



Veneratio Diligentia Vires

Israeli- United States Cooperation In Homeland Security And Counterterrorism Benefits To The U.S.

By Dr. Joshua Sinai

Identifying the spectrum of threats a country needs to be prepared for, prioritizing them based on their potential lethality and likelihood, and then building the capability to counter and defeat them, form the basis for effective homeland security and counterterrorism. The United States and Israel are considered among the world's top players in these areas because of their high levels of anticipation, preparedness and responses to counter such threats. Israel, a much smaller nation, has demonstrated strong organizational and technological proficiency in these areas due to the need to protect itself from the continuous terrorist and conventional military threats arrayed against it. It has developed unique, innovative, and cutting-edge military, law enforcement and emergency preparedness and response technologies and capabilities to counter them, which are also marketed to its allied countries – especially the United States, its strongest and closest diplomatic and military ally.



Secretary of Defense Jim Mattis meets with Israel's President Reuven Rivlin in Jerusalem, Israel, April 21, 2017. (DOD photo by U.S. Air Force Tech. Sgt. Brigitte N. Brantley)

Underpinning the close U.S. – Israel bilateral defense relationship is the concept in U.S. foreign policy, which is defined in U.S. law, to maintain Israel’s qualitative military edge (QME). This commits the U.S. to maintain Israel’s QME in terms of technical, tactical, and other military advantages that would enable it to continuously deter its numerically superior Arab (and Iranian) adversaries. The primary current component in implementing the QME is America’s provision of \$38 billion in military assistance over a ten year period. With this latest agreement signed in September 2016, it goes into effect in 2019 (until then Israel receives an estimated \$3.1 billion annually from previous aid packages), and includes \$5 billion for missile defense, additional F-35 joint strike fighters and other military materiel. An important understanding in this aid package is that it is also intended to stimulate expanded partnerships in the form of joint research and development (R&D) in military technology programs and equipment between Israeli and U.S. defense firms.

As a result these and other agreements and partnerships, Israel and the United States maintain close bilateral cooperative relationships in homeland security and counterterrorism. In the U.S., this is manifested at the governmental (federal, state, and local), military, law enforcement and private industry levels. Numerous official government delegations from both countries visit each other annually, including conducting joint training exercises, so both countries’ technological equipment and training practices in these areas are known to each other.

This article examines some of Israel’s ‘best in class’ organizational and technological capabilities in homeland security (HLS) and counterterrorism (CT), including cyber security, that either are already being used in the U.S. or, if not, can contribute to further upgrading U.S. capabilities in these areas.

This will be done by examining Israeli best practices in nine areas: first, counterterrorism; second, organizational (e.g., how the Israeli Home Front Command and National Emergency Management Agency are organized and operate in an integrated manner); third, the management of first responder emergency medical systems (EMS); fourth, the management of early warning notifications; fifth, border security; sixth, transpor-



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tation security; seventh, unmanned aerial vehicles in the form of UAVs – drones; eighth, anti-missile defense systems; and, finally, cyber defense.

Counterterrorism

Identifying and prioritizing terrorist threats is crucial, which is why so many financial and organizational resources are expended on it in HLS and CT programs. Identifying these threats is part of an overall campaign to counter a terrorist adversary by preempting it in its areas of operation, whether domestic or foreign, through military, law enforcement, and intelligence measures. Israel, which has experienced eight inter-state wars and two intifadas (uprisings) since its establishment in 1948, is a textbook case for practices in how to manage such a “permanent state of insecurity,” with ever-changing and evolving modus operandi by its state and sub-state terrorist adversaries. (1)

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In response, Israel’s CT strategy has to continuously anticipate and rapidly respond to not only potential conventional adversary state attacks (such as by Iran’s nuclear program), but also sub-state terrorist attacks that might include suicide bombings, rocket and missile attacks (such as by the Lebanese Hizballah, the Palestinian Hamas, and, most recently, by the Sinai-based Islamic State), to car-ramming and knifing attacks. In a latest development, Israel now also has to anticipate potential attacks by Hamas operatives via their underground tunnels built under the Israel-Gaza border fence.

Once an attack takes place in Israel, Israeli military, security (e.g., intelligence), police, and emergency response agencies must react quickly, with the assistance of the civilian population, many of whom also serve in the military reserves, with many authorized



to carry and use weapons in in their civilian lives when such incidents might occur.

An important CT component involves monitoring adversaries' postings in social media networks, which plays an important role in identifying and apprehending potential radicalized terrorists, including their associates, who express themselves on the Internet in Arabic.

How can Israel's CT capability support the United States? First, both countries recognize the importance of being proactive in intelligence sharing, particularly given their common interest in defeating al Qaida/Islamic State and their affiliated groups, and preventing nuclear proliferation in the Middle East region, particularly by Iran. In this sphere, joint exercises and other forms of training against shared

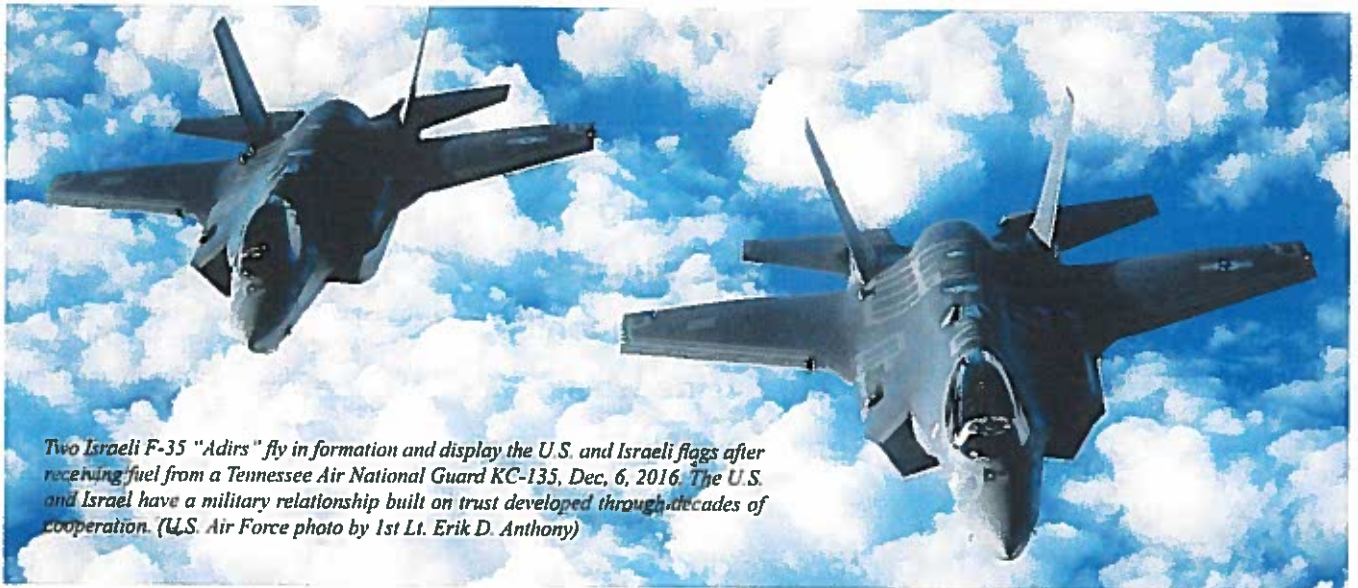
targets are also reportedly held between Israeli and U.S. Special Forces. (3) In a related area, joint training exercises are reportedly held between Israeli and U.S. Israeli and American law enforcement officers in 'urban warfare', barricaded active shooter and hostage situations, in promoting citizenry 'super vigilance' about potentially suspicious activities in their surroundings, and in using the latest forensic investigation techniques in an incident's aftermath.

Organizational

Once threats, whether man-made (e.g., terrorism) or natural (e.g., hurricanes or earthquakes) are identified and prioritized, it is crucial to allocate appropriate resources to address their associated challenges. As explained by Israeli homeland security expert Meir Elran, "the suggested strategy should strike the right balance between the

robust required investment in the sphere of resistance, namely deterrence, protection, active defense, and mitigation, on one hand, and the sufficient investments in the field of resilience, both in the community sphere and the infrastructure domain." (4)

In Israel, the Home Front Command (HFC), the National Emergency Management Agency (NEMA), the Israel Police, and emergency medical services (EMS) are the primary emergency response services in managing threats and attacks. The HFC was established in 1992 as a component command of the Israel Defense Forces (IDF), under the Ministry of Defense. As a military organization, which employs an estimated 65,000 soldiers (with about 90 percent of them reservists) (5), it is responsible for all aspects of civil defense, population guidance, and large-scale military-type operational responses in



Two Israeli F-35 "Adirs" fly in formation and display the U.S. and Israeli flags after receiving fuel from a Tennessee Air National Guard KC-135, Dec. 6, 2016. The U.S. and Israel have a military relationship built on trust developed through decades of cooperation. (U.S. Air Force photo by 1st Lt. Erik D. Anthony)

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Such a military-centric approach to emergency management may not serve as an appropriate model for the U.S., however. This is because in what would be perceived as Israel's emergency response counterparts in the U.S. FEMA operates as a Department of Homeland Security (DHS) agency, the Defense Department's Northern Command (NORTHCOM) operates in a supporting capacity to civil authorities in coordinating the U.S. active duty armed forces' response to natural disasters once requested by the lead civilian federal agency and directed by the President or Secretary of Defense...

emergency situations, with future scenarios regularly exercised throughout the country in the course of a year. It also operates a military school to train its personnel. The NEMA, which is also under the Ministry of Defense, was established in September 2007. Comparable to FEMA, its American counterpart, it operates alongside the HFC to manage civilian response during a state of emergency, a war, or a natural disaster. The Israel Police is a national agency under the Ministry of Public Security, and also plays a role in managing the consequences of an incident, including working with the Security Service (Shin Bet) in thwarting and arresting potential terrorists.

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Nevertheless, all the U.S. emergency response agencies regularly send their leaders and personnel to train with their counterparts in Israel in emergency responses to disasters, including those involving weapons of mass destruction, and, in the case of military personnel, in working with their civilian counterparts.

Emergency Medical Response

When a violent incident occurs, the first few minutes are crucial in saving the lives of victims, especially in stopping the bleeding. Emergency medical services (EMS) (as well as firefighters who are trained para-medics) provide crucial services in life support. An Israeli innovation that is of interest to American counterparts is the service provided by the United Hatzalah (Rescue) (UH), which provides rapid emergency medical response, as it usually is the first to arrive at the scene.

In Israel's emergency medical response hierarchy (which is also linked to the Home Front Command and National Emergency Management Agency), Magen David Adom (MDA) – Israel's local representative of the International Red Cross – is the country's primary ambulance, blood-services, and disaster-relief organization. It takes MDA's personnel a while to arrive at an incident (including in providing regular, non-incident related medical services), and it charges

its patients for its ambulance and first-aid services. United Hatzalah, which consists of an estimated 3,000 emergency medical personnel who drive specially constructed scooters, called "ambucycles", does not charge for its services. The UH also has the advantage of employing its centralized dispatch center and GPS tracking technology to deploy its volunteer first responders who reside throughout the country to quickly reach the scene of a medical emergency with an optimum level of resources. With "ambucycles" the primary response vehicle used, UH also deploys a limited number of fully equipped all-terrain "ambutractors" and rapid response electric "ambubicycles". Such a rapid medical response can be 90 seconds in the country's capital Jerusalem or in Tel Aviv, the largest city, and three minutes throughout the rest of the country. Once MDA's ambulance personnel arrive at an incident, they are able to take over its emergency medical management.

In another related emergency response innovation, the UH has established the world's first EMS psychotrauma response unit to provide immediate psychological first aid to victims at the scene of traumatic incidents.

With UH partnered with international EMS organizations, its rapid response services have generated interest from American counterparts who seek to vastly decrease



their emergency response times. In 2015, a pilot program, named United Rescue, was established in Jersey City, NJ, as the first community-based emergency response program in the U.S. It is a project of the Jersey City Medical Center. Its volunteer personnel are also equipped with the “ambucycles”. Other U.S. cities are under consideration for this program, as well.

Early Warning Notification

Once Israel’s military’s intelligence units detect threats to the country’s security, one of the Home Front Command’s innovations is its automated and localized Personal Alert and National Alert early warning alert distribution systems. It is spread over more than 100 predefined geographic alarm sectors. It utilizes a real time

alert distribution system that automatically activates at the onset of emergency situations, with its alerts disseminated via multiple platforms that are both general in nature and selectively localized to a specific geographic zone to provide ‘in-time’ protective response. Moreover, all existing communications channels – such as SMS, smartphones, Internet, radio, and TV — are utilized to deliver notifications required for population preparedness. Such a comprehensive and multi-level system also serves to avoid notification to populations in areas that may not be affected by a crisis. As the country’s population is exercised to anticipate future emergency contingencies, it is also trained in how to respond to alerts in various media sources about crisis situations in their regions.

With information management a crucial component of emergency management,

such a comprehensive and multi-level alert notification system is an Israeli best practice that would be of interest to American counterparts, such as FEMA and the National Guard. This was confirmed by Colonel Ariel Blitz, Home Front Command’s commander of Civilian Defense, who had returned to Israel in 2016 after serving for three years as Israel’s liaison to the National Guard Bureau, in Arlington, VA, who said, “We’re continuously improving our [notification alert] platforms and procedures, and this is of interest to our American friends.” (6)

Border Security

Israel offers numerous best practices in border security technologies and systems. This includes the construction of effective fencing and its supporting tactical infrastructure, such as sophisticated technolo-



First responder unit of Magen David Adom in the old city of Jerusalem, 5, Or Ha-Hayon street. This ambucycle is owned and operated by Hatzolah Israel.

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gies and quick response forces in securing borders from terrorists and illegal migrants. Some of these technologies have been put to use in the United States, such as Elta Systems' ELM-FP2112 family of persistent ground surveillance radars, which are used by Border Patrol agents in the Integrated Fixed Tower (IFT) program to detect and identify items of interest, thereby enabling them to effectively respond to border incursions. In addition, the U.S. Customs and Border Protection (CBP) agency's Mobile Surveillance Capabilities (MSC) trucks are equipped with Elta Systems' radars.

In another area of U.S.-Israel cooperation, CBP had deployed Israeli-manufactured Hermes 450 UAVs for reconnaissance along the U.S. border with Mexico, as part of the Arizona Border Surveillance Technology, but, in accordance with an agreement between the two countries, they were loaners at the time and were returned to Israel. (7)

DHS also contracted with Elbit Systems of America, LLC, wholly owned by Elbit Systems Ltd., an Israeli defense firm, to construct integrated, fixed-location surveillance towers for the Arizona-Mexico border that are equipped with radar and cameras to detect human movement. (8) In another important Israeli border security technology, DHS employs Elbit's TORC2H, an automated, sensor integrated C4ISR system for border security.

In Israel, like the United States, different borders present different challenges. Israel has adapted its security infrastructure to address such challenges. Israel's border security requirements, for example, vastly differ along its borders with Lebanon, Syria, the West Bank (including separating Jerusalem's Palestinian neighborhoods from the city's Jewish inhabitants), Jordan, Egypt (along the Sinai Peninsula), and the Gaza Strip. Of particular relevance to U.S. needs along its southwestern border with Mexico is Israel's Nitzana Security Fence, which is closest to what the U.S. might require along that border.

The Nitzana fence was completed in 2013 along Israel's border with the Sinai Peninsula, and its height and multi-layered approach are responsible for decreasing the number of illegal migrant crossers (especially by African migrants) by 99 percent, from more than 16,000 in 2011 to less than 20 in 2016. (9)

Although Israel's security fence along its border with the Gaza Strip is considered effective, its Hamas adversary, like the modus operandi of terrorist groups around the world, has continuously sought to exploit new vulnerabilities to enable its operatives to penetrate its strongly defended border with Israel. It has done this by constructing deep tunnels under the fence that it has used for offensive military purposes,

particularly in the course of its July-August 2014 war with Israel. In that war, Hamas used its underground tunnels for various military purposes, such as hiding its arsenal of rockets, munitions, and even fighters underground to make their detection from the air difficult for Israeli aviation – as well as, in the most concerning offensive tactic, to enable its fighters to reach and attack the Israeli settlements along the border.

Similar stories abound about Mexican drug cartels reportedly planning to evade the advanced security fence that might be built along the border with Mexico by digging their own underground tunnels. Israel and the United States are reported to be discussing a possible partnership to develop new technologies to detect and destroy such tunneling, although this “remains a difficult technological challenge.” (10)

Transportation Security

In transportation security, Israel's approach to airport and aviation security is considered highly effective. Its approach is based on three objectives: first, prevent attacks on airport grounds; second, prevent attacks against the aircraft; and, finally, prevent attacks inside Israel by arriving passengers. (11) Israel's Ben Gurion International Airport (its primary airport) is considered one of the most secure in the world, with a concentric circles of tight security controls



in place to check all passengers entering the airport, whether through departing or arriving flights the airport's terminals or through the arriving cars that enter the airport's grounds.

Although not all the layered security technologies and protocols employed at Ben Gurion International Airport can be applied to America's dozens of large and medium airport hubs, Israeli and American airport and aviation security officials regularly deliberate on latest and most effective technologies and security protocols, video and other types of surveillance systems. Israeli-developed security protocols deployed at U.S. airports since 9/11 include implementing the Israeli suspicious behavioral detection system at Boston's Logan Airport, as well as the Transportation Security Administration's (TSAs) Screening of Passengers by Observation Techniques (SPOT) program, which uses methods developed by Israeli airport officials. In this program, TSA's Behavior Detection Officers (BDOs) are trained to detect potentially suspicious behaviors that a person at an airport might exhibit, with illegal activities identified by them leading to thousands of arrests at airports, including for drug smuggling activities. (12)

Other security technologies introduced into the U.S. include Israeli originated video surveillance systems, such as by Verint, an American company with operations in Israel, whose technology has been certified by DHS as an anti-terrorism technology. Another Israeli technology is the NICE Situator, a video security and response system created by Israeli-based NICE Systems, which enables security personnel to view real-time, multi-layered information on an intuitive map-based interface system that tracks passengers, cargo, and aircraft, to streamline their security operations and enhance their situational awareness and response capabilities.

Unmanned Aerial Vehicles (UAVs)

Israel is one of the world's top technological innovators in developing military and civilian unmanned aerial vehicles (UAVs – drones). Such innovation has revolutionized the modern battlefield through the force multiplier of enabling militaries to fly unmanned drones on risky missions to

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evaluate the intelligence value of far-away targets, as well as to attack them from the air, from a safe distance from a battlefield without having to expose their ground or aerial human fighters to enemy fire. With the increased use of such military UAVs, since the mid-1980s Israel has thus become the world's biggest military drone exporter, capturing an estimated more than 60 percent of the global market. The U.S. military is a major recipient of Israel's UAV exports.

Israel's stockpile of military drones, as listed in the IISS's 2016 edition of *The Military Balance*, is composed of three indigenously manufactured intelligence, surveillance, and reconnaissance (ISR) squadrons: Hermes 450, the IDF's main medium-sized attack UAV that can carry laser-guided Hellfire missiles and smaller munitions; Searcher Mk II, a reconnaissance UAV; and two medium-altitude, long endurance ISR UAVs: Heron (Shoval) and Heron TP (Eitan). A miniature ISR Skylark UAV that fits into a soldier's backpack is also widely used.

In a new trend, Israeli defense manufacturers are reported to be developing electronic jamming and other detection systems that can intercept adversary UAVs when they are assessed to pose a threat to public safety.

Rocket and Missile Defense Systems

Israel's Hizballah and Hamas adversaries have assembled a vast arsenal of increasingly sophisticated rockets and missiles, which have been used against Israel in previous wars, including during inter-war years. In response, with U.S. financial assistance, Israel has developed a suite of cutting edge anti-rocket and anti-missile systems. These include the Iron Dome, which can intercept incoming rockets in mid-air, which is considered the world's first combat-proven counter-rocket system, with a 90 percent (or higher) success rate. (13) A second anti-missile intercept system, the Arrow (in the form of Arrow 2 and Arrow 3), was jointly developed by Israel and the U.S. It is a sophisticated defensive system that can intercept an incoming missile, for instance, the type of missile that Iran might potentially deploy, at high altitudes and at supersonic speeds. A third anti-missile system, David's Sling, is also a joint Israel-U.S. program. It is a quick reaction defense



system designed to intercept adversary short- and medium-range large-caliber rockets and short-range ballistic cruise missiles. It became operational in 2017.

In addition to such joint development programs, Israeli and U.S. militaries' conduct joint bi-annual training exercises in missile defense, such as the biannual five-day Juniper Cobra exercise, in which Israeli and American armed forces practice interoperability tactics to counter the threat from ballistic missile and long-range rocket attacks, including medical scenarios in response to fatalities from such attacks. The first joint exercise was held in 2001.

Both Israel and the U.S. understand that just as their adversaries continuously attempt to upgrade their rocket and missile capabilities, they, too, need to "stay one step ahead."

Cyber Security

Cyber security consists of two components: cyber defense and cyber offense. Cyber defense's ultimate objective is to implement a sophisticated system to block cyber-attacks against a nation's cyber assets, with a particular focus on protecting critical infrastructure. Israel is a leading pioneer in protecting its cyber assets by approaching it in a comprehensive and holistic organizational and technological manner. (14) Organizationally, it is led by the Israel National Cyber Directorate (INCD), which includes the Israel National Cyber Bureau (INCB) and the National Cyber Security Agency (NCSA).

The United States, according to various reports, appreciates the benefits of the Israeli cyber defense organizational model. This was expressed in the December 2016 report by the White House Commission on Enhancing National Cybersecurity,

which called for a model similar to that of Israel's, with one agency solely focused on cybersecurity. (15) Such an agency became the Office of Cybersecurity and Communications (CS&C) within the National Protection and Programs Directorate (NPPD), a component within DHS. CS&C's mission is to assure the security, resiliency, and reliability of America's cyber and communications infrastructure. Also operating along the Israeli model, the National Cybersecurity and Communications Integration Center (NCCIC) functions "as a 24/7 cyber monitoring, incident response, and management center and as a national point of cyber and communications incident integration. (16) In an example of Israeli and U.S. collaboration in cyber defense research and development, in December 2016 the U.S. Congress passed the United States-Israel Advanced Research Partnership Act of 2016 to add "cybersecurity" to a list of cooperative research programs between the two countries to address this continuously evolving threat. (17)



An Hermes 450 Unmanned Aerial Vehicle (UAV) of U.S. Customs and Border Protection.

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Israel and the U.S. also cooperate in cyber offensive programs, as well. In what is considered to be the biggest cyber warfare operation by a Western country, it is reported that Israel's Unit 8200 and the American NSA cooperated in developing the Stuxnet cyber "worm", which targeted the Iranian Natanz nuclear plant's thousands of centrifuges which were used to enrich uranium and proceeded to decommission an estimated 10 percent of its centrifuges. (18)

Thus, it is also in the realm of cybersecurity, with cyber warfare considered a "new type of warfare," that Israel and the U.S. are collaborating in countering the dangerous threats posed by countries such as Iran. Such cyber warfare programs, therefore, must include espionage and electronic warfare in countering an adversary's military arsenal, particularly nuclear weapons.

In the private sector, Israel has become a major developer of cyber security defensive technologies and systems. In a 2013 estimate, about 200 Israeli companies specialized in cyber-security, accounting for \$3 billion worth of anti-hacking exports that year. (19) This led Israeli cyber-security startups to receive an estimated 25 percent of the world's venture capital-funding in this sector, with much of this funding coming from American firms. With many Israeli cyber security firms now located in comprehensive cyber-security development complex called CyberSpark (also known as 'Silicon Wadi'), in the southern city of Beersheva (with the local Ben Gurion University, also specializing in these areas), large American corporations have also set up offices there.

Conclusions

Cumulatively, these nine dimensions of cooperation in homeland security and counterterrorism between Israel and the U.S. discussed in this article (with numerous other dimensions also deserving of coverage) are intended to upgrade both countries' populations against man-made and natural disasters, while maintaining the psychological resilience of their populations to enable them to carry on with their daily lives during times of emergencies involving such threats. The benefits to the U.S. are numerous, as a U.S. Senate Committee report concluded, "As we strive to improve our homeland security, it is clear that much can be learned from Israel's approach to securing its borders, aviation, and cyber assets." (20)



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About the Author

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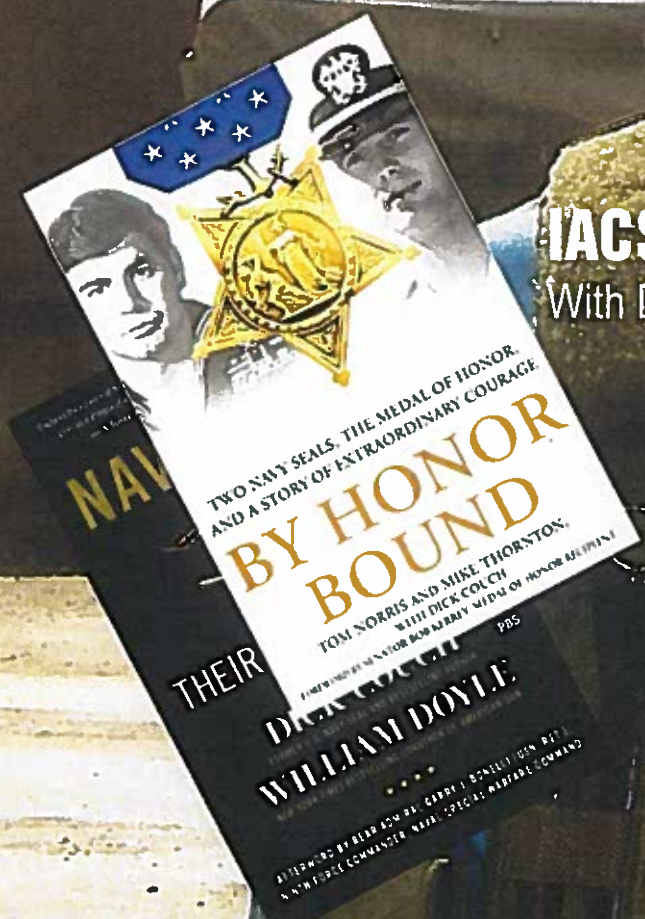
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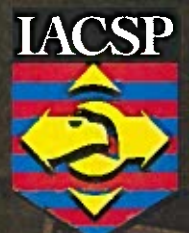


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