywhere in the world.

DAISY SYSTEMS (ISRAEL)

ABOUT TO LAUNCH FIRST PRODUCT

Herzlia — The first innovative product developed in Israel by a subsidiary of Daisy Systems Corporation, is about to be unveiled. According to press reports here that will be the "BoardMaster", a computer aided system for the design of advanced printed circuit boards.

Daisy Systems is a young and highly successful high tech firm from California. It was founded there about five years ago by a group that included several Israeli engineers who then completed their education in the U.S.A. The firm has successfully introduced its proprietary computer aided design systems to the international electronics industry, with sales just short of \$70m. last year and expected to total nearly twice that much in 1985.

The new BoardMaster is the first product developed by the firm's recently established design and development unit in Israel. Like other electronics companies from the United States, Daisy came to this country mainly in order to benefit from the engineering and development skills available here. However, that is likely to be followed by the establishment of a manufacturing facility: such has been the experience of both Intel and National Semiconductor, who are now building production plants after the successful operation of R&D units over a number of years.

ing the South West Africa People's Organization (SWAPO) in a Namibian settlement.

What is less clear is precisely what form the new Government, to be formed by the Multi-Party Conference (MPC) of internal parties, will take. For one thing, it is hardly the first time the idea of an "internal settlement" has been tried: the Democratic Turnhalle Alliance (DTA)-led Government under Dirk Mudge in 1978-1982 collapsed, finally, when the DTA lost much of its support from the majority Ovambo.

Predictably, Angola and SWAPO have attacked the interim plan, although South Africa insists that it is merely a transitional one aimed at getting Pretoria out of Namibian affairs. The new plan does include some transfer of policing authority, including the controversial *Koevoet* unit (see *Transition*, Page Six).

BIKES FOR BENIN: Benin has received five motorcycles with sidecars, 10 radio transmitters, parts and other equipment from the People's Republic of China as a gift. The gift was made to the Ministry of Interior, Security and Territorial Administration, which handles internal security functions. The delivery took place in conjunction with a delegation of the Chinese Communist Party to Benin.

KWANDBELE PLANS: KwaNdebele, the South African Homeland for the Ndebele (Matabele) of South Africa, will be granted independence at the end of 1986, KwaNdebele Chief Minister Simon Sikosana announced at Siyabuswa. Work on a new capital has been begun, to be known as Mhlanga. The other South African Homelands which have been granted independence (Transkei, Ciskei, BophuthaTswana and Venda) have not received international recognition.

Middle East: Israel Welcomes SDI Participation Offer

Israel has welcomed the US invitation to participate in the research involved in US President Ronald Reagan's Strategic Defense Initiative (SDI), popularly dubbed "Star Wars". Although the exact nature of Israel's contribution to the various research efforts grouped under the SDI remains to be worked out, it was clear that Prime Minister Shimon Peres and Defense Minister Yitzhak Rabin were eager to accept the US offer in principle, as a sign of US-Israeli defense cooperation if nothing else. The Israelis indicated that they were interested in how SDI research might advance their own technological infrastructure; Israel would study any proposals before making a formal commitment.

NEW ISRAELI EQUIPMENT: A variety of new Israeli defense systems has been reported in recent weeks. Among these are several new electronic warfare systems from Elta, the electronics subsidiary of Israel Aircraft Industry, and including a new anti-missile naval radar system, a naval radar system said to be able to detect small boats such as the dinghies used by terrorist raiders, and other systems. Meanwhile Tadiran has announced that it is developing a new electronic warfare collection system and an imaging system for sending digitized pictures to a commander through existing communications channels. Israel Military Industries has recently unveiled an anti-tank system called MAPATS, consisting of a portable infrared-guided missile with a range of 4.5 kilometers, following a laser-generated infrared beam.

TEN MORE YEARS? As Lebanon surged past the 10th anniversary of the outbreak of the civil war in April, 1975, heavy fighting in Sidon and Beirut continued to pit one-time allies against each other and worsen the situation. It often takes a major threat to force Lebanese leaders back from their latest of many brink. Prime Minister Rashid Karami's resignation may have played a rôle in increasing the pressures on the "Lebanese Forces" militia to announce their unilateral cease-fire in their fight with Palestinians, Shi'ites, and others in Sidon. Although Karami in effect backed down by agreeing to serve as a caretaker Prime Minister (a caretaker Government could last forever), his move did underscore the concern of the Sunni Muslim population about gains made by the Maronites on the one hand and the Shi'ites and Druze on the other.

The other issue involved in the Karami resignation was the outbreak of fighting by Shi'ite *Amal* and Druze Progressive Socialist Party forces against the Sunni *Murabitun* militia in West Beirut. The split between Sunnis and their fellow Muslims was deepening; Sunni Army officers were charging that the Sixth Brigade, the Shi'ite brigade in charge of West Beirut, was not being properly nonaligned in its treatment of militiamen. The Sunnis have no real militia left in Beirut (the Shi'ites have besieged the Palestinian camps which, being largely Sunni, might back the *Murabitun*), and as Lebanon slides further down the slope to partition into cantons, the Sunnis are threatened with submergence into either a Christian or a Shi'ite surrounding, since they are not geographically concentrated as are their rivals.

NEW EGYPTIAN 130mm? Kuwait's daily *al-Rayy al-'Amm* has reported that Egypt will unveil a new 130mm field gun during military day ceremonies October 6. However, the newspaper claimed that the new gun will have a range that exceeds that of US 130mm guns used by Israel "by several kilometers". But the US and Israel do not use 130mm gun calibers (except for possible captured Soviet guns in Israel); Egypt already manufactures the Chinese M-59-1 version of the Soviet M-46 130mm gun at its Abu Zaabal Factory. It is far from clear if the Kuwaiti report actually reflects a new weapon.

Transition: Recent Appointments and Changes

Argentina: Jorge Bacque has been appointed a member of the Supreme Court of Justice, replacing former President General Carrio who resigned for health reasons. Rear Admiral Miguel Angel Grondona was named Deputy Chief of the Joint Staff.

Aruba: As part of its independence plans, Aruba will adopt the US dollar as medium of exchange beginning in

BBB → black/cans

Moscow TASS in English

MOSCOW — TASS political news analyst Leonid Ponomarev writes:

The Reagan Administration has officially extended an invitation to Israel to take part in the "star wars" preparations program. A statement of this effect was made by Caspar Weinberger, U.S. Secretary of Defense, a meeting of the NATO Nuclear Planning Group in Luxemburg. Washington's proposal signals a further deepening and broadening of U.S.-Israeli "strategic partnership" aimed at forcing on the Arab countries American-Israeli military rule, strengthening and broadening U.S. military presence in the Middle East.

In building up Israel's military power, the United States does not stint aid to its partner, above all military aid. Over the past 20 years Washington has granted Tel Aviv \$20 billion for military purposes alone, including the funding of the Israeli interventions against the Arab countries. The Pentagon lavishly supplies Israel with the latest military equipment, including "F-16" planes, M-1 tanks, airbombs, shells and mines. The United States provides a percentage of the funds to Israel for the development of multipurpose "Lavi" fighter bomber. Last year, for example, more than \$400 million from the more than a \$1 billion worth American military aid to Israel were spent on work to design that plane.

The American invitation extended to Israel to participate in the "star wars" shows that in relations with Tel Aviv the United States continues laying its main emphasis on military cooperation which is the main tool in the foreign policy of both countries. It is obvious that drawing (Israel?) into participation in militarization of outer space is totally unnecessary, since, as the world public knows, no Arab or other country in the world is going to attack Israel, much less from outer space.

Compiled from Israel Today Wire and Correspondent Sources

Kremlin Today

The best way to look behind the Iron Curtain is to monitor its media. Israel Today presents its readers these reports originating from the Soviet Union.

Israel and 'Star Wars'

Moscow Domestic Service in Russian

According to UPI, Israel intends to participate in preparations for the implementation of the star wars program. Igor Charikov comments on this report:

It is known that Defense Secretary Weinberger sent messages to the governments of 17 leading U.S. allies on March 26 proposing that they take part in working out and subsequently implementing the so-called Strategic Defense Initiative (SDI). Hiding behind this seemingly harmless term are Washington politicians' plans for the militarization of space. Among the message's 17 addressees was Israel.

It is not surprising that the United States has chosen Israel as one of the closest assistants in the preparations for the star wars. You see, Israel has been, and as U.S. Administration leaders confirm, will remain for a long time in the future, a strategic ally of the United States. This alliance manifests itself in Israel's assumption of essentially the role of a guard of U.S. imperialism's interests in the Near East and a role of a striking fist in the implementation of its regional policy.

The United States spares no means for the Israeli militarists' armaments and hands over the latest types of weapons and intelligence data gathering from satellites and so on under any pretext. From this point of view, Israel's participation in the program to prepare for star wars can be viewed as a cause for even closer military-strategic cooperation.

□ □ □

Star Wars dilemma

Ha'aretz by A. Schweitzer, 5 April

Israel is a country that can frequently surprise even those living there who are supposedly used to its strange ways. Take, for instance, the indifference displayed by our political sector and media towards the invitation extended to us, along with Nato members, Japan and other countries, by the US defence secretary to join the "strategic defence initiative". What we have here is no less than an American offer to march alongside the US, in the highly respectable company of the world's most industrialised countries, into the 21st century. It is the kind of offer that deserves more than a shrug of the shoulders before passing to other issues of the day.

We have been given 60 days to reply, which means that Mr Peres and his colleagues in the government have some seven weeks left to decide whether to accept or refuse. Amazingly enough, public opinion and its leaders have not even woken up to the issue yet and the invitation and its implications have not really been discussed. In the US, a fierce debate on the subject has been raging for two years, and the same thing has been going on among Nato members for some two months. It seems we are too busy with current affairs, urgent as they may be, to plan what we are going to do in the future. Yet the matter is crucial and must not be pushed aside.

The American invitation issued to Nato countries and to others such as Israel to join the technological effort has explicitly political overtones. The inclusion of Israel reflects both the importance which the president attributes to the US Jewish community, and a recognition of the practical contribution which Israeli science and technology could make. It also constitutes an opening for Israel to join the exclusive club of those powers that will

shape tomorrow's world. There is, of course, a rider to the invitation. The strategic defence initiative is causing great nervousness in the Soviet Union. The hostile remarks made about Israel by Tass this week, which must be seen as an official Soviet response, reflect the Kremlin's anger at Jerusalem. This should not be dismissed lightly, and indeed Nato's European partners are hesitating to accept the invitation precisely because of concern about what the Soviets might do to those who accept.

Some people will ask whether it is wise to accept in the face of Soviet threats, which are likely to increase as time goes by. This question can be answered in two ways. One answer lies in the political and economic realm, the other in the military one. If Israel joins the anti-ballistic defence project, its scientists and engineers will be employed in research and development in the field of laser technology, sensory optical equipment, energy supply and suchlike. There will be finance for the development of appropriate laboratories in Israel, and, last but not least, benefits in terms of the civilian uses that could be made of such research. In political terms, acceptance would mean closer partnership with the US in a field which the US administration regards as most important. Tass's comments indicate that the Kremlin treats this prospect with the seriousness it deserves, and it can be assumed that our neighbours, including those who have conditionally and for the moment accepted the existence of Israel, will respond in the same way.

There is a fair chance that despite the fear many people have of it, the Soviet Union will never send nuclear missiles to destroy the US. It is even less likely to send them towards Israel. However, the technological development of anti-ballistic defence systems will necessarily result in the development of weapons that could ensure victory in conventional warfare, and perhaps end altogether conventional wars as we know them today. Israel badly needs such weapons. After what Mrs Jeane Kirkpatrick told us

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this week about the attitude of the Arabs to Israel and what Muhammad Hussein Fadlallah, the leader of the Lebanese Hizbollah, has revealed about Shi'ite intentions towards Israel, the situation is quite clear. Should Israel involve itself in the research and development of anti-ballistic defence systems, its scientists and engineers are likely to gain direct access, be it of right or merely in practice, to the most up-to-date technology relating to conventional warfare. This would have obvious implications for Israel's ability to deter its enemies, or to defend itself should deterrence not suffice, in the more distant future.

This is merely an initial summary of the pros and cons of the matter, but it points towards acceptance of the offer. The benefits we would derive from such cooperation, and the effect it would have in terms of deterring our neighbours from hostile acts against us, can be said to outweigh the inherent dangers. Another view is, of course, conceivable, but what we cannot have is the public silence which has greeted Weinberger's offer to Israel. Israelis and their politicians must take an active part in the discussion of what is surely one of the greatest challenges ever faced by an Israeli government.

Commentaries View U.S. Offer To Join Space Defense
 TA080643 Jerusalem Domestic Service in Hebrew
 0430 GMT 8 Apr 85

[From the review of morning press editorials]

[Text] *DAVAR* says that President Reagan's strategic space plan, known as star wars, needs neither Israel's wisdom, nor that of the British, the Germans, or the Japanese. Everyone knows why the Pentagon entered into this business: Reagan wants political support for this initiative. However, the extent to which the administration is ready to pour content into Secretary of Defense Weinberger's letter to his 18 counterparts, including Yitzhaq Rabin, is not as apparent. Nonetheless, it seems that the letter has generated a process to which a clever Israeli reaction could help Israel without causing it any damage. A clever answer means a close examination of the possibilities, and the choice of a project that is feasible not only in space. The bull Reagan has sent in the direction of Israel is flaunting laser horns, and should be grabbed by them. Perhaps this is something that will never materialize, but we will not have any influence on this. There is also no point in getting embroiled in internal polemics about the intersuperpower bloc aspect of the issue. Our position on one side of the fence has long been proclaimed. This time there is room for quiet, discreet, and substantive examination.

AL HAMISHMAR writes that this is a crucial decision for Israel. Neither the economic point of view nor the technological challenge can have a decisive role, as the dilemma is political in essence. Anyone who realizes how much weight the Soviet Union attributes to this U.S. plan must provide a courteous yet firm negative response to Weinberger's appeal. We have just as many security reasons against getting involved in this star war as the European nations have. Concerning security, we are also responsible for the fate of the Soviet Jews and their affiliation with Israel, which must not be identified with the star wars project that elevates the cold war to yet a new level.

Commentary Examines New Jordanian Government
 TA091118 Tel Aviv MA'ARIV in Hebrew 9 Apr 85 p 10

[Commentary by Shmu'el Segev: "Husayn's Intentions"]

[Text] The composition of the new Jordanian Government, which includes Prime Minister Zayd al-Rifa'i's appointment of many Palestinians to key positions, is evidence of King Husayn's intention to continue to prepare for a possible renewal of talks with Israel.

Israeli experts familiar with the situation in Amman were probably not surprised by Husayn's latest move. In the past, whenever the king changed his policy, he always reshuffled his government and found the most suitable candidate for the post that became available at the time. During the past few weeks, Shim'on Peres

and the Jordanian monarch have exchanged "verbal messages" and prepared the ground for this latest development in Amman. Through interviews to the press, public remarks made on the radio and on television, diplomatic talks with various U.S. figures, and in meetings with Palestinian notables in the West Bank, Husayn and Peres signaled to each other that the time has come for action. It may be that the basis for a dialogue is not as perfect at the moment as it was in the summer of 1977 when the Likud succeeded the Alignment as the ruling party. Menahem Begin's overwhelming generosity in the peace accords with Egypt might also have narrowed Jordan's room for maneuvering, and this may make it difficult for Husayn to agree to those border adjustments that he favored in the past. It is not unlikely that even Amman's stand on the question of Jerusalem will become more rigid. The important thing at the moment, however, is not the "content" but rather the actual resumption of direct talks between the two sides.

The peace accords with Egypt notwithstanding, no one can take away Husayn's "credit" for being the first one to hold direct talks with Israel. A few years before the 6-Day War, and especially during the decade after it, Husayn was one of two Arab leaders who dared hold direct talks — and at the most senior level — with Israel. Egypt knew of these contacts; some of them were held with Al-Nasir's tacit agreement. These contacts ultimately laid the ground for Anwar al-Sadat's historic visit to Jerusalem.

The changes made in the Amman government, however, are not ordinary. If the groundwork is satisfactorily completed, Al-Rifa'i's government might be the one to negotiate with Israel.

The government reshuffle in Amman also has an implication for Israel's domestic arena: More than any other event during the past 6 months, the Israeli preparations for a possible renewed dialogue with Jordan prove the nature of the current Israeli Government's leadership.

During the short period when Yitzhaq Shamir took over from Menahem Begin as prime minister, the foreign minister expressed his willingness to meet with Jordan a number of times. Even though he is graced with personal honesty and many of his party members have faith in him, Shamir as the Likud's leader lacks the political credibility greatly required for renewed negotiations with Jordan.

This does not apply to the current Israeli government. A government headed by Shim'on Peres, and which includes such ministers as Ezer Weizman, Yitzhaq Rabin, and Yitzhaq Navon, already benefits from the credit given it by Amman. Its chances of succeeding in practical negotiations with Husayn are better than those of any other team. However, the condition for success lies in continuing the quiet preparations and in removing the obstacles that might sabotage the chances of any overt negotiations, if and when they open.

First SDI Contract With Israel Signed During 'Study Mission' by U.S. Companies

By TONY BANKS
Defense News Correspondent

TEL AVIV — The first Strategic Defense Initiative contract with Israel was signed last week between an unnamed U.S. company and the Ben Gurion University of the Negev in Beersheba. The contract deals with a magnetohydrodynamics project headed by Yeremiahu Branover.

It was signed during a study mission here by 24 technological representatives of 20 U.S. companies including Cray Research Inc., Scientific Atlanta, Comsat

Government Systems Inc., Boeing Aerospace Co., Martin Marietta Corp., Grumman Corp., AAI Corp. and the General Electric Co. The study mission was headed by Joyce R. Starr, director of the Near East Studies program at the Center for Strategic and International Studies at Georgetown University, Washington, D.C.

"This is not a trade mission," Starr tells *Defense News*. It is "a study mission by a group of high-level aerospace executives and technologically orientated

decision makers to discuss mutual security issues."

The visit was hosted by Yitzhak Rabin, Israel's minister of defense. During their eight-day visit, the delegates met with Prime Minister Shimon Peres and the ministers of economic development, science and technology, and industry and trade. They were briefed by senior members of the Israeli defense establishment and visited Israeli research centers.

The most important aspect of the trip, says Starr, is the oppor-

tunity for one-on-one meetings between the Americans and the Israelis.

"There is only so much that can be achieved by group sessions," she says. "And here the participants have the chance to discuss matters of mutual interests on an individual basis."

The group held discussions with senior executives and researchers at 16 Israeli companies including Israel Aircraft Industries, the Soreq Nuclear Research Center, Rafael, the Israeli armaments development

authority, Elop Electro-optics and a number of small firms.

"This is the first time that some of the small and medium-sized Israeli companies have had direct access to the big American companies," says Starr.

One purpose of her visit is to familiarize herself with the qualities Israel has to offer in the field of SDI and aerospace research. Starr interviewed representatives of every participating company, and "I found technologies that we were previously unaware of," she says.

"This is the first time that such a high-powered delegation has traveled abroad to see what America's allies have to offer. Prior to this visit, there were many competing delegations to the United States to find out what we have to offer in the field of SDI."

"But Israel has been at a particular disadvantage in this area due to security considerations. To date the dialogue between the two countries has been primarily at a political level. Israel has not had the access to American companies comparable to that enjoyed by British, French and German industrialists."

A major obstacle to full cooperation is the absence of a signed memorandum of understanding on cooperative SDI research, but this should soon be rectified when Defense Minister Rabin signs the agreement on May 5.

Starr says that Israel's identifiable strength lies in technologies applicable not only to SDI but also to space research. In particular she notes Israel's research into lasers, software programs and satellite placements.

"It is now up to the Israelis to make the best of the study mission," she says. "If they sit back and wait for the American companies to make the next move, then nothing may come of all this. It's up to them to follow up on what has already been achieved."

Study: Army Nears Manpower Shortage

Defense News Staff Report

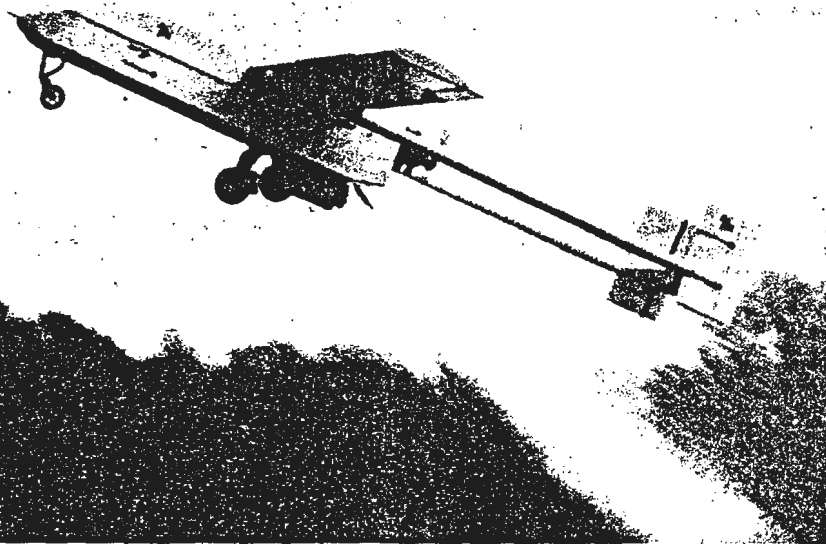
WASHINGTON — An analyst at the Heritage Foundation here anticipates the need for longer Army enlistments, a streamlined officer corps and other changes in a time of strained budgets and declining numbers of enlistment-age men and women.

According to Kim Holmes, the author of the conservative think tank's study, the manpower shortage will become acute by the end of the decade. In 1987, the pool of eligible recruits in the 18- to 24-year-old group will be 2.5 million lower than current levels, says Holmes, and by 1995, it will be an estimated 4 million lower.

Holmes recommends a number of solutions to the problem, including expanded recruiting efforts, extended standard tours of duty, greater use of reenlistment bonuses, and new efforts to attract high-quality recruits by providing educational benefits.

Holmes also suggests upgrading the role of the Army Reserves.

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Israel Will Join U.S. Defensive Initiative

By RAY SAIDEL

WHILE NO OFFICIAL release has yet been issued, the decision has been made. Israel will support the U.S. Strategic Defense Initiative. So this writer has been informed by a high Israeli source.

It is a wise and proper decision. Wise because the security needs of this small country, Israel, require the development of a near foolproof defense against a growing tactical ballistic missile threat from a number of fanatical neighboring states (a threat that probably will become nuclear). A wise decision because amongst the thousands of technological advances, improvements and brand new developments that are certain to come about through the Strategic Defense Initiative, one of the first will be the sophistication of terminal defense anti-tactical ballistic missiles.



As with the United States, deterrence alone is no longer a viable Israeli defense policy. Even a minimal conventional missile attack by one Arab state could, if successful, leave Israel without adequate water or electricity supplies for months—perhaps years.

THE COUNTRY IS extremely vulnerable; its physical size and location dictate certain security needs. These minimal requirements are so essential to survival that no friendly intelligent strategist would seriously suggest that Israel leave Judea and Samaria (the West Bank): you can't surrender the central high ground in a 60 mile wide Middle East country—and survive. One can't repeat it too often, "Israel is absolutely not viable without control of Judea and Samaria." It is beyond argument.

Without a tight anti-tactical ballistic missile system Israel's defenses remain critically deficient. And, the mountains of Judea and Samaria, the heights of Golan, these elements are as essential to tomorrow's anti-tactical ballistic missile defense as they already are to today's deployment of more conventional weapons and forces.

TERRITORY AND technology. Thousands of years ago Israel learned the value of control of the high ground.

When the advanced chariot of the Canaanites and Philistines drove them from the coastal and interior plains, it was in the highlands of Judea and Samaria that Israel survived and built a civilization.

Joining President Reagan's initiative is proper because as a democratic country allied to the United States, and a responsible member of the community of free nations, Israel should assist in this brave and farseeing program; this move away from the doctrine of MAD (Mutual Assured Destruction). Could any program be more aptly named? toward a new more hopeful security policy. Israel's decision was predictable. And it stands in sharp contrast to some of our larger and richer allies. Western Europe's meager loyalty to the U.S. seems constantly costed against trade with America's enemies.

EVEN WORSE, OF COURSE, are our so-called "moderate" Arab League friends. Their "friendship" doesn't deter them from siding with Khadafy and the PLO against the United States. These "moderates" rage against U.S. support of democratic Israel (where Arabs have full religious rights) but can't find it in their minds or hearts to put one hundredth as much effort in condemnation of the Soviet Union, which is murdering the entire Afghan nation, their brother Islamic state. Of course there is no religious freedom in Jordan, Saudi Arabia, Sudan, Libya, and a host of other Arab lands. None.

Americans should be pleased with Israel's decision. For its tender age, size and circumstances, this energetic country is extremely advanced in electronic defense techniques. It can contribute mightily, and, despite its many problems, it isn't spiritually exhausted as our "major" allies show themselves to be. On the contrary, it is full of enthusiasm. Prime Minister Shimon Peres, last spring, when interviewed by the Israel army magazine *Bamahane*, said, "Star Wars is not just another United States strategic move. It is a new dimension in the technological, scientific and strategic spheres . . . a departure from earth and a journey to a world with completely new conditions." Welcome aboard.

† † †

—Ray Saidel is a research associate at The Center For International Security, Washington, D.C.

TUESDAY, FEBRUARY 11, 1986

The Union Leader



Manchester, N.H.

AIPAC asks U.S. for protection against ground-to-ground missiles

Sharing Defenses

By Wolf Blitzer

WASHINGTON—The major pro-Israeli lobbying organization in Washington has called on the U.S. to develop an effective defense against conventional ground-to-ground missiles which it could then share with Israel.

"Israel's enemies are now being armed by the Soviet Union with a new generation of highly lethal surface-to-surface missiles, more accurate and more deadly than any previously available weapons," said Thomas Dine, Executive Director of the American Israel Public Affairs Committee (AIPAC). "Unfortunately, there are no comparable defensive systems available today that Israel could obtain to protect its vulnerable cities from bombardment."

Dine was testifying on Jan. 30 in open-door session before the Senate Armed Services Subcommittee on Strategic and Theater Nuclear Forces. The panel had convened to examine possible new defenses against tactical ballistic missiles.

Dine said this was a subject "of particular interest to those concerned" about the supply of such missiles by the Soviet Union to "its client states in the Middle East."

"These missiles threaten American security interests and the security of our only reliable, consistent and democratic ally in that part of the world," he said.

The hearing came as the Reagan administration has actively continued



Tom Dine

to push its controversial Strategic Defense Initiative (SDI) program, better known as "Star Wars." Israel has been invited to participate in the initial research and development stage of the SDI project.

Israeli officials, in accepting the U.S. invitation, have been anxious to learn if some of the new missile defense technologies proposed in the SDI program might have a spillover benefit in conventional warfare. Thus, there are clear benefits for Israel in eventually receiving these state-of-the-art technologies.

Israel Vulnerable

During the hearing, Dine submitted a detailed paper on the threat these new ground-to-ground missiles, especially the Soviet-made SS-21s recently deployed in Syria, pose for the security of Israel. The paper was written by W. Seth Carus, AIPAC's senior military analyst.

"When fired from Syria," Carus said, "the SS-21 can reach targets throughout northern Israel, including one of Israel's main air bases, Ramat David. If deployed in Jordan, however, all of Israel would be brought within range."

An accompanying map showed the clear vulnerability of virtually all of Israel's major air bases which were identified as Ovda, near Eilat; Ramon, Hatzorim, and Nevatim in the Negev; Tel Nof and Hatzor near the coastal plane; and Ramat David and Mahanayim in the north.

"If there is a danger of an Arab attack," Carus said, "Israel will be forced to strike first, because it will not be able to take the risks of waiting and absorbing an Arab attack. Although such a strategy will make the Middle East a more dangerous place, the absence of a viable defense against tactical ballistic missiles will leave Israel with no alternative."

The paper suggested that "tactical ballistic missiles directed against (Israeli) cities could easily result in 5,000 dead and wounded Israeli civilians in a

future Arab-Israeli war."

Thus, Carus called for a new defense against such missiles. "Although the Israeli military could take steps to develop defenses on its own," he said, "the development of such systems is too great a challenge to be handled by one small country."

"Clearly, any progress made in the United States to develop answers to the dangers posed by tactical ballistic missiles could have a fundamental affect on Israel's future security. And, it should be stressed, the benefits resulting from the development of such a system would be shared by other American allies who also find that they must deal with the growing threat of tactical ballistic missiles."

IAI Gets Bad News

Meanwhile, Israel received some bad military-related news the other day—portending possibly even worse news down the road.

Because of the Gramm-Rudman budget cuts, Israel Aircraft Industries (IAI) is now in danger of losing a proposed \$10-12 million contract to sell mineplows to the U.S. Marine Corps.

The mineplows, which are attached to the front of M-60 and other tanks, clear away mines.

IAI officials were informed that the contract was now endangered because of the most recent federal budget cuts forced on the Marine Corps by the Gramm-Rudman law. The law is designed to reduce the massive federal budget deficit.

The Israeli company had been negotiating the deal with the Marines for nearly three years. U.S. officials said all the arrangements had been virtually completed until the Gramm-Rudman law forced a re-evaluation.

U.S. and Israeli officials pointed out that the Marine Corps, like the other branches of the U.S. armed services, were currently in the process of sharply cutting back on procurement in a whole host of areas.

They strongly denied that the tentative decision to cancel the mineplow deal reflected any political irritation with Israel.

IAI officials had hoped that this initial sale to the Marine Corps would encourage other foreign nations to purchase the mineplows, which have been shown to be very effective.

In recent weeks, IAI, in a joint venture with Tadiran, had announced the sale of a new generation of pilotless reconnaissance aircraft—known as remotely piloted vehicles (RPVs)—to the U.S. Navy.

In addition, the U.S. Navy is expected to lease another 12 Kfir fighters for use during training exercises. A first batch of 12 Kfirs, based at the Oceana Air Naval Station in Virginia, already has been leased by the Navy to simulate Soviet-made MIG-21s. This proposed second shipment would be based in Arizona.

(Special to PB/JW)

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Israel Said To Need ATBM

Israel is in increasing danger of attack by improved tactical ballistic missiles, and needs to share the technology being developed by the U.S. Army to counter such surface-to-surface weapons as the Soviet SS-21 missile, says a military analyst for the American Israel Public Affairs Committee.

Seth Caras said in a paper presented recently to the Senate Armed Services Committee that "a defense against tactical ballistic missiles would significantly enhance Israel's security."

The Army is developing such a system, known as the Anti-Tactical Ballistic Missile, or ATBM, and based at first on improvements to such anti-air missiles as the Patriot air defense system.

"Although the Israeli military could take steps to develop defenses on its own, the development of such systems is too great a challenge to be handled by one small country," said Caras. "Clearly, any progress made in the United States to develop answers to the dangers posed by tactical ballistic missiles could have a fundamental effect on Israel's future security."

The ATBM, being developed as part of the Army's role in the Strategic Defense Initiative, is meant to defend U.S. bases in Europe against attack by con-

ventional or nuclear-tipped short range missiles.

Israel faces much the same threat, Caras notes. Syria, he says, "has as many as 24 SS-21 missiles, and additional numbers are reported to have gone to Iraq. The 120 kilometer range of the SS-21 allows it to be used against targets that the FROG-7 [an older Soviet missile] cannot reach. When fired from Syria, the SS-21 can reach targets throughout northern Israel, including one of Israel's main air bases, Ramat David. If deployed in Jordan, however, all of Israel would be brought within reach."

By the end of the decade, Caras considers it "highly probable" that the Soviets will ship SS-23s to Arab states.

"It is likely that in the 1990s, Arab armies will acquire tactical ballistic missiles from other sources," he adds. "Brazil is looking into building a medium range ballistic missile, with the development funded by foreign countries. Past experience indicates that Arab countries, Iraq or Libya, would be the likely sponsors and beneficiaries of such a project." And European nations might sell Arab states sophisticated munitions to put on such missiles.

New York Firm Making Radios

Numax Electronics Inc. of Hauppauge, N.Y., has established a production line to manufacture versions of the AN/VRC-12 series of tactical VHF-FM radio sets.

The firm obtained the manufacturing technology from Tadiran Inc., Israel's largest civilian and military electronic communications company. Recently, the U.S. Army cancelled two contracts worth \$19 million with the American firm E-Systems which had been making the radios.

Test stations and automatic test equipment have been purchased and are in place, Numax says. Production is about to commence for a foreign customer, whom the firm would not identify.

The radio series come in configurations suitable for a variety of military vehicles such as jeeps, tanks, and other combat vehicles. The radios provide two-way communications. The Army broke off its contract with E-Systems because it was unhappy with the firm's performance; the company has said it will appeal the decision.

CONTRACTS

(Continued from preceding page)

infrared sub-systems; one control indicator panel; 18 bore sight switch assemblies; 212 filter screens; and 59 baffle assemblies. Work will be performed in Dallas, Tex., and is expected to be completed by November, 1987. Contract funds will not expire at the end of the current fiscal year. This is a sole source contract initiated on June 11, 1984. The contracting activity is the U.S. Army Missile Command, Redstone Arsenal, Ala. (DAAH01-86-C-0437).

New England Research Center, Inc., Sudbury, Mass., is being awarded a \$3,302,690 firm-fixed-price contract for 400 Dewar detectors, DT-617A/UA (common modules which fit

many weapon systems). Work will be performed in Sudbury, Mass., and is expected to be completed by July, 1987. Contract funds will not expire at the end of the current fiscal year. There were 50 bids solicited on Sept. 30, 1985, and six bids received. The contracting activity is the U.S. Army Communications and Electronics Materiel Readiness Command, Ft. Monmouth, N.J. (DAAB07-86-C-F064).

Allied Corp., Bendix Communications Division, Baltimore, Md., is being awarded a \$27,936,000 modification to a firm-fixed-price contract for 776 M818E1 Patriot fuzes. Work will be performed in Baltimore, Md., and is expected to be completed by March, 1988. Contract funds will not expire at the end of the current fiscal year. This is a modification to the original sole source contract initiated on Feb. 26, 1985. The contracting office is the ISA/LABCOM Procurement Office, Adelphi, Md. (DAAK21-85-C-0042).

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Perle: Single-Warhead ICBM A Waste Of Funds

By JOHN MORROCCO
Defense News Staff Writer

WASHINGTON — Richard N. Perle, assistant secretary of defense for international security policy, says the Midgetman Intercontinental Ballistic Missile is too costly and should not be deployed in its current single-warhead configuration.

"I think it is a very expensive way to get 500 warheads," says Perle of the administration's current plan to deploy 500 of the single-warhead missiles on hardened mobile launchers.

Speaking at a gathering of alumni of The London School of Economics here Wednesday, Perle said he thought the \$1.4 billion earmarked for the Midgetman could be better spent for further research into the president's Strategic Defense Initiative (SDI).

The Pentagon's 1987 budget account for full-scale development of the single-warhead missile is more than double the 1986 figure of \$624 million. Initial fielding of the missile is scheduled in 1992. The total program cost is estimated to be \$44 billion.

Perle says the idea of putting three warheads on the Midget-

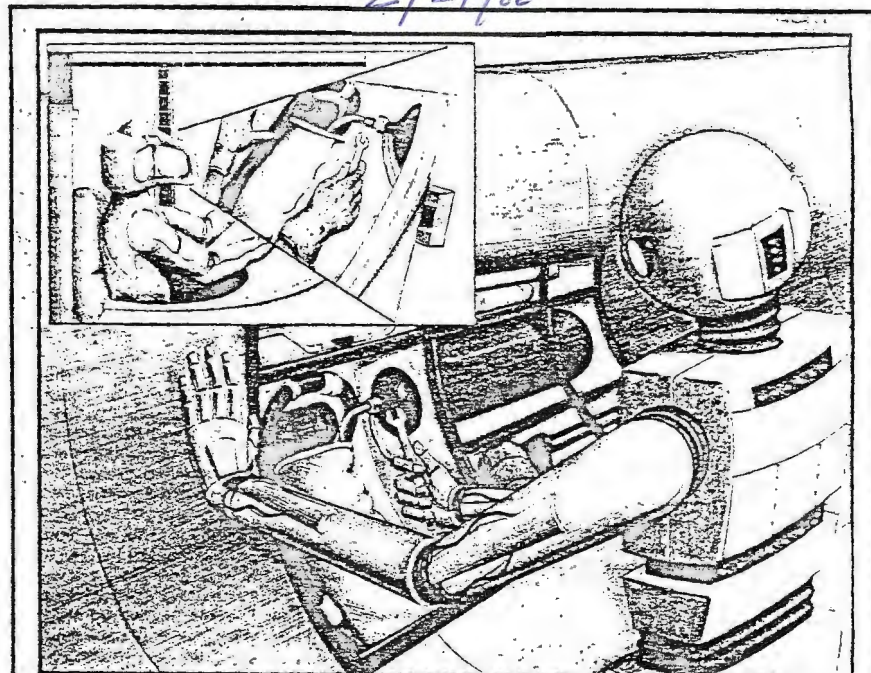
man, as has been suggested by other Reagan administration officials, "makes a lot of sense" because it would be much more economical. However, he favors a ban on the Midgetman and all other mobile missiles being developed by both superpowers because, he says, "They are virtually impossible to verify."

Perle's remarks are indicative of a political tussle in Washington over the fate of the Midgetman. The administration's recent willingness at arms control talks in Geneva to consider a ban on mobile intercontinental ballistic missiles (ICBMs) has congressional supporters of the program fuming.

Donald A. Hicks, undersecretary of defense for research and engineering, told the House Armed Services research and development subcommittee last Tuesday that the Pentagon is considering a plan to put three warheads on the Midgetman.

Hicks told the panel that 170 launchers with three multiple independent re-entry vehicles could deliver the same punch as 500 single-warhead missiles for

See PERLE, Page 14



Using remotely controlled robots

to repair satellites in space and weapons systems in a combat environment is one of the emerging technologies targeted as a top Air Force priority by the Project Forecast II study group. Story, Page 4.

New Aerospace Plane May Serve As Ballistic Missile Interceptor

Duncan Offers Glimpse into DARPA's Arcane Realm

By TOM DONNELLY
Defense News Staff Writer

WASHINGTON — The new hypersonic National Aerospace Plane, hailed by President Reagan in his recent State of the Union address, may be used as a long-range air defense interceptor, according to Robert C. Duncan, director of the Defense Advanced Research Projects Agency (DARPA).

The new DARPA chief, appointed Nov. 18, used the occasion of his first appearance before the House Armed Services research and development subcommittee Wednesday to explain some of the military applications of the aerospace plane.

Duncan says the aircraft, designated the X-30 in its military configuration, may be used to intercept ballistic missiles. He projects the development cost of the project at between \$600 and \$700 million, of which the Defense Department will pay 80 percent and the National Aeronautics and Space Administration 20 percent.

Duncan's testimony offers a glimpse into the realm of the most exotic defense projects of the future. For example, Duncan says electronic materials research is yielding a "permeable base transistor." These transis-

See DARPA, Page 15

GE Again Edges Out Pratt & Whitney In Engine War

By JOHN MORROCCO
Defense News Staff Writer

WASHINGTON — The results of round three of the great engine war were announced Friday by Air Force Secretary Russell A. Browner as the Air Force awarded approximately 56 percent of its total buy of fighter engines in 1987 to General Electric and 44 percent to Pratt & Whitney. The 1987 purchase is worth an estimated \$1 billion.

Out of a total buy of 36 engines, GE will supply 20 and Pratt & Whitney 16. The Air Force will buy 16 GE F404 and 20 Pratt & Whitney F404 and 18 Pratt & Whitney F404. The total of 20 GE F404 and 20 Pratt & Whitney F404 engines will be purchased from GE for installation in F-16s.

The results are nearly identical to round two, which saw GE take 54 percent of the Air Force fighter engine business as opposed to Pratt & Whitney's 46 percent.

General Electric Air Force contracts for the coming year are estimated at \$1.1 billion, while Pratt & Whitney's are estimated at \$950 million.

Pentagon on Verge of SDI Contracts With Israeli Firms

By TRISH GILMARTIN
Defense News Staff Writer

WASHINGTON — The United States has "several contractual efforts" under way with Israeli firms for research into areas for the U.S. Strategic Defense Initiative (SDI) program that "are getting near the procurement process," says Lt. Gen. James A. Abrahamson, director of the Pentagon's SDI Organization.

Abrahamson, who arrived in Tel Aviv during a five-day visit there to solidify arrangements for Israeli participation in the SDI project, declined to identify which Israeli firms will receive contracts for SDI research, saying, "I would prefer that when it happens the Israeli government makes the announcement."

The SDI program director tells Defense News that U.S. and Israeli officials are drafting the language and details of a pact that could lead to a formal agreement for Israeli participation in the SDI program over the next two months.

SDI is the Reagan administra-

tion's program to develop a defense against enemy ballistic missiles. The United States has invited allies to participate in the program but to date only the United Kingdom has signed a formal memorandum of understanding to cooperate on the development of hardware for the project. The British pact was signed Dec. 10, 1985.

Abrahamson, who arrived in Israel Wednesday for meetings with senior Israeli government and industry officials, says a "formal memorandum of understanding as such" with Israel has not yet been signed. But he notes that a formal letter from Israeli Defense Minister Yitzhak Rabin was sent "some time ago" positively responding to Defense Department Secretary Caspar Weinberger's invitation of last March to participate in the U.S. program.

Since then, Abrahamson says, "there have been several reciprocal kinds of visits ending, at this

See SDI, Page 14

INSIDE



Gen. Burba

Surveillance Ship Builder
Convulses on Deathbed

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Navy Tells China Lake Chief
To Take New Job or Retire

Page 5

Army's Burba, Others Face
Questioning on Bradley

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Perle: Single-Warhead Midgetman Too Costly

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\$20 billion less. Although a three-warhead Midgetman would weigh about 75,000 pounds more than the currently projected 33,000-pound single-warhead version, Hicks says he sees no difficulties in basing them on mobile, hardened launchers that can be dispersed to avoid being destroyed if the Soviets strike first.

Any tinkering with the Midgetman program, however, faces formidable opposition on Capitol Hill, especially among legislators who helped to iron out a compromise with the administration agreeing to deploy the controversial multi-warhead MX missile along with a promise to develop the single-warhead, mobile Midgetman.

Even supporters of the program, such as Rep. William Dickinson (D-Ala.), ranking Republican on the House Armed Services Committee, worry that any proposal to revamp the Midgetman, particularly when combined with the administration's request for

21 additional test MX missiles and continued study of MX basing modes, could jeopardize the fragile coalition in Congress for Midgetman. In a House Armed Services research and development subcommittee hearing Wednesday, Dickinson implored Hicks not to open a "Pandora's box" of controversy by pushing for the larger Midgetman. Dickinson said the package deal in Congress on controversial systems also included the requests for modernized chemical weapons.

Anthony Batista, a member of the subcommittee staff, told Hicks that when the Midgetman weight was first being negotiated, the Air Force had argued that 37,000 pounds was the limit. Hicks responded, "I don't buy the Air Force argument. I do not believe those numbers are right. I believe it is possible to have a MIRVed, 75,000-pound missile and the necessary mobility. That's based on data I have received from people I trust." MIRV is Pentagon jargon for a

multiple, independently targeted re-entry vehicle.

Hicks said he had a tough time accepting the "political reality" Dickinson presented him with. Admitting the Pentagon needed to study the trade-offs more closely, Hicks estimated that revamping Midgetman as a multiple-warhead missile would delay the program only one year.

In the past two weeks, Rep. Les Aspin (D-Wis.) has argued heatedly against any changes in the single-warhead missile's configuration and decried recent offers by the Reagan administration to trade the missile away at arms negotiations with the Soviets in Geneva.

Aspin, chairman of the House Armed Services Committee, blasts the administration's arms control policy — which seeks to ban mobile ICBMs — likening it to "giving away a sure thing to bet on a nag." He questions the wisdom of bargaining away the Midgetman while clinging tenaciously to other strategic pro-



DOE PHOTO

Richard N. Perle

says the single-warhead configuration of the Midgetman is "a very expensive way to get 500 warheads."

grams "of questionable need or unproven workability like SDI."

"SDI research over the next 10 years will total about the same as the cost to develop and deploy

Midgetman over those same 10 years," Aspin told a Feb. 12 gathering of the World Affairs Council in Washington. "The most we can get for our money is enough scientific data to make a decision to spend billions and billions more."

"In the case of the Midgetman," he says, "we will get a fully operational system that we know will work and know will contribute to stability."

Aspin says that placing three warheads on the Midgetman will defeat the initial purpose of the missile, making it too heavy to be easily dispersed and transforming each launcher into a more lucrative target for Soviet planners.

Sen. Pete Wilson (R-Calif.), however, rejects critics' claims that increasing the missile's weight will make it less mobile when transported.

A Defense Science Board task force chaired by Dr. John M. Deutch, provost of the Massachusetts Institute of Technology, is to publish an evaluation of the Midgetman in late February.

Staff writer Tom Donnelly contributed to this report.

U.S., Israel Drafting Pact for Joint Participation in SDI Research Effort

SDI, from Page 1

point, with this one." Abrahamson indicated work on a draft agreement is under way, saying, "We are working on language and details and it is my hope that we'll have that ready for implementation in not more than a month or two."

Abrahamson met Friday with Israeli Prime Minister Shimon Peres, who told reporters after the meeting that an official response will be sent to the United States after the Israeli Defense Cabinet debates the matter in the near future. The cabinet is understood to favor joining the SDI research effort.

Commenting further on potential Israeli collaboration on the SDI effort, Peres said, "This is not an invitation to Israel to join in a war against the Soviet Union but this is a war into the unknown." Peres added, "This is the most important project that is to be undertaken in the coming

decade."

One day earlier, Abrahamson met with Rabin as well as Israeli Aircraft Industries Chairman Gen. David Ivry and Uzi Eilan, head of the Defense Ministry's research and development department.

Abrahamson was upbeat in describing the series of discussions he had with Israeli officials from government, research institutions and industry. "There has been a strong commitment by the Israeli government and, frankly, everyone that I've met here, to the (SDI) program," he tells *Defense News*.

"They have shown us some very exciting ideas, primarily in the area of defense against shorter range ballistic missiles which, of course, are of interest here and to the European and to the Pacific theaters," he says.

The SDI program director spoke before the 28th Annual Conference on Aviation and As-

tronautics in Tel Aviv, during which he explained those Israeli technologies the United States is interested in tapping for the SDI program.

Israel has come up with about a dozen good ideas for SDI research, he said, including electronics, electronic countermeasures, lasers and holography. The latter refers to a photographic method that uses laser light to produce three-dimensional images. In this process, an image can be virtually reconstructed by shining laser light or white light through the developed film.

He expressed particular interest in an improved rail gun with tank-mounted capabilities and countermeasures to Soviet-made SS-21, 22, 23 and stealth missiles. Abrahamson noted that these missiles are deployed in Syria and that Israel's own security would benefit from joint SDI research.

Abrahamson urged Israeli sci-

entists to cooperate on the U.S. program and expressed satisfaction with work under way at Israel Aircraft Industries, the Rafael Armaments development authority, the nuclear establishment and the Technion Institute for Technological Studies.

Abrahamson's stay in Israel was preceded by a visit to London, where he and the chief scientific adviser at Britain's Ministry of Defense, Professor Richard Norman, "initialed off all the implementing instructions" in connection with the memorandum of understanding in place for cooperation on the SDI effort between the two countries.

He said there have been "a couple of very minor contracts" let to British firms for SDI research since the signing of the pact late last year. "Most of these first contracts are small ones . . . and they are deliberately small ones. Later on, there may be large ones but they will proba-

bly be on a competitive basis," Abrahamson says.

The first major contract to be awarded to Britain has gone to the government's research establishment at Culham Laboratories in Oxfordshire. The lab is part of the Britain's Atomic Energy Authority and home to the Joint European Torus nuclear fusion project.

Culham has received an award worth approximately \$10 million over the next five years to develop a neutral particle beam that will not be distorted by the magnetic field of the earth. The research is to be carried out by British scientists in cooperation with their U.S. colleagues from Los Alamos National Laboratory in New Mexico.

Defense News correspondents Paul Maurice in London and Tony Banks in Tel Aviv contributed to this report.

British Shipbuilders Tout Less Costly Supply Ship

Defense News Staff Report

LONDON — British Shipbuilders, the United Kingdom's nationalized shipyards, has designed a new supply vessel for the Royal Navy whose cost could be half that of the Auxiliary Oiler Replenishment Vessels (AOR) now being considered by the Ministry of Defense.

The new replenishment vessels are needed to support the Type

23 frigates now under construction. However, shipyards trying to meet the Navy's specifications are quoting prices of up to \$200 million per ship, compared to the Defense Ministry's goal of \$140 million.

The offer from British Shipbuilders is to build a ship it calls the Fleet Support King 20/20 for between \$80 million and \$100 million.

Boeing, Honeywell Will Share VHSIC Technology

Defense News Staff Report

WASHINGTON — The Boeing Electronics Co. and Honeywell's Solid State Electronics Division signed an agreement Feb. 11 giving Boeing early access to the Very High Speed Integrated Circuit (VHSIC) technology that Honeywell has developed for defense contractors. It also covers Honeywell's technology for VHSIC-like and radiation-hard-

ened electronic components.

The agreement is non-exclusive, covers three years, and is renewable Honeywell says. The electronics manufacturer will supply the technology for Boeing to design integrated circuits itself or with Honeywell.

Boeing Electronics is an operating division of The Boeing Co. It supplies electronics for all of Boeing's other divisions.

GE Edges Out Pratt & Whitney in 'Great Engine War'

ENGINES, from Page 1

be at \$4 billion, compared to the prices the Air Force otherwise would have paid over the life of the entire alternate engine program.

Rourke says the intense competition between the two companies has resulted in each offering "updated proposals that increased our savings over the program's life."

"We continue to see improvements in engine prices, support equipment prices, warranty protection and the contractors' willingness to support competition," says Rourke.

The F100-PW-220, rated at 24,000 pounds of thrust, is a derivative of the F100 turbofan engine that now powers Air Force F-16s and F-15s, as well as those of 10 other nations.

The F110-GE-100 turbofan, a derivative of the F101 engine that was originally developed by General Electric for the cancelled B-1A bomber, is rated at 27,000 pounds of thrust.

To date, the Air Force has purchased 358 P&W engines and 517 GE engines in the alternate fighter engine competition. The value of the entire program, which will last from 1985 to 1990, is estimated to be worth \$8 billion.

In February 1984, Pratt & Whitney's near monopoly on Air Force fighter engine contracts was cracked by former Air Force secretary Verne Orr, who initiated what came to be known in Washington as the "great engine war," because of the intense lobbying by both firms for the service's

fighter engine business after Orr announced he would split its annual awards between them.

General Electric won 75 percent of the orders in 1985 for the improved engines. The Air Force bought 126 F110-GE-100 engines to power its F-16s, while 41 Pratt & Whitney F100-PW-220s were ordered for F-15s. However, the Air Force also bought an additional 189 older F100-PW-100 and F100-PW-200 engines from Pratt & Whitney that same year.

The 1986 buy saw a more equal split. The Air Force ordered 157 engines from Pratt & Whitney for its twin-engine F-15s and single-engine F-16s. General Electric's share was 186 engines, all for F-16s.

U.S. Star Wars official urges Israel to join

By JOSHUA BRILLIANT

TEL AVIV. - Lieutenant-General James A. Abrahamson, head of the U.S. Strategic Defence Initiative or Star Wars programme, last week urged scientists here to take part in the project as it would help Israel's security, too.

Part of the Star Wars research will be devoted to ways of countering short-range ballistic missiles of the type the Soviet Union has supplied Syria, he explained.

Abrahamson made the appeal in an address to aeronautics experts at the 28th annual Israel Conference on Aviation and Astronautics at the Tel Aviv Hilton.

At an earlier meeting with defence reporters at the U.S. Embassy, Abrahamson said: "Some of the technology that we will be investing in and conducting research on, and in the end developing... will also contribute to some of [Israel's] very pressing military needs. That is being able to counter and deal with short-range ballistic missile threats," particularly the Soviet-Made SS21, SS22, SS23 and possibly the Scud missiles.

Later at the aeronautics conference, Abrahamson said: "we want to tackle the threat to Israel right across the Syrian border, because we think that your ideas for tackling that threat will help not only the Middle Eastern theatre but can be applied to Europe." It could also help the U.S.

In some, but not all, cases, Abrahamson said, countering short-range low-flying missiles is easier than coping with the fast, high-altitude intercontinental ballistic missiles.

Some of the technology developed for Star Wars programme will be placed in space, he said, but it is "a false impression that it will all, someday, be in space." Surveillance systems will be located in space, as will some of the elements the U.S. will use to strike at the enemy's ICBMs after they are launched. But more money is being spent on research for projects "on the ground," Abrahamson stressed.

Thus the Israeli contribution could be in spheres that directly contribute to its own security.

The Israeli scientific community - including Israel Aircraft Industries, Rafael, the nuclear establishment and the Technion - have already come up with "some very good and



James Abrahamson (Brutmann)

advanced ideas," Abrahamson said.

Twelve Israeli proposals are of "very great interest to us," Abrahamson said without disclosing what they were. However, he did say he was particularly interested in ideas on improving rail guns.

A rail gun accelerates a projectile on an electrical field, as opposed to the gun power or compressed gas used in ordinary weapons. As a result, the projectile shoots out at a higher speed. A small projectile flying at high speed could prove more deadly than a bigger, but slower, one.

Abrahamson said Israel had already presented an "absolutely unique idea in rail guns that produces tremendous power." Developing that idea could have wide-ranging effects, he said, noting that rail guns could be mounted on tanks.

He said Israel could also contribute in the fields of electronics, electronic countermeasures, lasers and holography.

In the past six months, the U.S. and Israel have discussed Star Wars projects without coming to an overall agreement on the programme. In contrast, Britain has concluded a memorandum of understanding with the U.S. on the matter.

"I don't believe we know yet some of the Israeli officials' final judgement on whether there should be a memorandum of understanding or what kind of format there should be for the contacts. But we're not waiting for that," he told the defence reporters.

No contracts, however, will be concluded during this visit.

Abrahamson said that he has a budget of \$2.7b. for fiscal 1986 and that he hopes for \$4.8b. next year. Because the U.S. aims to encourage competition in the programme, it will take time to conclude contracts.

THE JERUSALEM POST INTERNATIONAL EDITION

Week ending March 1, 1986

IN HIS article opposing an Israel role in President Reagan's "Star Wars" project (*Jerusalem Post*, February 11) Joe Franklin serves up a concoction of half-truths, non-sequiturs, simplifications, and flamboyant put-downs. He makes one – and only one – irrefutable point: that Israel's decision to participate in the U.S. Strategic Defence Initiative should be preceded by a careful evaluation of the costs and benefits. His assumption that this has not been done, however, is questionable, considering the long months that have passed between the initial U.S. invitation and the government's acceptance. The more reasonable assumption is that our elected representatives in the appropriate ministries performed just such an evaluation.

Moreover, the time was certainly adequate for opponents to make their views known. One suspects that his claim that the issue has not been carefully looked at is really an expression of his disappointment with a decision that is not in accord with his own preferences. I will limit myself to only a few points.

Franklin argues that parti-

cipation in SDI will take place at the expense of research in other, more pertinent forms of Israeli defence needs and of more humane, peaceful needs. This is not at all clear. In Israel's case, we are largely talking about electronic high technology and the aerospace industry – both key elements in our nation's ability to defeat numerically superior enemy tactical missiles and aircraft. A number of SDI concepts may also be directly applicable to defences against tactical and intermediate missiles – something liable to be of great benefit in any future Middle East war. Moreover, we are talking about participation in SDI projects by Israeli scientists who are for the most part already working in related defence fields and whose SDI funding would come from the U.S. as an addition to, and not a substitute for, current domestic and foreign sources.

Franklin also argues that U.S. security procedures would demand the compartmentalization of Israeli science. Does he really believe that

our high-technology weapons-related research and development has, to date, been conducted in any different fashion?

These same security procedures, he argues, will prevent Israel from acquiring any of the key military technologies or access to use of commercial spinoffs. He could be right. But only if our leaders are so naive as to fail to ensure that the details of the agreement (which are still to be worked out) preclude this from happening. I, for one, have more faith than that in the officials of our Ministry of Defence and defence related industries.

FRANKLIN bemoans the "militarization of space." Where has he been since Sputnik and the first intercontinental ballistic missile some 25 to 30 years ago? Space is already heavily militarized and will undoubtedly be a critical combat arena (perhaps

the decisive one) in any superpower war. Beside its great potential contribution to enhanced deterrence, SDI-related research will allow for a better understanding of this combat arena and a greater capability to compete therein. Also implicit in his argument is the flawed assumption that weapons and military capabilities create tensions and conflicts and cause wars. This is putting the cart before the horse.

FINALLY, the Franklin article notes that "Israel was founded, at least in part, through international perception of the inadmissibility of holding a people hostage to a perpetual threat of destruction. Israel's government today would be well served by the same principle." I could not agree more with this statement. But, its intended conclusion is a *non-sequitur*. We have lived for over a generation as hostages to perpetual threat of destruction as encompassed in the insane theory of Mutual Assured Destruction. SDI is an attempt to get out of that blind

alley – an attempt whose feasibility can only be determined by thorough research. Developing any significant degree of defence can only increase deterrence in the long run. Moreover, the mere existence of the concept, and of the apparently real resolve to pursue it, have already led the Kremlin to offer greater concessions in arms control than ever before. Even if nothing else comes out of SDI, this will have made it worthwhile.

Expansion into space, with eventual access to unbelievably huge new sources of energy and raw materials (along with many other long range benefits), is both a necessary future for mankind and the greatest dream and adventure ever embarked upon. Any and every way that Israel can take part in it should be seized upon. Moreover, it just might incidentally address a more mundane Israeli concern. Whenever Israel is somewhere at the forward edges and engaged in exciting, dream-filling endeavours, the likelihood increases of attracting bright, modern and idealistic American Jews to give Israel a try.

The writer is head of the Department of Strategic Studies at the International Research Centre on Contemporary Society.

The case for Star Wars

JOHN FARRAR

THE JERUSALEM POST INTERNATIONAL EDITION

Week ending March 1, 1986

SDIO's Gardner Out; Smith In (Continued from p. 1)

SDIO will lose another key official this summer when Yonas, the program's chief scientist, returns to Sandia National Laboratories. Yonas is serving in SDIO on a two-year leave of absence from the lab which will expire in August.

The top-level turmoil comes as "Star Wars" employees are bracing for a major reorganization. As the multi-billion-dollar research effort has progressed, the job of managing SDIO has become increasingly complicated, officials said. In the absence of a full-time deputy, the entire administrative responsibility has fallen to Abrahamson. At the same time, the number of SDIO employees is scheduled to double to around 200 in fiscal 1987.

"There is a sense as the program gets larger it becomes a bigger management job," Gardner said. "There are stronger organizational structures that could be created."

The new organizational structure officials are mulling would whittle the number of officials who report directly to Abrahamson from the current total of nine down to two. At present, the chiefs of eight separate SDIO departments—from directed energy weapons to resource

management—as well as chief scientist Yonas have direct access to Abrahamson.

Under the new structure, set to be unveiled sometime this month, two new layers will be inserted between Abrahamson and his department heads. Directly below Abrahamson will be the new deputy director. Below him will be twin assistant directors, each responsible for

one-half of SDIO. Exactly how the office will be divided between the two new assistant directors is not yet known. Gardner said the two slots will probably be filled by individuals already employed by SDIO.

Said one SDIO official: "This takes the day-to-day burden of management off of Abrahamson. It will facilitate management of the program."

NAVY SEEKS 125 ORIONS

The Navy has set July as the month it will ask aircraft manufacturers to bid on a multi-million-dollar contract to build new versions of the P-3 Orion, now built by Lockheed Corp. The Navy hopes to change the airframe of its antisubmarine warfare workhorse, according to officials.

Under the Navy's plan, the service will award a "winner-take-all" contract to build 125 P-3s at a rate of 25 per year.

The Navy is putting Lockheed's aircraft up for competition because service officials believe the company's plane costs too much at \$35 million a copy.

The Navy said last week that a contract will not be awarded until 1987. It will require firm fixed prices. "The major competition will be for the airframe and some contractor furnished equipment, while the government expects to continue purchasing and supplying some articles on a government furnished equipment basis. As part of the P-3D competition, the competitors' options such as new engines, reliability and maintainability improvements, survivability improvements and/or enhancements to operational capabilities will be requested," a Navy spokesman said.

Star Wars Feasible, Says Abrahamson

BY DAVID J. LYNCH

The technical feasibility of a "Star Wars" defense has been established, according to Lt. Gen. James Abrahamson, the director of the Pentagon's Strategic Defense Initiative Organization. Abrahamson told an industry group last week the program is moving into a new phase of making the components of a defensive shield less costly.

"We are nearly there," Abrahamson said. "It is no longer a question of 'ifs', it's a question of 'how long', and 'how expensive'." The general's remarks came during a Feb. 26 luncheon address to the American Defense Preparedness Association.

With the resolution of the technical questions ostensibly in sight, Abrahamson said the Pentagon will be stressing ways to make a "Star Wars" defense affordable. "It's not enough to show that it's technically feasible," he said. "We have got to now move into the next phase of the program."

The SDI chief cited the ERIS missile contract recently awarded to Lockheed Missile and Space Co. as an example. The ERIS interceptor should be capable of killing Soviet warheads for less than \$1 million, he said. Abrahamson acknowledged that cost goals can not be set for each SDI project, but said estimating component costs will be a "major thrust" of the program in the

coming year. "This must be an affordable kind of option for the future," he said.

SDIO officials have also decided to apply fixed price contracting standards to at least one research effort, the troubled Space Surveillance and Tracking System, according to Abrahamson. SSTS has been on hold since last last year while Pentagon officials mulled revisions in the sensor design.

Abrahamson recently returned from a trip to Britain and Israel where he discussed possible allied participation in the research phase of the SDI. While abroad, he reviewed architectural analyses of an anti-missile defense against short-range missiles in both countries. Israeli officials also demonstrated a 30mm cannon they had converted into a railgun, Abrahamson said. Announcement of a formal agreement with Israel on its role in SDI is expected sometime next month.

The SDI is already beginning to benefit conventional military forces, Abrahamson said. "The fallout is already beginning to develop," he said. SDI spin-offs will extend beyond better military gear to the commercial sector, he added. And the SDI chief told the industry group that Pentagon war games have demonstrated that the U.S. and Soviet Union can make the transition to strategic defenses safely. "We can be stabilizing right from the very beginning," he predicted. The actual results of those Defense Department efforts are classified.

F:SDI

Seth

Disposition:

U.S.-Israeli agreement possible on 'Star Wars' research

By RICHARD C. GROSS

WASHINGTON (UPI) — Israel and the United States are moving close to an agreement on Israeli participation in "Star Wars" research, focusing on non-explosive weapons and countering short-range missiles, sources said.

Israel's defense ministry is working on a final draft memorandum of understanding that is expected to be ready for signing in "a few weeks to a month," a U.S. defense official said Tuesday.

"Enough details have been worked out so that this thing is going to be signed," he said.

The government-to-government agreement would be the second of its kind involving the complex "Star Wars" project since Defense Secretary Caspar Weinberger invited U.S. allies to take part in the research 11 months ago. Britain signed a memorandum with the United States in December.

Other U.S. allies, notably France and Japan, have balked at similar agreements. But West German and Italian defense industrialists have expressed eagerness to join the "Star Wars" effort, potentially worth tens of millions of dollars to the defense contractors of participating countries.

Israel's participation would "score political points" with the administration because of the high priority it accords the project, an --More--

administration official said.

Israeli officials envision contracts worth "a few hundred thousand dollars" being awarded initially, with more to come later in possible partnership with American aerospace firms, an Israeli source said. Israel already has business relationships with U.S. defense contractors.

"We want to enter into areas in technology that would be to Israel's benefit," an Israeli source said. "We feel that, in the end, the best bet would be to work in partnership with American companies and not bid directly for contracts. As soon as the agreement is signed, we'll bid for contracts."

A spokesman for the Strategic Defense Initiative, as "Star Wars" is known officially, said the contracts probably would be awarded directly to the Israeli government. Israel's defense industry largely is government-owned.

Israel's technological input into SDI gained momentum during a 4-day visit to the Jewish state last week by SDI director Lt. Gen. James Abrahamson, said the officials, who spoke on condition they not be identified.

Abrahamson met with Israeli Prime Minister Shimon Peres, Defense Minister Yitzhak Rabin and defense industry leaders, the officials said. Israeli officials warmly embraced participation in SDI, limiting it to what could be applied to Israel's own defense needs, they said.

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FROM: NEWS Posted: FRI 28-FEB-88 23:38 EST Sys 97 (98)
SUBJECT: ISRAEL: ISRAEL STAR WARS 0498 STAR WARS SELLING IS LIMITED TEL AVIV I
* AP GENERAL NEWS (INTERNATIONAL)

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1104 AP-ISRAEL-STAR-WARS:0498
STAR WARS' SELLING IS LIMITED
TEL AVIV, ISRAEL (AP) - THE HEAD OF
THE U.S. STRATEGIC DEFENSE INITIATIVE
IS LOOKING OVERSEAS FOR A FEW GOOD
SCIENTISTS TO HELP DEVELOP THE
SPACE-BASED MISSILE DEFENSE SYSTEM.
LT. GEN. JAMES ABRAHAMSON SAID HE IS
SEEKING PEOPLE LIKE THE ONES BACK HOME
AT AUBURN UNIVERSITY IN ALABAMA WHO
DEVELOPED A CAPACITOR THAT CAN STORE
200 TIMES MORE ELECTRICAL ENERGY THAN A
CONVENTIONAL CAPACITOR.

"WE THINK THAT WHILE WE HAVE THE
TECHNICAL CAPABILITY TO DO (THE
RESEARCH) ALONE, WE CAN PROBABLY DO IT
CHEAPER AND FASTER BY GETTING TEAMS
FROM OUR ALLIES TO CONTRIBUTE," HE
SAID.

HE SPOKE AT AN INTERVIEW WITH THREE
U.S. REPORTERS DURING A RECENT TRIP TO
ISRAEL AND BRITAIN, THE TWO COUNTRIES
WHICH HAVE BEEN THE MOST RECEPTIVE TO
--MORE--

PRESIDENT REAGAN'S "STAR WARS"
PROGRAM FOR A SPACE-BASED MISSILE
DEFENSE.

ABRAHAMSON ARGUED THAT ISRAEL, WHICH
IS ADVANCED TECHNOLOGICALLY DESPITE ITS
SMALL SIZE, MAY BE ABLE TO HELP DEVELOP
A DEFENSE AGAINST SHORT-RANGE MISSILES
OF THE FUTURE, BUILDING ON EXPERTISE
ABOUT SOVIET-MADE SS-21s AND OTHER
SURFACE-TO-SURFACE MISSILES THAT ARE
DEPLOYED IN NEIGHBORING SYRIA.

SYRIA'S MISSILES ARE WITHIN RANGE OF
MAJOR POPULATION CENTERS IN ISRAEL AND
CONSTITUTE ONE OF THE GREATEST MILITARY
THREATS FACING AMERICA'S CLOSEST ALLY
IN THE MIDDLE EAST. THE SAME KIND OF
MISSILES POSE SIMILAR DANGERS TO OTHER
ALLIES SUCH AS SOUTH KOREA AND WEST
GERMANY.

A DEFENSE AGAINST LONG-RANGE
MISSILES IS NOT ENVISIONED UNTIL THE
LATE 1990s, HE SAID, BUT A WEAPON TO
KNOCK DOWN SHORT-RANGE MISSILES COULD
--MORE--

BE IN PLACE EVEN FASTER BECAUSE THERE WERE NO "POLITICAL LIMITATIONS" FROM ARMS AGREEMENTS WITH THE SOVIETS.

"THERE HAS BEEN TOO MUCH TALK THAT SDI IS ONLY FOR INTERCONTINENTAL BALLISTIC MISSILES THAT THREATEN THE UNITED STATES. THAT'S WRONG," SAID ABRAHAMSON.

HOWEVER, THE CAMPAIGN TO RALLY AMERICA'S ALLIES HAS HAD LIMITED SUCCESS. ONLY BRITAIN HAS SIGNED A FORMAL PACT, AGREEING TO PARTICIPATE IN RESEARCH BUT NOT DEPLOYMENT OR PRODUCTION.

ABRAHAMSON PREDICTED ISRAEL AND PERHAPS WEST GERMANY WOULD REACH GOVERNMENT-TO-GOVERNMENT AGREEMENTS ON RESEARCH IN "A PERIOD OF MONTHS." ITALY AND CANADA WERE ALSO LISTED AS PROSPECTS.

THE POTENTIAL FOR PARTICIPATION WAS EVEN GREATER, HE SAID, BECAUSE INDUSTRY COULD TAKE PART WITHOUT GOVERNMENT
--MORE--

INVOLVEMENT.

FOR EXAMPLE, FRANCE, THE NETHERLANDS, DENMARK AND NORWAY REJECTED GOVERNMENT PARTICIPATION BUT WERE WILLING TO ALLOW PRIVATE COMPANIES AND RESEARCH INSTITUTES TO TAKE PART.

"THEIR INDUSTRY CAN PARTICIPATE SO LONG AS THEY HAVE SOME FUNDAMENTAL AGREEMENT SUCH AS ON PROPER SECRECY OF INFORMATION," HE SAID.

PRIME MINISTER SHIMON PERES WAS ONE OF THE FIRST WORLD LEADERS TO ENDORSE THE STAR WARS PROGRAM, BUT ISRAELI OFFICIALS ARE MORE RETICENT THAN ABRAHAMSON ABOUT FORECASTING A QUICK AGREEMENT TO FORMALIZE PARTICIPATION.

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SAFEGUARD SECURITY AND WHAT ABRAHAMSON CALLED "INTELLECTUAL PROPERTY RIGHTS."

AP-NY-02-28-86 2339EST

'Israel needs SDI'

By AVI HOFFMANN
Post Defence Reporter

Israel may be missing an opportunity to advance its security interests by delaying formal acceptance of SDI, the U.S. Strategic Defence Initiative ("Star Wars"), a leading researcher in strategic studies told *The Jerusalem Post* last week.

The U.S. invitation to Israel and 17 other allies to join in research on space-based missile defences gave Israel a chance to fulfil its goal of increasing strategic cooperation with the U.S. and gain other important political and economic benefits, said Dore Gold, senior research associate at Tel Aviv University's Jaffee Centre for Strategic Studies.

Gold recently completed a study of Israel's potential role in the SDI project.

Despite hints by senior government officials that Israel was about to participate in the project, no formal public announcement has been made. Prime Minister Peres expressed enthusiasm about SDI to President Reagan during his visit to Washington in October. Despite this, said Gold, Israeli-American contacts on the project have, for reasons which are unclear, been conducted with a very low profile.

There are at least four ways that a positive response on SDI could benefit Israel, Gold asserted in his study.

It could deepen Israel's strategic partnership with the U.S.

It would define more sharply than before the alliance between

Washington and Jerusalem, and this greater clarity has a deterrent value *vis a vis* Israel's enemies.

By being invited to participate in a global strategic endeavour (as opposed to a regional military grouping) Israel is seen as more than just a regional client of the U.S.

Participation in SDI research will further the development of Israel's own missile interception technologies and will involve key sectors of the economy in the frontiers of Western technology.

Gold also acknowledged that there were possible negative implications for Israel if it joined SDI. It could establish Israel as a strategic adversary of the USSR and could ultimately lead to it becoming a Soviet nuclear target. Israel could also become involved in America's domestic debate on SDI, with possible alienation of anti-SDI friends of Israel.

However, wrote Gold, the overall assessment tends to favour Israeli participation. Israel should not be concerned that this will upset a possible breakthrough in Israeli-Soviet relations. Indeed, Gold said, the opposite is more likely. The Soviet stake in improved ties with Israel can only grow as Israel's strategic link with the U.S. tightens.

A leading foreign strategic expert gave backing to Gold's views when he visited *The Jerusalem Post* in November. Dr. Robert O'Neill, director of the International Institute for Strategic Studies in London, said that Israel would be well advised to join SDI and reap the political and technological benefits of a partnership with the U.S.

F:SD1

Seth

Disposition:

U.S.-Israeli agreement possible on 'Star Wars' research

By RICHARD C. GROSS

WASHINGTON (UPI) — Israel and the United States are moving close to an agreement on Israeli participation in "Star Wars" research, focusing on non-explosive weapons and countering short-range missiles, sources said.

Israel's defense ministry is working on a final draft memorandum of understanding that is expected to be ready for signing in "a few weeks to a month," a U.S. defense official said Tuesday.

"Enough details have been worked out so that this thing is going to be signed," he said.

The government-to-government agreement would be the second of its kind involving the complex "Star Wars" project since Defense Secretary Caspar Weinberger invited U.S. allies to take part in the research 11 months ago. Britain signed a memorandum with the United States in December.

Other U.S. allies, notably France and Japan, have balked at similar agreements. But West German and Italian defense industrialists have expressed eagerness to join the "Star Wars" effort, potentially worth tens of millions of dollars to the defense contractors of participating countries.

Israel's participation would "score political points" with the administration because of the high priority it accords the project, an --More--

administration official said.

Israeli officials envision contracts worth "a few hundred thousand dollars" being awarded initially, with more to come later in possible partnership with American aerospace firms, an Israeli source said. Israel already has business relationships with U.S. defense contractors.

"We want to enter into areas in technology that would be to Israel's benefit," an Israeli source said. "We feel that, in the end, the best bet would be to work in partnership with American companies and not bid directly for contracts. As soon as the agreement is signed, we'll bid for contracts."

A spokesman for the Strategic Defense Initiative, as "Star Wars" is known officially, said the contracts probably would be awarded directly to the Israeli government. Israel's defense industry largely is government-owned.

Israel's technological input into SDI gained momentum during a 4-day visit to the Jewish state last week by SDI director Lt. Gen. James Abrahamson, said the officials, who spoke on condition they not be identified.

Abrahamson met with Israeli Prime Minister Shimon Peres, Defense Minister Yitzhak Rabin and defense industry leaders, the officials said. Israeli officials warmly embraced participation in SDI, limiting it to what could be applied to Israel's own defense needs, they said.

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FROM: NEWS Posted: FRI 28-FEB-86 23:36 EST Sys 97 (98)
SUBJECT: ISRAEL: ISRAEL STAR WARS 0498 STAR WARS SELLING IS LIMITED TEL AVIV I
➔ AP GENERAL NEWS (INTERNATIONAL)

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STAR WARS' SELLING IS LIMITED

TEL AVIV, ISRAEL (AP) — THE HEAD OF THE U.S. STRATEGIC DEFENSE INITIATIVE IS LOOKING OVERSEAS FOR A FEW GOOD SCIENTISTS TO HELP DEVELOP THE SPACE-BASED MISSILE DEFENSE SYSTEM.

LT. GEN. JAMES ABRAHAMSON SAID HE IS SEEKING PEOPLE LIKE THE ONES BACK HOME AT AUBURN UNIVERSITY IN ALABAMA, WHO DEVELOPED A CAPACITOR THAT CAN STORE 200 TIMES MORE ELECTRICAL ENERGY THAN A CONVENTIONAL CAPACITOR.

"WE THINK THAT WHILE WE HAVE THE TECHNICAL CAPABILITY TO DO (THE RESEARCH) ALONE, WE CAN PROBABLY DO IT CHEAPER AND FASTER BY GETTING TEAMS FROM OUR ALLIES TO CONTRIBUTE," HE SAID.

HE SPOKE AT AN INTERVIEW WITH THREE U.S. REPORTERS DURING A RECENT TRIP TO ISRAEL AND BRITAIN, THE TWO COUNTRIES WHICH HAVE BEEN THE MOST RECEPTIVE TO --MORE--

PRESIDENT REAGAN'S "STAR WARS" PROGRAM FOR A SPACE-BASED MISSILE DEFENSE.

ABRAHAMSON ARGUED THAT ISRAEL, WHICH IS ADVANCED TECHNOLOGICALLY DESPITE ITS SMALL SIZE, MAY BE ABLE TO HELP DEVELOP A DEFENSE AGAINST SHORT-RANGE MISSILES OF THE FUTURE, BUILDING ON EXPERTISE ABOUT SOVIET-MADE SS-21s AND OTHER SURFACE-TO-SURFACE MISSILES THAT ARE DEPLOYED IN NEIGHBORING SYRIA.

SYRIA'S MISSILES ARE WITHIN RANGE OF MAJOR POPULATION CENTERS IN ISRAEL AND CONSTITUTE ONE OF THE GREATEST MILITARY THREATS FACING AMERICA'S CLOSEST ALLY IN THE MIDDLE EAST. THE SAME KIND OF MISSILES POSE SIMILAR DANGERS TO OTHER ALLIES SUCH AS SOUTH KOREA AND WEST GERMANY.

A DEFENSE AGAINST LONG-RANGE MISSILES IS NOT ENVISIONED UNTIL THE LATE 1990s, HE SAID, BUT A WEAPON TO KNOCK DOWN SHORT-RANGE MISSILES COULD --MORE--

BE IN PLACE EVEN FASTER BECAUSE THERE WERE NO "POLITICAL LIMITATIONS" FROM ARMS AGREEMENTS WITH THE SOVIETS.

"THERE HAS BEEN TOO MUCH TALK THAT SDI IS ONLY FOR INTERCONTINENTAL BALLISTIC MISSILES THAT THREATEN THE UNITED STATES. THAT'S WRONG," SAID ABRAHAMSON.

HOWEVER, THE CAMPAIGN TO RALLY AMERICA'S ALLIES HAS HAD LIMITED SUCCESS. ONLY BRITAIN HAS SIGNED A FORMAL PACT, AGREEING TO PARTICIPATE IN RESEARCH BUT NOT DEPLOYMENT OR PRODUCTION.

ABRAHAMSON PREDICTED ISRAEL AND PERHAPS WEST GERMANY WOULD REACH GOVERNMENT-TO-GOVERNMENT AGREEMENTS ON RESEARCH IN "A PERIOD OF MONTHS." ITALY AND CANADA WERE ALSO LISTED AS PROSPECTS.

THE POTENTIAL FOR PARTICIPATION WAS EVEN GREATER, HE SAID, BECAUSE INDUSTRY COULD TAKE PART WITHOUT GOVERNMENT
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INVOLVEMENT.

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SAFEGUARD SECURITY AND WHAT ABRAHAMSON CALLED "INTELLECTUAL PROPERTY RIGHTS."

AP-NY-02-28-86 2339EST

IN HIS article opposing an Israel role in President Reagan's "Star Wars" project (*Jerusalem Post*, February 11) Joe Franklin serves up a concoction of half-truths, non-sequiturs, simplifications, and flamboyant put-downs. He makes one – and only one – irrefutable point: that Israel's decision to participate in the U.S. Strategic Defence Initiative should be preceded by a careful evaluation of the costs and benefits. His assumption that this has not been done, however, is questionable, considering the long months that have passed between the initial U.S. invitation and the government's acceptance. The more reasonable assumption is that our elected representatives in the appropriate ministries performed just such an evaluation.

Moreover, the time was certainly adequate for opponents to make their views known. One suspects that his claim that the issue has not been carefully looked at is really an expression of his disappointment with a decision that is not in accord with his own preferences. I will limit myself to only a few points.

Franklin argues that parti-

cipation in SDI will take place at the expense of research in other, more pertinent forms of Israeli defence needs and of more humane, peaceful needs. This is not at all clear. In Israel's case, we are largely talking about electronic high technology and the aerospace industry – both key elements in our nation's ability to defeat numerically superior enemy tactical missiles and aircraft. A number of SDI concepts may also be directly applicable to defences against tactical and intermediate missiles – something liable to be of great benefit in any future Middle East war. Moreover, we are talking about participation in SDI projects by Israeli scientists who are for the most part already working in related defence fields and whose SDI funding would come from the U.S. as an addition to, and not a substitute for, current domestic and foreign sources.

Franklin also argues that U.S. security procedures would demand the compartmentalization of Israeli science. Does he really believe that

our high-technology weapons-related research and development has, to date, been conducted in any different fashion?

These same security procedures, he argues, will prevent Israel from acquiring any of the key military technologies or access to use of commercial spinoffs. He could be right. But only if our leaders are so naive as to fail to ensure that the details of the agreement (which are still to be worked out) preclude this from happening. I, for one, have more faith than that in the officials of our Ministry of Defence and defence related industries.

FRANKLIN bemoans the "militarization of space." Where has he been since Sputnik and the first intercontinental ballistic missile some 25 to 30 years ago? Space is already heavily militarized and will undoubtedly be a critical combat arena (perhaps

the decisive one) in any superpower war. Beside its great potential contribution to enhanced deterrence, SDI-related research will allow for a better understanding of this combat arena and a greater capability to compete therein. Also implicit in his argument is the flawed assumption that weapons and military capabilities create tensions and conflicts and cause wars. This is putting the cart before the horse.

FINALLY, the Franklin article notes that "Israel was founded, at least in part, through international perception of the inadmissibility of holding a people hostage to a perpetual threat of destruction. Israel's government today would be well served by the same principle." I could not agree more with this statement. But, its intended conclusion is a *non-sequitur*. We have lived for over a generation as hostages to perpetual threat of destruction as encompassed in the insane theory of Mutual Assured Destruction. SDI is an attempt to get out of that blind

alley – an attempt whose feasibility can only be determined by thorough research. Developing any significant degree of defence can only increase deterrence in the long run. Moreover, the mere existence of the concept, and of the apparently real resolve to pursue it, have already led the Kremlin to offer greater concessions in arms control than ever before. Even if nothing else comes out of SDI, this will have made it worthwhile.

Expansion into space, with eventual access to unbelievably huge new sources of energy and raw materials (along with many other long range benefits), is both a necessary future for mankind and the greatest dream and adventure ever embarked upon. Any and every way that Israel can take part in it should be seized upon. Moreover, it just might incidentally address a more mundane Israeli concern. Whenever Israel is somewhere at the forward edges and engaged in exciting, dream-filling endeavours, the likelihood increases of attracting bright, modern and idealistic American Jews to give Israel a try.

The writer is head of the Department of Strategic Studies at the International Research Centre on Contemporary Society.

Week ending March 1, 1986

THE JERUSALEM POST INTERNATIONAL EDITION

The case for Star Wars

JOHN FARRAR

WASHINGTON POST

3 March 1986

Pg. 7

Mirror-Reflected Laser Suggested To Shield Allies

By George C. Wilson
Washington Post Staff Writer

MUNICH—It would be "relatively easy" to destroy Soviet short-range missiles flying toward Europe with a laser beam reflected off a mirror launched shortly before the attack, Edward Teller told NATO defense leaders here.

Teller, who helped develop the hydrogen bomb, discussed the "pop-up mirror" in trying to assure Europeans that President Reagan's Strategic Defense Initiative—or "Star Wars" program—would not erect a missile umbrella over the United States alone.

The first payoff of SDI research,

Teller said during the Wehrkunde conference here over the weekend, might well be in finding a way to shield Europe from the Soviet SS20 missile and rockets of shorter range. One reason that stopping such missiles "is relatively easy," Teller continued, is that their fuel tanks are extremely vulnerable to destruction shortly after launch.

Expanding on his idea in an interview, Teller said the mirror would be launched 50 to 100 miles above Earth at the first warning of a Soviet missile attack on Europe.

He said the mirror would be less vulnerable with this pop-up tactic than if it were stationed in orbit. A ground-based laser, Teller said, would bounce beams off the mirror. The mirror would be effective even as it was being rocketed out of the atmosphere, he said.

"This is of some great technical interest in Germany," Teller said, because of the nation's advanced

optical industry, which could coordinate the laser beam and mirror in developing a European missile defense.

Declaring that it would take only a few years to put such a system together, Teller said: "I would like to demonstrate" the antimissile defense system "before President Reagan leaves office."

In sounding another optimistic note about the potential of an effective missile defense, Navy Secretary John F. Lehman Jr. told Wehrkunde delegates that the U.S. Navy's Aegis cruiser air defense system had managed to destroy 15 out of 16 simulated cruise missiles in a recent exercise.

The Aegis' capabilities, Lehman said, have "totally transformed the naval balance in Europe." He called for a "Naval Defense Initiative" that would add Aegis technology to NATO warships "to bring Europe with us into the 20th Century."

NEW YORK CITY TRIBUNE

3 March 1986

Pg. 1

Weinberger Urged Reagan to Answer Soviet Treaty Violations With SDI

BY PETER SAMUEL
Special to the New York City Tribune

WASHINGTON — The Pentagon has told President Reagan the best response to Soviet arms control violations is "to press for full funding for SDI in the Congress."

SDI — Strategic Defense Initiative — is the Reagan Administration's proposed multi-billion dollar anti-missile program.

The recommendation was made in a confidential memorandum to the president from Secretary of Defense Caspar Weinberger dated November 15, 1985. Sections of the report were selectively leaked at that time, embarrassing the Administration as Reagan was on the way to his meeting in Geneva with Soviet leader with Mikhail Gorbachev.

The full text of the memorandum, obtained by the *New York City Tribune*, emphasizes pressing ahead with the SDI and other Pentagon budget requests, but omits consideration of cheaper alternative responses — such as

maintaining or dry-docking ballistic missile submarines that would exceed the limits the U.S. has agreed to in treaties with the Soviet Union.

The eleven-page memorandum — titled "MEMORANDUM FOR THE PRESIDENT, SUBJECT: Responding to Soviet Violations Policy (RSVP) Study" — is on the letterhead of the Secretary for Defense. It has no security classification marked on it, but congressional sources say executive privilege has been invoked to deny copies to members of congressional intelligence and armed services committees.

The report states in its first substantive sentence: "The most important thing we can do is press for full funding for SDI in the Congress," and confirms a report in the *Armed Forces Journal* on Feb. 26 that the latest Pentagon "Defense Guidance" document of December 31, 1985 — an 81-page document outlining doctrine for preparing the 1988-92 five-year program — says that

CONTINUED NEXT PAGE

GERMAN...Continued

weapons, not globally and not in Europe," Mr. Woerner said.

"Even if it were possible to ban all nuclear weapons from this earth, the know-how to produce such weapons would persist. If there were to be war, it is very likely such weapons would be built at once and also be used."

Destroying nuclear arsenals without resolving the Soviet conventional arms edge "would have to result in instability, proneness to crises, and yes, the danger of war," he added.

NATO should strive for a step-by-step reduction in nuclear weapons, but not without eliminating "obvious and dangerous" conventional imbalances, Mr. Woerner said.

In his proposal for a West European "star wars" program, he called for a "European Defense Initiative" against a Soviet first-strike capability with short-range nuclear weapons.

"Star wars" is a common name for President Reagan's Strategic Defense Initiative (SDI) research program to develop a space-based anti-missile system.

In the foreseeable future, the Soviets will develop first-strike capability in Europe with more than 1,300 short-range SS-21, SS-12, SS-22s and SS-23s, Mr. Woerner said.

WEINBERGER...Continued

SDI shares "the highest priority" with strategic modernization.

The Pentagon has addressed weapons program options at more length in a second, more recent memorandum. But the first paper for the president emphasizes political and diplomatic issues, while making some judgements on the strategic significance of Soviet violations.

The most serious of these are Anti-Ballistic-Missile (ABM) Treaty violations, the memorandum claims, particularly the large phased-array radar installation being built near Krasnoyarsk. A "new CIA report" is cited which confirms that the giant installation is an ballistic missile early-warning radar and not a radar for space surveillance, as claimed by the Soviets.

Associated with this large radar system are "a variety of other violations, some of spirit or intent, others of the letter, of the complex restraints in the ABM treaty," which is aimed at preventing deployment of nationwide or territorial anti-ballistic missile defenses.

"While the evidence is not conclusive, there is good reason to be alarmed at the combination of readily-transportable radars, significant upgrading of the Moscow ABM system, the testing of air-defense components in the ABM mode, the development and testing of air-defense missiles capable of intercepting ballistic missile warheads and the completion of a network of large phased array radars of which the radar at Krasnoyarsk is a part".

Taken together these "could indicate the beginning of Soviet territorial defense against ballistic missiles".

The memo says the large radars are the long-lead element of a nationwide defense and the most visible — which was why special efforts were made to constrain them in the ABM Treaty. Once the big radars are deployed, the territorial defense system can be expanded incrementally with less-visible elements. The Soviets are described as "poised for such a development."

Secretary Weinberger went on to tell the president "It is likely that the Soviets will continue further to refine the air defense components and transportable radars necessary to make

full use of the large phased-array radar base that is now nearing completion — a base that greatly exceeds that planned by the United States [but abandoned in 1973]".

The report says existing and expected Soviet treaty violations "pose real risks to our security and to the process of arms control itself." It says the indications of a developing territorial or nationwide Soviet ABM "could have a profound impact on our strategic forces." Even a probable territorial defense "would require us to increase the number of our offensive forces and their ability to penetrate Soviet defenses to assure that our operational plans could be executed. The deployment in significant numbers of the SS-25 which is now under way, will erode deterrence by allowing the Soviets to contemplate a first strike using their fixed ICBMs, while retaining intact a reserve force of mobile systems resilient to counter-attack."

Concealment practices and coding of flight-test missile telemetry denies the United States "valuable intelligence" and reduces the U.S. ability to verify Soviet compliance.

Violations Swept Under Rug

The memo is acid in its attacks on the value of the Standing Consultative Commission (SCC), which provides a forum for secret discussions on treaty violations: "Contrary to claims often made for it the SCC has failed to resolve any significant compliance issue in the approximately 1,500 days that it has been in session over the last 13 years. A less productive forum for the resolution of disputes would be difficult to find. Far from resolving disputes over compliance, the SCC has become a diplomatic carpet under which Soviet violations have been continuously swept, an Orwellian memory hole into which our concerns have been dumped like yesterday's trash."

The memo contests the suggestion that the SCC is useful to dispel misunderstandings, saying bluntly: "Misunderstanding is not the source of Soviet behavior; rather Soviet behavior is motivated by a desire to gain advantage."

The memo calls for a "clear declaration from the President that the SCC

has failed."

It is quite explicit on deployments of the SS-16 mobile ICBM, about which the Administration has hedged in public pronouncements. The SS-16 is an intermediate range SS-20 missile, with a third stage booster to give it intercontinental range. It carries one warhead.

The paper describes "deployment of several dozen SS-16 missiles at a test facility," but says this treaty violation only gives the Soviets a "marginal" addition to their military capability. The Soviets are described as over the SALT II ceiling on strategic nuclear delivery vehicles, and accused of "protracted delays in dismantling systems as required by the Treaty" — charges also never made public by the administration. But again these are described as giving the Soviets "small, even marginal" military gains.

Nine "lessons" are derived from a review of the history of Soviet violations:

- political repercussions to the Soviets from violations are small and do not deter.

- domestic pressures exist in the West to ignore Soviet violations rather than abandon treaties.

- failure to respond immediately to small Soviet infractions encourages larger violations.

- getting compliance is a bigger problem than verification, and "some of the most troubling violations" have been easily verified.

- the SCC has failed and will continue to fail.

- Soviet cheating will become much more serious as deep reductions in offensive forces are negotiated.

- the Soviets will always insist upon ambiguities and loopholes in treaties and exploit these fully.

- "It is easier to fall into a double standard of compliance than to avoid it", because the Soviets can simply deny violations while the US is unable and unwilling surreptitiously to violate agreements.

- violations can only be deterred "by responding to them in ways that are more costly to the Soviets than the gains they expect to achieve through cheating."

The major obstacle here, the memo suggests, is the "Congressional preoccupation with defense cuts."

Complete Simcha Supplement In This Issue

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The JEWISH PRESS

THE LARGEST INDEPENDENT ANGLO-JEWISH WEEKLY NEWSPAPER

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ISRAEL, U.S. IN DEFENSE PLAN

Join In "Star Wars" Program

Story on
Page 3

Israel Eager To Join SDI Program

Israel was happy to join in the United States Strategic Defense Initiative (SDI) program, also known as "Star Wars", an aide to Prime Minister Shimon Peres announced this week.

Although many countries are balking at joining the United States in the "Star Wars" program and much controversy surrounds the plan, there is no debate or hesitancy in Israel over the desirability of taking part.

"Israel is eager and willing," said the Prime Minister's office. Equally happy about Israeli participation was Lieut. General James A. Abrahamson, director of the program, who made a four-day visit to Israel last month.

"The Prime Minister, several ministers, the Chief of Staff, and industry are very supportive," the General told American reporters. "It was very gratifying to me, and I know the President of the United States will be very thankful."

The General said an agreement will be concluded fairly quickly. There are no reservations on the Israeli side, Peres' aide said.

Israeli officials said they considered a role in the program to be advantageous militarily, economically and politically. "Eventually most of these technologies will find their way into conventional weapons systems that Israel will need in the future," said Aharon Moss, deputy director of armament research and production in the Defense Ministry. Mr. Moss heads a ministry office set up to coordinate the program.

General Abrahamson said "Star Wars" technology might one day be applicable to defense against medium-range missiles, like the SS-21's that the Soviet Union has supplied to Syria.

Israeli strategic analysts attach high priority to anti-missile defense of urban centers. "We can expect an enlarged battlefield in a future Middle East war," said Dore Gold of the Jaffee Center for Strategic Studies at Tel Aviv University, the author of an extensive study that favors Israeli participation.

Beyond military applications, Israel sees in "Star Wars" an opportunity for reaching a more advanced level of technology that would have an important spinoff effect on civilian industry. This is particularly important to Mr. Peres.

"If we don't start a program of growth now by transforming islands of excellence into continents of excellence, we will be left behind," Peres' aide said.

General Abrahamson said he believed Israel to be "a leader in industrial technology." "Israel is very fast and creative in dealing with short range threats," he said. "This is of interest to us. We have seen unique ideas here."

He cited "rail guns" -- weapons that would achieve great penetration through electromagnetic acceleration -- and advanced developments in lasers and electronics.

Israel, unlike most of the governments that have been asked to take part, considers joining with the United States in a military program to be a political boon.

Senior officials welcomed what one called "another manifestation of intimacy," as an important additional deterrent to Israel's enemies, as well as further evidence that "efforts to draw Israel and the United States apart to bring about an imposed solution in the Middle East are futile."

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STARTS ON PAGE 4D

COMM**JOYCE STARR**

The chairman of Fiat, Gianni Agnelli, has stated: "Whether one supports the strategic goals of SDI is immaterial to the fact that one program presents... industry with the opportunity to participate in what could become the greatest research and development program of the decade."

Mr. Agnelli's point has not been lost on Israel. So great are the military threats to Israel and so significant are potential Strategic Defense Initiative benefits that if President Reagan's SDI did not exist, the state of Israel could well have found itself lobbying for creation of such a program.

President Reagan's invitation to Israel to participate in SDI was unanimously accepted by its Cabinet several weeks ago, with support from both sides of the political spectrum. The imminent government-to-government memorandum will catapult this small nation into the space age and into the technological revolution of the late 20th century. Most important, Israel's involvement in the Strategic Defense Initiative could become the vital margin, the *sine qua non*, of its survival.

The reasons are both economic and strategic. They are closely tied. In 1984 Israel faced a strategic economic crisis. Inflation was above 400 percent. Wages and prices were spiraling out of control, and foreign reserves were at a critical low. Israel's external debt exceeded \$7,000 per capita — one of the highest in the world — annual debt servicing amounted to 33 percent of the debt, and highly volatile foreign loans stood at \$7 billion. For the first time in its history, Israel's credit standing on the world market was being questioned.

Few Israelis would admit it, least of all the political leaders, but a major confrontation with the Arab states in 1984 could well have eroded Israel's financial situation to the breaking point.

Joyce R. Starr is the director of the Near East Program of the Center for Strategic and International Studies/Georgetown University.

Hitching Isra

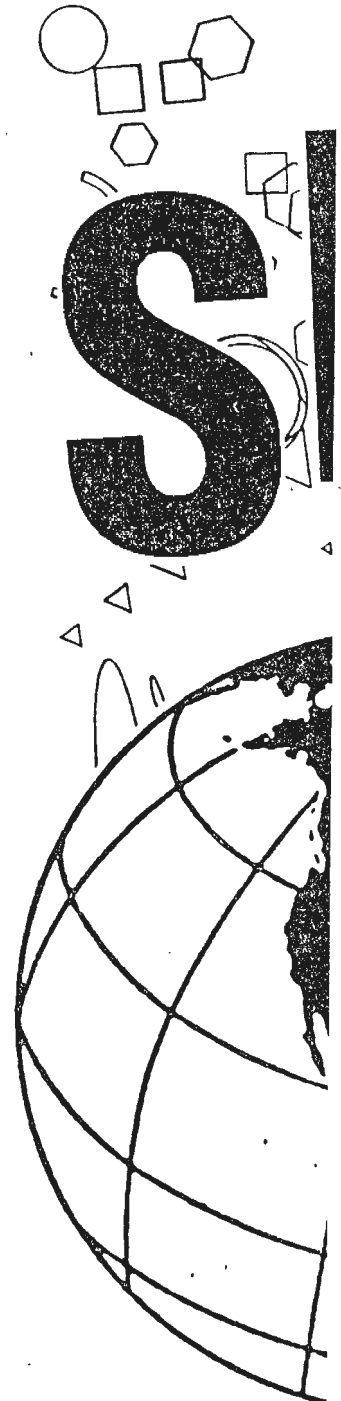
The National Unity Government, under the leadership of Prime Minister Shimon Peres, can be credited with turning the tide. In the last quarter of 1985, the inflation rate dropped to about 12 percent, with projections of 20 to 30 percent for 1986. A wage and price freeze has been in effect for more than a year, foreign reserves have been used to pay off debt principal and still show a slight increase, and the budget has been slashed by almost \$1 billion. Israel's trade deficit in 1985 shrank by 25 percent.

These improvements could, however, be eroded once wage and price controls are finally lifted or with the expected change of government leadership in October. Moreover, the security costs have been considerable.

Israel's defense ministry has absorbed the heaviest burden. Training hours for pilots and crucial defense personnel have been slashed to the bone. Military officers, like other government employees, have suffered almost a 25 percent real-term cut in salary over the last year, leading to contentious rivalries, early retirement of talented officers, and signs of general disenchantment with a military career, hitherto the "glamor" occupation in Israel.

Israel can no longer afford to maintain the 600-plane air force that has given it strategic advantage over the last two decades. Plans for production of 300 Lavie aircraft, an indigenous supersonic alternative to foreign weapon systems like the F-16, will likely be scrapped before year's end, even though almost \$1 billion has already been invested in the program. Top Israeli Air Force officials admit publicly that Israel cannot afford the production funds required for what is now estimated by some American officials as at least a \$16 billion program.

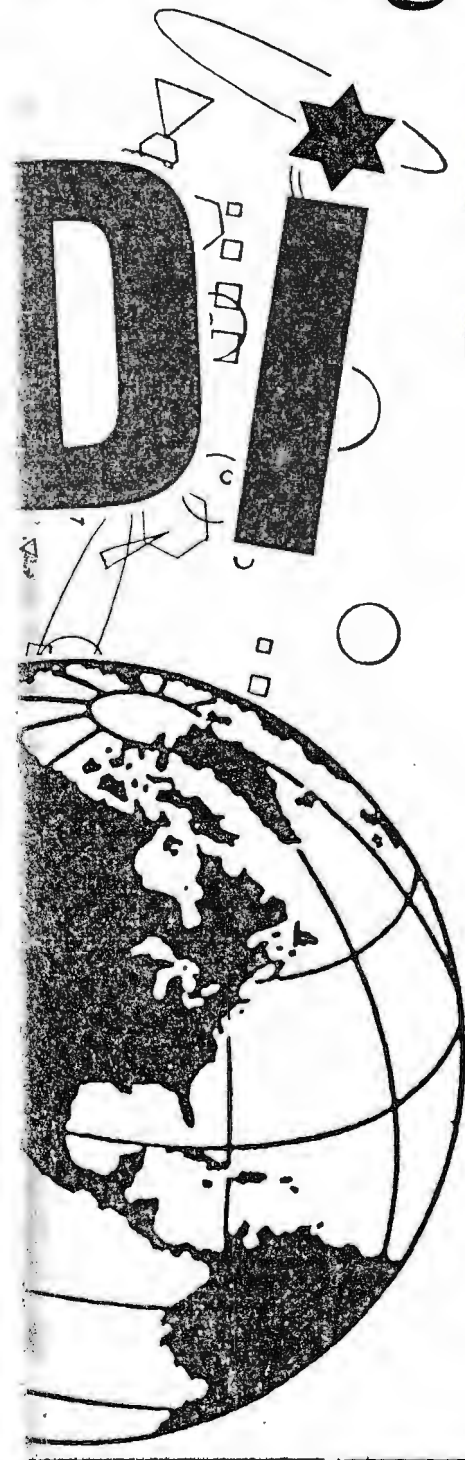
Even more serious is the new strategic threat facing Israel, principally from Syria. In 1983 and 1984



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SECTION

el's wagon to a star



Syria received approximately 24 SS-21 surface-to-surface ballistic missiles from the Soviet Union. In addition, FROG and SCUD missiles have long been in the arsenals of Syria, Egypt, and other Arab countries. But their lack of precision in hitting a specific target, combined with Israel's ability for massive retaliation against urban and military installations, made their threat a minor one.

Such is not the case with the SS-21. By contrast, with its 120-kilometer range and low circular error probable (miss distance), the SS-21 is a formidable weapon. It has a cluster-bomb warhead and chemical warfare potential. The SS-21 can do crippling physical and psychological damage to population centers like Tel Aviv and can disable key military installations, a factor that Israel cannot ignore, especially when response time is measured in seconds, not minutes.

For Israel, therefore, SDI could be the new "manna," both for its defense apparatus and its economic infrastructure. Participation in SDI will bring to Israel:

1. The opportunity to team with the United States and its European allies in the technological effort to create defensive systems against shorter-range tactical ballistic missiles, where none today exist. By itself, Israel lacks the funds to develop defenses against such attacks, and constraints on its defense budget are certain to accelerate in the coming years.

2. The chance to share in U.S. research and development monies for defense technology, where the government of Israel is no longer in a position to meet the country's most basic requirements.

The infusion of even \$50 million to \$100 million from SDI subcontracts or teaming relations with U.S. corporations may be small by American standards, but it portends enormous dividends for Israeli high technology and defense firms, most of whom are desperately seeking R&D

funding and the rationale for keeping engineers and scientists fully employed. The industrial spinoffs would also be tremendous.

Israel is the world's leader in percentage of the population engaged in research and development. It is also an important exporting nation, with exports at approximately \$12 billion and 40 percent of this from the industrial sector.

However, this qualitative edge is in jeopardy. With increasing cuts in educational programs and the lure of overseas employment for its technical specialists at salaries three to five times their current earnings, Israel rests uneasily.

For the United States, the political and economic incentives for involving Israel in SDI are also substantial. Even to Israel's most ardent supporters, the days of wine and roses on Capitol Hill are coming to an end. Gramm-Rudman-Hollings — and Israel's "offer" to return almost \$130 million of military assistance and emergency aid funds advanced in the fall of 1985 — were only the early signs of a cooling of emotions. In the 1987 fiscal budget, U.S. aid to Israel remained fixed at \$3 billion, a defacto decrease for the first time since U.S. assistance to Israel began in 1973.

A congressional plan to reduce interest obligations on Israel's \$10 billion debt to the United States from 12 to 5 percent, thereby saving it billions of dollars over the next few years, was withdrawn several weeks ago. If the United States intends that Israel remain a strategic ally capable of defending itself, the emphasis of our support must shift toward Israel's economic growth and her technological advancement.

Thus, irrespective of whether the creation of a total nuclear shield is indeed feasible, the administration's \$30 billion to \$50 billion commitment to the research and development phase of SDI could prove one of the main avenues for Israel's survival — and to regional stability.

NEAR EAST REPORT

WASHINGTON WEEKLY ON AMERICAN POLICY IN THE MIDDLE EAST

VOL. XXX, NO. 18 MAY 5, 1986

EDITORIAL

Helping Hand

In April, Prime Minister Shimon Peres made the suggestion that the United States and other industrialized nations finance a \$20-30 billion "Marshall Plan" development fund for the Middle East. The money would come from savings accruing to Europe as a result of the oil price collapse—a sum estimated at \$70 billion for this year alone. The main purpose of the plan would be to help Arab states which have been hit hard by dropping oil prices. It would encourage economic cooperation between the industrialized countries, the Arab states and Israel, which would put its technical know-how at the disposal of its neighbors.

Peres' plan again demonstrates Israel's commitment to peace with its neighbors. The Prime Minister has tried the diplomatic route but has yet to find a partner willing to join him at the peace table. Now he offers the possibility of economic cooperation, the chance to make the entire Middle East as green and productive as Israel already is.

Peres lists all of Israel's neighbors as potential beneficiaries of aid from the West, even Syria. Of course, Syria responded with a speedy no and a denunciation of Peres. Still, Peres is undaunted. He has urged the United States and the other nations meeting at the Tokyo economic summit to give serious consideration to his proposal. Both Washington and Bonn have said that they will. Rome, Tokyo, and Lon-

don have also expressed interest.

The Peres proposal makes a great deal of sense. In the first place, any economic cooperation between the various Middle East states decreases the likelihood of war. But beyond that is the fact that economic instability often leads to political instability and to war. Jordan, Syria, and especially Egypt are all suffering because of the current oil glut. Further economic deterioration in those countries would weaken King Hussein and President Hosni Mubarak and could lead President Hafez Assad to divert his people's attention by going to war. To put it mildly, none of these developments would be good for Israel or for the United States. Only the Soviet Union and various Middle East extremists will benefit if the Arab world sinks into economic depression.

That is why it is important that the Peres proposal be given full consideration by the West, beginning at the Tokyo economic summit. It is true that Arab states are unlikely to buy into any proposal, no matter how beneficial, that bears the mark of Israel or Shimon Peres. So call it a new Marshall Plan or Shultz Plan or a Reagan Plan. It doesn't matter. The point is to help the Middle East avert political catastrophe by averting economic catastrophe. Prime Minister Peres deserves credit for empathizing with his neighbors' predicament despite the four decades of Arab attacks against Israel. He is one statesman who understands that his enemy's bad fortune is not necessarily his good fortune. □

*Israel -
Strategic balance
Mid East*

WASHINGTON TIMES 14 MAY 1986 Pg. 6

Syria passing Israel in military readiness

By Martin Sieff
THE WASHINGTON TIMES

Having nearly doubled the size of his armed forces in the past three years and acquired a massive array of new Soviet weapons, Syrian Defense Minister Mustapha Tlass is openly boasting of "strategic parity" with Israel.

Those who do not believe him have only to compare the following figures:

Since the 1982 Lebanon war with Israel, Syrian troop strength has grown from 250,000 to 450,000 men. The army numbers 10 divisions — five armored divisions, four motorized rifle divisions and an airborne commando division.

Israel has only 130,000 men in its regular standing army. Another 310,000 Israelis are subject to immediate callup as reserves, but in the 1973 Yom Kippur War it took them three days to deploy.

The Syrians have spent \$19 billion on Soviet arms since 1973, \$3.3 billion last year alone, according to Israeli estimates.

Syria has 4,000 tanks compared to Israel's 3,650, a larger armored force than Britain and France combined. Of these, 1,100 are advanced Soviet T-72s. Half the Syrian tank force and six divisions comprising 72,000 men are deployed on the Golan front. Said one senior Israeli official: "They can switch on and go."

Syria has 700 combat aircraft and 80 SCUD surface-to-surface missile batteries, more than double the number in 1982. Israel has 640 combat aircraft and virtually no surface-to-air missiles, relying on the combat skills of its pilots to down enemy aircraft.

In the Lebanon war, Israel shot down over 80 Syrian jets for no loss. But neither Israel nor Syria expects that piece of history to repeat itself. Syria has completed

deployment of a SA-5 defense system, extending its air protection umbrella to Tel Aviv.

Syria, with Soviet encouragement, is also believed to have the most advanced chemical warfare capability in the Middle East, including a production capacity for nerve gas.

In previous Middle East wars, individual Arab states felt they had to build an armed alliance before taking on Israel. But President Hafez Assad's expanded forces have put him in a position where

NEWS ANALYSIS

he could escalate an armed conflict by Syrian action alone, on the assumption that a "bandwagon effect" would carry other Arab states into the conflict on his side.

A surprise Syrian attack, including deep penetration strikes by SS-21, SUD-B and SSC-2 missiles, could seriously disrupt Israel's mobilization and give Syria the upper hand.

Soviet support of Syria as their prime ally in the Middle East will play the crucial role in any Damascus decision to go to war.

According to Gulf sources, Syria's President Hafez Assad and Vice President Abdel Halim Khaddam made a secret visit to Moscow on March 17 to discuss co-ordination of Syrian support for international terrorism and the supply of Soviet advanced weaponry.

An unconfirmed report from one of these sources indicated that the Syrians were assured the Soviets would supply a nuclear shield in the form of Backfire bombers and warheads for Syria's SCUD-B missiles if the Israelis were ever to

threaten the use of nuclear weapons against them.

These discussions were followed in mid-April by the visit of a senior Soviet delegation to Damascus. It held a lengthy meeting with Defense Minister Tlass, who later went to Moscow for further talks, believed to be on coordinating rapid arms transfers.

In the 1973 war, Syria failed to exploit its early advantage on the Golan Heights because a planned redeployment delayed a thrust down into Galilee before the main Israel Army, called up from reserves, could see action.

Attempts to change the rigid Syrian battle plan failed because Syria lacked the communications capability to redeploy its tank forces in the middle of a battle.

After the war, Gen. Tlass made his first priority the installation of a \$200 million communications system for his armed forces so that such an opportunity would not be lost again.

In a policy paper delivered last year to the Washington Institute for Near East Policy, Ze'ev Schiff, military editor of the Israeli newspaper Haaretz, warned that the Israel Defense Forces were in the midst of a serious quantitative and qualitative decline, while Syria's forces had grown dramatically in terms of quality as well as quantity.

As a result, Mr. Schiff warned, Syria was in a position to initiate hostilities.

However, the final decision on war or peace may not be based on such material considerations. President Assad is in poor health after a major heart attack and is believed to have undergone a dramatic psychological change in recent months.

He is inspired by the Islamic cult of Shahadah — martyrdom in a holy cause — and is trying to instill this ethic in the Syrian armed forces. A year ago, he urged Syrian pilots to become kamikazes, and of himself he said: "I hope that my life would not come to an end unless by martyrdom."

In that frame of mind, he is obviously willing to take more risks.

Mideast Peace Talks May Mean War

By Moshe Arens

JERUSALEM

An international conference on the Middle East with Soviet participation, widely touted as the only avenue to peace between Israel, Jordan and the Palestinians, is an ill-conceived idea. It cannot provide the proper framework and pressure-free atmosphere needed to resolve what is not merely a question of territory and borders but of Israel's very existence. It can only severely harm Israel and increase Soviet power and prestige in the Middle East.

Until recently, there was a consensus in Israel and America that direct talks between the parties to the conflict constituted the only desirable format for peace negotiations. It is not only a reasonable, unimpeachable position but one of particular pertinence in the Arab-Israeli conflict. Direct talks, implying recognition, would remove a main obstacle to peace: Arab refusal to recognize Israel's right to exist. The principle proved itself in the case of Egypt.

Now we are told that Jordan — weaker, smaller and more vulnerable to Palestinian and radical threats — needs the protection of an international umbrella to enter such talks, and has therefore conditioned its participation on Israel's acquiescence to an international conference, a format first proposed — lest we forget — by the Soviet Union and the Palestine Liberation Organization.

But no matter what promises Jordan has made privately to the United States and Israel, to suppose that a country that dares not defy radical regimes and Palestinian terrorists on matters of procedure will defy them on matters of substance is to mock common sense.

It is even more absurd to contend that the Soviet Union, begetter of the international conference idea, would consent to accept a purely ceremonial role and serve as a rubber stamp for decisions made by the par-

ties to the dispute. On the contrary, it would insist on playing an active role — and would not be alone in doing so. Every putative participant, including America, has declared that it would present its own ideas for a solution.

They all eschew an "imposed" settlement — a rather empty concession, since no such imposition can be forced on Israel under present circumstances — but they all assume that conference pressure exerted on Israel to withdraw to the 1949 armistice line would prove irresistible, despite the official opposition to such withdrawal by all of Israel's major political parties.

It is not a baseless assumption. Israel would be isolated at such a conference. The unanimity among participants for virtually total Israeli withdrawal would be complete. The only difference between the American and Soviet positions is on whether Judea and Samaria should become an independent P.L.O. state or a "Palestinian homeland" federated with Jordan — an ultimately meaningless difference, since there is no way to control who would rule the area once Israel relinquished control.

There is, however, a world of a difference between America's right to a role of "honest broker" and that of the Soviet Union. The United States has kept on good terms with both sides. It has successfully concluded interim agreements between Israel and Egypt, Israel and Syria and, of course, the Israel-Egypt peace treaty — all in the 1970's.

The Soviet Union has refused to restore diplomatic relations with Israel, which it severed 20 years ago; it supports terrorist organizations, arms radical Libya and Syria to the teeth, regularly votes to expel Israel from the United Nations and, in violation of international agreements, prevents free Jewish emigration. It recently sponsored reunification of the P.L.O. on a platform calling for continued terrorism and the dismantling of Israel. And now, having secured Israel's agreement to a Soviet consular mission in Tel Aviv, it refuses to re-

ciprocate by allowing a similar Israeli delegation into the Soviet Union. Clearly, the Soviet Union's changes in style have brought no concomitant changes in substance in its Middle East policies.

Advocates of the international conference assure us that a condition for Soviet participation would be full Soviet restoration of diplomatic relations with Israel and free Jewish emigration. But once the wheels of the international conference started turning, would the world — and Israel — possess the perseverance to wait until the Soviet ambassador presented his credentials in Jerusalem? Until 400,000 Jews were granted exit visas? Until a flow of 50,000 emigrants a year was established?

If not, Soviet leverage at the conference would be unmatched: By linking Jewish emigration and diplomatic relations to Israeli concessions at the talks, Moscow would make Israel's position untenable.

We are assured that if the major powers insisted on interfering in bilateral Israel-Jordan negotiations, Israel would be free to walk out. But it is inconceivable that Israel could, with impunity, bolt a conference it has so adamantly pushed for. The momentum of worldwide expectations, the universal hope for a breakthrough and the pressure of public opinion generated by such a conference could not be cavalierly dismissed: If Israel walked out, it would be branded a rejector of peace.

The rush to an international conference is a classic example of the erosion of will in a democracy in the face of external pressures and promises, and internal impatience and fatigue. What Israelis who pursue it want is massive international pressure to cover their own acquiescence in a solution they previously deemed life-threatening. It is a solution most Israelis consider not a formula for peace but a prescription for war. L.I

Moshe Arens, a member of the Likud Party, is Minister Without Portfolio in the Israeli Government.

WASHINGTON POST 26 JULY 1987 Pg. B7

Philip Geyelin

A Gust Of British Cheer

Britain's freshly reelected prime minister, Margaret Thatcher, blew through town the other day like a cool breeze: the perfect antidote for the humidity, the Iran-contra congressional hearings and just about anything else that might be troubling a beleaguered Reagan presidency.

To hear her tell it as she departed the White House after lunch with the president, and on TV talk shows, Ronald Reagan has never been in better form or better positioned to exert the power and influence of the United States on the world scene at a time of "unprecedented opportunity." Even during "this difficult period" (her delicate reference to the Iran-contra exposures), "he has not let go his leadership role in any way."

But what, she was asked, about the polis and all the other political sounds in Europe, the Middle East and elsewhere that suggest "weakened" credibility and command? Nurse Thatcher would have none of it: "I have absolute trust in him. . . . Cheer up! . . . The president's fine."

Is that not laying it on a little thick? Of course, that's what the president's handlers had in mind when the one-day visit was arranged. That's also what made the effusiveness of her pep talk so interesting. That she felt the need to lay it on so thick confirms, rather than contradicts, just about everything you hear or read about the way the Reagan administration is now perceived in foreign capitals.

It says as much about Thatcher's condition as Reagan's. It says even more, subliminally, about the debilitating impact that the arms-for-hostages deals with Iran, the hanky-panky with the profits, the covert, private bankrolling of the Nicaraguan contras and the general collapse of the foreign policy process has had—and is likely to continue to have—on Reagan's presidency.

The head of Britain's longest-running government is quite sufficiently savvy and sensitive to worldwide political mood swings to be hearing

what others are hearing: that Reagan runs no better and sometimes worse than Mikhail Gorbachev in European popularity polls; that the dealings with Iran have cracked the confidence of friendly Arab regimes, most notably in the Persian Gulf; that what interests foreign leaders increasingly is not what's going on now in Washington but who's coming next—in 1989.

Thatcher also knows leadership when she sees it. "The important thing is that you are consistent," she once said in her own defense. "That people know exactly where they are with you, that . . . you do not dilly-dally . . . you discuss things with people, you submit your policies to them." Nothing there that would remind you of the picture emerging from the joint committee hearings of Ronald Reagan at work.

Thatcher knows the importance to Britain's place in the world of a close (but junior) partnership with whoever is in power in the United States. She knows that her fortunes for the first year and a half of her third term are linked to the fortunes of Ronald Reagan in the final year and a half of his last term.

It would, then, be a mistake not to examine her evidence, when Thatcher assures us that the president has not been "deflected" from the "great matters which affect the world." Reagan had "handled the South Korean matter," she said, which will almost certainly be news to the Koreans. The two leaders had seen eye to eye on the need to advance the Middle East peace process—and never mind that the president gives no sign of sharing Thatcher's enthusiasm for an international peace conference.

It is equally hard to believe that Thatcher is as comfortable with the Reagan administration's naval escort service for Kuwaiti tankers as her exultations of his leadership in the Persian Gulf would imply. No sooner had she departed than her government shied away from a Kuwaiti request for a similar British "reflagging" operation.

The president, she said, has been "very active" on the matter of East-West relations and especially on arms control. But getting down to details, what she wished to convey was her concern over the absolute necessity for proper verification. "We've got to get [the Euro-missile negotiations] right—don't go for a quick settlement, get it right."

She came to praise Ronald Reagan. But her own secure position served somehow only to sharpen the contrast with the president's position—like the visit of an excessively robust well-wisher to a sick room. Ironically, she came closer than the doom-sayers to burying the Reagan presidency by the urgency in her pleadings and the extravagance of her praise.

~~MA~~

MARCH 26, 1985 letter from Caspar
APRIL 17, 1985 Peres I.V. in Benachon
AUG 15, 1985 IA SPS Teller Speech @ TAU
AUG 19, 1985 Agreement on medical uses of SOI enamel.
Dec 1985 large delegation of Israeli industrialists
(headed by Dr Ben Zion Navon) in U.S. for
2 weeks.

DEC 1985 JCSS report of TAU

JAN 30, 1986 AIPAC Testimony

FEB 18-23 ABE IN ISRAEL

APRIL 12-20 JOYCE STARR DELEGATION IN ISRAEL.

MAY 6, 1986 Cas ~ Rabin - MOJ

Fund for American
Remembrance

July 15 → 1:30-5:30

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JAN 6, 1986 - Caplan Weinberger & Israeli Def. Min.
YITZHAK RABIN signs a formal agreement of
Memo of Understanding

JAN 30, 1986 AIPAC testifies before SEN ARMED SERVICES
on importance of ATSM.

Subcommittee on
Strategy & Health
Nuclear Forces

Georgetown-CSIS ~~887-0200~~ 887-0200

April 12 - April 20

Technical

[Defense News article APR 21, 1986]

study mission to Israel
by 24 reps of 20 companies
including.....

met w/ senior execs & researchers of 16 Israeli
companies

Early February

Last week in Feb Gen Abrahamson in Israel.

Feb 28 28th Annual Israel Conference on aviation & astronautics
5 day visit

FEB 18 - 23

Abe in Israel.

date of Israeli delegations

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Inst. for Advanced Strategic & Political
Studies (IASPS) @ Tel Aviv Univ.
Physicist Edward Teller

Hebrew U Shaul YATSIV

TAU Chmn of Computer Science PROF. MICHA SHARIR

MX & Physics professor YUVAL NERMAN

(AUG 19, 1985) US & Israel agreed to ~~an~~ ^{APPLY} of research in framework
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✓ March 26, 1985 Letter from Sec of Def. NATO Allies Jap, Jap
✓ April 17, 1985 Press interview in BAHAMAS Australia

✓ Dec 1985 JCSS ^{Report by Dave Gold.}
~~Study~~ TAU

SDI The US S-~~D~~ - I

✓ The Implications of Israel's Participation
favoring Israeli participation in SDI.

large delegate of intellectuals

✓ Dec 1985 2 weeks
Led by
→ Dr. Ben Zion Naved

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Classified as [Secret] goes as to Pentagon

LT COL.
~~General~~ Ruth Anderson 695-8744
Chairman suggested by Dr Wolfman

INFL MULTINATION
PROGRAMS

(3 MOU's.

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