

## Chapter 15

# The Business of Offset: A Practitioner's Perspective

## Case Study: Israel

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### 15.1 Introduction

This chapter is written by practitioners of offsets, members of the management team of International Technology Sourcing, Inc. (ITS). A strategic planning and offset advisory firm headquartered in Chicago, Illinois, ITS represents US defence firms facing the challenges of offsets throughout the world. As a complement to their offset operations, the company also caters to the international business planning and overseas technology investment needs of leading civil-sector international corporations, including various Fortune 100 companies. Since its establishment in 1986, the company has conducted projects in 12 countries, identifying, evaluating, and pursuing numerous advanced technology ventures. ITS also provides advisory services to the US government regarding binational technology co-operation initiatives aimed at the commercialisation of defence technologies.

The company's offset services are particularly geared towards devising, pursuing and executing indirect offset strategies. As the chapter discusses, it is ITS' belief that while meaningful indirect offsets can bring enormous benefits to procuring nations, they can also benefit contractors. A country with a significant technology base, for instance, may hold business opportunities which can be tapped and leveraged through offsets that would be of tremendous interest to the contractor even outside of their role in fulfilling offset obligations. Additionally, innovative indirect offsets limit the challenges a contractor might encounter in the process of pursuing direct activities.

When this chapter was written (early 1995), the company was engaged in investigating offset strategies and pursuing indirect offset fulfilment projects in a variety of countries, such as the UK, Australia, the UAE, Finland, Israel, Switzerland, India, and Malaysia. ITS fully recognises how and to what extent offsets can negatively impact free trade. However, the authors are of the opinion that if pursued appropriately, offsets can, in principle, be a mutually beneficial activity for both parties. This chapter will present some of the authors'

observations on the current offset environment, and major trends companies should consider when mapping out offset strategies. It also discusses some of the guiding philosophies of International Technology Sourcing regarding offsets, and attempts to demonstrate why, if executed properly, offsets are not necessarily a burden to companies but can instead be a tool for creating partnerships that benefit both client country and contractor.

This chapter will illustrate the authors' methods of pursuing and executing offsets by briefly reviewing a recent campaign they supported in Israel. From 1991 to 1994, ITS was retained by a major US aerospace firm to assist in the development and implementation of an offset strategy for a major fighter aircraft acquisition by the Israeli Air Force. Lockheed, with the F-16, and McDonnell Douglas, with the F/A-18 and (after a shift in policy by the US government) F-15, were the airframe manufacturers competing for the tender. The engine competition was between Pratt & Whitney and General Electric of the US. We hope that this brief review of the company's involvement in this campaign will provide some insights into how ITS approaches an offset assignment, and how technology-based ventures and other modes of co-operation can play an important role in fulfilling offset obligations in a mutually beneficial manner.

The chapter is divided into three sections. The first section presents the philosophy and principles ITS adheres to and uses to guide its offset services. A review of the current offset environment follows this, identifying some of the major trends in the today's offset world. The final part of the chapter discusses the company's recent involvement in Israel, and describes the manners in which it worked with the client company and Israeli authorities to identify, evaluate, present and pursue mutually beneficial offset opportunities. This part of the chapter includes a summary of the guidelines and goals of Israel's offset program (referred to as Industrial Cooperation), and a brief overview of the Israeli environment and how specific features within it relate to offset activities. While the authors have made every effort to provide meaningful insights into this campaign, for reasons of confidentiality the identities of certain parties, specific ventures, and results of this initiative will not and cannot be discussed.

This chapter is written in tribute to our clients and the numerous entities throughout the world with whom we have worked over the years. It is due to them that we have had the opportunity to participate in some very exciting initiatives pursuing technology-based business ventures, and support the development of strategic plans in connection with major government procurements.

## 15.2 An Offset Philosophy

The most basic, and also the most crucial, challenge facing offset activities is how to reconcile the interests of the purchasing country and those of the supply-

ing foreign contractor. That the positions of these two parties, while generally perceived as diametrically opposed with regards to offsets, can in fact be reconciled is the fundamental tenant driving our company's offset services.

As observers and active participants in offset-related activities in various countries, we are witness to shifts and changes in the way contractors and governments pursue offsets. In campaigns over the last number of years, the contractors and the governments interests have been too often at odds. On one side, governments are attempting to reap as much benefit as possible from the transaction, e.g. augmenting their defence manufacturing base, employment, technology transfer, exports, and other concerns. Contractors, however, are aggressively seeking to sell their product(s) while keeping the costs of doing business to a minimum. The necessity of accomplishing these goals has become especially poignant for contractors now that they are faced with a post-Cold War world, and the accompanying diminished demand for defence equipment.

At first look, it may seem that this conflict of interests cannot be resolved. It is unfortunately with this opinion that the two parties often approach their offset operations. Too many bright and capable people in both camps see themselves in purely adversarial positions, and focus not on working together, but rather on finding ways to outsmart each other.

In light of this animosity between defence contractors and governmental offset authorities, the authors of this document submit that significant changes must be brought about in the offset environment. Governments must recognise that the abilities of contractors to provide subcontracting opportunities, technologies, employment, etc. to foreign countries are limited. And in the long run, continued aggressive demands by foreign governments are not in their best interests. High offset demands will inevitably increase the costs of the systems sold, and may even bring about legislation limiting the ability of contractors to provide meaningful offsets in the future. Indeed, the US government has been sending signals that it may attempt to regulate the practice. In parallel, contractors need to appreciate the expectations and actual needs of their client governments to impact their country's economy as a way of compensating for the substantial transactions offsets are associated with. While these expectations may be unreasonable at times, we feel there is validity to the request that for transactions of such magnitudes, some very tangible benefits should be brought to the country and that the contractor's capability to deliver these benefits should be a significant part in the decision making formula for large-scale procurements.

The task at hand — to positively impact the economy of the purchasing country — is a challenging one for both government authorities and foreign contractors. ITS has witnessed time and again that even when defence contractors are committed to benefiting and impacting the client country, they are still faced with very substantial obstacles. For example, few governments have developed their offset mechanisms to the point where they present specific opportunities in

their country that are relevant to the defence contractors. Too often, the focus is one-sided: “what can the contractor do for me?” versus, “what can we successfully do together?” Frustrated by unrealistic expectations and lacking any promising opportunities related to their core businesses and primary capabilities, at times contractors find themselves forced to entertain proposals not at all related to their core business interests, and actually at odds with management directives. Proposals are sometimes submitted with the recognition that their only purpose is to appease the demands of the given government’s offset authority. Obviously, in the long run this benefits neither party.

As the demands put on them by offset authorities in various countries increase dramatically, as will be described later in this chapter, this conflict between contractor and client nation will only become more acute. Already, thoroughly disconcerted by the challenges of pursuing and conducting offsets, some companies both in America and Europe are considering strategies that assume full payment of liquidated damages in lieu of fulfilling their offset obligations. Such an approach is clearly counterproductive for all parties. The client country not only loses the opportunity to strengthen its industrial and technology base, but also ends up paying an inflated price for the procured equipment, since companies will frequently include the liquidated damage penalty in the price of the contract. Yet, by taking this approach the contractor also puts himself in a losing situation. First, the long-term interests of his client are not served. This may hurt the contractor’s prospects in future competitions in that country. Secondly, given the intimate nature of the international offset community, the contractor will quickly earn a reputation for not pursuing valid industrial co-operation activities and damage his prospects for sales in other nations as well.

Many take it for granted that the interests of client country and contractor will always be in conflict. However, it is a conviction of the authors that, approached properly, this dispute can be mediated and resolved favourably for all concerned. While offsets clearly benefit the client country, they can be used as a unique business tool to also serve the contractor’s interests. Pursued appropriately, offsets can enhance a company’s international reach, leverage the ability of innovative foreign technologies, diversify manufacturing locations, and encourage the corporation to pursue strategic alliances with entities in the target country.

Offsets are here to stay. Recognising this, International Technology Sourcing believes that they should not necessarily be looked at as a burden, but as a tool which can bring about activities of strategic value for contractors and client governments alike. This notion, that both parties, foreign defence contractor and client country, can reap substantial benefits from offset fulfilment activities is the cornerstone of ITS’ approach to offset.

The formula ITS uses to turn this idea into reality is rather straightforward: conduct an in-depth assessment of the strengths and needs of the defence contractor, and a thorough analysis of the target country environment. Looking at the company, ITS will assess its international business development thrusts, manufacturing and distribution strategies, availability of technology, and gaps within its strategic technology matrixes. Simultaneously, ITS assesses the target country, reviewing and analysing the priorities of its government, its decision makers and their respective agendas, its industrial infrastructure, technology infrastructure, gaps in national technology matrixes, etc. With the results of these in-depth assessments, ITS conducts a detailed correlation analysis that identifies, in very specific terms, how the needs and gaps of one party can be impacted by the strengths of the other. The results of this analysis serve as the foundation for the offset strategy developed hand-in-hand with the client company.

Using this strategy, International Technology Sourcing enables contractors to offer the offset authorities of a given target country a "basket of opportunities" relevant to their needs and at the same time in the contractor's interest. These opportunities, resulting from the correlation analysis described above, will typically yield positive responses from the offset authorities, who are unaccustomed to analytical approaches. They will also generate positive feedback from the company's senior management, which usually frowns upon offset initiatives unrelated to the company's core businesses. While this is indeed a time-consuming, complex task, it yields tangible, specific opportunities for **mutual** benefit.

It should be emphasised that to a great extent, the ability of offset executives to generate projects that can meaningfully impact the client country and the contractor depends on their ability to mobilise internal resources for the offset campaign. Put more simply, offset executives must motivate colleagues in different parts of the company to do business in the target country. To that end, offset executives should work hand-in-hand with their business development, R&D, and technology colleagues when looking into the potential client countries and identifying opportunities for mutual co-operation. In a way, offset executives are an extended marketing arm of a targeted country. They function as brokers, bringing together parties from their company and supplier base, and relevant entities in the targeted country. And offset executives must go beyond finding opportunities; at times they need to act as venture capitalists and investors, motivating parties in their own company by funding some of the initial investigatory activities and/or a substantial portion of the initial investment.

Meaningful offset proposals can play an important role in a country's selection of a product, perhaps not necessarily winning a campaign but certainly playing an instrumental role in a loss if they fail to stand up to the expectations

and demands of government offset groups. This is because they can provide some very real economic benefits. But for the contractors, offsets can also be highly beneficial, enhancing a company's international reach, gaining them access to innovative foreign technologies, diversifying manufacturing locations, and encouraging the corporation to pursue advantageous strategic alliances in new markets. But to reap these benefits, contractors and purchasing countries must abandon the adversarial relationship they have too often adopted over the past several years, and focus on working together to realise the long-term mutual benefits of the unique partnership offset creates. It is the conviction of the authors that, while challenging, the task at hand is attainable through an approach and methodology as that described above.

### 15.3 The 1990s Offset Environment

Offsets first played a role in government procurement contracts as early as the 1950s. Since then, and particularly over the past five to ten years, the nature of offset business and the expectations countries hold for offsets have changed tremendously. What started as an gesture of goodwill and a manageable incentive on the part of contractors, has inflated to, at times, a critical component in procurement tenders. Under certain circumstances, offset proposals may seriously impact the outcome of the competition and even determine the profitability, or lack thereof, of major campaigns.

Three major trends have emerged in offset transactions over the last several years as the importance of offset has magnified:

- The typical level of commitment has greatly increased, and shows no signs of dropping or even plateauing. Governments that ask for a given level of offset now regularly see contractors offer well above, as much as double or greater, that measure.
- Indirect offsets have the potential to grow significantly in importance. Direct opportunities are increasingly difficult for contractors to offer because of the current strains on the defence industry. Additionally, governments have realised that offset can be wielded as a real development tool for their industrial infrastructure and their economy as a whole. Several Gulf states, for example, perhaps realising this later point have expressly stated little or no interest in direct opportunities.
- Lastly, the governments of countries on the supply side of the offset equation are paying more attention to the practice. This is especially true here in America, where talk of regulating offsets is mounting.

Those considering regulating the practice should be advised that offsets are here to stay. They are not a sweetener, to be thrown on the table in the final minutes of negotiating to bring a deal to a close, nor are they vehicles for corruption to be discussed behind closed doors only. They are a prominent and important part of the international business world. As offsets play a greater role than ever in arms transactions, they have also grown in importance in civil-sector procurements. Telecommunications companies are a prime example of commercial entities that have had to learn the offset trade over the past dozen years, as the fall of the Soviet Union, the opening of China, and other factors have given these companies opportunities for huge sales abroad. Offsets are a necessary part of their transactions with these and similar nations.

### 15.3.1 The Offset Explosion

Offset commitments/obligations of an extremely high percentage of contract value, which we will define as 100% or equal to the value of the contract itself, are not new to the offset environment. Perhaps the first such agreement was made in 1982 by McDonnell Douglas Corporation in exchange for a Canadian Government order of F/A-18s. But it is only since the opening of the current decade that such substantial obligations have become commonplace. For example:

- a. A consortium led by the UK's Westland has announced it will make an offset commitment of no less than 375% if it wins the UK's attack helicopter tender. The contract is worth roughly £2 billion. The UK does not require any set percentage of defence contracts to be fulfilled through offsets, but does ask that contractors bring benefit to the nation's defence industry.
- b. Raytheon has proposed a \$1 billion commercial venture to the Kuwaiti government to offset the sale of a Patriot Missile System. The system is valued at just over \$300 million — making the offset worth 333% of the contract value. Kuwait's offset law requires foreign contractors, civil and defence, to make an investment of 30% of contract value.
- c. Thomson-CSF made a 300% offset commitment to Austria for the nation's purchase of AS 1.1 billion in air defence radar from Thomson. Austria explicitly asked for a 300% commitment when it announced the tender. Interestingly, only about 20% of the offset value is in direct initiatives.
- d. Boeing Corporation recently completed a 130% commitment to Britain to offset the UK's purchase of several AWACS aircraft.
- e. General Motors recently committed to a 115% offset agreement with Canada to compensate for an order of light armoured reconnaissance

vehicles (LAV-Reece) for the Canadian Forces. The value of GM's contract is over C\$600 million. Most of the offsets will be in the form of fabrication of the vehicle and the building of subassemblies.

Percentages of contract value are not the only way to measure how increasingly demanding the offset environment has become. For example, as with offset programs in other nations, the United Arab Emirates is asking companies to make direct investments into the country's economy that create new businesses. But the Emirates guidelines place a very significant qualifier on this request: that any ventures prove profitable within a certain number of years, to a certain amount of dollars. If these goals are not met, the contractor is considered at default on its obligations, regardless of the financial and time commitments it may have made to the enterprise, and is subject to a penalty of up to 8.5% of its unfulfilled commitments.

What accounts for the offset escalation? One factor is unquestionably the shrinking defence environment, prompting contractors to seek export orders more aggressively than previously. Offsets offer companies a way to compete beyond the products themselves. A good offset offer may not entice a country to purchase an inferior product, but it certainly may sway a decision between two pieces of equipment of equal calibre. However, countries are also demanding more than previously. A number of nations, particularly in the Middle East, have drawn up their first offset guidelines over the past few years. Others, such as Australia and Norway, have recently reworked old policies. Most of these new guidelines are quite demanding.

There is always a chance that governments, particularly the US, will decide that offset offers and obligations are escalating to harmful levels and attempt to limit the practice. But barring such action and considering these trends from both contractors and offset authorities, it is highly unlikely that current requested or offered percentage levels will drop.

### **15.3.2 A Greater Role for Indirect**

The traditional way for companies to fulfil offset obligations has been through direct offsets, in the form of subcontracting, coproduction, and licensing. These will continue to be a significant factor in offset agreements. However, direct obligations have become a very challenging and controversial task in the current defence environment. Also, more and more often countries are expressing interest in indirect offsets, presumably because of their potential to develop a nation's industrial base and catalyse an economy as a whole.

This is not to say that direct offsets will not continue to play anything less than a very important role in most offset proposals. On the contrary, some gov-



ernments make it clear that they are only interested in direct opportunities, or at least offsets which will benefit their defence industry in general. The UK, for example, as mentioned does not explicitly demand offsets yet does consider them, and states that the primary criteria for judging offset proposals is the value they can bring to the British defence industries. Australia asks for very specific benefits out of offsets, and exclusively in its defence sector. The nation expects to gain certain capabilities for its defence industrial base for every procurement, and explains these to the bidding contractors.

However, defence contractors have entered an extremely difficult period in which to fulfil direct offset demands. On a short-term, practical level companies are forced to export jobs. From a long-term, strategic perspective, companies are at times obligated to share highly valuable technologies and, in doing so, create their own future competition. While these considerations have always challenged contractors trying to meet direct obligations, the current downsizing of the defence environment has made these issues more volatile than ever. For example, America is expected to lose nearly 3 million defence-related jobs from the time that the high level of defence expenditures in the 1980s began to decrease, to 1997. In the US aerospace sector alone, hundreds of thousands of jobs have been terminated. Just over the last four years, six large aerospace contractors have cut their operations in California, America's most aerospace-dependent state, by over 100,000 jobs. The number of major military aircraft builders has contracted to five today (one of these, Rockwell, is currently without a contract for any aircraft) from eight as recently as 1990. Defence companies are in no position to be perceived as helping foreign competition or shipping jobs abroad.

The requests for sharing valuable technologies are by no means limited to those for parts or subsystems. Fully industrialised and developing countries alike have often made it clear they want offsets to hand them the capability to manufacture procured systems in their entirety. For example, Turkey asked for — and received — an F-16 plant. If the US F-16 manufacturing facilities close soon, as is slated to happen, Turkey will become the world's sole F-16 supplier. Both Indonesia and Malaysia are aggressively using offsets to build indigenous aerospace industries as well.

Indonesia provides an excellent example of a contractor creating his own competition by agreeing to direct offset obligations. Recently Indonesia sold a number of CN-635 short-range transports. This sale for Indonesia's Industri Pesawat Terbang Nusantara (IPTN) comes as a result of an offset agreement by the company with Construcciones Aeronauticas SA (CASA) of Spain for co-production of the aircraft — confirming that CASA has succeeded in making a competitor for itself.

Yet at the same time that contractors are experiencing great difficulties with meeting direct offset demands, a number of countries are bringing out guidelines asking primarily for indirect opportunities. Some of the Gulf states provide a good example of this trend.

For instance, the UAE offset program, established in 1991, makes no requests for direct offsets, instead stressing project profitability, technology transfer, and the growth and diversification of the nation's industrial base. The Saudi offset program, while initially laying a good deal of importance on developing an indigenous defence industry, has changed course and now makes indirects the higher priority. On the whole, offset programs in the Middle East, except for Israel, have been of either a civilian or a dual-use nature (such as the formation of aircraft maintenance companies).

In the future, the most important forms of indirect offset fulfilment will be technology transfer and direct investment, as opposed to the barter and countertrade that have traditionally characterised indirect schemes. The role for barter and countertrade may not be over — witness Malaysia's recent payment to Russia for 18 MiG 29s in the form of palm oil — but on the whole such transactions have a more limited role to play in the modern offset business. The Norwegian and Finnish governments, for example, forbid companies to use raw materials purchases for offset credit. (Part of the reason Malaysia may have allowed accepting the palm oil as an offset was that these MiGs came at an exceptionally low price. The venture may also open up new markets for the commodity, which Malaysia produces in very substantial quantities. Of course, note that palm oil is not the only offset in the deal; Russia offered to set up a joint venture with the Malaysians for maintenance and logistics support for the MiGs, and other offset schemes for this transaction are pending.)

Another reason that indirects may take a greater share of the offset environment is that contractors are realising the potential value of fulfilling obligations through third-party companies. A contractor can help a foreign company establish a presence in a country the contractor has offset obligations in, and tie the investments of that company to its offset contract. In this way, a contractor earns credit for the money and effort that the third party spends setting up operations. However, while more companies are seeking third-party fulfilment scenarios, offset authorities have become increasingly uncomfortable with the practice. They are currently working to define the levels of credits to be awarded for such activities, and the requirements for proof of causality they will seek in such scenarios from the foreign defence contractor.

### 15.3.3 Government Attention

As offsets have gained in scope, governments on the supply side of the offset equation have shown increased interest in the business. While much of the atten-

tion that offsets have received is negative, the need for exports seems to be counterbalancing some of this sentiment.

The magnitude of offset proposals today has caused many parties to argue that offsets have escalated out of control, and call for government regulation. The GATT treaty now being evaluated, for instance, contains a provision prohibiting GATT signatories from imposing, seeking, or considering offsets for government procurement transactions. Developing countries would be allowed to negotiate exceptions. However, if this provision would actually discourage countries from engaging in offset remains to be seen. Many nations do not impose any sort of offset requirement, or even ask for offsets — yet it is understood that any contractor who wants to do business there must present a substantial offset proposal on a “voluntary” basis.

The US government has traditionally frowned upon the practice of offsets. However, this has not impeded the offset efforts of US defence contractors, because despite any misgivings the government ultimately left the decision of whether to offer offsets or not in the hands of contractors.

This lack of involvement may change in the years ahead. The US government is sending signals that it may be considering imposing limitations and regulations on the practice of offset. In December of 1994, for example, the US government announced that American companies must begin reporting any single offset obligations in excess of \$5 million against defence-related exports, and any individual offset transaction for which they receive credits equal to or greater than \$250,000. The reporting will be administered by the Bureau of Export Administration (BXA) of the US Department of Commerce, which will be responsible for compiling an annual report to Congress on the impact of offsets. Many observers of offset activities see in such initiatives an alarming sign of government involvement in offsets, and warn that such efforts to control the freedom of American defence contractors to offer substantial offset proposals will drastically effect the ability of defence contractors to export their goods, and, by definition, have an enormous negative impact on the health and stability of these companies.

One US government attempt to regulate the offset business recently passed — but to the relief of contractors, was dropped soon afterward. In 1991, the DOD decided to require US arms sellers to notify their buyers in Letter of Agreements that the administrative costs of offset programs might be included in a system's sale price. As soon as the requirement appeared, it created a problem for a US contractor. McDonnell Douglas, on the verge of winning a sale of helicopters to the UAE, suddenly found its sale in jeopardy because the UAE government refused to sign a Letter of Agreement with McDonnell Douglas as long as this new clause was included. Perhaps realising that regulating offsets might do more harm than good to US contractors, and hence to the DOD, the Pentagon dropped the rule in 1994.

Acknowledging the importance of offsets to the defence industry would seem more in step with the activities of other governments with regards to offsets. Britain, for example, in the fall of 1994 established an Offset Advisory Service in an effort to help British defence contractors improve their penetration of developing and newly industrialised markets, especially in the Middle and Far East. These regions are assumed to be purchasing the bulk of all defence exports for the next several years. The French MOD has in the past assumed responsibility for portions of the offset commitments of the country's defence contractors (though the Ministry recently stated that it may discontinue this notably high level of involvement).

But regardless of governmental standpoints on the practice, defence contractors' need for support in devising, pursuing and executing offset agreements is more critical than ever. As discussed above, most nations will likely continue to expect very substantial benefits from offset, and their expectations may rise even beyond the currently very high levels. Yet simultaneously, contracting defence-related sales world-wide will continue to limit the means for contractors to meet these demands. It is our opinion that one way for contractors to address the difficulties of offsets is by taking advantage of the increasing role for indirect offsets. Through indirect initiatives, a defence contractor can resolve the several problems stemming from direct offset, still bring value to the client country, and also significantly benefit the company itself through indirect offsets rooted in the transfer, development, and exploration of technologies. We hope that the next section will help illustrate how this process works in practice.

#### **15.4 Peace Fox VI/Peace Marble IV Competition**

At the end of January 1994, the Israeli Ministry of Defence officially announced that it had chosen to purchase 20 McDonnell Douglas F-15I fighter aircraft. The order was predicted to cost over \$2 billion, and would provide the Israeli Air Force (IAF) with only slightly modified versions of the USAF's F-15E, currently the most technologically advanced fighter in the US Air Force (USAF) arsenal. Five more aircraft were later added to the order.

Thus ended the IAF's latest fighter aircraft procurement. The primary competitors for the tender were airframe manufacturers McDonnell Douglas and Lockheed Corp. (which acquired General Dynamics, the rival to McDonnell Douglas when the competition began in 1992), and engine makers Pratt & Whitney (P&W) and General Electric (GE) of the US. That the final victor of the competition was the F-15 and McDonnell Douglas (MDC) came as somewhat unexpected. At the outset of the two-year performance evaluation and

decision-making process, the aircraft being considered were the Lockheed F-16 and the F/A-18 from McDonnell Douglas. The Israelis had expressed interest in the F-15E, but at the time the plane was not approved for export by the US government. The Pentagon upgraded the choices of fighters available to Israel shortly after the country signed a historic peace agreement with the PLO September 13, 1993. The Israeli MOD announced shortly afterwards that it would choose the slightly modified version of the E that had been approved, the F-15“I”.

The tender, called Peace Marble IV and Peace Fox VI, respectively, by Lockheed and MDC was of crucial importance for both the aircraft and engine manufacturers. To all four companies, it was considered a “must-win” sale. This importance stemmed from a variety of factors. One is the reputation and image of the IAF. The Israeli air command is considered to be among the best (many would argue that it is the best) in the world. For this reason, many other countries closely watch IAF procurements and consider the purchase of a system by the IAF as a very important vote of confidence in that piece of equipment, with implications for their own future acquisitions. Hence winning an air-related competition in Israel is of substantial significance to any defence firm. Furthermore, the order was to be rather large. Sales of such magnitude have become increasingly rare since the end of the Cold War, and thus more crucial than ever for contractors. Another factor that made the Peace Marble IV/Peace Fox VI competition critical was both contractors’ interests in keeping assembly lines open. The F-15E program had already been terminated when the sale was approved (though McDonnell Douglas’ other entry, the F/A-18, in its E/F derivative, will be produced for several years to come for the US Navy), and the F-16 was entering its last year of production for the USAF. Any future US production of these aircraft depended on foreign sales. Lastly, both the USAF and US Navy had an interest in the outcome of the sale. Any overseas sales of the F/A-18 or F-16 would allow the contractors to spread fixed production costs over that many more aircraft, reducing the per-unit cost of those systems to the US armed forces, as well as to other foreign customers.

In early 1992, ITS was approached by one of the four primary contestants for the tender. Offsets were expected to play an important role in the competition, and the company was seeking our support in developing meaningful offset proposals to present to the Israeli offset authorities. The company recognised that of the three critical components for a win — the system itself, the price, and the offset package — the last is the most flexible element and most under the control of the company, and thus more open to inventive and creative approaches. To that end, they retained ITS’ services. After detailed briefings by the client company, we embarked on a thorough analysis of the Israeli environment identifying

and evaluating numerous offset scenarios to best support the campaign. We were to investigate possible indirect opportunities, while the contractor's in-house offset team would develop direct proposals. In addition, ITS was asked to provide a detailed "theatre of operations" analysis and help develop the strategic plan that would guide the company's offset activities.

#### **15.4.1 Israeli Offset Guidelines: Priorities and Thrusts**

The Israeli government refers to its offset policy as Industrial Cooperation. This name describes fairly accurately what Israel wants from offsets. The primary goal of Israel's offset program is to encourage foreign and Israeli firms to not only work together, but to establish very close, long-term working relationships.

The reasoning behind this stems from the characteristic condition of Israeli firms and Israeli capabilities in general. While often technically sophisticated, most Israeli companies have limited access to global markets and need the value that can be generated from strategic partnering with industry leaders. With a few prominent exceptions such as Israel Aircraft Industries (IAI), Tadiran, Elbit, and the like, the partnering that can come about as a result of offset obligations can be of immense value to most Israeli companies. It is the intent of Israel's Industrial Cooperation Authority, the Israeli government agency that administers offset agreements in Israel, that offset commitments be leveraged and utilised by linking Israeli companies with foreign industry and technology leaders. It is expected that Israeli companies will net subcontracting opportunities, R&D work, technology transfer, investment, and global market access and exposure. There are certainly other issues in Israel that the government feels offsets can address, some of which we will mention below, such as the Israeli defence sector's financially strapped condition and the massive influx of Russian immigrants that has followed the fall of the Soviet Union. But that these issues are important to developing offsets is due to current circumstance, rather than any philosophical foundation of the Industrial Cooperation policy. The classic premise behind Industrial Cooperation remains helping Israeli companies grow and bringing wealth to the country through partnering them with appropriate foreign firms.

It is important to note that central to the theme of Israel's Industrial Cooperation is that activities pursued under the banner of offsets be truly beneficial to both parties. While numerous offset authorities around the world may use this terminology, few are truly committed to the concept. Our experience indicates that while Israeli authorities can at times be demanding, the demands are to encourage contractors to search for genuine and profitable opportunities with Israeli partners. The Israeli offset authority, the Industrial Cooperation Authority,

recognises that its role and contribution to Israeli industry is not in the extraction of opportunistic and short-term projects, but rather in the creation of long-term relationships between foreign and Israeli companies. And indeed, an analysis of offset activities in Israel indicates that numerous offset-driven initiatives have led to long-term, strategic co-operation agreements maintained long after any offset obligations have been satisfied.

The Industrial Cooperation Authority (ICA), a small body within the Ministry of Industry & Trade, was established as an interdepartmental agency to initiate, monitor and co-ordinate the industrial co-operation agreements originated by government trade. ICA also monitors industrial co-operation activities created through private-sector trade. Actual industrial co-operation agreements are made with the relevant government agency for the tender in question. ICA does not approve or disapprove projects, but is responsible for monitoring the progress of offset agreements. The ICA operates its central office in Tel Aviv, and has two branch offices with full-time staff in the US and Europe.

The guidelines for Industrial Cooperation are fairly loose compared with those of many other nations, and even lenient in some respects. For example, Israel has no liquidated damages clause, and asks for 35% (or more) of the contract value to be equalled in offset purchases, a rather reasonable request in comparison with many countries. Israel does not request any specific direct/indirect split, or ask that particular industries get benefits. Yet the loose and open nature of the Industrial Cooperation policy suits the country's well-known demand for excellent and timely offset proposals by allowing it flexibility in what it can ask, and how it may deal with contractors. The period over which a company's offset obligations to Israel must be completed is negotiable; however, it is usually three years. 20% of the obligation is expected to be completed in the first year of implementation, and 40% in each of the two subsequent years. In large scale transactions the period of performance may be extended to as much as 7 to 10 years.

Specific offset-related initiatives credited against a contractor's obligations are termed Industrial Cooperation Benefits (ICBs). The relative value of various ICB possibilities, as stated in the Industrial Cooperation guidelines, is as follows:

- Direct Subcontracting and Purchase of Industrial Goods and Engineering Services: Such procurements will be credited at 100% of the purchase value.
- Research and Development: Credit for purchases of R&D services from Israeli firms will be negotiated, but will never fall under 100% of the purchase price. Purchase from Israeli companies of development work that leads to new production in Israel will be credited at 100–200%.

- Investment in Capital: Direct investment will be credited at a rate of up to 200% of the amount invested.
- Transfer of Technology and Industrial Proprietary Rights: These will be credited relative to the added value of export orders such transfers bring about, for up to four years.
- Co-Production and/or Co-Marketing: Credit for such arrangements will be negotiated.
- Software: Software development in Israel is encouraged, and companies will receive 150% in credits of the value of software development tasks performed in Israel.
- Transportation: Such services purchased from Israeli companies, excluding the delivery of goods to Israel, are limited to 10% of the total offset commitment.
- Third Party Transactions: Credits for third-party transactions are limited to 50% of the total IB commitment, and will be credited with a value from 50% to 100%.

Since ITS' involvement with the Peace Marble IV/Peace Fox VI campaign, the Israeli government has introduced a major change in the country's offset policy. Instead of requesting offsets, the Israeli government will now require offsets with its purchases by law. Legislation for this is pending in the Knesset.

Details on changes to the Industrial Cooperation policy were not available at the time of writing. However, the change is not expected to greatly affect large defence contractors pursuing offset business in the country. Israel has long been a very important market for these companies, and one in which they always proposed aggressive offset proposals despite the fact that offsets were not enforced by law. In bringing Industrial Cooperation into law, the Knesset is primarily targeting the many civil-sector companies, some European, several Japanese, selling to Israel that have continually refused to enter into offset agreements.

#### **15.4.2 Implementing the ITS Methodology**

An article published during the campaign highlighted the importance of seeking indirect opportunities. The February 15–21, 1993 edition of Defence News said that the companies for this tender had created a “spiralling offset competition ... prompting industry calls for US government intervention to prevent a loss of US jobs and businesses.” All companies involved had by then been negotiating offset packages with Israel for over a year. One of the companies was said to be preparing to offer both parts manufacture and final assembly of its system. Another was indicating that it would make an opening proposal of a 70% offset commitment, which was expected to rise significantly by the final stages of the



competition. Such large and potentially challenging direct offers and the publicity that follows them are the types of challenges ITS and our client companies hope to avoid through indirect initiatives.

The project goal, as defined by the company's senior management and ITS principles was "to provide the company a competitive edge over rival companies by ensuring the review and submission of meaningful and timely offset fulfilment proposals positioning the company to emerge as the aggressive front runner, understanding and addressing the challenges and opportunities in the Israeli environment. Furthermore, to enable the company to submit a 'basket' of offset fulfilment proposals that are timely, significant, and of national interest to Israel, while also fitting the company's technology and business thrusts."

As a prerequisite to developing the basket of opportunities, ITS conducted an 8-month long analysis of the Israeli theatre of operations. The purpose of this analysis was two-fold: to ensure that the projects included in the basket of opportunities addressed the most important needs and priorities of the Israeli environment, and thus would be welcomed by the heads of the Israeli Industrial Cooperation Authority and other decision makers; and second, to provide an in-depth briefing to the company's senior management and campaign team, ensuring a high degree of clarity regarding various critical factors in the Israeli environment.

Guiding the selection of projects to be included in the basket of opportunities was an assessment of the Israeli government's criteria for evaluating offset proposals. It was the assessment of ITS that aggressive indirect initiatives would generate very positive responses from the Israeli authorities, who, based on previous campaigns, learned to already expect subcontracting, assembly and other direct offset opportunities from US aerospace firms. Indirect initiatives allow a contractor to drastically expand the menu of opportunities from which it can choose, enabling it to benefit to a greater extent from the supply of innovation and technology in the target country. (This is of course true only in countries such as Israel, various European nations, etc. which enjoy a strong industrial and technology infrastructure.) Furthermore, as discussed above, fulfilling offset obligations through indirect initiatives alleviates some of the pressure to provide subcontracting and other direct initiatives.

As described at the beginning of this chapter, ITS approaches offset as a tool to address strategic needs and critical gaps in a company's technology matrix. Prior to embarking on any in-country work, ITS worked closely with the client company to define priority areas and gaps in the company's technology arsenals. The fundamental notion was that if Israel could provide solutions to any of the needs identified, numerous organisations within the company would consider doing business in Israel regardless of the company's offset needs there.

As in all of ITS' projects, a dedicated team was assembled to execute this two-year assignment. The ITS project team consisted of three groups: a think tank consisting of high-level ex-government, military, and industry leaders; a team of "hunters"; and a stand-by team of evaluators specialising in different technology areas. The think tank was charged with reviewing and assessing larger, strategic issues and providing insights to ensure sensitivity and understanding towards the various players in the Israeli environment. The "hunters" were tasked with executing the field work necessary to locate the most valuable opportunities and projects relevant to the company's needs and priorities. The evaluators were responsible for assisting ITS' internal team in evaluating the technology and business promise of the various projects identified.

ITS' methodology calls for the teams to execute enormous in-country efforts, reviewing and assessing literally hundreds of entities and opportunities. Equipped with the need lists generated in the beginning of the process, ITS canvassed the Israeli environment. Over a 16-month period the ITS team held face-to-face meetings with hundreds of entities from various industry, research, and academic circles in the State of Israel. The purpose of this field work was to conduct the correlation analysis, matching the priority areas of the client and potential sources of technology and innovation in Israel. The theatre of operations analysis also investigates priority subjects such as: country overview; employment and immigration; the defence environment; the current offset climate; IAF selection criteria; competitors' activities; and more. It was critical to provide the client company with both the "big picture" briefing, as well as the very specific details on opportunities and ventures for the implementation of the offset strategy.

#### **15.4.3 The Israeli Environment and its Implications for Offsets**

No offset proposal should ever be considered "generic," a formula that can be offered from country to country in exactly the same form. It is the conviction of ITS that offsets must be tailored to a country's specific environment. For this reason, it is crucial for a contractor to thoroughly understand the country to which it is selling. The contractor should be able to demonstrate a deep understanding of the industrial infrastructure, technology capabilities, labour force, economic goals and priorities, etc. of the country it is attempting to sell to, and understand the implications of these issues for what the contractor can realistically offer.

As one reviews the countries in which defence contractors need to participate in offset activities, it is fairly easy to make a distinction between those where offset fulfilment is a straightforward task, and those where it will be an

enormously challenging and painstaking process. It is our assessment that Israel is a good place to do offsets. While not without challenges, Israel has built a sophisticated industrial and technological base that offers a great number of avenues and opportunities for contractors searching for offset fulfilment venues. In conducting the theatre of operation analysis, ITS focused on assessing the country's potential to supply innovative technologies and solutions to the client company, and on understanding major political, economic, and social issues that would influence the offset strategy to be pursued. The team also conducted a thorough assessment of Israel's Industrial Cooperation guidelines, and put together case studies of the offset strategies pursued in previous large-scale defence procurements in the country. Some of the priority issues that offset scenarios could address are discussed below.

#### *15.4.3.1 Technology Environment*

Israel is unique. In less than 50 years, the nation has developed from a primarily agrarian economy into a small, fully industrialised nation. Israeli companies have become important players in a number of niche markets, and Israel is now recognised as a world-class centre for research and development in several high-tech fields, such as medicine, energy, agriculture, information technology, and defence. Over the last decade, the nation has sustained an annual 3 to 6% growth rate as measured by change in GDP. Inflation, currently at roughly 13%, may be higher than desired but is certainly a tremendous improvement over the triple-digit figures Israel struggled with in the 1980s. Exports from Israel have steadily risen for the past four years.

Israel has a population of approximately 5 million. But despite this limited labour pool, and limited natural resources, it has prospered. One of the most notable, and widely recognised, characteristics of the Israeli environment that has helped it to flourish is the skill level of the Israeli workforce. As much as 24% of the workforce is estimated to hold advanced technical and academic degrees; the per capita of engineers in Israel is higher than anywhere in the world. Despite their high level of expertise, however, labour costs for Israeli professionals are competitive, and generally less than for those with equivalent backgrounds in the US, Europe, Japan, and parts of SE Asia. The Israeli government provides numerous subsidies for R&D, further pushing down the cost of the country's engineers and scientific talent.

A major achievement of this labour pool has been the establishment of Israel as one of the world's high-tech centres. Israel's economy is becoming increasingly based on high-tech R&D and limited-run production work. Through utilizing state-of-the-art technology and focussing on "niche" markets, many

Israeli high technology companies have managed to make names for themselves. This strategy has been pursued by Elscint, a leader in medical diagnostics imaging; Sharplan, which supplies 30% of the US market for surgical lasers; Scitex, producer of highly innovative colour printing technology; Orbotech, which has a majority share in the world market for advanced automatic optical inspection systems for PCBs; ECI Telecom Ltd., a leader in digital communication equipment; and others.

Over the years, numerous foreign firms, including many American high-tech leaders, have placed substantial work in Israel. Some have established manufacturing facilities, distribution centres, and R&D laboratories. Intel, for example, which opened a design centre in Haifa in 1974, recently announced plans to build a \$1.5 billion facility in Jerusalem, nearly doubling Intel Israel's current workforce of 1,250. The Israel Intel organisation was responsible for the architecture of the 386 chip, among other accomplishments. Israel is recognised as a centre of excellence for computer-related technologies, and Motorola, IBM, Digital, Hewlett Packard, and National Semiconductor have also elected to establish research and development centres there.

In addition to the knowledge base of the Israeli people themselves, the State has played an important role in building the nation's thriving high tech environment. The expertise of Israel's workforce has traditionally been complemented by very high amounts of government R&D spending. For example, current estimates put Israeli R&D at nearly 3% of GDP, a level equal to that of the US, and higher than that of either Japan or Germany. Under certain circumstances, the government will subsidise the salaries of scientists and engineers, and provide investors and foreign companies with significant financial incentives and tax holidays.

The implications of the above to our offset strategy were several. First, it stressed the advisability of investigating how the country's technological strengths could be leveraged to address some of the client's technology needs, an option which might not be relevant in other countries. Second, it encouraged the investigation of establishing an R&D centre in Israel as part of the company's "global centre of excellence" strategy. Third, it suggested that the client might benefit from the availability of matching grants and funding provided by the Israeli government.

#### *15.4.3.2 Employment/Immigration*

A review of the priorities impacting the Israeli environment indicated that employment and the impact of immigration were among the most important issues facing the Rabin government in 1992/93. With an influx of over 200,000 immigrants per year, and an unemployment rate of over 12%, Rabin faced an

emerging liability of explosive proportions. Not only would this impact the upcoming elections, but massive unemployment among Russian immigrants might also put a halt to future waves of immigration, jeopardising the very foundation of the State of Israel as a refuge and home to Jews in need.

The addition of over a half million people to a country with a total population of only five million, in less than five years, presented tremendous challenges. But alongside the challenges came a unique set of opportunities. The Russian and other ex-Soviet immigrants were (and are) a highly educated group of people. 60% of the recent arrivals had higher education, and 15% had engineering or scientific degrees. Compared with the Israeli populous, among the immigrants were proportionately 12 times as many people with degrees in the natural sciences, 13 times as many engineers and architects, 4 times as many technicians, and nearly 6 times as many doctors. It has been said that successfully absorbing one million of the Russian immigrants would effectively double the value of Israel's human capital.

The immigration/employment issue had significant implications for the offset campaign. The proposals in the offset basket needed to target Russian immigrants and scientists, and to provide immediate employment opportunities. Rather than propose only long-term, large-scale industrial initiatives, the client company emphasised generating jobs within a very short period of time, using activities such as software development, contract R&D, etc.

#### *15.4.3.3 Defence Industry Crisis*

Israel's defence-industrial sector is a major driver of her economy, and the country's reputation for developing cutting-edge, highly effective weaponry and defence-related equipment is widely known. However, this reputation has come at a high price. Of Israel's expenditures on R&D, two-thirds are invested in defence. As a portion of GDP, spending on defence has stood at roughly 20% and higher. With a limited local market for defence products, the Israeli defence industry has always been highly dependent on exports.

The end of the Cold War very seriously affected the Israeli defence establishment, and by 1992 the sector had entered a true crisis. Spending as a portion of GDP had sunk to 10–12% of GDP from 20% and higher levels in under a decade. Compare this to the defence “drawdown” in the US, where defence spending has gone to between 3 and 4% of GDP from 5% over the same period and is still a major economic issue. Not only has Israel itself cutback on its demand for weaponry, but the lower global demand for military equipment has cut export opportunities for Israeli defence companies. Other difficulties such as cost overruns on strategic projects and under-utilised manufacturing facilities exacerbated the situation. Israel's defence industries were laying off thousands

of workers. And as the defence industrial complex has long been a symbol of Israeli self-sufficiency and technical prowess, the issue was highly charged. Defence industry workers have organised large and violent demonstrations, for instance, protesting layoffs. The survival of the Rabin government was at stake, and it was well-known that the situation would impact the way the offset proposals would be evaluated.

The crisis was best evidenced in two of Israel's leading defence enterprises: Israel Aircraft Industries (IAI), and Israel Military Industries (IMI). IAI, Israel's largest industrial entity with 17,300 employees and \$1.5 billion in sales, was still suffering from the trauma of the cancellation of the Lavi fighter aircraft. At the time, several setbacks had added to this blow. Boeing cancelled a \$150 million contract to convert 10 747s from passenger to freight aircraft; a pending sale of IAI's Kfir aircraft to Taiwan and the Philippines fell through; and a successful bid by IAI to sell advanced, unmanned, miniature aircraft to the US DOD had been put on hold pending an appeal by a US manufacturer challenging the bid process. IMI was facing severe setbacks as well. With 1991 losses of \$239 million, and a directive to release a full fourth of its 7,600 employees, the company faced tremendous employee unrest. Confronted with a 40% decline in export orders, and the need to close four of its 16 manufacturing plants, the company was in dire need of jobs and export orders.

The defence industry crisis seriously impacted our offset strategy. Recognising the importance of the country's defence industry to the nation, and fully aware of the fact that Rabin held not only the portfolio of Prime Minister but also that of Defence, we structured a basket of opportunities that addressed to a significant extent the needs of such defence entities. Whenever possible, extra effort was made to identify or create an opportunity to work with defence enterprises. Defence conversion opportunities were also an important part of our strategies to address this issue.

#### **15.4.4 The Basket of Opportunities**

Towards the end of 1992, ITS submitted a detailed basket of opportunities to the client company. This consisted of the results of the team's technology related investigations in Israel, which focused on six areas: manufacturing technologies; electronics and photonics, propulsion; aerospace subsystems; information technology; and materials and structures. Equipped with a detailed wish list relating the specific needs of the company, ITS worked closely with the Industrial Cooperation Authority and the Israeli government to identify relevant Israeli entities and assessed their potential contributions. Throughout the process, numerous delegations from the contractor travelled to Israel to meet with the

companies highlighted in the basket of opportunities, and pursue discussions as to potential modes of co-operation. It should be noted that though the technology capabilities of the potential partners were extremely important, other factors such as the management teams of the companies, and their experience with international ventures, were no less crucial to this partnering process.

ITS complemented this technology-oriented work with a detailed review of Israel. Our presentations to the client included a detailed review of the top thirty-plus decision makers in Israel, an analysis of decision makers versus influencers, and careful descriptions of the priorities, goals, and "pet projects" of each. Furthermore, as said the theatre of operations analysis provided in depth assessment of Israeli government criteria for evaluating offset proposals, and set forth recommendations to the client company to function as criteria for its opportunity selection. This analysis also included a detailed mapping of the Israeli government, including the Ministries of Defence, Finance, Industry and Trade, and the relevant arms of the Israeli Defence Forces. The theatre of operations analysis was designed to set the stage for the company's pursuit of offset ventures in Israel. As in all campaigns, it was critical that both senior management and the project team feel confident in their understanding of the environment, and develop an appreciation for the unique circumstances of the given target country.

One of the recommendations ITS submitted was to carry a major technology seminar in Israel to facilitate communication and contact between relevant Israeli entities, and the technical, as well as the business development, representatives of the client contractor. Of the 340 Israeli entities reviewed up to that time, 110 were identified as possessing potentially valuable contributions and were invited to attend this seminar, which ITS orchestrated in mid-1993. The delegation from the client company consisted of 40 subject-matter experts from different divisions of the company. These individuals were interested in exploring how Israeli entities might assist them in better achieving their technological and business goals. Unlike other seminars, which tend to focus on what the local companies wish to sell, this seminar was structured to focus on what the client company wanted to buy: i.e., what are the strategic needs and issues the company needs to address and resolve. Though the seminar was obviously connected to the client's offset interests in Israel, it was conducted with the interest of finding business opportunities that the company would want to pursue regardless of any offset credit they might receive.

The technology seminar, combined with on-site facility visits, yielded over 100 potential opportunities for co-operation. The overall assessment of the team was that Israel is a hotbed of innovation and technology, and a country that should be monitored and assessed regardless of offset commitments. The success of the seminar also scored a victory for the client company's offset group.

Members of the client company recognised that by acting as a catalyst to bring representatives from numerous parts of the corporation to Israel, the need to develop offsets opened up opportunities that otherwise would have gone unnoticed, or still worse, gone to the competition. Of the 100 potential projects identified, over 30 were rated as top priority initiatives. Several were signed and executed towards the end of 1993, prior to any selection of the plane or the engine, due to their enormous relevancy and contribution to the needs of the company.

On the basis of the information gathered by the ITS teams, the client company was presented with a strategy recommending four basic thrusts for the company's offset activities in Israel. The first called for aggressively pursuing co-operation with government-owned defence entities, responding to the government's priority to address the defence industry crisis. The second called for the company to target strategic co-operation with leading Israeli high-tech companies, ensuring that the client company and its divisions benefit from business activities pursued in Israel. The seminar exemplified this thrust. The third recommendation was to develop added-value, people-intensive initiatives which would address Prime Minister Rabin's mandate to generate jobs immediately. Fourth, ITS recommended that the company team-up with in-country technology investment and holding companies to leverage its own investments with those of experienced local partners. This four-pronged strategy formed the basis for the basket of opportunities. Each recommendation was accompanied by a set of entities most suited to the needs of the client. Furthermore, ITS presented specific projects for the client company to carry out with each of the entities it recommended.

#### **15.4.5 Procurement Selection Analysis**

There was never a clear favourite between the F-16 and the F/A-18. The IAF was familiar with the Lockheed aircraft, already in possession of over 200, and the planes had performed well. Indeed, the plane had attained a special significance to Israelis because the IAF used it in numerous combat missions, including the successful surprise bombing of an Iraqi nuclear plant in 1981. Additionally, ordering more F-16s would provide savings in infrastructure, maintenance, and training costs. However, a sizeable contingent in the MOD and IAF backed the F/A-18. The aircraft uses two engines instead of one, giving it a possible survivability advantage; was perceived as more capable than the F-16 in night attack; and offered the advantages of fleet diversification. The contest between GE and P&W was viewed similarly; either engine was deemed up to the task.

However, the MOD appeared to be on-schedule in its decision-making process and nearing final determinations in the later part of 1993. But it then



stalled over rumours that the US Administration would let Israel purchase the F-15E, a plane that the Israelis had expressed great interest in but that had never been available for export. Congress' approval of the F-15E for export to Israel paved the way for the IAF's acquisition of the aircraft.

Industrial co-operation initiatives are important to Israel. However, it is our assessment that offsets, as a rule, will not sway the decision of the IAF or any other branch of the Israeli military unless the various systems under consideration are perceived to be of equal value. Thus the choice of the F-15E/I.

A shift in strategic and operational priorities for Israel made the F-15I preferable over the F-16 or F/A-18. In the past, most of the IAF's procurements stressed interception and peripheral air superiority. However, the now low probability of a conventional war on Israel's borders and the introduction of missiles into the Middle East military balance transformed several basic tenants of national security. Israel would now have to be able to operate against long-range targets, countries such as Iran, Iraq, and Libya. And it might have to do so at night, and avoid detection in severe weather. The F-15I possesses night flying, all-weather, and long-distance strike capabilities at a higher level than that of either the F-16s or the F/A-18s originally offered.

Lockheed responded to the change in the competition, offering a thoroughly updated version of the F-16, the F-16ES. The F-16ES would have been a very capable aircraft, and substantially cheaper than the Eagle. However, the plane was still in the design stages, a fact that may have fundamentally weakened Lockheed's position.

The order was a major victory for McDonnell Douglas. It also sweetened a recent Saudi order for 72 F-15s (a procurement Israel protested). Of the two engine companies, Pratt & Whitney was selected to power the Eagle with the F-100-PW-229 engine. Israel's first F-15Is are to be delivered by 1996-97.

Over the three years in which ITS supported this offset initiative, we learned several important lessons. First, while of great importance for IAF procurements, offsets will not sway a decision to buy any particular system unless the various systems being considered are perceived to be of equal value. Second, we found Israel to hold great promise in diverse areas of technology, from expert systems for composite repairs and fibre optic lasers, to solid modelling/simulation technologies, to adhesive bonding, to multimedia/training, all activities highly relevant to most companies pursuing offset initiatives in Israel. Third, Israeli entities are enormously interested in co-operation with foreign companies, and very aware of the role and ramifications of offset obligations. Lastly, we developed an appreciation for the activities and support provided by the ICA, and have found them to be in principle open to innovative initiatives and uncommon methods for fulfilling offset commitments.

## 15.5 Conclusion

The ITS motto is “offset fulfilment through global technology initiatives”. This chapter was written to provide a practitioner’s insight into the current offset environment and demonstrate how technology initiatives can play a significant role in the formation and pursuit of offset strategies. It is our hope that the reader has gained insight into our company’s philosophies and methodologies, and that the review of Peace Marble IV/Peace Fox VI has provided a tangible example of the philosophies and principles discussed in this chapter. As the demand for offset increases, so will the challenges of pursuing it. It is our sincere hope that fulfilment of offsets through technology initiatives will be adopted as a primary mode of fulfilment by both defence contractors and governments alike, paving the way to long-term, mutually beneficial relationships crossing geographic and national boundaries.