



## ISSUE BRIEF

By Jean-Loup Samaan & Guillaume Lasconjarias

# The Israeli Experience in Missile Defense: Lessons for NATO

In recent years, the issue of missile defense has become one of the most prominent features of Israel's military debate. During Operation Pillar of Defense in the Gaza Strip on November 2012, air defense systems such as Iron Dome proved crucial against rockets targeting Israeli territory. As a result, they have attracted increasing political attention. Against this backdrop, international media and policy circles now focus on Israel as the most advanced case to test the validity of missile defense. NATO, in particular, has dedicated a lot of attention to the Israeli experience in missile defense and the lessons to be drawn from it.

However, an in-depth look at the Israeli experience allows us to better distinguish between relevant findings for NATO and misleading analogies. This paper explores five domains in which the Israeli experience should be examined and underlines, in each case, the appropriate conclusions for the Alliance.

### Different Types of Threats

When looking at the Israeli case, the first key lesson for NATO planners is that threats driving different actors' military policies are not alike. NATO looks at potential mid- to long-term challenges that could be posed by ballistic arsenals, whereas Israel sees missiles and rockets as constituting close and immediate existential dangers to its territory.

While discussion of missile defense within NATO has grown in recent years, Israel has been confronted with the issue of missile proliferation since the early seventies and has had to live with the fact that, in the

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intervening years, the Middle East was becoming the most active region of the world in the missile race. At the very end of the 1973 Yom Kippur War, Egypt launched three Scud-B missiles against Israel, but to limited effect. For the Israeli policymakers, the first wake-up call came later, with the so-called "War of the Cities" between Iran and Iraq in 1988. Israeli analysts realized that Saddam Hussein was using Scud missile strikes against Tehran as a new weapon

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of coercion. The missile threat from Baghdad became an even greater challenge for the Israelis three years later when, in the midst of the Gulf War, Saddam Hussein launched forty-two Scud missiles against Tel Aviv, Haifa, and Dimona. The damage inflicted was relatively low (with only one death in total), but the psychological effect (resulting in fifteen heart attacks) was much more important. This underlined the urgent need to reassess the Israeli response to missile proliferation.

Proliferation in the Middle East grew steadily in the 1990s. Iran, which started the development of its own arsenal during its war with Iraq, is seen today as having the most advanced program in the Middle East. Its missile arsenal includes dozens of short-range missiles such as Shahab-1 and Shahab-2, which are a threat to its closest neighbors; in addition, the country has been developing, producing, and fielding medium-range ballistic missiles, as well as intermediate missiles like the Shahab-3 or its upgraded variant the Ghadr-1.<sup>1</sup> The most recent version of the Sejil missile has an estimated range of more than 2,000 km. The implementation of the latest technology could increase the range to 5,600 km, thus threatening virtually all of Europe, including the United Kingdom, the Eurasian landmass, and much of northern Africa. According to the Israeli Missile Defense Association, Syria's Bashar al-Assad regime still possesses some 50,000 rockets and missiles,<sup>2</sup> including an estimated 200 Scud-B and eighty Scud-C missiles, with a range of up to 700 kilometers.<sup>3</sup>

From NATO's perspective, at stake is the increase in countries with the technical capabilities and the scientific know-how to develop a ballistic missile arsenal. But in the absence of any obvious and indisputable threat, the prudent course is to avoid too specific a focus in current defense efforts. True, the Alliance's contingency scenarios clearly identify the Middle East as the region from which missiles could be fired at NATO territories; in political terms,

however, the Alliance has so far made no declarations of a more specific nature on the subject. At the Lisbon and Chicago summits, the Allies agreed on an official but rather vague statement to the effect that ballistic missiles pose an increasing threat. The difficulty of obtaining a common threat assessment emerges clearly if one considers that some of the twenty-eight member states consider Russia the greatest threat in terms of missiles, while others do not support the Alliance in identifying Iran as a threat.

Coming back to Israel, threat assessment there has been less of an issue since the 2006 war with Hezbollah. This is usually seen as the country's second, and more recent, wake-up call. Despite the Israeli Air Force's intensive air campaign, Hezbollah was nevertheless able, by the end of the war, to launch rockets against cities like Haifa, Afula, and Tiberias. Not only did the Israeli military fail to destroy the launchers, but the political impact of Hezbollah's strikes on northern Israel reinforced the conviction within the Lebanese movement that missile warfare was the only way to circumvent Israel's overwhelming force. The new reality on the ground was that Hezbollah's military posture had substantially shifted: the strategy, which had focused since the mid-nineties on suicide attacks against convoys of the Israeli Defense Forces (IDF), was now based on rocket and missile strikes against forces and cities in northern Israel. Increasing reliance on these delivery systems can also be found in Palestinian groups including Hamas, as seen during its two last rounds of clashes with the IDF in 2008 and 2012.

From this perspective, the first lesson from the Israeli experience is one of caution: the threat assessment driving IDF planning cannot be transposed in identical form to NATO. Although all stakeholders recognize that surface-to-surface ballistic missiles have proliferated in recent years, NATO is faced with the potential threat of arsenals which for the most part are still in the making.

### **The Political Momentum for Missile Defense**

One interesting similarity between Israel and NATO is that, in both cases, decision-makers have looked at missile defense as a convenient political tool and as a set of capabilities whose added value can be

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1 Uzi Rubin, "The Global Range of Iran's Ballistic Missile Program," *Jerusalem Issue Brief* 5, no. 26 (Jerusalem: Jerusalem Center for Contemporary Affairs, 20 June 2006), 4.

2 See Israeli Missile Defense Association, [http://imda.org.il/english/Threats/Threats\\_cntry\\_Dynamic.asp?countryId=3](http://imda.org.il/english/Threats/Threats_cntry_Dynamic.asp?countryId=3).

3 Duncan Lennox, *Jane's Strategic Weapons Systems* (Surrey: Jane's Information Group, 2009), 176.

readily conveyed to national and international public opinion.

This kind of political passion has not always been the case. Although Israeli missile defense systems have been under development since the mid-eighties, the attitude of politicians has slowly evolved. At first, the political class in Jerusalem justified development of missile defense in the name of pragmatism and opportunism. It was seen as a pragmatic move following the War of the Cities: Israeli politicians became aware that the security—or the “sanctuarization”—of their territory had come to be jeopardized by increasing regional proliferation. It was also an opportunistic move, because Israel was taking advantage of the early impetus in Ronald Reagan’s Strategic Defense Initiative. Within this cooperation framework, the burden of developing the systems was mostly taken on by the United States.

Israel’s political approach toward missile defense swiftly changed in the years between the 2006 war and Operation Pillar of Defense in November 2012. The real turning point for the politicians came with the progress achieved in the Israeli-made system, Iron Dome, which late last year achieved a success rate of 85 percent. For decision-makers, numbers matter and, in this case, they lent full support to the case for missile defense: of the 1506 rockets fired at Israel, only fifty-eight fell in urban areas. Understandably, these impressive results led to political euphoria.

This passion is readily understandable, as missile defense has become a precious tool for the government to reassure citizens regarding their safety and to mitigate the psychological effects of missile warfare. In addition, it provides the prime minister and his national security team with new options to react to potential attacks. For many planners in the Ministry of Defense or the prime minister’s office, the success of Iron Dome during Operation Pillar of Defense allowed the government to avoid launching a ground campaign in Gaza, an important consideration both for Israeli voters and the international community.

The same shift in the politics of missile defense can be observed within NATO member states. For a long time, missile defense was seen as an exclusively

American issue, discussed under bilateral auspices. With the Obama administration, the political narrative significantly shifted. In 2009, the United States altered the architecture of its European-based missile defense system, handing it over as a national US contribution to NATO and thus making it part of the transatlantic bargain. Politically, missile defense can be considered a convenient mechanism to rebuild cohesion after a decade of continuous engagement in Afghanistan, where operational fatigue has risen. Missile defense can act as a unique enabler, strengthening ties between Allies and helping to maintain true commitment to the principles of collective defense, especially to Article V.

The Obama administration has promoted missile defense not simply as a way to reshape the division of labor within the Alliance, but also as a means to a moral end: the abolition of nuclear weapons. As evidenced by the numerous official documents from the White House and US Department of Defense, missile defense is now described as an effective way to decrease reliance on nuclear arsenals. It thus corresponds to a political narrative that has ramifications in terms of military posture, as will be illustrated later in this issue brief.

Following this new American narrative, NATO’s 2010 Strategic Concept indicated a change from protecting NATO forces deployed in theater to a more comprehensive protection of European populations and territory. The semantics of “theater” to “territorial” missile defense matters. This might seem a minor change, but its implications are huge. The ultimate mission is now to protect twenty-eight countries and 900 million people over two continents.

Political narratives on missile defense in Israel and NATO have thus evolved from skepticism to near-infatuation, but for different reasons. Ultimately, however, the lesson here might be a negative one: due to this political hype surrounding missile defense, a problematic confusion has developed with regard to its economic and operational realities.

### **Economic Implications**

Interestingly, both Israel and NATO discuss the financial issues related to missile defense in terms

of burden-sharing with the United States, still the ultimate provider of missile defense systems in the world. The story of Israel's missile defense enterprise dates back to the early 1980s, when the Reagan administration was looking for allies willing to cooperate on the ambitious Strategic Defense Initiative. First contacts were officially arranged in 1983 between the US Missile Defense Agency and MAFAT, the research and development directorate of the Israeli Ministry of Defense. Three years later, a memorandum of understanding committed the US Department of Defense to the cofinancing of Israeli capability in ballistic missile defense.

The first joint project was launched in 1988 with the Arrow, a theater missile defense system. Despite concerns within the military on the cost-benefit ratio of this program, it was followed years later by a second version, the Arrow-II, which extended the cover to long-range conventional missiles. This upgraded version became operational in 2000. As these initiatives were co-financed with the Americans, the real economic battle for Israeli missile defense only started in late 2006 with the decision to implement two new systems: David's Sling, designed to intercept medium- to long-range rockets and cruise missiles, and Iron Dome. Overall, the Arrow, David's Sling, and Iron Dome would implement missile defense architecture in three layers: against long-, mid- and short-range missiles.

Developed by Rafael Advanced Defense Systems, Iron Dome is financially a very ambitious effort. Each battery is said to cost \$50 million. For this reason the topic is increasingly shaping the agenda of US military aid to Israel. In 2012, the US Congress pledged new financial support of \$680 million over a period of three years to Israel in order to improve Iron Dome's capabilities. This rise in US financing of Israel's defense was acknowledged during the first meeting between Secretary of Defense Chuck Hagel and his counterpart, Ehud Barak, in early March 2013. The first successful test of David's Sling, codeveloped by Israel and the United States, was conducted in 2012. Overall, it is estimated that around \$2.8 billion has been spent to date on the three main systems (Iron Dome, David's Sling, and Arrow), with the United States covering 60 percent of the burden.<sup>4</sup>

<sup>4</sup> *The Military Balance 2013* (London: International Institute for Strategic Studies), 364.

While Israel has leveraged US research and development without fear of losing strategic autonomy, NATO Allies sometimes see the imbalance between their own capabilities and those of the United States as a threat to their share in Alliance decision-making. Indeed, burden sharing in the field of NATO missile defense remains a controversial issue. In 2011, US Permanent Representative to NATO Ivo Daalder conceded that "implementing NATO's missile defense capability [would] take time and money." Others, including NATO Secretary General Anders Fogh Rasmussen, played down the extra costs on the grounds that the additional investments would amount to about €200 million over the next ten years, shared by twenty-eight Allies.<sup>5</sup> This funding covers only the command and control system, however, not the sensors and interceptors that would otherwise have to be procured.

By contrast with Israel (which has used US support to develop its own capability) NATO countries rely heavily on the extensive US effort in missile defense technology. As of today, only a few European countries possess the know-how and capabilities for a comprehensive missile defense program. NATO's European Allies fear they may have no other choice than to purchase US-built off-the-shelf materials. Despite declarations made by major American CEOs and government officials of the "significant opportunities for European industries," missile defense remains an American industry preserve. While the United States is said to cover 60 percent of Israeli missile defense architecture, independent experts have argued that, inside NATO, the US share might be as high as 90 percent.<sup>6</sup>

As a consequence, the European NATO member states are increasingly concerned about the additional expenditures. As with any national contribution, Allies are responsible for the costs associated with their own contribution. In a time of fiscal austerity with massive cuts in European military budgets, any argument against extra costs is worth considering and this helps

<sup>5</sup> Anders Fogh Rasmussen, "NATO needs a Missile Defence," *The New York Times*, 12 October 2010.

<sup>6</sup> Lieutenant-General Michel Asencio, "Défense antimissile balistique européenne et C2," (Paris: Fondation pour la Recherche Stratégique, August 2009), 11.

explain why some member states argue fiercely about the cost-effectiveness of the missile shield. Taking into account that a single Patriot interceptor costs \$3.3 million while a Standard Missile-3-aboard a US-Aegis type vessel costs three times as much,<sup>7</sup> some Allies have expressed an understandable concern about missile defense making unsustainable demands on budgets.

This economic controversy inside NATO might be related to the consideration that, compared to Israel, most NATO states need not see the missile threat as an immediate concern.<sup>8</sup> At the same time, with the reluctance of European countries to invest now—or even later—in missile defense capabilities, the new “transatlantic bargain” is in serious jeopardy. This is why NATO is using missile defense as a possible way to increase joint procurement and development of joint capacities in the framework of “smart defense,” emphasizing the benefits to be gained in the long haul.

### Operational Realities

An additional lesson to emphasize from the Israeli experience relates to the ultimate limits of any missile defense architecture. Procurement of interceptors does not ensure effectiveness, and no missile shield can be 100 percent efficient. The fact that a tiny country such as Israel endures this constraint should be considered with caution by those within NATO who envisage comprehensive territorial missile defense.

Due to the various systems developed or under development in Israel, there is widespread confusion on the exact level of readiness and coverage of its missile defense architecture. Given the current passion of Israeli politicians for these systems, party leaders and government officials maintain a kind of ambiguity on the ultimate objectives of missile defense and frequently imply that these systems aim at defending the homeland as a whole.

In reality, what the existing systems protect is first and foremost critical infrastructure and military bases. Major General Gadi Eizenkot, deputy chief of staff of the

Israeli Defense Forces, triggered a public controversy during a speech at the University of Haifa in 2010 when he stated that “the residents of Israel shouldn’t be under the illusion that someone will open an umbrella over their heads...The systems are designed to protect military bases, even if this means that citizens suffer discomfort during the first days of battle.”<sup>9</sup>

It is worth noting that the most conclusive results of Israeli systems have so far been achieved in the lowest tier. Iron Dome, which is mistakenly seen as the central, if not the only, node of Israeli missile defense architecture, aims at intercepting rudimentary rockets with a four- to seventy-kilometer range. In contrast, despite several tests, there are still doubts on the effectiveness of mid- and long-tier systems such as the Arrow or David’s Sling. Even in the case of Iron Dome, however, engineers estimate that Israel would need at least thirteen batteries to implement comprehensive territorial coverage; to date, only eight have been financially secured.

This misunderstanding on the operational reality of Israel’s missile defense capabilities is perilous for NATO, as US and European audiences have misread the success story of Iron Dome and sometimes portrayed it as the perfect supporting evidence for NATO’s own missile defense enterprise. This rhetoric is fallacious for two reasons. The first is that the successes achieved by Iron Dome do not cover threats relevant to NATO countries. Israel’s ability to intercept rockets coming from Gaza should on no account be taken as evidence that NATO can successfully deploy the capabilities needed to destroy ballistic missiles. There is a quantum leap in terms of the assets and tools needed to face these different types of threats. NATO’s objective is to expand its capacities of detection and destruction, so as to intercept theater ballistic missiles with a range up to 3,000 km, and, in the future, missiles of longer range.

The second reason for not seeing Israeli efforts as a blueprint for the Alliance is that NATO now faces a critical decision-making challenge in a domain where the Israeli case is irrelevant. Given the time-sensitivity of intercepting a ballistic missile, a

<sup>7</sup> Oliver Thräner, *Das Raketenabwehrprojekt der Nato*, (Berlin: Stiftung Wissenschaft und Politik, September 2011), 19.

<sup>8</sup> NATO Parliamentary Assembly, “Missile Defence: The Way Ahead for NATO,” 7 November 2011, <http://www.nato-pa.int/default.asp?SHORTCUT=2591>.

<sup>9</sup> “Eizenkot: Rocket defenses designed for IDF, not citizens,” *Jerusalem Post*, 1 December 2010, <http://www.jpost.com/Defense/Eizenkot-Rocket-defenses-designed-for-IDF-not-citizens>.

premium is placed on the chain of command that would activate the missile defense systems. This constitutes a real challenge for an Alliance whose core strength is based on consensus. Hence, emphasis has been placed on how to depoliticize and automate the decision-making process in order to achieve a highly integrated network-centric command and control and information-sharing system. A very important step was taken at the Chicago Summit in May 2012 when the Allies agreed upon the prearranged command and control rules and procedures, announcing that the “interim operational capability” was reached.

### **Missile Defense and Deterrence**

Ultimately, building a missile defense architecture affects military traditions is an issue on which NATO member states show differing attitudes. Here, the Israeli experience is an interesting case of slow and careful pragmatism.

For NATO, too, the discussion of missile defense opens up major questions regarding its military culture and, in particular, its deterrence posture as a nuclear alliance. One question mark concerns the possibility of considering missile defense as a substitute for nuclear deterrence. This is so to say a follow-up to some issues that have been raised before the Lisbon Summit agenda in 2010; there was once a speculation about the possible linkage between the build-up of a Ballistic Missile Defense and progressive nuclear disarmament. In the view of some NATO member states, a truly efficient missile defense would pave the way for the removal of US nuclear forces in Europe, and possibly from the British and French arsenals as well. However, the decisions reached in Chicago recalled that if NATO shares a common vision of a possible future without nuclear weapons, as long as this armament will be displayed, NATO will remain a nuclear-alliance.<sup>10</sup>

Obviously a country like France, which traditionally considers nuclear weapons essential to its strategic identity, fears that a rebalancing between missile defense and deterrence would affect its own status. Other states have a more balanced approach and refuse anything that could be seen as a possible weakening of the Alliance deterrent.

In the end, if one looks at the Israelis’ experience and their ultimately pragmatic attitude to missile defense, the controversy inside NATO about the balance between missile defense and nuclear deterrence could be seen as exaggerated and emotively charged. Despite the political passion that leads politicians to overplay its relevance for electoral gains, missile defense is probably better seen not as the sole means of response, but as a way to prevent the aggressor from winning the fight with a first-wave attack, and to buy time for an offensive response.

### **Conclusion**

The Israeli experience with missile defense is worth exploring, given that the Atlantic Alliance envisions this domain as one of its future pillars. The ballistic missile threat is undeniably increasing both in quantitative terms and in sophistication. Under these circumstances, NATO countries and Israel can understandably consider missile defense as a credible and highly visible manifestation of their commitment to protect their respective populations, their values, and their interests. The analogies, however, should not be exaggerated. The challenges that a lone country like Israel faces and the remedies it has found to address them do not provide an ideal reflection of those an alliance of twenty-eight member states—each with its own mindset and strategic culture—faces. In addition, decision-makers within NATO should not be misled by the political hype or misread the success story of Israel’s missile defense system. In this instance, what matters here is not intellectual dogmatism, but pragmatism in the face of obvious threats.

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<sup>10</sup> See “NATO and Missile Defence: Opportunities and Open Questions,” *CSS Analysis in Security Policy*, no. 86 (December 2010): 2-3.

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