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# MESSAGE



**H. E. Mr. Jaideep Sarkar**
Ambassador of India to Israel

17 July, 2013

I am pleased to know that the Federation of Indian Chambers of Commerce in India is bringing to Israel a multi-sector business delegation which seeks to strengthen commercial ties between India and Israel. Economic relations between India and Israel have grown significantly in the last two decades and bilateral trade crossed $5 billion in the year 2011. In recent years, there has been a diversification of the trade basket, with addition of several new sectors such as agriculture, IT and telecom, pharmaceuticals and water management. There are complementarities between our respective economies that we can leverage for mutual benefit. Given Israel's expertise in R & D, its innovative products and technologies can be combined with India's ability to commercialise products and reach out to large markets both in India and globally. We hope that the next decade of our bilateral economic partnership will be a decade of high¬tech cooperation in science, technology, research, innovation and services. Both governments are fully behind this common vision that will bring together the foremost knowledge economies of Asia. India's ongoing process of economic reform and liberalisation offers several attractive incentives to foreign investors, which we invite Israeli industry to take advantage of, to establish their long-term presence in the Indian market.

The governments of India and Israel have taken the initiative to build a partnership of knowledge and innovation between the two countries, including through setting up a joint industrial R&D fund to boost joint industrial research. Our two governments are also negotiating a Free Trade Agreement which once finalised, should provide a conducive business environment for both sides.

I extend a warm welcome to FICCI's delegation in Israel and sincerely hope that their visit and interaction with the Israeli corporate sector will open new avenues of bilateral cooperation and strengthen commercial ties between our respective countries.

Thanking you,

(Jaideep Sarkar)

# MESSAGE



**Ms. Ambika Sharma**
Deputy Secretary General & Head - International

Dear Readers,

We are delighted to present to you the special edition of Israel, which showcases the key developments in India-Israel relations, Business and Investment Opportunities in Various Sectors, initiatives of Indian companies in India and initiatives of Israeli Companies in India.

The India-Israel relationship is finally out of the closet. Indian foreign policy has finally matured enough that we consider Israel as a strategic anchor in global affairs. Israel has become one of India's most important partners, particularly in critical areas of security, defence, agriculture and water management. Israeli and Indian companies are working together in security, agriculture, technology and alternative energy, real estate, pharmaceuticals, telecom etc. The dynamics of bilateral trade has changed significantly over the past few decades. India and Israel are in the process of negotiations of FTA which will enlarge the scope of trade and economic cooperation between the two economies.

As a part of our efforts to strengthen relations with Israel, FICCI has been proactively engaged in creating better understanding of the areas of cooperation which Indian companies will be willing to explore in Israel and thus transcend the engagements with Israel at a strategic level.

Through this special edition, we hope to highlight the increasing engagement of India with Israel.

We hope you enjoy reading this issue and find this informative.

With best regards

Yours Sincerely,

Ambika Sharma

# Interview

# Mr. Didar Singh, Secretary General-FICCI



## What are the potential areas of cooperation between India and Israel?

Israel has become one of India's most important partners, particularly in critical areas of security, defence, agriculture and water management. The new element in the bilateral relations is renewable energy.

Though cooperation in this area is at a very nascent stage, there is a lot of untapped potential which offers common ground for discussion. A shining example of this in Israel is solar energy. Israel is quite rich with this form of energy and companies are taking a lead in concentrated solar power technology. With the clamour for clean energy growing in India and presenting a demand, India can be offered some of this technology. For instance, in communication towers. Some of these are powered by solar energy making generators redundant. This is one dimension on which already a lot is happening on the ground between Israeli companies and Indian entities.

Israel has also evinced interest in exporting gas to Far East, having made massive gas discoveries offshore in fields – Tamar and Leviathan.

## There are joint bilateral R&D projects running successfully. Can't we do more?

We believe that in the coming years, there will be more and more agreements signed to facilitate cooperative research and development projects between Israeli and Indian companies. A recent example is the R&D cooperation agreement signed between the Karnataka state government and MATIMOP (Israeli Industry Centre for R&D). The agreement aims to further bilateral and economic relations and business and technology ties between the two countries. Israel will benefit from the IT talent and India from Israeli innovations.

## What according to you can India learn from Israel?

India needs to take lessons from Israel in terms of water management. Our country requires support of technologies in terms of food and water security, especially agri-business. India can improve on food production using Israeli technology, use Israeli post-harvest know-how to minimize wastages and take lessons on dairy development through breed improvement.

Indian agriculture has traditionally been rain dependent and erratic monsoons have made droughts a common affair. There is need to equip farmers in India with drip irrigation technology as irrigation infrastructure has yet to catch up in the country. Israel has been a global leader in drip irrigation and desalination and India could do with support in this area.

Israel's core strength in research & development involving areas like life sciences, pharmaceuticals, biotechnology, software, telecommunication and semiconductors development are great opportunities for collaboration and for India to tap this expertise. India's vast pool of R&D talent and skills would complement this relationship.

## How can we draw more Israeli investments into India?

Israeli investments could grow substantially if our states and industry seek expertise and collaboration beyond traditional areas like defence. One recent example is that of the Agricultural Board of Rajasthan joining hands with Israeli firm Indolive to produce fresh green olives. Though olives are hardly a staple in India, Rajasthan farmers could with Israeli experience consider the production of olives for lucrative export prospects in the long term.

The over 300 companies operating in Israel's electronics industry excel in developing systems and solutions for micro- electronics, semiconductors, communications, Internet

applications, electronic equipments, medical devices and diagnostic systems, smart-cards etc. India's rapid strides towards a digital economy and growing consumption for high end technology, both in the personal and commercial space offers a strong ground for trade and investment in these areas.

It is essential for Israeli businessmen to understand the huge market potential in India. Joint ventures are the best way to tap this potential, because having partners on the ground would limit their exposure to unsound investments.

## There is huge potential for cooperation in urban infrastructure between both the countries. Any recent developments?

In an era of rapid urban growth, there is great potential for cooperation between Israel and India, since Israel is a very urbanized country with strong urban infrastructure. Israel has been a global leader in water technologies and has demonstrated excellent reuse techniques and overall planning and development of water supply infrastructure.

The Indian government should avail the benefit of such innovative technologies of Israeli companies through PPP projects. Last year, India had signed a memorandum of understanding for the establishment of a joint working group to plan and building water and sewage systems, drinking water treatment plants, and the reuse of treated wastewater water.

## Israel is an IT powerhouse. What synergies can India and Israel draw in this area?

There are ample opportunities of cooperation between India and Israel in the IT sector. India is a fast-growing economy with a strong consumer base and manufacturing capabilities. Israel has intrinsic strengths in product development and technological innovations. The competitive edge of the Indian IT industry has attracted the attention of Israeli IT companies which presents a strong case for garnering a better share of the Israeli IT market.

## Your comments on the progress of the proposed FTA.

Ans: The implementation of the proposed free trade agreement between India and Israel is expected to boost the bilateral trade multi-fold. There has been movement on the negotiations on the list of items in the last few months and such discussions do take time. The FTA would lead to significant advantages in terms of promoting interaction between the private sector of the two countries and enabling the workforce of both the nations to collaborate to "invent, produce and market" things in non-traditional areas.

## What are the obstacles in taking the bilateral relationship to the next level?

There are no obstacles as such between the two countries. India-Israel relations have rapidly improved in the last few years and are strengthening based on growing security, trade and agricultural ties. The Indian and Israeli governments are discussing the implementation of a free trade agreement. Our estimate is that the volume of trade will increase many fold once we have an FTA in place.

## Do you think the Government of India has taken enough measures to promote business relations? What are the areas that need improvement?

The Indian Government has taken measures to promote business relations between the two countries in sectors such as agriculture, water management, energy and IT. Indian Communications and IT Minister Mr Kapil Sibal has proposed a fund that will be utilized to enhance ties between Israel's innovative IT sector and India's burgeoning hi-tech manufacturing sector. In agriculture, a three-year working plan from March 2012 till March 2015 is in place. The effort is to provide technology which can be adapted to the needs of Indian farmers. India has a lot to learn from Israel in terms of water technologies to overcome challenges of food and water security. Our state governments are exploring this avenue already.

Here I would like to mention that FICCI has taken the lead in forging closer ties of cooperation through its extensive collaboration with Israel in the agriculture sector through participation in Agritech in 2006 and 2009. The FICCI Business Delegation which visited Israel during May 9-11, 2006 to participate in Agritech 2006, had a well represented 26-member delegation drawn from major agri corporates like Pepsi Foods, ITC, DCM Shriram, NCDEX, MCX, ICICI Bank, State Bank of India, Yes Bank, Jain Irrigations, Plastro Irrigations, Satnam Overseas.

This was complemented by a seminar "Israel-India Business Forum" organized by Indian Embassy in Israel, FICCI and IEICI to discuss various issues of cooperation in agriculture sector between India and Israel. In 2009, 17 delegates attended the Agritech and were drawn from some major agri corporates like IFFCO, ITC, Greenport Corporation, Yes Bank, Ayurvet, Jain Irrigations, Finolex Plasson Irrigations and Premium Farm Fresh.

These initiatives have contributed strongly in building India-Israeli business relations.

## Counter terrorism and security cooperation is a very potential area given the experiences of both the countries. What are the obstacles you see?

India and Israel have immense scope of cooperation in combating the menace of terror. Israel's homeland security system is very advanced and India can benefit from their expertise and experience. Both countries recognise that terror is a threat, particularly after the 2008 Mumbai attack, and Israel has offered to cooperate through intelligence-sharing, counter-terrorist training, and joint exercises. Cooperation in matters of security has been critical to the expansion of ties between India and Israel and hence, no obstacle can inhibit their strategic partnership.

## Any other comments?

We are looking forward to the signing of the FTA between India and Israel as this would be a strategic game-changer between the two countries. Indian industry is keen to take advantage of synergies with Israel in areas like agriculture, water technologies, defence and other sectors that Israel is strong in.

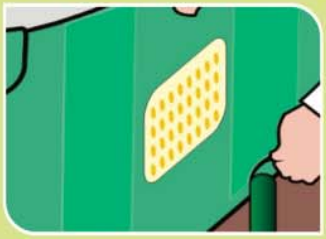
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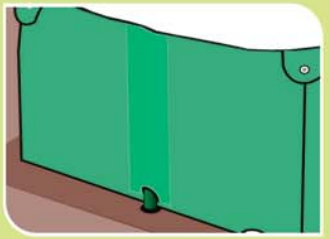
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VERMIWASH OUTLET



AERATION



SUPPORT POCKETS

### TETRAA VERMI BED
### Especially Designed for Marginal Farmer




**Indian Patent No. 255578 granted on 05/03/2013**



VERMICOMPOST



VERMIWASH



EARTHWORMS

**M/s. Lamifabs & Papers (P) Ltd.,** has launched into service TETRAA VERMI BED for cultivating Vermicompost, Vermiwash and Earthworms which will reduce completely the farmers expenses on chemical fertilizers. This newly developed product is totally different from all other conventional method of composting such as, the material being used, the installation of Tetraa Vermi Bed composting process, the quality norms

## TETRAA VERMI BED - MULTI PRODUCTS ADVANTAGES

**VERMICOMPOST:** Vermi composting is the process of recycling organic / farm waste into nutrient rich compost using earthworms carried out generally in aerobic conditions. Tetraa Vermi Bed is designed to provide supportive conditions to expedite the process of vermicomposting. Thus quality of vermicomposting is up to mark.

**VERMI-WASH :** A specially designed outlet is provided in Tetraa Vermi Bed to collect vermiwash which contains colamic pyulite and antifungal liquid.

**VERMICULTURE:** Due to the hospitable environment created by Tetraa Vermi Bed the multiplication of earthworms is very fast, so also they are protected from three natural enemies like ants, snakes & rodents etc.

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# INTEGRATING TRADITIONAL VERMICOMPOSTING WITH ADVANCED PLASTIC TECHNOLOGY

**ABOUT INNOVATOR:**

We are delighted to introduce ourself as an innovator of the concept "HDPE VERMIBED", all it was started many years back, looking to the trend or adaptation of organic farming, and looking to the desperate need of efficient & economic structure as a unit for production of Vermicompost as well as Vermiwash; we designed & started manufacturing Heat Sealed HDPE VERMIBED with our brand name "TETRAA VERMIBED" 6 years back.This product is patented through Indian patent No. 255578.

Our Company, M/s. Lamifabs& Papers (P) Ltd is an agro-based HDPE woven fabric products manufacturer having its base in Industrial town of Aurangabad in Maharashtra India.We had played a crucial role in standardizing this product along with Bureau of Indian Standard (BIS), as we are the only member in the committee from manufacturing panel.First license for manufacturing of ISI Marked HDPE Woven Vermibeds had been granted to us in May 2010.

More than Ten Lakhs HDPE VERMIBEDS has been produced through our expert manufacturing facilities, & supplied to the Government Departments within India.

Our inherent strength is being consistent in quality with complete infrastructure of machines including one of the best in-house testing laboratories for these products in India. And now we are ready to launch in Abroad.

**BACKGROUND:**

The approach and outlook towards Agriculture and its practices has now seen a quantum changed in world over the last few years because of the main backdrop over the past one decade.Farmers, have started experiencing new problems, decline in organic matter of the farmlands, increasing pest incidence of ever new kinds, increasing cost of cultivation, climate change based impacts on agriculture etc. The necessity of indigenous technological knowledge of organic agriculture practices is on provoked. Much of this knowledge pertains to managing scarce resources to improve soil fertility & soil moisture with the adaptation of process of converting waste into black gold i.e. by producing Biocompost through Earthworms culture called as Vermicompost, and it is being used to supplement the nutritional requirements of the plants and increasing the resistance in plants.

**STRATEGIC IMPORTANCE:**

Deteriorating soil health, declining input use efficiency and growing imbalances in soil and environment necessitate development and adoption of environment friendly technologies. In spite of tremendous success in various techniques of producing Vermicompost there were some impediments, especially related to the economics of structures or units for its production. Main approaches specific to its complete structures more economical for inputs and affordable quality assurance for small and marginal farmers.

**SCOPE:**

Hundred tons of biodegradable organic wastes are being generated in cities and towns in our states, creating disposal problems. This waste can be converted into valuable compost by applying Vermicomposting technology. This approach reduces pollution and provides a valuable substitute for chemical fertilizers. This process is profitable at any scale of operation, provided proper process parameters are maintained.

**MARKET:**

Vermicompost is a valuable input for sustainable agriculture and wasteland development. This also can be used widely in pot culture and in home gardens. Several farmers are successfully using Vermicompost. Studies in various states have shown that usage of Vermicompost has improved the production and quality of soil. There are many successful farmers' experiences of using Vermicompost from different climatic zones of the country.

**ADVANCE TECHNOLOGY**

Systematic production of Vermicompost through aerobic process is again the major issue relating to its structural cost, thus looking to the desperate need of efficient & economic structure as a unit for production of Vermicompost as well as Vermiwash; the most advanced concept of Heat Sealed TETRAA (HDPE) VERMIBED comes into existence. Production through its methodology is considered to be the modern practices ever seen before.

**INTRODUCTION**

- TETRAA VERMIBED is a Readymade Structural Unit.
- Standard Size: 3.6m x 1.2m x 0.6m
- Volume: 2.6 Cubic meters.
- Made from High Density Polyethylene (HDPE) Woven fabric.
- Laminated with LDPE (UV Stabilized).
- Heat-Sealed Joints.
- Ventilation Net Windows.
- One Outlet for Drain at Bottom.

**FEATURES AND BENEFITS**

- EASY INSTALLATION: Readymade structurecan be easily installed within an hour on the desired place or ground with 14 supportive wooden pegs.
- PORTABILITY: It can be easily shifted within a short span of time to any place as per the convenient, or close to the raw material source.
- MAXIMUM VENTILATION: There is a special provision of reinforced net windows to maximizeaeration process.
- VERMI-WASH COLLECTION: A specially designed outlet is provided at the bottom of the bed to collect Vermi-wash liquid; composes of different micro-nutrients vitamins and digestive elements, and is used for spraying on crops.
- DURABILITY: Laminated HDPE Woven Bed is UV stabilized and has both tensile &tears strength to sustain various climatic exposure andpermissible physical load, and thus has reasonable life of around 3 to 5 years. (Depends on handling)







# India - Israel Relations

## Strategic Interests, Politics and Diplomatic Pragmatism

by **Dr. Itzhak Gerberg**



*Former External Affairs Minister of India, S.M. Krisha with the Prime Minister of Israel*

The bilateral relations of India and Israel are of great importance to both countries and their national strategic interests. Any meaningful progress in their establishment had been prevented between 1948 and 1992 owing to domestic, regional and international developments related to the Arab-Israel conflict. However, in January 1992, in a surprise diplomatic move, full-fledged diplomatic relations were established between the Republic of India and the State of Israel.

### The Transformation of India's Relations with Israel in 1992

The economic liberalization initiated by Prime Minister Rao opened up the Indian economy to the West and globalization. Israel, as a modern technology-oriented state, was an important player in the new global orientation. Dixit referred to the importance of globalization by writing that the global orientation towards non-compartmentalized and harmonious relations between countries was also one of the key factors, at a macro level, that impelled India to establish diplomatic relations with Israel (Indian Express, 11 December 1997).

### Joint Strategic Interests

Diplomatic relations: Since the 1990s, India's diplomatic activism in the international arena has encompassed relations with Israel. With the establishment of diplomatic relations, India has moved from an anti-Israeli and pro-Arab stance to a pragmatic and more balanced stance towards Israel, while maintaining close relations with the Arab countries. Many bilateral agreements have been signed and ratified, and dialogues as well as bilateral consultations are ongoing between the two foreign ministries, as are strategic dialogues on national security, counter-terrorism, defence, non-proliferation, trade and economy, and agriculture (www.meaindia.nic.in).

Defence Relations: With normalized ties, Israel and India could develop their military connections based on their security and commercial interests (Pant 2005). Both countries have adopted similar positions on arms control issues and Islamic radicalism, but the real opportunity for their strategic cooperation lies in India's search for technological independence and Israel's search for military superiority over its Arab neighbors. India's substantial difficulties with upgrading and modernizing its armed forces

compelled it to seek long-term collaboration with Israel. For Israel, arms exports have been an essential and integral part of its security sector since they lower the cost of production, offset the cost of research and development, reduce Israel's balance deficit, and provide employment. India presents an attractive and challenging opportunity as a market for Israel's defence industry. (Klieman 1990).

Economic Relations: Since the establishment of diplomatic relations, Israel and India have witnessed tremendous growth in their economic relations and have implemented many measures to promote them, including an agreement on agricultural cooperation signed in December 1993 and an intergovernmental work plan on agricultural cooperation signed on 10 May 2006. The volume of Israeli-Indian trade grows significantly every year, concentrating, among other areas, on high-tech, software, telecommunication, medical equipment, bio-technology, pharmaceuticals, machinery, agricultural equipment, and chemicals; there is also the traditional diamond trade.

Israeli investments have flowed into India, and Israeli R&D and technology have likewise been transferred there. In recent years Indian companies have started investing in Israel in fields such as irrigation equipment, pharmaceuticals, and information technology, including joint ventures set up in both countries. They have direct air connections: El Al, Israel's national airline, operates four weekly commercial flights to Bombay (Mumbai), as well as freighter flights to and from India. ZIM, Israel's shipping line, has a permanent agency in India and Israeli vessels dock regularly at Indian ports. In August 2005 ZIM India was officially inaugurated as a fully owned representative office in India. The Shipping Corporation of India (SCI), in cooperation with ZIM, also provides services to and from Israel (Jerusalem Post – Special Supplement, 2006). In tourism, annually since the 1990s nearly 75,000 Israelis have visited India and about 25,000 Indians have visited Israel. In 2008 the volume of the bilateral trade between the two countries reached $4.15 billion. In the last decade India has become Israel's second-largest trading partner in Asia.



*Iron Dome Missile Defense System*

Counter-Terrorism Cooperation: Counter-terrorism is another key area that plays a role in Indo-Israeli cooperation. India has shown considerable interest in Israel's internal security technology, equipment and methods, for use against cross-border terrorism in Kashmir and insurgencies in the north-eastern states (Kumar 2001). Islamic fundamentalism and terrorism have been issues of concern for both Israel and India. Israel and India have diversified and expanded the range of issues discussed at the Joint Working Counter-Terrorism Group, including combating international terror. (Times of India, 30 May 2005).

Space Cooperation: While Israel's space efforts centre on its high-resolution imaging capabilities, India's space program, which is one of the country's success stories, covers a wide range of activities in launch vehicles, satellites and space applications. India builds a wide variety of remote sensing, meteorological, and communications satellites, which it launches with its own rockets

## Common Strategic Interests

Science and Technology Cooperation: The growth of bilateral economic ties between Israel and India includes cooperation in science and technology. There is an agreement on science and technology, a science and technology industrial research fund (amounting to $3 million) and an agreement to facilitate bilateral cooperation and exchanges in the field of science and technology; an additional Protocol of science and technology cooperation also exists.

Nuclear Power Policy Coordination: Israel and India have not signed the NPT (Israel but not India did sign the CTBT in 1996) and therefore have common ground for formulating a coordinated diplomatic policy pertaining to that matter.

USA: The war on international terrorism and improvement of relations with the USA also had to do with the Israel connection, in the eyes of Indian policy makers. After September 11 there was a growing understanding in India, and also in Israel, that Indo-American-Israeli cooperation was likely to yield considerable benefits for all three parties. The Indian leadership became increasingly convinced that the American Jewish lobby constituted a vital link of influence in US policy making, as well as finance.

Russia: Israel's expertise in Russian military equipment paved the way for trilateral military cooperation among India, Israel and Russia. Furthermore, Russia is an active participant in the Middle East process, in which India has great interest. The trilateral cooperation enjoys common ground in the field of energy, and in counter-terrorism especially in Central Asia. (Joshi 2005).

Geo-Strategy: The geo-strategic locations of India and Israel- both on the flank of major Arab countries and an Islamic bloc - encourages their strategic cooperation. The Indian Ocean has become important for Israel's security too. It needs offshore strategic depth to sustain a second-strike capability, and this can be found in the Indian Ocean. Furthermore, Asia is an important destination for Israeli trade, and India is one of the key actors, in geo-strategic terms, in safeguarding the commercial shipping routes between the Middle East, Israel and Asia.

Asia: India has gradually emerged as an Asian regional force since 1994 with its "Look East policy", initiated by Prime Minister Narasimha Rao. Israeli technology and expertise helped India

to promote its trade relations with Asia as part of its reformed economic policy, particularly towards Asia. Israel, for its part, still struggling for full international legitimacy in Asia, is aware that its relations with India could be instrumental in helping it to achieve such legitimacy, as well as upgrading its international status in Asia.

Central Asia: India and Israel strive to be regarded as significant players in the region, considering the high level of evolvement and competition with Russia, the USA, China, Pakistan, Iran, Saudi Arabia and Turkey. For both countries, Central Asia is an extended strategic vicinity (Inbar 2004). The two countries have sold military equipment to the Central Asian republics, have an economic interest in the region including the field of energy, and endeavour to limit the influence of Iran and Saudi Arabia as agents of radical Islamization in this region.

Pakistan: In the past, Israel feared that Pakistan would become a supplier of intermediate range missile to Arab countries in the Middle East and Iran (Inbar 2004). Elevated American dependence on Pakistan pertaining to its military actions against Al-Qaeda and the Taliban in Afghanistan, as well as the American supply of sophisticated weaponry to Pakistan, have caused concern to India as well as Israel. The latter has been particularly concerned about possible seepage of nuclear technologies out of Pakistan, authorized by the Pakistani government or as part of a rogue operation.

## Divergent Interests

United Nations : India's voting in international organizations, the UN in particular, has been a fixed item on the Indo-Israeli agenda since they established diplomatic relations. From 1992 India ceased to sponsor anti-Israeli UN resolutions; however it continued to support the Palestinian cause at the UN General Assembly and committees while abstaining on the nuclear issue (Yegar 2004).

Energy and Oil: India's stance on the Middle East issue and the Arab–Israel conflict, which supported the Palestinian cause and the Arabs, was shaped by India's dependence on oil and energy resources from the Arab countries and the Gulf region. India dependence on outside energy resources, its the demand for oil-based products such as petrochemicals and fertilizers and the availability of Arab oil made the relationship between India and the Gulf countries an important factor in Indian foreign policy. India's maintenance of good relations with the Arab countries to ensure its future oil needs makes Arab oil a key factor in Indo-Israel relations.

People's Republic of China (PRC): Until several years ago, Chinese-Israeli relations, especially their military cooperation, were of concern to India and were watched closely. However, owing to US pressure the military collaboration between China and Israel has declined significantly.

Iran: Israel has regularly expressed its concern about Iran's nuclear capabilities as well as India's close ties with Tehran. The possibility of India selling advanced technology and military equipment to Iran has been brought up at meetings between military representatives of the two countries, so the close India–Iran relations may be considered a matter of strategic discord between them.

Arab World: India traditionally pursued a pro-Arab foreign policy, regarding the Arab–Israeli conflict in particular, mainly to counter Pakistani influence in southern Asia and to secure access to Middle Eastern oil and gas resources (Heitzman and Worden 1995). This policy changed after the Gulf War, for reasons including the evolving relations with Israel based on India's perception that close relations with both Israel and the Arab world would be more beneficial for it (Kumar 2001).

Palestinian Authority: Despite its good relations with Israel, India has traditionally been a staunch supporter of the Palestinian cause. This support has been particularly demonstrated by India's Muslim organizations (there are about 140 million Muslims in India), by its left-wing parties, and by traditionalists in the Congress party elite and in the Indian Ministry of External Affairs.

Prior to Israel's independence and then from 1948 to 1991, India's policy on Israel reflected its traditional sympathy with the Arabs, and with the Palestinians in particular. It also accorded with India's national interests in the Middle East region (West Asia) and its commitment to the Non-Aligned Movement (NAM). That early policy was particularly influenced by its complex relations with Pakistan, the conflict over Kashmir and the sentiments of the Indian Muslims. Israel, on the other hand, viewed this as a hypocritical stance, and its approach to India ran the gamut from expectancy to hope, disappointment, dismay, anger, and ultimately indifference. In 1992 a significant diplomatic change occurred when India and Israel established full diplomatic relations imbued with strategic importance for both. As a feature of its diplomatic activism from the 1990s, India shifted to a pragmatic policy on Israel, which encompassed convergent strategic interests yet without ignoring India's economic and political interests in the Middle East. Successive Indian governments since 1992 have exerted a variable influence on policies on Israel. Under the governments headed by the BJP (1998-2004) the relations between the two countries reached new heights. The change of governments in India in May 2004, with the return to power of the Congress party, brought about an improvement in India's relations with the Arab world. The UPA governments were eager to demonstrate that ties with Israel would not affect their support for the Palestinian cause, while perceiving that sound relations with Israel were of strategic value to India. India's policy on Israel is expressed in pragmatic and controlled diplomacy. Israel, grasping the growing importance of India in the international system and taking their bilateral relations as a cornerstone of its foreign policy, engaged in flexible diplomacy with India. Despite the cooling relationship after 2004, the evolving bilateral relations between India and Israel, particularly their military cooperation, can be described as pragmatic, centering on their convergent strategic interests. ■


## about the author



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# Indo-Israel Trade Reach New Heights

by **Malvika Kareer**

A high momentum can be experienced between India and Israel, when it comes to growth of trade and investment, better strategic partnerships and trade agreements. Trade between India and Israel touched the $6-billion mark during 2012-13, up from $200 million in 1992-93. India-Israel relations have rapidly improved since the time the two countries have established diplomatic relations post the collapse of Soviet Union in 1992. Both nations have experienced convergence of interests in agriculture, farm research, science, public health, IT, telecommunications and cooperation in space.

## India – Israel FTA

A Free Trade Agreement (FTA) between India and Israel will considerably add to the momentum of the increasing trade and investment. The FTA can provide significant advantages of promoting an interface of economically advantageous environment among the private sector of the two countries. This can also enable the workforce of both the nations to work together collaboratively in areas that are not traditionally covered. Trade volume is projected to increase to up to $15 billion per annum. A great potential is seen in areas like healthcare, medical devices, pharmaceuticals, agriculture, irrigation, energy, particularly from renewable sources, aviation, IT and water management. With a free trade agreement in place, trade partnerships can be enhanced to a new level, making it profitable to both the trading parties. Trade flourishes in a very conducive economic environment, therefore the FTA will bring about new windows of opportunities for both the countries. This will bring forth trade and investment not only in existing sectors but new sectors as well. Even the existing sectors have a huge growth potential.

**A Free Trade Agreement (FTA) between India and Israel will considerably add to the momentum of the increasing trade and investment. The FTA can provide significant advantages of promoting an interface of economically advantageous environment among the private sector of the two countries.**

## Key Sectors for Bilateral Cooperation

Key Sectors such as information technology, research and development and high-tech areas have colossal capability for bilateral cooperation. Already, several cooperative initiatives are underway between the two counties and also with some States in the area of information technology, defense, infrastructural development, agriculture technology, water management, treatment of sewage and desalination. Over the years, Israel has

gained sizeable proficiency in the energy sector, including the renewable energy sector. There is new levels of cooperation in the agriculture sector, with several projects already been initiated with a special focus on water management and improving productivity. Water management will also help in efficient utilization of water resources and at the same time create a level of increased preparedness towards floods and other natural calamities, that India recently fell victim to.

## Israeli Tie-Ups

Technology sharing is also been explored in the agricultural sector. With a majority of Indian population is involved in agriculture, the productivity is still very low in relative terms. Import of technology from Israel can help to improve the productivity. This will be beneficial for both, the Indian farmers as well as the Israeli firms importing from India. Technology sharing in agriculture includes technological solutions for production of vegetables, mango, citrus fruits, pomegranates and flowers. Indian farmers have joined hands with Israeli agribusinesses to produce fresh green olives.

The project started out as a joint venture between Israeli firm Indolive and the agricultural board representing the Indian state of Rajasthan. Finolex Plasson Industries Ltd, an Indian company, joined the business alliance in 2007 through its subsidiary Plastro Plasson. All parties involved in the joint venture fall under an umbrella group called the Rajasthan Olive Cultivation Ltd (ROCL). Such tie ups will help increase the contribution of agriculture to the GDP. According to World Bank data, the total share of agriculture in India's gross domestic product is 21 percent. This is a matter of concern when you consider 72 percent of the total population is involved in agricultural practices.

## Attractive Areas of Investment

In such an attractive trade environment, an attempt is made to explore the profitable areas of trade and investment for both the countries. FDI inflows from Israel to India from April 2000 to 2011 were US$ 53.24 million at 39th rank and 0.04% of total FDI inflows. The promising sectors in India are renewable energy, telecom, food production, automobiles among others. With the Indian economy growing at a fast pace, a lot of stress has to be laid out on optimizing and efficiently utilizing the given resources ranging from power and energy, to water resources, land or infrastructure. This is important, considering the fact that most of the resources are limited, while some grow at a much slower pace as compared to the overall economic growth of the country. Israeli companies have invested in India in projects involving agriculture and water technologies. Israeli companies are also setting up Research and Development (R&D) centers or production units in India.

Improved technology in every aspect will enhance the productivity of the recipient country, which is India, and at the same time create new avenues of trade between the two countries. From a retrospective, the indo-Israel trade relation is much more than just the defense sector that most people perceive to be the case. With areas such as clean technologies, where Israel is already a pioneer, technology imports in terms of efficient power solutions can help India fight power outages that it faces currently and at the same time reduce costs of production across various manufacturing units. One can easily see how the trade between the two countries has evolved, from a base of US$ 200 million in 1992 (comprising primarily of diamonds) and the merchandise trade has diversified significantly in the last decade.

Till 2010, India stood at the sixth place in terms of Israel's trade partner countries and the third largest trade partner in Asia after China and Hong Kong (trade data includes diamonds) and remained a 'focus' country of the Israeli Government for increased trade effort. Major exports from India to Israel include precious stones and metals, chemical products, textile and textile articles, plants and vegetable products, mineral products, rubber and plastic products, base metals and machinery. Major exports from Israel to India include precious stones and metals, chemical and mineral products, base metals, machinery, and transport equipment.

It is important for India to get innovative technologies from Israel to produce efficiently. Israeli technologies can help Indian companies to enhance their productivity and boost the exports from India to Israel creating a win-win situation for both. Israel has rapidly become one of India's most important trading partners, particularly in critical areas such as security, defense and what matters to Indians most, agriculture. Israeli and Indian companies are working together in priority sectors such as security, agriculture, water technologies, clean technologies and information technologies etc.

## Evolving Area: Energy

The new factor in bilateral relations is energy. Israel has shown interest in exporting gas to India, having made massive gas discoveries offshore in fields named Tamar and Leviathan. Indian and Israeli officials reportedly discussed ways of getting the gas to India. India's fuel requirements are increasing by the day, and India remains one of the biggest gas customers and currently relies on Qatar for most of its gas imports.

Entrepreneurs in Israel see joint ventures as the best way to create business linkages with Indian industries. Israeli investment in India could grow substantially if states and industries in India seek expertise from technologically advanced nation that is, Israel. The two countries have tremendous growth potential in terms of promising trade and investment opportunities for each other. The FTA will bring a paradigm shift to their economic partnership that will pave the path for strategic alliance in the forthcoming years. ■


## about the author



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# India's Economic Relations with Israel and the Arabs

by **Dr. Gil Feiler**

January 29, 1992 marked the beginning of a new age in India's relations with the State of Israel. After more than four decades of distant and often hostile relations between the two countries, India's foreign minister announced that full diplomatic ties had been made official. The door was now open to the development of economic, military and political cooperation between the Republic of India and Israel.

At a time when Israel was still in the twilight between war and peace with the Arab world, normalizing relations with the Jewish state signaled as much of a shift in India's internal policies as it did in international relations. While Israel enthusiastically welcomed the new political reality and the economic opportunities that came with it, Indian national interest demanded maintenance of strong relations with the Arab world, which was still imposing an economic embargo on Israel and any country or company that traded with it. For India, it would have been inconceivable to jeopardize its relations with the Arabs in favor of Israel. However, three major events of 1991 made this shift possible.

In January, coalition forces opened an aerial bombardment of Iraqi forces which had seized Kuwait during the previous August. As a result, global oil prices rose from $17 per barrel in mid-July to $46 per barrel in mid-October. The doubling of the price of oil hit India at the worst possible moment, as it already had a strained balance of payments. India could not do without oil imports, and these had to be paid for with its scant foreign currency. In addition to steep oil prices, another economically damaging factor was the substantial curtailment of worker remittances being sent by expatriate Indian employees in the Gulf, as thousands lost their income or fled for safety as a result of the war. With the threat of bankruptcy looming over his country, incoming Indian Prime Minister P. V. Narasimha Rao had no recourse but to undertake a series of unprecedented reforms which would liberalize the Indian economy.

A second key event, a direct result of the Gulf War, was the Madrid Peace Conference in October 1991. This event brought Israelis, Palestinians and most of the Arab




*Many Israeli tech firms outsource from Indian companies*

countries to the same table, thereby essentially restarting the Palestinian-Israeli peace process. This tacit recognition of Israel by the Arab states allowed numerous countries to establish diplomatic relations with Israel, among them the People's Republic of China. The Madrid Conference also marked the demise of the Arab Boycott, which had prevented many countries from trading openly with Israel. India could now initiate formal diplomatic and trade ties with Israel without fear of an Arab backlash, and without reneging on its long-standing commitment to the Palestinian cause. Arch rival China's move in this direction was an added incentive not to be left behind.



*Arab Spring - The geopolitical reality in the Middle East is constantly changing*

The third and most colossal event of 1991 was the demise and dissolution of the Soviet Union in December of that year. In addition to the political, diplomatic and military ties between New Delhi and Moscow, the USSR was also India's largest single trading partner. The Soviets were also India's largest supplier of crude oil and her primary source for high-technology transfer. India was the largest recipient of Soviet development aid. With its Soviet financial backer gone and suffering an endemic economic crisis, it made good sense for India to follow China and Russia in normalizing its relations with Israel. India also wanted to join the multilateral track initiated through the Madrid conference, participation in which Israel made conditional upon full diplomatic relations between the two nations.

In the years following the establishment of relations with Israel, India has transformed tremendously. The years 1992-2010 saw India undergo stunning economic growth. In spite of great strides forward in the Indian economy and the new hi-tech industries that it has developed, the bulk of Indian trade with Israel still consists of the more traditional commodities. Around two-thirds of the trade in monetary value (USD) consists of diamonds imported from Israel to India, with IT in second place at around 20%. However, defense trade and security co-operation have the potential to become the largest, and most politically controversial, of India's relations with Israel.

## Key Aspects of India-Israel Economic Relations

In 1991, right before full relations between the two countries were established, Indian-Israeli trade stood at 129 million USD. In 1995, the bi-lateral trade stood at 430 million USD, and by 2005 it had risen to 2.2 billion USD. In 2009, Indian-Israeli bilateral trade stood at 3.54 billion USD, and in 2010 it rose to 3.8 billion USD. In the first six months of 2011, trade between the two nations had already passed the 3.7 billion USD mark - excluding defense trade.

Mark Sofer, the former Israeli ambassador to India, estimated that a planned Indian-Israeli Free Trade Agreement would triple bilateral trade, surpassing 12 billion USD within four years. Israeli-Indian trade is relatively small as compared to India's total trade with the Arab League countries (around 5%), but per country Israel is the third largest trade partner India has in the region. When oil exports are excluded, Israel is India's biggest and fastest growing trading partner in the Middle East.

For India, key economic considerations with regard to Israel are technology transfer, rural agricultural development, energy security, and defense. India also takes into consideration its political and economic relations with third parties, primarily China and the USA, when it considers Israel. With regard to China, India is constantly playing catch-up with Beijing's aggressive international investments and foreign economic expansion. In the American arena, Israel's storied political influence in Washington is a cause for seeking cooperation and cordiality with Jerusalem.

## Information Technology

For a number of reasons, Israel is perceived in India to have a significant potential contribution to the development of the local IT industry beyond the limitations of IT outsourcing. At base, there is the Israeli reputation for advanced technology and innovation and the realization that Israel's domestic market size limitations naturally encourage cooperation with overseas partners. Experience with Israeli technology in the closely related field of defense products has also been positive. On the practical level, Israeli IT firms have been outsourcing IT work to India for several years.

In addition to India's export of IT outsourcing services to Israeli technology firms, India is also an importer of Israeli technology. Israel exports roughly $100 million per year in IT products and services to India, of which roughly half is in telecommunications equipment. In addition to telecommunications, a wide range of IT fields are represented among Israeli exports to India, including semi-conductor and chip designs, and CRM and billing systems.

The annual level of Israeli IT exports to India fluctuates widely, as these exports are mostly the outcome of winning specific tenders by Indian corporations or government agencies for products and services. Israeli IT firms are still not very involved in India as a market for their products and services, and barriers of perception, culture, and logistics still impede growth. As a result, relatively few firms solicit business in India, and

such efforts are usually focused on one specific tender at a time, typically of medium (tens of millions USD) scope.

## Agriculture, Food Security and Water Management

One of the major associations of Israel's "brand name" in the world has been advanced agricultural technology. This potential was quickly recognized by India, and agricultural technology has been a fixture of the bilateral Indo-Israeli relations from the earliest days.

Water-efficient drip irrigation, developed for Israel's water-scarce conditions, is finding favor in India due to local concerns about the ongoing availability of clean drinking water. India and Israel share numerous other projects of mutual agricultural development and technology transfer undertaken by commercial firms and government agencies.

Water management is a closely related field, and Israeli companies have been working successfully within India. IDE Technologies has set up a number of water desalination facilities, providing clean water to Indian refineries, power stations and industrial plants. Arad Technologies is supplying hundreds of thousands of its advanced water meters to the city of Mumbai.

The scope of Israeli-Indian agricultural trade and cooperation is estimated at a cumulative $1 billion since 1992, and it is still trending upwards with considerable room for expansion in water management as well as in traditional agricultural fields.

## Defense Trade

Israel's extensive experience in war and counter-terrorism makes it one of the world's leaders in defense technology, and it is consistently ranked among the world's top ten weapons exporters. Israel is also one of the top developers of highly sophisticated weapons systems. Importantly, Israel was more than willing to trade with India.

There are four key elements to these ties: The most noteworthy is the export of complete Israeli weapon systems. The first major military contract between the two countries was signed in 1997 involving the purchase of the BARAK-1, an air defense missile capable of intercepting the US made "Harpoon" missiles deployed by Pakistan. In the past decade Israel and India have signed a number of other significant defense contracts worth billions in USD, ranging from the $1 billion deal for the Israeli "SPIKE" anti-tank missiles to aerial reconnaissance drones.

Slightly less noteworthy is the export of Israeli sub-systems and components, primarily electronics, such as radar systems to be installed in India's MiG-29 fighters as part of an overall upgrade carried out by Russia.2

The third element is in joint weapons programs. The entry into joint weapons programs shows an inordinate degree of intimacy and trust between the two countries. Israel has become a premier partner in several joint Indian-Israeli military development programs, including the development of an advanced new generation of the Barak missile which saw the birth of the two countries defense ties. This seems to be the main thrust of the future defense ties between India and Israel

The fourth area of Israeli-Indian defense trade is the export of Indian military hardware and services to Israel – this has been mooted several times, yet has so far seemingly failed to take off.

There are also a few areas in defense technology where Israel could turn to India for services. An example of such is the 2008 launch of Israel's TecSAR (also known as Ofek-8) reconnaissance satellite atop an Indian PSLV rocket from the Satish Dhawan Space Centre in India. Israel had previously launched its satellites on its own rockets, but limitations of geography meant that these launches were far from optimal. By turning to India, Israel gained an optimal launch window, and India's Antrix Corporation rang up a sale estimated at $11 million.

## The New Reality: India and the Changing Middle East

The geopolitical reality in the Middle East is constantly changing. The "Arab Spring" has toppled seemingly stable regimes, plunging the region into uncertainty and resurrecting the specter of an Arab-Israeli conflict erupting yet again. Further complicating the situation, once stable Turkey seems to have gone from a policy of zero problems to multiple problems with its neighbors, and the impact on the region stemming from the global economic crisis, European fragmentation and US economic woes cannot yet be foreseen.

India has many diverse and profound interests in the Middle East; it enjoys productive and mutually beneficial relations with both Israel and the Arab world, though as we have seen in diverse and crucially different fields. One thing has remained constant in the past two decades: Whilst supporting Arab aspirations, India has also consistently increased its co-operation with Israel.

In the event of further deterioration in Arab-Israeli relations, and an in increase Arab pressure to boycott Israel, India will probably maintain its balancing act between the Arabs and the Israelis.

Although in the past India felt that a course of action of complete conformity with Arab policies was required in order to assure supplies of Arab oil, its current interests in the Middle East are a far cry from what they were forty years ago. It enjoys prolific relations with both Israel and the Arabs and whilst oil remains India's main economic focus it now has other interests in the region, such as technology and defense, which are necessary for its future development.

India's strategic, economic and development needs, combined with its newly found stature as a global player, mean that India will not agree to a deal for less than what the other major international powers - the U.S., E.U., China and Russia - are getting: A deal that ensures full economic and political ties with both Israel and the Arabs, independent of their relationship with each other. ■

## about the author



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# Cybersecurity:
## Another Dimension of the Strengthening Indo-Israel Partnership?

by **Vishal Dharmadhikari**



Cybersecurity possesses the capability to stand-out as an emerging field in the intensifying Indo-Israeli alliance. Since establishment of diplomatic ties in 1992, Indo-Israeli cooperation has developed in areas that encompass agriculture, clean technologies, telecommunications, homeland security, and other crucial fields. In the globally inter-connected world, our cyberspace shows negligible concern for boundaries of nation-states, and so do grey and black-hat cyber warriors. Postulating cross-border cybersecurity partnerships is absolutely essential to secure public and private sectors of any given nation.

Cybersecurity is a premier field of interest for not only India and Israel, but globally; as technology is fused within our daily lives more than we could ever imagine. Computers are an integral tool for varied purposes such as banking, communicating, and other conveniences. If one walked into a room of an elite Indian or Israeli university today, it will not be surprising to find more computers than students! India and Israel are more connected than ever to networks of computing systems, and will continue to do so at an increasing pace.

Cyber-attacks in our networked world; have not only become more sophisticated but are also increasingly easier to conduct and extensively target individuals. Currently, such a prevalent trend makes India one of the leading victims of cyber-crime. Cyber criminals continue to successfully employ tactics that include phishing, war-driving, and other social engineering methods. Moreover, possible targets of today's cyber-attacks include electric grids, water supply systems, telecommunications, financial networks, transportation networks, governmental/

military networks, businesses ranging from start-ups to MNCs, and entities that heavily depend on computing power.

Israel's expertise with innovation and technology can be seen across various fields of interest for Indian governmental/ corporate entities and this fortitude of the 'Start-up Nation' undoubtedly extends into the field of cybersecurity. Israel unquestionably possesses the potential to develop and deploy an array of offensive and defensive cyber capabilities. For instance, Israeli innovation and technology is acknowledged with the inception of the 'firewall' safeguarding networks in our cyberspace.

An illustration of Israel's powerful cyber capabilities can be accounted from the distributed denial of service (DDoS) attacks initiated by the hacktivist-group Anonymous. #Op Israel threatened to paralyze numerous governmental and financial websites across the country, but had negligible success in penetrating Israel's cyber-defenses. However, the true highlight of #Op Israel was Israel's counter-offensive ability to take-down an Anonymous server, which apparently was a major source of DDoS attacks. Surviving a wave of colossal cyber-attacks undeniably endorse Israel's position as a cybersecurity leader, and as an ideal partner, to catalyze India's offensive/defensive cyber capabilities.

Israel's innovation and technology in the cybersecurity arena are truly captivating. However, India could also gain by replicating definite elements of Israel's cybersecurity ecosystem, and adapt, in-accordance with its respective needs. Israel's cybersecurity domain is extremely security-aware and constantly evolves as cyber-threats evolve. A recent change affecting Israel's cybersecurity ecosystem promotes participation by numerous actors via infusing a mélange of the governmental sector, leading corporate companies, and academia. Developing full-proof security solutions requires analyzing the cyber-domain through diverse perspectives; and the addition of academia provides remarkable flexibility to the existing cyber structure. Moreover, the fusion of these different sectors possesses the capacity to heighten transparency and cooperation with regards to cybersecurity.

Alternatively, numerous governmental agencies along with the enthusiastic private sector have fostered great support, and have inspired start-ups to play an increasing role in Israel's cybersecurity ecosystem. On a global scale, Israel has one of the highest numbers of start-ups per capita. The "Start-up Culture" is Israel's contagious source of innovation, and it persuades talented entrepreneurs to construct highly interesting products. Certain Israeli start-ups have developed ground-breaking solutions that have subsequently propelled these firms to be leaders in cybersecurity; and the start-up arena looks extremely promising! Integration of start-ups, in-addition to the existing public-private sector collaboration enables a unique perspective; especially in a country like Israel. Insights from Israel's cybersecurity ecosystem are excellent lessons for India to shape its developing cybersecurity ecosystem!

In current times, the greatest prospect for cybersecurity relations between India and Israel crops-up in the corporate world. India's cybersecurity firms, face a monumental challenge to tackle cyber-threats linked with integrating computers into India's enormous infrastructure. However, challenges in the cyber-world translate into an outstanding opportunity for Indian cybersecurity companies to jointly develop innovative products with Israeli entrepreneurs. Israel's reputation and competence in building first-class cybersecurity products could greatly benefit Indian counterparts in mitigating cyber-threats faced by India's critical infrastructure. On the flipside, India's own way of innovation, "jugaad" can facilitate an exchange of fresh ideas with Israeli entrepreneurs. Cybersecurity has provided extensive openings for Indian and Israeli corporate sectors to initiate dialogue and explore potential collaboration.

India's infrastructure continues to digitize at an astounding pace and numerous market segments are flowing with opportunity. For example, huge multinational firms such as Samsung and Apple, along with other minor companies, are fuelling the demand for smartphones in the Indian market. A sharp rise in demand for smartphones means that Indian users will increasingly connect to the internet; but this naturally increments cyber-associated vulnerabilities on a massive scale. Israel is capable of providing innovative cybersecurity solutions, whereas India possesses the gigantic market. But beyond product development, and investment prospects, booming opportunities for Indo-Israeli cybersecurity synergy can drastically advance cybersecurity cooperation, and promote bilateral economic ties.

In 2012, India and Israel agreed to a program to promote joint research with regards to cybersecurity. However, in addition to research, more meaningful steps need to be initiated by India's major and minor players, to establish cooperation with Israel in the crucial field of cybersecurity. Only through building strategic partnerships, will Israel's proven leadership in the cybersecurity arena have fruitful outcomes for the Indian public and private sectors. In addition to the business interaction, India has a fabulous opportunity to learn, adapt, and incorporate elements from Israel's evolving cybersecurity ecosystem. The strengths of two great nations, India and Israel, must merge to mitigate weaknesses in the cyber-domain. Cybersecurity undoubtedly possesses the potential to accentuate as another facet of the ever-growing alliance between India and Israel. ■

## about the author



**Vishal Dharmadhikari** is the concept initiator of a business-event – India-Israel Cybersecurity Connect (IICC), which featured as a sub-event in Israel's largest cybersecurity event i.e. the 3rd Annual International Cybersecurity Conference. IICC brought together high-level governmental and corporate cybersecurity experts along with start-ups to promote Indo-Israeli cybersecurity cooperation. Vishal can be contacted on vishaldd8@gmail.com



OCS-Office of the Chief Scientist
MINISTRY OF ECONOMY

# Joint Indian-Israeli R&D Ventures Receive Government Support

MATIMOP מתימו"פ

by **Michel Hivert**



*Netafim - Grow More With Less*

By combining the vast technological expertise of Israeli companies with India's increasingly advanced and growing market, collaborative Israel-India R&D ventures are resulting in a surge of innovative new technologies and products. The business opportunities are limitless, so long as such ventures can find the support they need to make the difficult journey to the market. Government support for collaborative R&D, provided in parallel by the Israeli and Indian governments, can help bridge the crucial market gaps for collaborating companies.

In Israel, MATIMOP, the executive agency of the Office of the Chief Scientist (OCS) of the Ministry of Economy, is the official National Agency for international industrial R&D cooperation - charged with nurturing industrial innovation and entrepreneurship through collaborative partnerships. MATIMOP implements an increasing range of international programs on behalf of the OCS, both bilateral and multi-lateral, that facilitate access to funding schemes, know-how and technologies, as well as open up new markets through partner matching assistance.

The Office of the Chief Scientist (OCS) of the Ministry of Economy is responsible for implementing Israeli government policy regarding support and encouragement of industrial research and development. The role of the OCS is to assist in the development of new technologies in Israel, as a means of fostering the Israeli economy, encouraging technological entrepreneurship, leveraging Israel's science-based resources, supporting high added value R&D, enhancing the knowledge base of Israeli high-tech industries and promoting cooperation in R&D both nationally and internationally. The OCS offers a range of support programs, including bilateral and multilateral international R&D cooperation programs that are implemented

by MATIMOP, the Israeli Industry Center for R&D.

MATIMOP collaborates with Indian counterparts at the federal and state level, as well as with stakeholders in the private sector, to facilitate and implement access to funding schemes dedicated specifically to the development of R&D-driven partnerships between Israeli and Indian companies. These programs provide access to the OCS funding schemes in Israel and to similar, parallel funds in India, as well as provide companies with assistance in identifying potential R&D partners.

The first program with India – known as the India-Israel Initiative for Industrial R&D (i4RD) - was established in May 2005 when a bilateral agreement was signed between the Ministry of Science and Technology, Department of Science and Technology (DST), Government of India and the Ministry of Economy of the State of Israel. Today, the bilateral framework is jointly implemented by the Global Innovation and Technology Alliance (GITA) in India and MATIMOP, on behalf of the OCS, in Israel.

The newly formed Karnataka-Israel Industrial R&D Program provides partner matching assistance and access to funding for Israeli companies and Indian companies based in the state of Karnataka. This pioneering program – the first on the state-level in India – is based on a Memorandum of Understanding signed in March 2013 between MATIMOP, on behalf of the OCS in Israel; and the Karnataka Science and Technology Promotion Society (KSTePS) and the Karnataka State Council for Science and Technology (KSCST), autonomous organizations under the Department of Science and Technology, Government of Karnataka, in India. This bilateral framework is jointly implemented and promoted by KSTePS & KSCST, in India; and MATIMOP in Israel.

The programs offer enormous opportunities for industrial R&D cooperation to Indian and Israeli companies. Applicants can get funding of up to 50% of R&D costs in the form of a soft loan for projects targeting the development of new, innovative and market-driven products, applications and services in all industry fields. Through R&D alliances, Israeli companies not only benefit from the unique strengths and skills of their partner company in India, but can also make the most of market opportunities unique to country, which has shown unprecedented growth over the last decade.

Israeli drip irrigation company Netifim and Israeli IT company Ayecka Communication Systems are both companies that, in part, have lent their success to the program. Ayecka, which specializes in developing technology for the satellite communications market, was introduced by MATIMOP to Indian company NMSWorks Software to form a collaboration. "[The collaboration] places us in a different league. We are progressing from product to system," proudly declared Ayecka Communication Systems Chairman of the Board, Avi Barda when the deal was announced. "Together with our Indian partner we are able to produce a complete communications system and can provide better solutions for clients."

Israeli company Netafim is a global pioneer in the development, marketing and installation of irrigation systems. In a world where clean drinking water has become an expendable resource, Netafim's solutions offer a brilliant way to save on water and irrigation costs. One of Netafim's unique technologies is a subsurface drip technology which enables low pressure drip irrigation coupled with the injection of fertilizers and nutrients directly into plant roots.

Their collaboration with Indian company J.K. Seeds is aimed at adapting the drip method for rice farming. Contact between the companies was initiated by Netafim's chief agronomist, Eli Vered, with the assistance of MATIMOP, the Israeli Industry Center for R&D, and GITA, the Global Innovation and Technology Alliance in India, under the framework of the India-Israel Initiative for Industrial R&D (i4RD). Funding was provided to Netafim through the Israeli Office of the Chief Scientist.

"The goal is to find an alternative to the flooding method for rice farming," says Vered. The transition to rice farming by drip irrigation is expected not only to save water, but also to contribute significantly to a reduction in global greenhouse gas emissions. "Six percent of greenhouse gases emitted originate from rice crops," adds Vered. "And preliminary tests conducted show that in certain rice species, the transition to drip irrigation reduces emissions by 80%."

Through R&D alliances, Israeli companies not only benefit from the unique strengths and skills of their partner company in India, but can also make the most of market opportunities unique to country, which has shown unprecedented growth over the last decade.

At the level of the individual companies, the benefits derived from entering these programs and developing joint R&D projects are clear:

- Risk Sharing – high risks are mitigated by utilizing government grants and through scientific, technical and commercial synergies;
- Time to Market – collaborative R&D tends to shorten development cycles providing critical commercial advantages;
- Strategic Relationships/Partnerships – mutually beneficial strategic partnerships enhance opportunities for success in an increasingly competitive and integrated global market.

All programs share the common benefits for Israeli companies highlighted above, as well as offering international companies access to Israeli industry's unique capacity for innovation. The effort to expand the network of international industrial R&D collaboration with new countries, states, provinces and regions is ongoing.

As India and Israel both strive to achieve similar goals of rapid development and optimal use of technology, efforts to unite these two countries are beginning to reap benefits. The door is open for Indian businesses looking to partner with Israeli companies and the support resources are available.

*For more information, visit: www.matimop.org.il/india.html* ■

## about the author



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# What India Can Learn from the Nation of "Start-Ups"

by **Dr. Harry Yuklea**



*Saul-Singer, Author of The Start-Up Nation Israel*

Israel is recognized today as one of the most entrepreneurial and innovative economies in the world, rightly called "The Start-up Nation" after the book with same title by Saul Singer became an international bestseller a few years ago. With the intensification of Israeli – Indian economic cooperation to unprecedented levels, it is interesting to estimate possible cooperation in exploiting accumulated Israeli experience in this field for the benefit of Indian economy. When learning from the Israeli experience one shall be aware that not everything is replicable. The Israeli experience in developing an effective entrepreneurial ecosystem is indeed huge but must be adapted to the local environment to be effective. Let's have a closer look then on the commonalities and differences between the two systems.

There is obviously a combination of elements such as good education, cultural background and efficient government intervention that set the entrepreneurial foundations in Israel but also a series of specific factors like needing to absorb a large amount of scientists and top class engineers from former Soviet Union in the 90's that drove these results. Lack of natural resources and adverse natural conditions for example – is there a better reason to invent drop irrigation than the fact that water is scarce in our region? Today Israeli water management technologies are used everywhere in the world but it all started from a very pragmatic local problem that people had to solve.

State involvement is significant too. The "R&D Support Law" that defines and coordinates the role of various governmental agencies and regulates tax, financial incentives and public spending in this field creates a solid framework for the formation of entrepreneurial capital in all sectors of the Israeli economy. The law was reviewed and adapted recently to accommodate the newest developments but preserves its basic principles. Interestingly enough, the public money contribution to the total start-ups funding counts for less than 7% but covers the most risky phases of start-up financing. Given that the high-tech sector counts for more than 50% of Israel industrial export, this is a very efficient use of public money.

It is common knowledge that a well-functioning entrepreneurial financing system is essential to sustain the development of an entrepreneurial ecosystem. Israel has a seasoned mix of financing mechanisms, combining grants, incubators, angels, VC and private equity funds. The major source of funding in terms of absolute volume is the VC sector, which invest mostly in growth and late stage firms while accelerators, incubators and angels invest smaller amounts per round at higher risk premium. VC investments in 2012 were around $1B. Around 60% of Israeli high-tech funding is supplied by foreign investors.

The future is challenging as much as the glaring successes of the past. Conditions changed and so must change the entrepreneurial capital formation methods. Twenty years ago the Israeli GDP per capita was $6,000 - today is $30,000; IT industry was in its early acceptance stage, today is already a consumables driven segment; life expectancy at birth was 76 compared to today's 81; private capital raised by high-tech segment in Israel was ~$200M – today is ~$2B. It is obvious that

the next twenty years Israeli entrepreneurial landscape will be different. In addition we face fundamental structural changes of global nature: the role and operational behaviour of VCs, labour force migration, emerging economies, etc. will all impact the way entrepreneurship will evolve over the next twenty years. The emerging technology growth sectors in Israel are alternative energy, agro-tech and nanotechnology based medicine.

The Israeli start-ups are more efficient in their early stages (due to faster development cycles, cost effectiveness, originality and quality of ideas) but as firms mature and require more structured management style they fail in their relative performance rank. Maybe one unique characteristic indeed is the adaptability of the Israeli entrepreneur. By designing from the beginning his start-up to operate globally (due to the small local market, this is mandatory strategy to any Israeli business), the Israeli entrepreneur takes into account that will need to operate in multicultural environment, contingent to exogenous changes and adverse conditions.

Entrepreneurial ecosystems are very dynamic by construction therefore the challenges India is facing are inherently different than those of Israel. There is an evident difference in scale, growth rate and social attitude between the two ecosystems. For India the main challenge in this phase of development is to reach the critical mass in entrepreneurship fast enough to preserve a positive momentum but I believe that India is on the right track as concerning entrepreneurial capital formation. This is not an easy task in the context of such a large and diverse population as in India. The second challenge is to preserve the fundamental cultural values and traditional habits despite the social changes associated with shifting to entrepreneurial based economies.

There are many common and complementary characteristics in the two ecosystems too, starting with the awareness and the quality of technology education. Israeli ecosystem benefits from faster response and closer networking distance, which is advantageous in early stages while India benefits from local market size and economy of scale which are important in late stages of the firm. This situation is an opportunity to leverage the complementarity through cooperation programs of different kind.

There is already a significant Israeli involvement in the Indian IT and communications sectors. Firms like Amdocs, Gilat, Waves, etc. have R&D centres in India. Several Israeli VCs started operating in India too. There are continuous contacts between governmental agencies in charge with these issues. There are initial similar initiatives in the agro-tech and the alternative energy sectors, where I see huge synergies. I believe we shall increase the academic cooperation too. Academic delegations visit Israel quite frequently, there are seminars and workshops given by scholars in peer universities but we can do more in this area. Technion just launched a set of specialized programs in entrepreneurship intended for foreign students and offers special study grants to Indian students that enrol.

From this perspective expanding the cooperation between India and Israel in developing sustainable entrepreneurial ecosystems for the benefit of the two countries is just a natural outcome. A particular initiative started about a year ago is the partnership between iCreate (www.icreate.org.in ) and the Technion (http://www1.technion.ac.il/en) which is designed precisely to fulfil this need. Cooperation platforms between our countries are already in place but we focus on entrepreneurship and innovation ecosystems joint development and this is something new. The Israeli side is very receptive to the idea and so seems to be the Indian side too. A series of seminars, public events and closed meetings with the Technion team organized by iCreate last October are just a modest illustration of what we plan for the future. ■

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## about the author



An academic and practitioner at once, Dr. Yuklea has been directly involved for the last 35 years in the remarkable build-up process of the Israeli high-tech sector, his career ranging from technology development and engineering to marketing, management, consulting and investment.

**Dr. Yuklea** has held executive management positions at leading publicly traded hi-tech companies like Sapiens International Corp., Lannet Data Communications Ltd. and Fibronics Ltd. as well as at a series of technology start-ups such as XOsoft, Snapshield, ptoSTORAGE and Bacsoft and serves in the Board of Directors of several high-tech firms. He is a policy design advisor to the Israeli National Economic Council, the Israeli Chief Scientist Office and various international and foreign government agencies.

On his academic career Dr. Yuklea is Research Assistant Professor at The Technion, and a visiting professor at the Tel Aviv University in Israel, the Hebrew University of Jerusalem and the ORT University of Montevideo, in the fields of Entrepreneurial Finance and Economics of Innovation.

# Israeli Water Technology & Municipal Implementations

by **Joshua Yeres**

Located in a semi-arid climate, with limited sources of fresh drinking water, Israel has sprouted a variety of innovative technologies and practices. The result of these activities is a 24/7 supply of fresh drinking water to Israel's population and a bourgeoning agricultural sector. Israel is a leader in recycling wastewater effluent, desalination technologies and municipal water management.

Due to the financial constraints of the Israeli national and municipal water & wastewater sectors, most Israeli water related technologies provide the additional benefit of being relatively low-cost and highly cost-effective.

Water Leakage Technologies include many innovative concepts, varying from hi-tech SMART applications to implementation of "old fashioned" mechanical engineering. Some of these include the following:

## TaKaDu (www.takadu.com )

TaKaDu combines the use of sophisticated data analysis algorithms with a user-friendly web-based interface. TaKaDu's solution collects, cleans and processes data from various sources, for example the from the municipal water network's SCADA. The information is analyzed online by the system, and is used to model the "normal" behavior of the network at any point in time based on a statistical analysis of the relationships between different measurements taken within the network. The analysis performed by TaKaDu is based on historical network behavior data (especially meters data from previous periods accumulated by the SCADA system), and on comparison between network areas that usually behave in similar fashion (the system itself finds such similar areas).

Based on the network's normal behavior model, TaKaDu provides the network operator with alerts when the behavior of the system deviates from normal (Alerts are presented to the user in the form of an inbox, so as to allow priorities to be allocated). Alerts are given at a very early stage, sometimes hours, days or even weeks before an experienced operator would have identified the problem. The alerts classified by the system are: bursts/leaks, breaches between supply zones or DMAs, pressure problems and more. The system's "learning" algorithms update the model automatically whenever there is a change in the network, thus being continuously calibrated to distinguish between normal water system events and abnormal ones.

TaKaDu was named 2011 Global Cleantech Company of the Year – Europe & Israel.

## Aquarius Spectrum (http://www.aquarius-spectrum.com/ )

Aquarius Spectrum provides an advanced acoustic leakage detection system for on-line leakage detection in pipes. Aquarius Spectrum's solution includes ultra-low cost vibration sensors that can be integrated within water meters, and advanced software for leakage detection.

The system analyses the signals from the acoustic sensors and provides real time alerts for developing leaks. Aquarius's technology employs novel piezo thin film sensors (enabling the production of very low cost, highly sensitive and compact vibration sensors) and advance detection algorithms. The sensors can be used in a stand-alone device or integrated within water meter that transmit the data via AMR or AMI infrastructure.

Aquarius' system can be installed in most modern mobile phones, enabling easy field leak triangulation, while accessing cloud-based data base. Aquarius Spectrum has gone beyond the traditional noise logging or correlation methods, increasing the range and reliability by using innovative algorithms and distributed processing, providing municipal water companies a modern system for efficient asset management.

## A.R.I. Flow Control Accessories Ltd (www.arivalves.com )

With over 40 years of industry experience, commitment to service, reliability and innovation, A.R.I. is a leading manufacturer and provider of solutions for the protection of liquid transmission systems worldwide. The company manufactures and markets a complete line of air valves, check valves, and unmeasured flow reducers (UFR) as well as providing software system analyses for surge and air valve sizing and placement.

ARI markets its product and analysis solutions in the following markets:

- Water supply and wastewater disposal systems (urban and rural).
- Industrial applications (desalination plants, mining and gas industries, hot water systems).
- Agriculture and landscape.

The UFR (Unmeasured Flow Reducer) is a smart and simple product, installed in the domestic water supply line (In-Line), adjacent to the water meter. At low flow rates - as those caused by dripping or improperly closed faucet, leaks in toilet tank seals, very low flow rates at the end of the filling cycle of toilet tanks and water storage tanks - the UFR changes the flow regime to batches that the water meter can measure. In short, the UFR increases the sensitivity of conventional water meters, lowering NRW, increasing Utility revenue

## Curapipe (www.curapipe.com )

Curapipe has developed a revolutionary solution to one of the major challenges facing municipal water companies worldwide –

water loss from leaky pipes. The World Bank has assessed leakage worldwide as 32 billion liters of treated water annually. This reality, a direct result of the age of many of the municipal water systems, coupled with the high costs (direct and indirect) of repairing / replacing leaky pipes, lead most municipal water companies to concentrate their resources on fixing major/visible pipe breaks, and not dealing with possibly even greater not visible water loss.

Curapipe's innovative Trenchless Automated Leakage Repair (TALR) enables repairing leaky holes and cracks (the small holes that eventually will manifest themselves as large bursts) that are either undetected or detected (using modern detection technology) but expensive to fix (stopping traffic, opening up streets, construction costs etc).

With TALR, water utilities can dramatically reduce leakage in urban water distribution networks with minimal disruption. Curapipe's TALR solution is a rapidly deployed, low-cost alternative to water mains renewal.

The Curapipe system addresses multiple leaks of differing types; corrosion induced pinhole leaks (ferrous pipes), leaky joints (lead-run, flanges), longitudinal and circumferential cracks and ring fractures, and leaks in laterals (including tapping points). The system has proven viable for low grade pipes (e.g. 70,000 gal/day/mile leakage, multi-diameter, high levels of tuberculation), different types of pipes (CI, DI, AC, MDPI) and negotiates complex networks, branches and laterals. The technology meets stringent product certification (NSF-61) and H&S safety standards, and leaves no footprint (except leak cures which remain for the lifetime of pipe). In short – a rapid, low cost, simple to deploy solution.

## Water System Management Whitewater (http://www.w-water.com/)

WaterWall TM from Whitewater is an advanced Water Network Management Solution that improves customer service levels and field crew efficiency.

Hagihon, The Jerusalem Region Water & Wastewater Utility, was challenged with the conventional decentralized system in which the role of a 24/7 call center agent was to log calls into their SAP system, and take phone or sms correspondence from an area manager relaying information from field crews as to the status [arrived, in process, new work order, closed, left site] of managing maintenance requests or responding to customer complaints. Additionally, area managers dispatched information to the crews in their jurisdiction as to how to handle each task. Without a standard method for handling each activity the outcomes for each response varied by team and by area. Furthermore, this decentralized method caused issues with accountability and transparency for managers to understand the amount of effort and time spent by each employee in their day to day activities. The problem was magnified because Jerusalem utilizes many crews with large field staff. Compounding those issues, each year about 860 planned maintenance incidents which cause a rise in customer complaints to the call center which otherwise could be avoided. There are about 700 monthly water customer complaints, and additional 1600 sewer customer complaints.

To rectify the situation, Hagihon's management implemented a layered Smart & Qualitative Management Strategy of the water system implementing operational systems, business intelligence systems and organizational strategy indicators (KPI's). On the operational level, after the formulation of improved procedures & practices and the implementation of detailed Work-Flow quality standards, Hagihon implemented a WaterWall TM solution configured for customer service and operations management applications.

The system implements custom forms including inbound customer call entry and planned event scheduling, thus integrating with all the corporate IT systems, presenting exact standard operating procedure (SOP) for each event so that the call center agent could follow specific "checked tasks" and conditional tasks to manage field service and service level agreements.

## Water Safety / Security Technologies BAS - Biological Alarm Systems (www.basdetect.com )

BAS's flagship product, Red Alert TM, is a low cost online system for continuous monitoring of water quality. Red Alert specifically identifies the amount of live microorganisms per volume, in the tested sample, thus providing an advantage over other systems in being able to confirm the presence of live bacteria in water, air and other samples.

The Red Alert TM system:

- Filters water samples while monitoring filtration time.
- Measures UV and NIR wavelength values of the filtrate.
- Pushes small part of the filtrate back across the filter (wash back water).
- Produces 100X enhanced sample of all solids remained on the filer
- Measures UV and NIR wavelength values of sample containing the solid material retained by the filter.
- Calculates both total and microbial contamination level.
- Broadcasts all data and initiate alarm when necessary.

## TAHAL - Water Contamination DSS (www.tahal.com)

Tahal Group is a leading Israeli engineering company with substantial experience in a wide spectrum of infrastructure projects, in Israel and globally. Tahal Engineering Consultants (a subsidiary of Tahal Group) has developed an innovative Decision Support System (DSS) for monitoring the spread of contaminant in a municipal water system. The system uses existing municipal water company network database and consumption data, employs SCADA data from event and performs a hydraulic simulation and tracer simulation, employing advanced algorithms.

The result is a clear geographical (employing the company's GIS) assessment of the contaminated network area, updated as simulation of time from event progresses.

Use of this system by Hagihon (the Jerusalem Regional Water Utility) has proven highly effective in enabling water managers to limit area of network closure (and not closing whole city) and in implementing closure plan (specifying which valves have to be closed).

## Filtration Systems: Amiad Water Systems (www.amiad.com)

Amiad provides a range of comprehensive filtration solutions

to customers in more than 70 countries. The company specializes in automatic filters with self-cleaning capabilities, while focusing on the three main filtration techniques.

A. Automatic self-cleaning suction scanning screens - a unique technology enabling cost saving and highly refined automatic cleaning (down to 5 microns) for high flow and low pressure.
B. Disc Filtration - Arkal's global expertise in the complex materials sector allows it to provide unique filtration solutions for irrigation, industrial, municipal and seawater filtration. These filters provide savings, efficiency and resist corrosion. Disc filters can achieve very fine levels of filtration, particularly in pre-filtration to membranes in the desalination market.
C. AMF Technology (Micro-Fiber) - enables Amiad to broaden its finest filtration solutions (down to 2 microns) and meet drinking water standards such as the UK's DWI, and standards for treating tertiary sewage such as California's Title 22.

### Wastewater treatment
### Mapal Green Energy (www.mapal-ge.com)

Mapal has developed an innovative, proven floating fine-bubbles aeration system for waste water treatment plants. Mapal's system saves up to 70% in energy consumption of waste water plants, and up to 80% of maintenance costs. It can also significantly improve water quality. Mapal's system can be installed in any biological reactor or lagoon, with no need for a concrete basin or draining prior to installation, as required in the case of conventional methods. In May 2013, Mapal signed its first contract in the UK market, with Anglian Water which provides water and wastewater treatment services to more than 4 million customers.

### Treatec21 (www.treatec21.com)

Treatec21 Industries Ltd. specializes in developing, manufacturing and operating integrated advanced water and wastewater depuration systems. This science-based organization, originated at the Water Treatment Technology Laboratory of the Hebrew University of Jerusalem, was incorporated in 2002 as a privately owned corporation.

Treatec21 Industries Ltd. advanced wastewater treatment solutions include:

A. MSBS (Multi-Stage Biological System) is an advanced and highly-efficient method for treating industrial and municipal wastewater which produces no surplus organic sludge and requires minimal operating costs.
B. MBR + MSBS (a membrane bioreactor combined with MSBS technology) which produces no surplus organic sludge and generates high-quality depurated effluents.
C. HEBS - Bio-electric Hybrid system, for highly polluted wastewaters.

The systems have been implemented on a wide range of Municipal (army bases and municipalities) and industrial wastes (chemical, cosmetic, pulp, metal coating, dairy, food wastes, metal casting and dyes).

### Aqwise (www.aqwise.com)

Aqwise is a leading provider of biofilm-based biological processes designed to increase the capacity and efficiency of BOD and nutrient removal in water and wastewater treatment plants. Aqwise's innovative AGARR technology is used worldwide for rapid, scalable and economical upgrade of existing plants as well as for new plants which require a limited footprint and process stability.

Aqwise's diverse portfolio of integrated solutions features a complementing set of technologies for effective, robust, cost efficient and small footprint end-to-end solutions. These range from solids separation and sludge dewatering systems to fully comprehensive water and wastewater treatment units and package plants.

### Municipal Wastewater & Environmental "Best Practice"
### Hagihon Company Ltd (www.hagihon.co.il)

Hagihon is Israel's largest and most experienced Municipal Water & Wastewater Company providing advanced 24/7 water & wastewater services to the 1 million residents of the Jerusalem Region.

Water utilities world-wide are dealing with deteriorating quality and availability of water supplies, caused by; intensive urbanization, industrial development, water pollution, periodic drought and increasing water demand. Hagihon has developed a "two pronged" strategy to these challenges:

A. Implementing "cutting edge" technologies, including active partnering with technology companies.
B. Developing and implementing smart & qualitative management methodologies such as EFQM & ISO Standards

The results include:

- Increased efficiencies in the development, operation & maintenance of networks.
- Improved customer satisfaction
- Achieving better than required water and sewage quality
- Minimal water loss (average NRW of 13% citywide, as low as 6% in several areas).
- Supplying purified wastewater for agricultural and in the near future for urban use.

Hagihon's global reputation as Israel's Center for Municipal Water & Wastewater "Best Practice" is recognized by commercial and governmental entities. Israeli and non-Israeli water utilities come to Hagihon for professional assistance, knowledge and training regarding all aspects of municipal water and wastewater management including; Water 24/7, Customer Relations & Bill Collection. Operation & Maintenance, SOP's & Contingencies, Water Security, Water & Wastewater Quality Verification, Wastewater and Effluent system planning and construction etc. ■

## about the author



**Joshua Yeres** is an Israeli based financial consultant with deep experience in the Global Infrastructure, Energy, Cleantech and Water Related Sectors. Josh is presently accompanying leading Israeli Municipal Water Companies and Early Stage Water Related Technology Companies.

# India - Israel Trade Relations
## Major Companies Involved

by **Lekshmi P**

India and Israel are two economies which in spite of being at two different stages of development complement each other perfectly well and have shown the private players of both the countries a wide range of opportunities related to investments thus taking the economic relations a step further.

The major focus of the civilian trade has been in the areas of diamonds, agriculture, pharmaceuticals, chemicals and the IT sector. The private companies of both the countries realizing the enormous potential of collaborating in these fields have made investments that are hugely beneficial to the economic growth.

### Indian Companies in Israel

The most significant presence of India in Israel is the branch of State Bank of India started in the year 2007. Situated in Tel Aviv, it was opened amidst widespread belief of it being a risky move as the global financial situation at that time was not favorable for any new ventures. However, in just two years of its establishment, it proved the speculators wrong by reducing loses and breaking even. This was possible only due to the steadfast faith that investors had in the bilateral relations between the two countries.

Another field where the presence of Indian companies in Israel is noteworthy is in the communications sector where Tata Consultancy Services has opened a branch in 2005. Known for its expertise in the banking and financial services, TCS has taken great strides in equipping the manpower of Israel with skills that can match up to the global standards.

There are other Indian companies that have acquired Israeli companies and have thus gained access to the most modern technologies. The acquisition of India's Tejas Networks Ltd of the Israeli carrier Ethernet solutions start-up, Ethos Networks Ltd and that of the Connectiva Systems Ltd of Israeli start-up Olista are two of the most important examples.

Pharmaceutical industry is also an area where India has stood to gain a lot through collaborations and acquisitions. Himalaya, which is a well-known company that specializes in personal healthcare products, has collaborated with an Israeli company, Nussbaum Limited to launch its product line. In addition to this, India's Century Pharmaceuticals has signed an Agreement of Cooperation between an Israeli biotech company, Target-In, to aid in the application of new technologies to the field of medical research.

Science and Technology is another field where a few important achievements have made been through joint research, the provisions for which were provided in an S&T agreement signed in the year 1993.



*Tamar, The Natural Gas Production Platform*

### Israeli Companies in India

The contribution of Israeli companies to the development of India has been much greater than what the Indian companies have contributed to the development of Israeli economy.

Agriculture is the thrust area where the technologies brought in by the Israeli companies have succeeded in changing the lives of many Indian farmers by substantially increasing the productivity. The technologies that were brought to India were micro-irrigation, horticulture mechanization, protected cultivation, orchard and canopy management, nursery management and post-harvest practices. Nefatim that has introduced drip-irrigation in India is the most important private player in this field. Maktheshism Agan, another Israeli company has its subsidiary in India that has set up an R&D facility to develop crop protection products in accordance with the challenges faced by the Indian farmers.

Another area where Israel has brought in considerable know-how is the pharmaceutical industry. Israel is a world leader in producing affordable generic drugs and with the continuous research that is put in by the stakeholders; it has succeeded in giving a ray of hope to the less developed economies. Teva and Taro are the two companies that are actively involved in India and have invested in R&D facilities.

Reciprocating the interest that the Indian companies have taken in the Israeli IT sector, many Israeli companies have opened their branches in India in order to take advantage of the highly skilled labor that is available at a cheaper cost. Check Point, Amdocs, Magic

Software and Ness Technologies are some of the companies that have a presence in India and some among these have R&D

centers that draw its resources from the Indian talent pool.

When it comes to the Chemical industry, Israeli companies show their active involvement in the IndiaChem exhibitions and companies like Makhteshim Agan, Israel Chemicals, and ICL Fertilizer Ltd have stakes in the Indian chemical industry.

## The Road Ahead

Keeping aside the political differences, India and Israel have come a long way to forge a tie in the economic sphere that is essentially based on interdependence and mutual respect. With globalization being the only reality in today's world, there is required an even greater engagement between the two countries that would help streamlining all the differences and thus reach a consensus.

There is no doubt that India needs Israel first and foremost for the transfer of technology. Israel is amongst the highly developed countries of Asia and Israeli companies have the capability of making significant changes at the grass root level to aid in India's overall development. For Israel also, India is a lucrative market to sell their technologies and products that require a wider market. The skilled labor that is available in India is an added advantage for the foreign companies to invest in India. But the fact remains that the balance of trade is at present tilted in Israel's favor and there is an urgent need for the Indian companies to correct this imbalance.

Maybe it is with this goal in mind that the governments of both the countries are in the process of negotiating a Free Trade Agreement (FTA) that would most probably be signed by the end of this year. Once this becomes operational, the bilateral trade between the countries is expected to triple. This will especially be beneficial to the private players as the focus of the trade will shift from the traditionally profitable sectors to the new sectors like services, healthcare and renewable energy.

The most important advantage of the proposed FTA is that, it helps in assessing the potential of both the nations and a long-term plan for deeper economic engagement can be drawn from this. It will also play a major role in bringing the workforce of the countries together that will definitely lead to greater understanding and a willingness to supplement each other's progress. ■

## about the author



**Lekshmi P** is an assistant Editor at Diplomacy & Foreign Affairs Magazine. She completed her Master in International Relations from Jawaharlal Nehru University New Delhi.

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# Beyond the Differences

## India-Israel Policy Level Initiatives

by **Lekshmi P**

The bilateral relations between India and Israel have always been based on contradictions. When on one hand there is stark disagreement in both the countries over important international issues like the status of Palestine and Iran, on the other hand there is a strong strategic partnership in place in the defence sector. This cooperation has spilled over to other areas of economic interest to make the world wonder if this oversight of the political differences is the approach that two countries should adopt to go beyond their deep-seated differences to gain a strong foothold in the international arena.

The relation between India and Israel are defined by mutual respect that two democracies have for each other. The security cooperation that was established in 1992 with a view to modernize India's defence sector has been the foundation on which the relations between the countries have thrived. The military trade which alone contributes to around US$9 billion has helped the economies in terms of trade and technology transfer.

### Agriculture:

Both the governments, realising the need to diversify their area of cooperation have identified various sectors that are of mutual benefit. The first and foremost of them is agriculture, an area where India is in dire need of technologies to counter the new challenges.

In the year 2006, an inter-governmental work plan on agricultural cooperation was signed. The programmes are carried out in collaboration with the Israel Ministry of Foreign Affairs Centre for International Cooperation (MASHAV) and Centre for International Agricultural Development Cooperation of Israel's Ministry of Agriculture and Rural Development (CINADCO). The first phase of the project will be implemented in the states of Haryana, Maharashtra, Rajasthan and Gujarat. This will enable the transfer of technologies and also demonstration centres will be set with the focus on a particular variety of fruit or vegetable in each state. In 2008, a Memorandum of Understanding was signed between the countries establishing six centres of excellence that would bring in the required technologies to raise the productivity of the regions. An action plan for 2012-15 has further raised the scope of this project with the inclusion of seven more states. As a part of this, the FICCI also conducts many workshops with the help

of Israel to introduce all the new technologies in India. The best of example of technology transfer is the Horticulture Demonstration Farm at the Indian Agricultural Research Institute in New Delhi. India has also hugely benefited from its participation at the Agritech exhibition which displays all the new innovations made by Israel in the field of agriculture.

Water management is another area where Israel has established itself as the pioneer. With many states in India having to face severe droughts, water conservation has become important to protect the livelihoods of farmers. A joint declaration between the two governments has made possible the sharing of water technologies. India has also been a regular participant in WATEC, a biannual event showcasing Israel's water and energy management technologies. In addition to this the 'Growin' programme of Israel that will be implemented as a public-private partnership model will allow the efficient use of water resources in semi-arid areas.

## Investments:

Another major agreement was signed is the Bilateral Investment and Promotion Agreement (BIPA). From the economic viewpoint, this is of special significance as it protects the interests of the investors which in turn help in making the economic climate more conducive to growth. Also, the avoidance of double taxation agreement and the one on mutual assistance and cooperation in custom matters that are in force have ensured the removal of all roadblocks in trade and investment.

In order to facilitate trade with growing economies like India and China the Israeli Ministry of Trade, Industry and Labor and Ministry of Finance have announced a funding program which allocates US$28 million over a period of three years. This is a step that can create an explicit interest in India for companies that are looking to tap into new markets.

## Research:

Another area which has a lot of unexploited potential is that of pharmaceuticals. Both India and Israel are world leaders in the production of generic drugs and India is in need of new technologies to make its dream of even the last person having access to medicines come true. The agreement on cooperation in the field on health and medicine aids in the effective knowledge sharing between the countries. The misuse of the progress that the countries have made in the field of medicine is prevented by the Agreement on Cooperation in combating illicit trafficking and abuse of narcotic drugs and psychotropic substances.

The combined industrial R&D fund set up under the Industrial Research and Development Initiative encourages joint ventures which can contribute to the growth of both the countries. Life sciences, pharmaceuticals, biotechnology, software, telecommunication, and semiconductor development are some of the areas where both the countries can work together and bring about a considerable change.

The relations in the field of education are also very strong with courses related to India and Israel being taught at each country's universities. The most interesting feature of this cultural exchange programme is the introduction of Hindi to students of Tel Aviv University and Hebrew University. The Ministry of

**Water management is another area where Israel has established itself as the pioneer. With many states in India having to face severe droughts, water conservation has become important to protect the livelihoods of farmers.**

Overseas Indian Affairs have instituted ICCR scholarships and Know India Scholarships so that the Israeli students will have a better understanding of the culture of India. India has also signed a Memorandum of Understanding with the Tel Aviv University to set up a rotating Chair for Indian Studies in the Department of East and South East Asian Studies.

The bilateral relations between both India and Israel is also has a humanitarian angle to it. The Extradition Treaty and the Agreement for Transfer of Sentenced Persons that was signed show the strong faith that both the countries have in the rule of law.

## Conclusion:

India and Israel are two countries that have a lot in common despite the conflicting positions they have on certain issues. The launching of an Israeli satellite by India in spite of the possibility of it being used against Iran was a clear indication of the fact that there is no trust-deficit between the nations.

The common strategic interests have acted as the driving force behind cooperation in sectors that are essential for the growth of the economy. The amount of bilateral trade might still be negligible when the actual figures are taken into account. A continuing effort is required from the Governments of both the countries to make investments lucrative. In an age of global environmental awareness, Israel can actively enter into the largely untapped market of renewable energy and assist in making India energy secure. India can also contribute to the economy of Israel with the help of its highly skilled labour force. A more pro-active approach from the top-most level can bring together all the commonalities and take this relationship to greater heights. ■


## about the author



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# Opportunities in Israel Despite Challenges

by **Thibault de la Baronnière**

It was in April 2013. The very first cubic meters from the recently discovered – in 2009 – offshore gas fields of Tamar, located in the Israeli Economic Exclusive Zone (EEZ) were just extracted. The symbol is as strong as the long-term economic impact for Israel. Previously extremely dependent on its unstable but peaceful Egyptian neighbor for its gas supply, Israel is now in the process of revolutionizing the energetic equilibrium of the region.

Until very recently, 43% of the Israeli supply in gas was directly coming from Egypt. But then arrived the Arab Spring and the fall of Hosni Mubarak. The pipeline that supplied Israel was no longer the guarantor of its energy independence.

These recent gas discoveries are about to draw new alliances between Israel and neighbors such as Cyprus and Greece. The Israeli Ministry of Energy believes that the demand for natural gas in Israel will increase dramatically and is expected to triple by 2040 for power generation but also for industry, distribution and transport. Moreover, Israel's needs are estimated at 450 BCM (Billion Cubic Meters) by 2040. To compare, Israel consumed 5.3 BCM of natural gas in 2010, 90% were for power generation.

To assess the impact of such discoveries, the best thing to do is to look at a map of the Near East region. Israel is bordered by 5 neighbors: the first 2, Lebanon and Syria, are still officially at war with it and don't recognize its existence; 2 others, Egypt and Jordan, have diplomatic, economic and peaceful relations with Israel; and the last one, the Palestinian Territories, have a longstanding complicated status with a territory split between the Gaza Strip, controlled by the Islamist terrorist organization Hamas, and the West Bank, governed by a Fatah government.

Achievements Over the Past 60 Years

Israel is as much an exception in its region as it is in the rest of the world. It is the only longstanding democracy in the region; it is also one of the very few countries in the world where the military service is three years for men and two years for women. It has among the highest number of patents registration demand per million of inhabitants and among the highest ratio of graduated from secondary institutes per million of inhabitants. In addition, it also succeeded in entering the very small club of countries members of the OECD. Without being exhaustive, the idea is to underline the progress achieved by Israel in the last sixty-five years.

## Strong Entrepreneurial Acumen

When Israel was created, sixty-five years ago, it was a poor, deprived, threatened country, only bordered by enemies. For the first thirty to forty years, the successive governments focused on developing a stable country from scratch while ensuring to provide the waves of new migrants from all parts of the world with an integration process that would make them fit in the pioneer mind, to give the economy the means to grow, to give the country the means to defend and feed the population. At that time, Israel was the modern version of a country of pioneers like were the United States of America a few centuries ago. Over time, from the mid-1980s to the mid-1990s, it appeared an absolute necessity for the economy to evolve while the country seemed to be bloodless. Several initiatives have thus been progressively launched to promote and sustain the creation and development of start-ups. For decades, the State of Israel benefited from several elements that could pave the way for entrepreneurship but wasn't taking profit of it. These elements are part of the structure of the Israeli economy and must be taken into account to understand it. It has become so powerful that foreign countries try to take example on Israel.

First, the military service makes young Israelis mature earlier than in other countries. This phenomena is accentuated by the fact that the Israeli army has a record low ratio of officers per unit so that any sub-officer knows that, during his military service, he will have to take vital decisions on his own for its unit.

## High Quality Education and Research

Second, the excellence and very good international reputation of Israeli universities, such as the Technion Israel Institute of Technology or the Ben Gurion University of the Negev, have for

a long time contributed to raise Israel high in the international rankings. The Technion thus has been selected – in collaboration with the Cornell University – by the city of New York in the United States to create a new first class science and engineering campus on Roosevelt Island, in front of the Upper East Side of Manhattan. The official opening will take place in 2017 while a first off-site campus opened in 2012. As to the Ben Gurion University of the Negev, it is by far the world's most prestigious and renowned university specialized on the fight against desertification and the sustainable management of water resources. Israel is furthermore one of the few countries where desert is stepping back each year.

Lastly, the small size – in numbers of inhabitants as well as in terms of surface area – of the Israeli market whatever the economic sector makes it essential for companies to export goods and services. This issue - export and global diversification – cannot be considered as a possible Phase 2 development of an Israeli company but rather as an essential criterion of success of Phase 1.

Today and since the mid-1990s, economic statistics have shown the success of this unique model in the world. With an average growth of circa 3,7% per year for the last 15 years, a limited inflation of circa 2,8% per year on the same period and an unemployment rate that currently does not exceed 7%, Israel has managed to develop and transform its economy. Used, if not forced, to innovate to survive and grow, the Israeli economy, however, suffers from few structural issues.

## Structural Problems Facing Israel

Wages and social inequalities have worsened in recent years. The huge demonstrations during the summer of 2011 that brought together hundreds of thousands of Israelis have reminded the Israeli government the need to rebalance the system. 24% of the population is still under the poverty line versus 16% in the 1990s. The uneven integration of recent waves of immigration also represents an additional challenge for the Israeli society and economy. If the Russian wave, often well qualified in science and engineering, has been pretty well integrated, the waves of immigration of Ethiopian Jews have suffered an integration which, although organized and facilitated, is nonetheless a real human challenge.

With the offshore gas discoveries of these recent years and the progressive exploitation that is being made, Israel will face a new challenge: developing its energy independence and becoming a new regional - or even global - player while protecting its currency, the shekel, from an excessive appreciation that would be devastating for the rest of the economy. As well-said by Israeli President Shimon Peres during the first Plenary Session of the 2012 "Globes" Israel Business Conference "with all due respect to the gas and oil, Israel lives on its high-tech." In addition, the use that will be made of the State revenues from this new manna are still hotly debated in the Israeli political class. Again, Israel - like Norway in Europe - is a country apart. With a skilled workforce, a stable democratic State that does not hesitate to judge its corrupted leaders, this manna could greatly benefit to the Israeli population and not just the majors and expatriates from foreign countries that came for the exploitation. The solution is very likely to be in the problem itself. If Israel was to create a sovereign fund to manage the State proceeds from the gas exploitation, it could avoid converting this regular and significant inflow of money into shekels – that would make the local goods become too expensive for exports – while in the meantime using part of it to address the social unrest faced by part of the population.

In addition, Israel must be vigilant not to fall under the yoke of the Dutch disease hanging over the countries suddenly becoming rich in natural resources and tending to neglect other growth factors such as new technologies, the quality of workers and investment security. Israel has the ability to rely on the Norwegian model, where the oil money feeds a State fund.

As the world swears by alternative energy, Israel remains at the forefront with regard to new energy. Israel will have to face the criticisms on fossil fuels who will come from around the world. This is an opportunity for Israel to demonstrate that the exploitation of hydrocarbons and therefore CO2 emissions can be mastered or used for beneficial purposes. Recently, the Israeli government wanted to launch a study of substitution of gasoline by liquefied natural gas for the propulsion of cars. Thus the use of Israeli hydrocarbons associated with new technologies could generate real technological opportunities, especially in the military field. It is essential that Israel continues working towards a reasoned and reasonable exploitation of hydrocarbon resources, in front of a world demon named consumption that will continue to grow in the coming years.

The recent world crisis may be the best example to show how the Israeli model succeeded in opening an economy to the world while avoiding the contamination from a global recession. There is no quarter during which an Israeli start-up hasn't been bought or funded by foreign investors like Waze recently acquired by Google for more than one billion dollars. In 2006, Warren Buffett, the most renowned investor in the world, also did his own start-up shopping in Israel when he bought 80% of Iscar.

Despite key economic challenges Israel has to face, Israel still appears to be a land full of opportunities and innovation that foreign partners should try to benefit from. ■

## about the author



**Thibault de la Baronnière** is the President and Co-Founder of Israel Institute. Israel Institute is a non-for-profit French organization, founded by young professionals graduated from French business and engineering schools and universities, of different faiths and diverse paths, aiming to the creation, facilitation and development of a think tank offering an analysis of the Economy, Interior, and Diplomacy of the State of Israel. Thibault is the Investment Operational Manager of an international family financial and real estate group. Previously, he was a senior financial analyst in wealth management in a world class bank. He has also worked in a French minister cabinet, a trading room in France and Switzerland and in an alternative investment fund in Paris.

# Strategic Alliance or Marriage of Convenience

by **Yiftah S. Shapir**

In January 2012 Israel and India celebrated the 20th anniversary of their diplomatic relations. The occasion was marked by the visit of the highest ranking Indian official in Israel – External Affairs minister S. M. Krishna. A great deal has changed during these 20 years. The diplomatic relations between Israel and India had to overcome 40 years of frozen relations, limited to consular issues only and without full diplomatic relations.

However, these past 20 years witnessed the development of the relations to the high level of cooperation that exists today. The total commerce between the two countries crossed $5 billion in 2011. The cooperation and commerce covers many areas: agricultural technology, water usage and preservation technologies, diamonds, chemical industry and tourism. A special domain in this cooperation is the cooperation in defence projects. Over the past 15 years India procured Israeli defence equipments valued at more than $10 billion. This cooperation still goes on and some analysts predict that it might double in the next decade. While Russia is still India's largest arms supplier, Israel has been lately India's second largest arms supplier. On the other side of the bi lateral relations, India is now by far Israel's defence industry's largest foreign customer.

## Hot Deals

It is beyond the scope of this paper to cover all the arms procurement deals and all the areas of cooperation between the two countries. The most recent large deals include:

1.A $958 million deal to upgrade India's large arsenal of Israeli made UAVs – most of them are the smaller "Searcher" and the larger "Heron" UAVs.

2. A joint project to develop the MRSAM – medium range surface to air missile for the Indian land forces. This project is based on the Barak-8 missile system which was sold to the Indian navy. This project also complements the shorter range SAM - the Spyder - 18 of which were sold to India.

3. A joint project to develop a long range land attack missile. Not much has been publicly available about this project.

4. Israeli firms are now competing in a tender to supply light, man portable anti tank missiles. The Israeli contender the Mini Spike ATGM was already chosen by the Army but as this paper is being written the Army's request has not yet approved and no contract have been signed.

Other recent acquisitions include a project to convert 130mm Russian made artillery to 155mm, large number of artillery radars, electronic warfare systems, artillery ammunition and a project to install Israeli avionics systems in the Russian made Mi-35 helicopters.

Major projects in the recent past include the sale of three Phalcon early warning aircraft (two more are under negotiation), the cooperation in space projects such as the launching of the Israeli TecSAR satellite by India and the acquisition of its twin - the Risat - by India, the cooperation and joint training in combating terrorism, and the acquisition of sensors to monitor India's long border with Pakistan.

## Reasons

How come Israel a tiny country compared to India became India's close ally and such a major supplier of weapons leaving




*Heron UAV*

behind giants like the USA, Great Britain and France? There are several reasons for that.

On the one hand there is the demand side. India is one of the largest arms procurers in the world. Currently it plans to invest more than $150 billion over the next decade in various defence procurement programs. On the other hand there is the supply side. The Israeli industry enjoys the experience of close relationship with the Israeli defense establishment and the IDF. Thus, it has very close relations with its own customers. These relations helped, over the years, to develop weapon systems that are very well adjusted for the needs of the end-user.

The Israeli defense industry is capable of offering India the latest technologies in the niches it specializes in, such as electronic warfare, advanced radars, anti tank and anti aircraft missiles, UAV and precision guided munitions.

Moreover, the Israeli equipment is often much cheaper than its competition. But the sweetest deal for India is Israel's readiness to cooperate and to transfer its technology to India – without any strings attached. This attitude helps the Israeli Industry to win over its competitors who will not, usually, be permitted by their respective governments to do so. This approach is seen in the many procurement projects constructed as joint ventures. The space program is one example; the co-development of the MRSAM (Medium Range SAM) is another example.

## Obstacles

The close defense relations do not come without obstacles. Firstly, there are the limitations of the Israeli defense industry. It is small compared to some of its world competitors such as the American Boeing and Lockheed Martin, or the European EADS. It cannot compete in major weapon systems such as combat aircraft, main battle tanks or major naval craft. As mentioned above it is built around niche areas of expertise. In addition to that, the Israeli industry is not totally independent. Many Israeli weapon systems rely on imported subsystems and components. This reliance necessarily puts strings on what the Israeli industry can or cannot sell since it will always need the approval of the original manufacturer.

Other obstacles have to do more with politics than with the strengths and weaknesses of the Israeli industry. Israel itself is not totally independent in its actions. Israel is a close ally of the United States, and its military might is dependent, among other things, on the vast military funding by the US. Thus it cannot act against the will of the USA. A good example was Israel's weapons sales to China in the 1990s: Israel had to cancel a $1billion deal to sell China the same Phalcon AEW which it later sold India as a result of strong pressure from the USA. India is well aware that some acquisitions from Israel might be subject to a similar cancellation if the US administration decides it is contrary to its interests. Such interests could be real security concerns (as was the case with the Phalcon sale to China) but they could also be an outcome of a commercial interest of the American defense industry.

Another obstacle comes from within India's political system. India's relations with Israel have been subject to harsh political criticism. This criticism is based on the very same sentiments that prevented India from entering diplomatic relations for over 40 years. These sentiments come from two different directions. One is the large Muslim minority in India who naturally identifies with the Arabs in the Arab-Israeli conflict, and the other is the large left wing ideology that identifies itself with those whom it perceives as the oppressed by a perceived colonial or imperialistic force.

India also has to balance carefully its relations with Israel and its relations with Iran. The latter has been important for India as a supplier of energy, but the relations with Iran are much deeper than just the energy. The affinity between Iran and India has very long roots in history. Today, India is downscaling its relations with Iran to the point of complying with the internationally mandated sanctions on Iran, and is improving its relations with the United States. But this state of affairs could change.

The last set of obstacles include a series of apparently unconnected events that seemed to harm the otherwise developing relations between India and Israel. One was an investigation into some arm procurement deals which revealed bribery and corruption. As a result at least one major Israeli company (IMI) was barred from doing business in India for 10 years. Another event was the press report about alleged Israel's sale of armament to India's enemy Pakistan (an allegation that Israel denied). The last one was the Indian MOD rejection of a proposal to co-develop a new UAV.

## Conclusion

Some enthusiast supporters of the close defense relations between India and Israel claim that this is a strategic alliance or at least that the relations are developing into a strategic alliance.

I disagree. As close these relations are now they are limited to arms procurement, and to joint development of weapon systems. In the overall relations this is superficial, and it will remain so. It is true that both Israel and India share one threat perception the need to fight terrorism. But besides that Israel and India do not share the same outlook of the world to a degree that is essential for a true strategic alliance. India does not see the Arab Israeli conflict eye to eye with Israel. India does not see Iran as a major threat as Israel does. On the contrary India has an interest in keeping its good relations with Tehran. Conversely Israel does not see China as a threat as much as India does, and were it not for the American strong objections, Israel would have been selling its weapons to China as well.

Thus I cannot see these relations as a true strategic alliance. The close defense relations between Israel and India are "marriage of convenience" that will last and flourish as long as the technical interest in the Israeli superior technology exists. ■


## about the author



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# Israel - EU Security and Defense Relations
# Divergences & Convergences

by **Dr. Tsilla Hershco**

The diplomatic relations between Israel and the EEC (the European Economic Community that preceded the European Union-EU) were established in 1959. Israel and the EU signed the Association Agreement in 1995 which is the legal framework for their relations.

Over the years the relations between Israel and the EU have become exceptionally ambiguous: a large scale of economic, commercial, scientific and cultural cooperation on the one hand and deep political and security disagreements on the other hand.

This article focuses on some major contradictory perceptions and factors which shape Israel-EU defense and security relations. It goes on to briefly highlight some main areas of Israel-EU defense and security cooperation and concludes with some prospects and recommendations for the future.

The major factor which shapes Israel-EU relations in general and specifically its security and defense cooperation relates to the substantial disagreements on the issue of the Israeli-Palestinian conflict.

Basically, the EU asserts that the solution for the Israeli-|Palestinian conflict consists of the creation of a viable Palestinian state living in peace with Israel on the 1967 borders with slight negotiated territorial exchanges and with East Jerusalem as its capital. The EU claims that this solution would guarantee Israel's security.

Israel, while declaring that it also supports the two-state solution, is more skeptic regarding the sincerity of the Palestinian Authority as well as its capacity to create a peaceful state alongside Israel. Consequently, Israel ascribes more importance to the notion that the two-state solution should include defense guarantees such as the demilitarization of the future Palestinian state. Additionally, Israel regards the concept of maintaining defensible borders as crucial for preserving its capacity of self defense.

In this context, Israel perceives territorial continuity and especially the building in the controversial E1 zone (between Maaleh Adomim and Jerusalem) as an essential security measure, since it ensures secure access to the strategic Jordan River Valley. In addition, Israel claims that neither the settlements nor the building at the E1 zone would jeopardize the viability of the future Palestinian state, a view to which the EU does not adhere.

In fact, one of the most severe crises in Israel-EU relations occurred in 2012 following the controversial UN General Assembly vote which granted the Palestinian Authority a non-member observer status with the support of most EU members. Subsequently, the Israeli government authorized the building of 3,000 houses in the E1 zone. The EU reacted by publishing severe condemnations and by summoning the Israeli envoy. This crisis has illustrated basic bones of contention on political and security perceptions between Israel and the EU with regard to the Israeli-Palestinian conflict. However it has also prompted mutual Israeli-EU diplomatic efforts to resolve it.

Israel's use of force against terrorist organizations such as



*MRSAM*

Hamas in Gaza, which targets Israel's civilian population with missiles, has repeatedly constituted another point of contention between Israel and the EU. Indeed, the EU has often declared its commitment to Israel's security and its support for Israel's right of self defense. However, the EU has also constantly criticized Israeli measures, labeling them as disproportional.

In addition, Israel and the EU have seemingly diverged over their assessment of the geostrategic ramifications of the so called Arab Spring. Thus, while the EU has stressed the potential positive emergence of democratic regimes as result of the revolutionary events in the region, Israel has underlined the more realistic prospects of enduring instability, at least in the short and mid terms. Consequently, Israel has evoked the need to exercise prudence in view of a hostile, unstable strategic environment as well as the tangible risk that extreme Muslims groups gain control of Arab states. The divergence between Israel and the EU perceptions has been well evident in their approaches towards the Syrian civil war. Thus, the EU has supported the Syrian "resistance" while Israel has been consistent in avoiding any formal support for each of the belligerent sides.

Another issue of top strategic significance concerns Iran's nuclear project. Indeed, both Israel and the EU perceive a nuclearized Iran as a major threat to the world's security. The EU has even initiated severe sanctions aimed at influencing the ayatollahs' regime to withdraw from this project. However, Israel and the EU have opposing stances concerning the use of military force as a last resort in case of the failure of the diplomatic and economic measures.

An additional Israel-EU disagreement, which has recently surfaced, relates to the EU's rejection of Israeli and USA demand to include the Hezbollah in its list of terror organizations. This position is motivated mainly by the concern for the stability of Lebanon as well as by the fear of retaliation against EU soldiers serving in the UNIFIL force in Lebanon. Recently, following Hezbollah's assistance to Assad and following the Bulgarian report on Hezbollah's and Iran's alleged involvement in the terrorist attack against Israeli tourists in Bulgaria in July 2012, the EU has considered to change its position and label the Hezbollah's military wing as a terror organization. Seemingly, for the time being there are no tangible changes in the EU formal position towards the Hezbollah.

The above-mentioned conceptual political-strategic differences constitute a significant factor which undermines security and defense cooperation between Israel and the EU. There are, of course, additional factors which are equally significant such as the EU's economic and strategic interests in the Arab and Muslim world as well as the current anti-Israeli public opinion within many of the EU states. Additionally, the current economic crisis in the EU has brought about a reduction in the defense budgets of the EU member states and consequently also a decrease in overall expenditure, which also might impact a decrease in defense-related trade with Israel. Many European member states, however, favor cooperation with other EU members.

Furthermore, Israel's special relations with the US, as well as US military aid to Israel constitute other factors which reduce Israel's military trade relations with the EU members states.

In addition, the economic crisis has aggravated the competition between Israeli companies and EU companies, and in particular French ones, for defense tenders in countries such as India, Singapore and Brazil. For instance, both Israel and France have stressed the strategic importance of their defense and security relations with India. France has won significant tenders in India relating mainly to big platforms such as the Dassault fighter aircraft Rafale (not yet finalized) and the DCNS submarine Scorpion as well as the subsystems for these platforms. Israel has won tenders relating mainly to subsystems such as the Rafael anti-tank spike missiles, overcoming contenders such as the European MBDA. Israel and India have also cooperated in the Indo-Israeli "Barak Eight" surface-to -air missile.

Despite the numerous factors which weaken Israel-EU defense and security cooperation there are factors that help to boost it. Thus, Israel and the EU have shared concerns such as the Iranian nuclear program, the international terror and the cyber attacks. In addition both Israel and the EU are tremendously concerned about the spillover of the bloodshed in Syria to neighboring countries such as Lebanon, Turkey, Jordan, Israel and even to the EU member states. The recent tumultuous events in Egypt constitute also a source of worry both to Israel and the EU.

The common security concerns have fostered regular strategic dialogue on a bilateral level between Israel and EU members states such as France, Britain and Germany. This kind of strategic dialogue involves the exchange of intelligence assessments on central geo-strategic international and regional issues. In 2008, the EU decided to upgrade its relations with Israel on European Common Foreign and Security Policy- CFSP and also to organize a diplomatic-strategic dialogue between Israel and the EU. Indeed, according to Israeli Foreign office statements, Israel joined the EU's Research and Development- R&D program and has gained more access to political and defense policy committees. In September 2010, Israel and the EU held a dialogue on weapons control and non–proliferation of weapons of mass destruction (WMD). The EU has tried to initiate an international conference on WMD for 2013 but Israel refused to participate in order not to be singled out.

Other, visible aspects of security and defense cooperation between Israel and EU member states on a bilateral level are displayed in mutual visits of high ranking personalities and through joint military training exercises such as the joint Israeli-Italian and Israeli-Greek air force exercises in 2010 and 2012.

Additionally, Israel and the EU member states regularly conclude numerous arms deals despite the controversy that such deals occasionally stir up in the EU public opinion. For instance, France and other EU states have purchased drones from Israel since the 1990's, as Israeli drones have won a world-wide reputation for their advanced technology. The procurement of drones from Israel is motivated by military necessity, as European states only took notice of the value of drones in modern warfare in the 1990's, long after Israel had launched its Unmanned Aerial Vehicle- UAV programs. Consequently, many of the EU states have reached the pragmatic decision that buying Israeli drones would be less costly and would provide a more promising outcome than developing them by themselves. Additional attractive factors of Israeli drones relate to Israel's practical field

experience while operating drones in battle, as well as Israel's willingness to sell the drones with their technology (in contrast to the US which sells military products "off the shelf" without their technologies). However, along with the procurement of Israeli drones, EU members such as France, Britain Germany, Spain, and Italy have launched R&D projects of a European UAV, which up to now have not shown the desired results.

Additionally, Within Israeli's arms deals with the EU member states it is important to mention the submarines deals with Germany which have a major strategic value for Israel. The EU and Israel also cooperate on space projects. For instance Israel and France have cooperated on the Amos and Venus satellites projects. Furthermore, the European Space Agency has chosen Israel as a non European partner of its Galileo satellite navigation project.

If the EU manages to advance in elaborating a Common Security and Defense Policy, as it initially set out to do, this might affect Israeli-EU defense and security cooperation. Thus, as result of the desire to display unity through unanimous votes in policies regarding the Israeli-Palestinian conflict, some member states, which may have decided to negotiate arms transactions with an Israeli company, might find themselves under EU pressure to forgo these deals. However, it is also possible that the prevailing diversity among the EU member states would continue to be a dominant factor in the shaping of Israel- EU defense and security cooperation.

Generally speaking, the present article underlines the importance of the defense and security cooperation both to Israel and the EU despite the conceptual political-strategic differences previously presented. Indeed, it seems that occasionally the EU tends to belittle Israel's genuine security and defense concerns. However, cooperation is indispensable in view of the growing shared security challenges, such as global terrorism, Iran's nuclear threat, cyber attacks and the upheaval in the Arab world as well as due to the global economic crisis. In addition, security and defense cooperation, though often discreet, is significant since it also promotes channels of political dialogue, which might paradoxically serve as a conciliatory factor in political crises. ■

## about the author



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# Israel & the Arab spring - 2013

by **Dr. Shaul Shay**



The Arab Spring is a revolutionary wave of demonstrations, protests, and civil wars occurring in the Arab world that began in Tunisia on 18 December 2010. The Arab Spring is widely viewed today as one of the great historical moments of political transformation.

Comparisons have been made to the European revolutions of 1848 and the post-cold war democratic transitions in Eastern Europe but the phrase "Arab Spring" is misleading. These revolutions in the Arab world are better described as a "Tsunami" or "Earthquake" that has moved tectonic plates of the Muslim societies and will provoke aftershocks (such as the "second revolution" in Egypt against the democratically elected "Muslim Brotherhood" government).

The heteroge¬neous protest movements were able to come together to demand the demise of old authoritarian regimes, they have subsequently splintered along secular religious, sectarian, tribal, and ethnic lines. Similarly, these movements have so far failed to produce a cohesive plan for their respective post-revolutionary transi¬tions.

The changes over the past two and a half years have produced a fundamental transformation of the region – but not in the way most outside observers anticipated -they reflect the replacement of the dominant Arab national identity and mainly secular dictatorships by a more Islamic identity and Islamic regimes.

The Arab nations differed dramatically from each other before the region-wide upheaval began, so it logically follows that the revolutions themselves, not to mention their conclusions and aftermaths, should also differ dramatically. Each country in the region is unique and will make its own history. Nonetheless, the replacement of the dominant Arab nationalist secular identity by an Islamic identity is a regional trend that will likely affect every nation in the region and Muslim states and communities worldwide, to varying degrees.

Wherever the "Arab Spring" rebellions have not succeeded, relative stability has been maintained and the monarchies of (Saudi Arabia , Jordan , Morocco and most of the Gulf states), outflanked radicals by issuing modest reforms. State weakness is not a new phenomenon in the Middle East and North Africa (MENA) region, but this trend has only wors¬ened since the Arab Awakening. The challenges of the post-revolutionary period risk intensifying preexist¬ing societal cleavages. In turn, this means, at least in the short to me¬dium term, that it is fair to expect renewed internal turmoil as well as significant troubles in the establish¬ment of central authority.

Countries where Arab Spring protests once offered hope of a better future–such as Egypt, Libya, Syria, Yemen and Tunisia - all slid backward on the Failed States Index for 2012, and likely will again next year ( in the annual Failed State Index rankings published by the Washington D.C.-based Fund for Peace). In Tunisia, Egypt, Libya, Yemen and mainly in Syria- more than 120,000 people have died since the revolutions began. Some $20 billion of GDP evaporated last year in Bahrain, Egypt, Libya, Syria, Tunisia, and Yemen, in addition to more than $35 billion in public finances, according to International Monetary Fund data.

In the short and medium term, continued in¬stability and state weakness at the regional level are to be expected. This trend is especially significant since it has important regional rami¬fications in terms of regional stabil¬ity, human security, terrorism, crime, and proliferation of arms.



A most significant challenge stemming from failing states is that of ter¬rorism. Failed states present in¬ternational and regional terrorist organizations with a convenient base of operations and are more likely than other states to host terrorist organizations on their soil. Terrorist organizations take advantage of the porous bor¬ders and the fact that the central government is weak or absent from large parts of the state in order to develop operational and logistical infrastructures. Many of the Arab states, as a result of the Arab spring can be defined as failing or failed states ( Syria, Libya, Yemen, Egypt, Tunisia), other Arab states has fallen to this category earlier ( Lebanon, Iraq).

For Israel, instability and weakness of the Arab states means that it does not face the immediate danger of attack by an Arab state or a coalition of states . But it does face a greater danger from non state actors and terrorist groups.

Syria and Egypt has controlled their borders with Israel and largely prevented terror actions for more than 30 years. Now that neither country is able to control its borders, especially as regards the Sinai, Israel faces a new security threat.

Since the Arab spring , Israel is surrounded by failing states and un governable regions ( UGRs), controlled by violent non state actors (terror organizations): Hizballah in Lebanon, Jihadists in Syria, Hamas in Gaza strip, Jihadists and other Islamic terror organizations in Sinai ( Egypt).

In the "second tier" of states :

- Libya ns in the Middle East and North Africa.
- Sudan is a transit state for arms smuggling by Iran to terror organizations in Sinai and the Gaza strip.
- Iraq as a failing state is a source for Suni jihadists on one hand and Shia combatants on the other hand , supporting the opposite sides in the civil war in Syria.

Iran that was less affected by the Arab spring is the main supporter of terror organizations in the Middle East and beyond and Iran and its proxy Hizballah are the main allies of the Bashar Assad regime in the civil war in Syria. Israel is so far the only stable democratic country in the region and the new unstable and violent Middle East is a significant challenge to the security of Israel. The rapid disintegration of the Arab armies in the region has significantly reduced the chances of conventional war and the main challenge to Israel is from non state actors and asymmetric wars.

The IDF has planned a reconfiguration that will pave the way for a new kind of military, better suited to meet the challenges it is required to face. The IDF has already determined that the objective in any future war would be the rapid deployment of forces, meant to reach decisive results quickly and minimize the toll a war would take on both the home front and the economy. Outdated equipment would have remained unused in such a campaign anyway, so the IDF is better off using its budget and troops in more effective ways. At the end of this metamorphosis, Israel will be left with a more professional, quality military, ready to properly deal with the current and future threats.

The political upheavals sweeping Tunisia, Egypt, Libya, Yemen and Syria are concurrent yet different phenomena, and it's premature to assume that any of them, let alone all of them, will bring their respective countries out of the authoritarian rule. In the medium term, the number of genuinely liberal democracies to emerge in the Arab world is likely to be zero.

This is a crossroad in history and the road the nations involved take will determine our future. In the meantime we might see more Islamization there rather than Western style democracies. Where it will really lead Middle East and the rest of the world only future will tell. ■

## about the author



**Dr. Shaul Shay** served as a senior career officer in the military intelligence of the Israeli Defense Forces (IDF) and holds the rank of Col. (Res.). He is a graduate of the Israeli National Defense College and completed both MA and PhD at Bar Ilan University in Political Science – International Affairs. Dr. Shay is a lecturer at Bar Ilan University, senior research fellow of the International Policy Institute for Counter Terrorism (ICT) at the Interdisciplinary Center, Herzilya and heads the Department of Military History of the IDF.





# Tourism Industry

Israel is a country that holds a very special place in world history. Known for its historical and cultural importance, it is no surprise that the country's tourism industry has been recording positive growth year after year. Israel is also famous for its many geographical wonders.

Situated at the eastern end of the Mediterranean Sea, the country fascinated its visitors by the sheer diversity in climatic variations across its length and breadth. If it has snow-capped mountains in the north, then it has an arid desert in the south which makes travel to Israel all the more exciting for people in search of variety.

Israel's importance as a centre of religious importance has been the major factor which is attracting tourists since 1980s. To date, an average of 1.9 million tourists visit Israel every year hoping to bask in the gory of the past as well as to see the progress that one of the most advanced economies of Asia has made in the past several years.

## Jerusalem

The holy city of Jerusalem which is also the officially designated capital of the country attracted 3.5 million tourists last year recording an unprecedented growth in the tourism industry. The city's relevance to three important religions; Judaism, Christianity and Islam has attracted not only the believers who go there in search of spiritual enlightenment but also the non-believers who go there to get a deeper understanding of history.

The Old City is the site where millions flock every year to get a glimpse of the past that has defined their present. It is divided into four quarters – Jewish, Armenian, Christian and Muslim which contains sites important to all these religions. The most important of them is the Western Wall, sacred to the Jews. At the base of this is the Western Wall Tunnel, the remnant of the Holy Temple that was destroyed by the Romans and where the Jews now come to offer their prayers. Surrounding this is the Davidson Centre which is famous for its three-dimensional virtual reconstruction of the temple that transports the visitors to the ancient times. Another important place is the City of David which is considered to be the origin of Jerusalem. The archaeological remains tell the story of the achievements and the failures of the Kings who ruled the country.

For Christians, Jerusalem is the holiest of all places. The Christian quarter has around 40 sites, the most important of





# in Israel

them being Via Dolorosa which is believed to be the final path of Jesus Christ. This path ends at the Church of the Holy Sepulcher which has many important Christian relics and is a pilgrimage centre for devout Christians all over the world.

Al-Aqsa Mosque which has the Dome of the Rock is considered to the third holiest site for Muslims. Jerusalem is also revered for it being the first Qibla or the place towards which Muslims turn in prayer.

In addition to the holy sites, Jerusalem is also known for its art and culture. The city is famous for its night life which gives the visitors a peak into the life of Israeli people.

## Other Important Cities

There are many other cities that make Israel a favorable destination for travelers. The first amongst them is Tel Aviv, the country's commercial as well as administrative capital. Known as one of the best beach cities of the world, it is also famous for its glittering nightlife. The wineries, olive oil and cheese farms further enhance the charm of the city.

Cities like Nazareth, Bet She'an, Akko and Safed to name a few are most prominent for its historical locations. These cities have some of the well-known archeological structures like the Church of Annunciation, Shrine of Bahaullah and the grave of Rabbi Shimon bar Yochai.

Israel is also famous for having the highest number of museums per capita in the world. It has over 200 museums which deal with various subjects and are treasure houses of information. These places draw millions of tourists every year and this has been a major contributing factor in making Israel an attractive tourist destination to the world.

## Geographical Locations

From the geographical point of view also, Israel has many wonders to offer. The most important of them is the Dead Sea, which is the lowest point of the earth. Its healing powers are an enigma to the visitors and have been hugely beneficial to the growth of tourism industry.

The Red Sea which is the world's northernmost tropical sea is also part of Israel's territory. This has the reputation for being one of the best destinations for water sports and scuba diving.

The Golan Heights, a mountainous region located in the northernmost part of Israel is known not only for its nature





reserves but also for a number of historical and archeological sites. The Carmel Mountain which is known for its Mediterranean Groves is another important tourist destination.

The Hula Valley is known for its wide variety of flora and fauna is located in a very picturesque surrounding. The Jordan Valley which extends from north to south has a variety of landscapes and contains some of the most important historical sites of Egypt.

Israel's southern region is covered by the Negev Desert. In the past few years, there has been an increasing interest from the Government's side to promote this as a major tourist spot. The Sea of Galilee, the Judean desert and the Coastal Plains are some of the other attractions. The country also has some significant hot springs like Hamat Gader, Tiberias and Yoav which is another indication of the geographical diversity within its boundaries.

Israel has 67 national parks and 190 nature reserves which add on to the magnetism of the country. Some of them are located at sites of historical and geographical importance thus giving the visitors an unparalleled learning experience. It also has something in store for the adventure loving people in the form of a number of hiking trails like the Israel National Trail, Jerusalem Trail and the Jesus Trail to name a few.

## Business Tourism

Being one of the most advanced economies of Asia, Israel is a key destination for investors all over the world. Its export industries are the driving force behind its rate of growth. To spread knowledge about the cutting-edge research innovations made in various fields like agriculture, communications and defense, exhibitions that attract representatives from a number of other countries are held regularly. Due to this increased spread of awareness, many countries have invested in Israel hoping to tap its unexploited potential.

## Medical Tourism

Israel is a country known for its affordable generic drugs and technological advancements in the field of medicine. Israel is a world leader in the procedure of in-vitro fertilization. It is estimated that medical tourism brings in revenue of NIS 119 million to the economy. The cheaper cost of treatment is probably the single biggest factor for many people opting for Israel. Also, the natural resources and the favorable climate are some of the other reasons influencing this choice. The Dead Sea with its therapeutic prowess is a popular destination for treatment centers and spas. The medical tourism industry is predominantly managed by agents who help the tourists find right hospitals and takes care of all their needs.

## Rural Tourism

Rural tourism is one area that has gained popularity in the past few decades. It provides an opportunity for the tourists to understand the country better by letting them interact with the locals. It gives a fair idea of the culture of Israel and plays a major





role in strengthening the people t people contacts.

## Sports Tourism

Sports is an area that has slowly come to occupy an important place in Israel's tourism industry. Judo, soccer, basketball, tennis and skiing are some of the sports practiced in the country. The golf courses in Caesara and Gaash, the diving sites in Eliath, the ski slopes in Hermon, the Nokia Sports Stadium in Tel Aviv and the tennis courts of Ramat HaSharon are amongst well-known places.

## Facts and Figures

Tourism in Israel is a growing industry and the country is striving hard to promote its image as an attractive tourist destination. In spite of all the political uncertainties, tourism has recorded a tremendous growth after 2010 when there was relative stability after years of domestic and international wars.

Air transport was the preferred mode of transportation for 86% of the tourists. Around 60% of them were from different European countries followed by 28% from the United States of America. There were also day visitors, the major share of them coming from Russia. Jerusalem and Tel Aviv has emerged as the most favored locations with more than 80% of the traffic being directed to these two cities. Domestic tourism has also gained importance in Israel with more than 6 million trips being recorded.

The major contributors to the tourism industry are the hotels which account for the accommodation services. This is followed by transport services, leisure and vacation services. An added attraction for Israel being the choicest destination for many business delegations are conventions centers which maintain world class standards. It is estimated that tourism gives employment to 3% of the population and contributes nearly 2% to the GDP.

## Conclusion

The tourism industry in Israel is multi-faceted with a plethora of opportunities to be exploited. The country's image as a religious destination has undergone a drastic change after the efforts of the Israeli Government. Today, Israel is viewed as a country that can cater to a variety of needs of the tourists. The fact that all this was achieved in the midst of domestic and international political pressure is indeed laudable.

In recent years, Israel has negotiated for the easing of travel norms with many countries in order to make it an accessible destination. Israel is well aware that it is amongst those few countries endowed with the right mix of history, culture and geography that makes it attractive to millions of tourists across the world. Though it has tried to keep up with the times by introducing innovative concepts like medical and rural tourism, it still needs to go a long way before the full potential of the country can be exploited.

Israel needs to develop more contacts with the third world countries to attract more number of visitors. It can use the great strides it has made in the field of technology to create an interest amongst people to visit the country and learn more about the progress it has made over the past 65 years. With a little bit of political will, Israel can make optimum use of its strengths and make its tourism industry one of the best in the world. ■

# FICCI's Activities

Established in 1927, FICCI is the largest and oldest apex business organisation in India. Its history is closely interwoven with India's struggle for independence, its industrialization, and its emergence as one of the most rapidly growing global economies. FICCI has contributed to this historical process by encouraging debate, articulating the private sector's views and influencing policy.

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FICCI draws its membership from the corporate sector, both private and public, including SMEs and MNCs; FICCI enjoys an indirect membership of over 2,50,000 companies from various regional chambers of commerce.




*Ms NainaLalKidwai, President FICCI, welcoming Mr Robert D. Hormats,US Under Secretary of State for Economic Growth, Energy, and the Environment during the FICCI-USIBC Leadership Lecture on "Regional Economic Cooperation in South Asia- The Way Forward"-January 30, 2013*



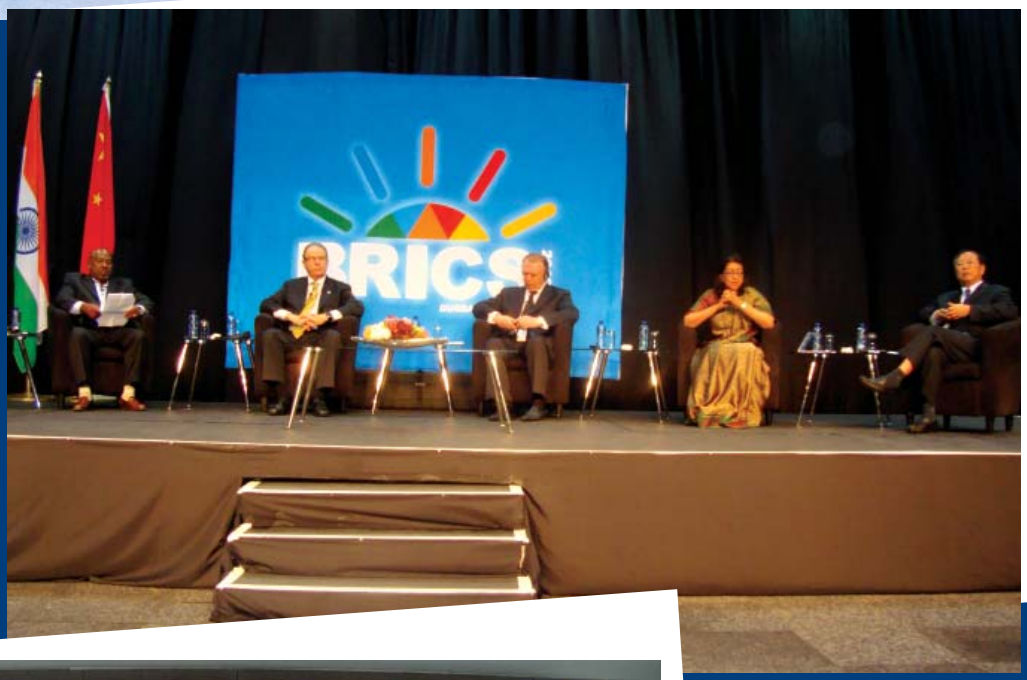

*Ms NainaLalKidwai, President FICCI, speaking at the FICCI-USIBC Leadership Lecture on "Regional Economic Cooperation in South Asia- The Way Forward"with Robert D. Hormats, US Under Secretary of State for Economic Growth, Energy, and the Environment*




*-(L-R) Dr. ArvindMayaram, Secretary, Department of Economic Affairs, Ministry of Finance, Government of India, Mr. TakehikoNakao, President ADB, Mr. P. Chidambaram, Finance Minister, Government of India and Ms. NainaLalKidwai, President FICCI at the Seminar on 'INDIA DAY: NEXT WAVE OF INCLUSIVE GROWTH' organised on the sidelines of the 46th Annual Meeting of the Board of Governors of the Asian Development Bank (ADB)- May 3, 2013.*




*(L-R) Mr. Nikhil Jaisinghani, Founder, MeraGao Power (MGP), India, Mr. Samir Mathur, Founder, FIA Technology Services Pvt. Ltd., India, Ms. NehaJuneja, Co-Founder, CEO, Greenway Grameen Infra (GGI), India, Ms. Rabeya Yasmin, Director, Challenging the Frontiers of Poverty Reduction – Targeting the Ultra-Poor (CFPR-TUP) program in BRAC, Bangladesh, Ms. NainaLalKidwai, President FICCI, Mr. JebamalaiVinanchiarachi, Former Principal Adviser to the Director General, UNIDO, Vienna, Austria, Visiting Senior Research Fellow, University of Malaya, Kuala Lumpur, Malaysia,Mr. Abhishek Sinha, Co-founder at Eko India Financial Services Pvt. Ltd., India and Dr. K Thomas Abraham, CEO, SATA CommHealth, Singapore at the panel discussion on 'Innovation for Inclusion'- May 2,2013.*




*L-R:MrJabuMabuza, President, BUSA, Mr Paulo Tigre, Vice President, Brazilian Confederation of Industry (CNI), Mr Sergey Katyrin, President, Russian Federation of Chamber of Commerce and Industry (RFCCI), Ms. NainaLalKidwai, President FICCI and Mr. Wan Jifei, Chairman, China Council for the Promotion of International Trade (CCPTI) at the opening session of BRICS Business Forum, Durban, South Africa*




*(L to R) Dr. A Didar Singh Secretary General, FICCI, Mr. R V Kanoria Immediate Past President FICCI, Ms. NainaLalKidwai President FICCI, Mr. Haruhiko Kuroda, President Asian Development Bank, Mr. Sidharth Birla, Senior Vice President FICCI and Mr. Ashok Lahiri, Executive Director, Board of Directors ADB at the Interactive Session with Mr. Haruhiko Kuroda, President, Asian Development Bank- January 31,2013*




*H.E François Hollande, President of the French Republic and MsNainaLalKidwai, President FICCI at conference on "India-France: Strengthening Long-term Economic Partnership" in Mumbai on 15th February 2013.*




*-(from L to R) Mr Paul Hermelin, Chief Executive Officer & Group Managing Director, Cap Gemini, MsNainaLalKidwai, President FICCI, H.E Mr François Hollande, President of the French Republic, MsNicole Bricq, Hon'ble Minister for External Trade, Government of the Republic of France and MrAdi Godrej, President CII at a business conference on 14th February 2013 in New Delhi.*




*FICCI co-organised a Business Session on 'UK – India Doing More Business Together' along with British High Commission and other industry associations, to mark the occasion of the visit of Rt Hon David Cameron, Prime Minister of UK to India along with a high powered business delegation on February 19, 2013 at New Delhi.*



*Ms. NainaLalKidwai, President FICCI & Country Head- HSBC India & Director-HSBC Asia Pacific HSBC Ltd. shaking hands with HE Mr. Xi Jinping President of China at BOAO Forum for Asia Annual Conference 2013*




*Ms. NainaLalKidwai, President FICCI & Country Head- HSBC India & Director- HSBC AsiaPacific HSBC Ltd. with ASEAN Ministers at Delhi Dialogue V, February 19-20, 2013*




*ASEAN Ministers at the Inaugural of 2nd India-ASEAN Business Fair and Business Conclave, December 18, 2012*




*H E Dr Mohamed Morsy, President of Arab Republic of Egypt and MsNainaLalKidwai, President, FICCI during the India Egypt Economic Forum, March 20, 2013*




*Ms. NainaLalKidwai, President – FICCI & Country Head – HSBC India & Director – HSBC Asia Pacific HSBC Ltd. with H. E. Ms. Elizabeth Thabethe, Deputy Minister of Trade and Industry, Government of South Africa at the networking dinner of the South African Investment and Trade Initiative to India.*

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