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To What Extent is Israel Prepared for the Growing Threat of UAVs?

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The threat of unmanned aerial vehicles (UAVs) has recently figured in the headlines, following UAVs launched by Hezbollah in July 2022 aimed at the Israel natural gas platform in the Karish field, reports of a Hamas project to develop UAVs, a UAV attack against the American al-Tanf base in Syria, and reports that Russia has purchased Iranian UAVs. Such an arsenal in hostile hands constitutes a mounting threat to Israel. Assuming that UAVs, especially offensive ones, will join any high-trajectory fire against Israel, new thinking about the ways of dealing with the threat in the spheres of doctrine, development, and operations is needed. Technological and operational solutions for both the more conventional threat and a scenario of massive UAV attacks in combination with high-trajectory barrages are required. Inter alia, there should be greater reliance on lasers as a cheap solution with much higher output than the current solutions. In addition, preparations should be made for handling extreme scenarios, however unlikely.

The subject of unmanned aerial vehicles (UAVs) has figured frequently in recent headlines. In early July 2022, Hezbollah launched three UAVs at the Israeli natural gas platform in the Karish field in the Eastern Mediterranean. These UAVs, which reportedly did not carry explosives, were detected in timely fashion by the IDF detection and air defense system; they were intercepted by missiles of the Barak 1 system stationed on Israeli naval vessels, and by F-16 Barak air force planes. Hezbollah, which admitted that it had launched the UAVs, stated, "The mission was completed." There are also reports of a UAV development project by the Izz ad-Din al-Qassam Brigades, the military wing of Hamas, which displayed UAVs developed by one of its members killed during Operation Guardian of the Walls. In

tandem, another attack on the American al-Tanf base in Syria using UAVs, probably by militias supported by Iran, was reported. It is believed that this attack came in response to the attack attributed to Israel a few days earlier. There have also been disturbing developments in the global arena: the purchase of hundreds of Iranian UAVs will enable Russia to enlarge its order of battle, which was severely damaged in the war against Ukraine.

Although the July event was generally perceived as a successful response by the IDF, conclusions about Israel's ability to handle the growing threat posed by UAVs in the hands of hostile countries and organizations is premature. In recent years, this threat, once a marginal phenomenon, represents one of the most significant tools possessed by Hamas and Hezbollah, as well as by Iranian-supported militias. UAVs enable these groups to harass Israel and its allies, joining the dramatic threat posed by Iran itself, which is emerging as a rising global power in this realm.

This was not Hezbollah's first attempt to launch UAVs into Israeli territory. The organization's first efforts to launch Iranian-made UAVs against Israel came in the Second Lebanon War; the Israel Air Force successfully intercepted these UAVs. Since then, Hezbollah has learned, including from the efforts of other terrorist organizations in the Middle East, that UAVs, even small and non-lethal ones, are an effective tool for a range of missions, including the delivery of cognitive messages. This was the case in 2012, when a UAV penetrated Israeli airspace in an attempt to execute an intelligence gathering mission above a security facility in southern Israel. In 2019-2021, Hezbollah reportedly carried out regular intelligence gathering missions beyond the Israeli border using an average of 74 drones a year. In the past year, the organization launched a fixed-wing radio-controlled aircraft that remained in Israeli territory for half an hour and succeeded in returning to Lebanon without being intercepted by the IDF.

Hezbollah's launch of UAVs at the gas platform in early July 2022 significantly escalates the organization's cognitive warfare. It appears that the UAVs were designed to enhance Hezbollah's image and highlight its operational capabilities in response to the negotiations between Israel and

Lebanon on gas production in the Mediterranean. Hezbollah's growing use of UAVs highlights its focus on multi-purpose weapons in its overall campaign against Israel and between campaigns. Although the use of UAVs between wars appears to be for intelligence gathering and cognitive purposes, their primary mission is offensive, together with the main effort to reinforce and improve the accuracy of rockets and missiles. In his public statements to the media, Hassan Nasrallah also referred to Hezbollah's independent production capacity developed in recent years with Iranian assistance. In 2019, he stated, "We had few [UAVs] in 2006 and tried to do something, but we were at the beginning." Israel is also exposed to efforts to penetrate its territory on its southern border with UAVs, some of them Iranian-made.

The Iranian UAV program is nevertheless the gravest potential threat to Israel. Iran has shown great boldness in UAV attacks against Middle East targets in recent years. At the same time, it aids its proxies in various theaters and gives them knowledge for developing this arsenal. A variety of attacks in the Middle East are attributed to these organizations, among them the attacks against American bases in Syria and Iraq, the most famous of which took place in October 2021, causing damage to property; the attempted assassination of Iraqi Prime Minister Mustafa al-Kadhimi in November 2021; and attacks against ships owned or operated by Israel. Prominent in this context was the attack on the *Mercer Street* oil tanker in July 2021, which killed two crewmen. The August 15, 2022 UAV attack on the al-Tanf base in Syria is a continuation of the same Iranian-directed policy.

These developments – concentrated effort in UAVs by non-state actors, whose capabilities are enhanced by Iranian support – reflects an escalation of the aerial threat against Israel. Use of the air dimension employing a wide variety of special tools was formerly the provenance of powerful countries and institutionalized air forces. The threat of remotely or autonomously controlled UAVs compounds the threat of missiles and rockets, which is still more common and significant, and which is likely to be integrated with it. Inferior threats may also join these – e.g., explosive balloons and incendiary

kites (from the Gaza Strip), although the use of these specific measures has waned over time.

The diverse threats of various types of UAVs have attracted growing attention in recent years. Effective solutions must be devised, as these weapons, which are important, cheap, and available systems, have both intelligence gathering and offensive aspects, particularly in combination with high-trajectory weapons. The Israeli security establishment must thus prepare – in the spheres of doctrine, research and development, and operations – to promote updated and adequate handling of the threats, after many years of focusing on the high-trajectory threat and more recently on the growing threat of precision missiles.

Israel should assume that the UAVs element, especially in its offensive form, will constitute a significant extension of the high-trajectory element. This integrated threat requires technological and operational solutions developed and applied against the better known and more common threat of high-trajectory systems, as well as special solutions, especially those pertaining to a scenario in which massive barrages of UAVs are launched simultaneously with high-trajectory weapons barrages or independently of them. One important challenge is the large scale of the integrated air threat, which will facilitate attacks employing various tools against critical infrastructure and military and defense facilities, in addition to civilian population centers. It is therefore necessary to devise advance dense defense capabilities against possible varied attacks, particularly in the event of a prolonged large-scale conflict. At the same time, the security establishment should address complex questions of prioritization for defense zones and expansion of the defensive order of battle for the growing threat: both in the order of battle and the necessary defense systems. Since no solution provides hermetic protection, it is therefore necessary to improve home front defensive preparations, which are already inadequate now in a large proportion of communities in Israel. Future deployment must thus include civilian aspects, above all protection for buildings and facilities, plans for population evacuation, and flexible,

differential, and up-to-date formats for necessary actions by various groups in a conflict.

Similar to the defense against high-trajectory weapons, the fact that developing, producing, and operating UAVs is much cheaper than the existing interception systems should be taken into account in building the integrated defense force against UAVs. A breakthrough in developing laser-based interception systems, which are scheduled to reach an operational stage in the coming years, thereby providing a relatively cheap and high-output solution, is especially important. Such systems are not meant to replace the existing kinetic systems, led by the Iron Dome; they are intended to add another layer to the ability to cope with the various threats. The laser now being developed is designed primarily to intercept rockets and mortars; such a powerful laser interception system is not necessary in order to destroy UAVs. Lower-intensity lasers at reasonable prices are currently being developed in the United States and Europe. Some of these are already available, among them a system procured by the French government for future protection against drones for the 2024 Olympic Games.

In conclusion, Israel should formulate a comprehensive approach for dealing with the emerging threat of UAVs. This must also include effective solutions for extreme scenarios that currently appear unlikely to materialize, but which involve major risk. One example is the launch by terrorist organizations of a small rotary drone with an intoxicating substance against Israel (or from within Israeli territory). At the strategic level, Israel must also persist in its development of advanced technologies against the UAV threat, expand its intelligence efforts in this context, and step up its efforts at international cooperation, including its defense exports in this sphere. Concern about this threat, which will only grow in the future, is not limited to Israel.

Editors of the series: Anat Kurtz, Eldad Shavit and Judith Rosen