

The Security Agenda

A Laser Defense System is Critical

By: Dr. Oded Amichai, Omedia, 10.9.2006

Dr Oded Amichai, a “father” of the Nautilus project, explains the need for a laser defense system. In the recent war the system would have changed the outcome completely

In the last 5 years, hundreds of Kassam rockets slammed into the western Negev, rendering the lives of residents intolerable, inflicting economic damage, and causing personal trauma. The defense establishment favored an offensive response, whose failure was proved when the presence of large IDF forces in the Gaza Strip did not stop the Kassams. The inevitable result of this was the erosion of Israel's deterrence and its embroilment in an inconclusive war with Hizbollah, when 3,970 medium- and long-range rockets caused loss of life and property and economic damage estimated at over NIS 25 billion.

This happened when there was a solution at hand – the Nautilus (Sky Guard) laser system, which has intercepted dozens of rockets with 100% success rendering them useless, like the rifle made the bow and arrow obsolete. The laser can intercept rockets (Kassam, Katyusha, Fajr), short and medium range missiles (Frog, Scud), artillery mortars, and rocket propelled grenades (RPGs), in a single shot and in a volley to intercept planes, helicopters, drones, and cruise missiles.

Instead of focusing on the laser system, which was available, effective, and cheap, the defense establishment examined solutions that were unavailable, ineffective, and not cheap. The low probability of intercepting a missile or rocket using a rapid missile (costing a huge \$100,000 compared with \$1,000 for firing a laser), was demonstrated in the First Gulf War (1991), when the Patriot failed to intercept dozens of Scud missiles fired from Iraq. The Patriot's 100% failure to intercept compares with the 100% success rate in the laser's test firing. Why invest in a costly device with a known poor probability of success? Other alternatives (rapid cannon and guided projectiles) have limited ranges, which rules them out as possible solutions.

One rationale for dropping the laser project was that a mobile system, which was needed by the American army in Iraq, would

not be ready for the next decade. This is misguided thinking, because you don't need a mobile system to protect cities, and the Sky Guard, which was developed especially for this based on Israeli specifications and in partnership with Israeli manufacturing companies, could be transferred in one day and could meet every requirement for defending cities.

If laser systems had been deployed, they would have intercepted all the rockets fired at Israel and the conflict with Hamas and Hizbollah would have been vitally different. There are no laser systems, not because of a technical difficulty or budget limitation, but because of the conservative attitude to assessing the threat of rockets and missiles fired against a civilian population and because of an unrealistic belief in the present capability, which does not meet new requirements.

The conservative approach of the defense establishment reached a turning point when two months before the Second Lebanon War, Defense Minister Amir Peretz gave the order to re-examine the freezing of the development and production of anti-rocket and missile laser systems. Thus, before the war, a high level representation from the development company, Northrop Grumman, met with Defense Minister Peretz on the disastrous day of the Gaza Strip attack and kidnapping of soldier Gilad Shalit. Presumably, following the lessons of the war, the defense establishment will revise its attitude and give the order to rekindle the Nautilus project and build a laser system in Israel (Sky Guard) to defend against missiles and rockets.

15 laser systems are needed to defend the residents of northern Israel and the western Negev, at a total cost of some \$600 million, an amount equal to the cost of damage to the economy incurred in two and a half days fighting. This is a small though vital expense relative to its benefit: the elimination of the threat of rocket and missile attacks to the Israeli rear. It is also clear that the terror organizations and extremist Muslim states (Syria and Iran) will learn their lessons from the Second Lebanon War, improve the performance of their rockets and missiles, and eventually threaten central Israel as well. If Israel has a laser defense system (Sky Guard), it will reassert Israeli deterrence by making missiles and rockets redundant, and allow the IDF the freedom of action it needs.

Israel must also assess the menace from Iran, which is pouring massive resources into acquiring nuclear capability despite international efforts to stop it and the possibility that America will eventually decide to destroy its nuclear potential. Israel must not stay passive and should exploit her strategic understanding with the US to develop laser weapons capable of intercepting ballistic missiles. The Arrow is not enough.

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