ONLINE ARTICLE

Five Maritime Security Developments
That Will Resonate For A Generation

Brian Wilson*

Introduction

Safety and security at sea present a timeless challenge, yet contemporary criminal and terrorist attacks against ports, offshore installations, and ships have sparked unprecedented diplomatic and legal responses to these threats that will resonate for a generation. Collaborative efforts around the world have led to five key intersecting developments that have changed government responses to maritime security: 1.) expanded laws, 2.) interagency coordination, 3.) cooperation among states, 4.) improved acquisition of threat information, and 5.) the creation of multinational training centers. Collectively, they form a unifying thread to support a networked response to counter maritime crime.

The oceans are enormous, complex, and dangerous, encompassing 140 million square miles. The movement of one product, oil, illustrates the global vulnerability and exposure to attack: of the 86 million barrels of oil (mbo) transported and used daily, 40 mbo move along fixed maritime routes easily within the reach of criminals or terrorists. Many threats are ambiguous and their nature uncertain. For example, a boat with 500 migrants may contain terrorists hiding among desperate refugees. How should a government react to an approaching ship that fails to respond to repeated radio contacts? And what is the optimal response to a cruise ship with a passenger who might have had exposure to Ebola? Overlapping national authorities, gaps in legal jurisdiction, and the potential involvement of multiple agencies add to the response challenge.

This article explores the impact of a treaty developed at the International Maritime Organization (IMO) to fight maritime terrorism that includes the most comprehensive ship-boarding protocols ever designed, electronic systems that track the location of ships in real time from shore or space, and bilateral inspections of shipping containers before they are loaded. More than ten countries have implemented whole-of-government processes to improve the interagency response to threats. And maritime security training and education centers have emerged recently along with pioneering initiatives to combat threats such as piracy and the maritime transport of weapons of mass destruction. These five developments are reshaping the legal and policy environment, upending old models both at home and abroad to create a networked approach to maritime security.

I. Expanded Legal Authorities

Legal authorities created in multilateral venues have better positioned states to protect ports, conduct maritime interdictions, collaborate, and ensure a legal end-state for illicit activity. The

member States that comprise the IMO, currently 170 nations and three associate members, developed the Protocol to the Convention for the Suppression of Unlawful Acts (SUA) Against the Safety of Maritime Navigation (SUA Protocols), the International Ship and Port Facility (ISPS) Code, and the Long Range Identification and Tracking (LRIT) system.

The SUA Protocols (2005) represent the most important maritime accord since the United Nations Convention on the Law of the Sea; its wide expanse enables real-time diplomacy, expanded judicial capability, operational collaboration, and expeditious information sharing. The SUA Protocols provide a framework to collaborate and criminalize the conduct of those who illicitly ship biological, chemical, or nuclear weapons; transport terrorists; or use a ship as a weapon. The Protocols also mandate that a State Party either prosecute or extradite suspected SUA offenders (thus removing "safe harbor" for those conducting illicit activity). The Protocols, which entered into force July 2010, also contain a comprehensive boarding protocol, partnering provisions, and use-of-force articles.

What sets the SUA Protocols apart is the roadmap it provides to achieve collaboration: Parties are required to designate a "competent authority" within their government to receive and convey boarding requests, and provisions detail the process to create agreements between State Parties to facilitate law enforcement operations and to authorize ship boarding. These provisions spell out the information that should be included in a boarding request, guidance for at-sea boarding, and authorized communications between a ship's master and the vessel's owner and Flag State. The Protocols also include "safeguards" such as taking reasonable efforts to avoid a ship being unduly detained or delayed, responding to claims for compensation by ships wrongly detained, and the use of force by law enforcement officials.

As background, the SUA Convention was approved in 1988 in response to the terrorist hijacking and murder aboard the cruise ship *Achille Lauro*. At the time, no treaty addressed maritime terrorism, and most countries lacked a legal ability to prosecute terrorism and armed robbery at sea. The 1988 SUA Convention filled the gap by criminalizing certain violent acts at sea. The SUA Convention has secured extensive support, with 165 States' Parties comprising approximately 95% of the world's gross tonnage acceding. But the Convention focuses primarily on the exercise of jurisdiction *after* a criminal act and it has been underutilized: the author is aware of only one prosecution that occurred solely for a violation of the 1988 SUA Convention. The 2005 SUA Protocols–acceded to by 33 States as of February 2015—will face a similar fate if States view the treaty as a static document, instead of as a legal capability for operational interdictions and prosecutions as well as a platform for cooperation.

Another important development is the IMO's amendment to the Convention for the Safety of Life at Sea (SOLAS): The International Ship and Port Facility (ISPS) Code in 2002, which entered into force in 2004. This agreement provides a "standardized, consistent framework for evaluating [reducing] risk" and includes, guidance on assessing ship and port facility security plans and monitoring and controlling access to sensitive maritime areas. Thus, there now exists an internationally recognized baseline for minimally acceptable port security.

Implementing the ISPS Code remains an ongoing effort. The IMO addressed many of the security issues but chose to leave others, including enforcement provisions, for member States.

The international community, through organizations such as the Asia-Pacific Economic Cooperation (APEC), has spent the past decade working to harmonize implementation and create regimes where member States fulfill their obligations in consistent manners that reduce uncertainty and inefficiency for maritime trade – enhancing global security, efficiency, and resilience. As an example, the APEC Transportation Working Group's Sub-Group for Maritime Security provided capacity building on risk-based port security for 85% of APEC member economies by the end of 2014. Earlier, in 2013, it developed a model port security legislative code that gathers global good practices to provide guidance on how to address areas the IMO elected not to include. APEC's efforts extend beyond its 21-member economies through active collaboration with the IMO, the Organization for American States and others.

The Long-Range Identification and Tracking (LRIT) system, which provides for the global identification and tracking of ships, is yet another impressive multinational effort approved by IMO member States. Ships greater than 300 gross tons are required report their position to their flag, port states, and coastal states (within 1,000 nautical miles). The system directs the use of existing satellite communication systems in a new way and enables States to better identify, monitor, and intercept transnational maritime threats by providing the identity and position of ships off their shores—essential to maritime situational awareness.

As the tactics, methods, and operations of transnational criminal organizations and terrorists evolve, it is essential that legal authorities also continue to evolve. The SUA Protocols, ISPS, and LRIT are emblematic of post 9/11 diplomacy in the maritime environment that support multilateral collaboration and expanded legal authorities to pursue and prosecute illicit conduct. These instruments can resonate for a generation, provided they are frequently used and amended as necessary.

II. Interagency Coordination Frameworks Within Governments

Responding to maritime threats over the past decade has demonstrated that few threats and even fewer responses fall under the responsibility of a single agency or nation. While the complete resolution of a maritime threat historically resided in the navy or coast guard, the response continuum today increasingly includes diplomatic, investigative, and judicial participants. Recently developed processes in several nations have drawn together multiple agencies within a government with separate chains of command, procedures, and even different definitions of common terms. Though each national-level process has distinctly evolved and is operationally different, they share similar traits regarding the value of timely and government-wide collaboration.

Civil and military departments now participate in the interagency response to drug smuggling, migrant trafficking, maritime oil and fuel smuggling, piracy, and fishing violations. In the absence of a documented process, the response can become mired in information stovepipes, miscommunication, and redundancy. When there is time for a coordinated response, a framework supports a consistent decision-making process that includes which agencies need to be involved, what decisions are authorized, and when more senior-level review is appropriate.

If the process is not formalized, personnel in one agency may not know whom to contact in other agencies within a government, nor necessarily be authorized to provide a decision on behalf of their agency, or even participate in interagency discussions. Subject matter experts may not be involved. And data that is discarded by one agency may contain details that are critical to another to positively identify a threat. Even with information flowing between departments, in the absence of a process, there may be uncertainty regarding who needs to be involved, what is unfolding, and what are the next steps.

Since 2005, more than 10 national-level collaborative processes have been created across the globe. Canada's Maritime Event Response Protocol (MERP) brings together multiple agencies to address the response to maritime events and threats. The United States' Maritime Operational Threat Response Plan (MOTR) establishes a process to integrate multiple federal departments and agencies for discussion, assessment, and decision-making through a network of national-level command and operations centers. And, the United Kingdom's National Maritime Information Centre is a cross-government body that collaborates with Government departments and is accountable to the Home Office. Others include interagency processes/centers in Australia, Cape Verde, Japan, New Zealand, India, the Philippines, Singapore, and Sweden.

National-level coordination may be achieved with government representatives in the same building or conducted "virtually" through e-mails, phone calls, or video teleconferences. Considerations with any whole-of-government process include identifying, in advance of a threat response, who is the designated representative for an agency and whether that person is authorized to make decisions on courses of action.

Also important is how disagreements will be resolved ("dispute resolution"), who is responsible for facilitating coordination activities, and what types of issues/threats are within its scope.

No process can guarantee an outcome. Variables –such as weather, decisions by other countries, or the private sector—are beyond the purview of a national-level framework. Regardless of uncertainties, a documented process best positions a country to respond to security threats. Keys to an effective interagency process include unambiguous head of state direction, agency support, frequent use, and civility. Other enablers include leveraging multiple agency authorities, capabilities, and competencies to form a networked response; the ability to address emerging (and at times, unexpected) threats; 24x7x365 capability; documenting and distributing decisions; training and professional development for those involved in the process; engaging diplomatic officials early; and detailed operational guidance.

III. Cooperation Among Nations

Groundbreaking multinational frameworks created over the past ten years recognize that cooperation in the maritime domain transcends national borders. Developments discussed in this Section, however, operate independently of the United Nations, IMO, or any other formal international body. Multiple examples exist, including Shared Awareness and Deconfliction (SHADE) meetings, the Proliferation Security Initiative (PSI), and the Contact Group on Piracy off the Somalia Coast. Though each has a different focus, they represent pioneering diplomatic approaches for dozens of nations, and at times, the private sector to address security issues.

The Contact Group, established in 2009, facilitates discussions and coordination with diplomats, military personnel, lawyers, international organizations, and at times, seafarers' organizations and commercial ship owners. This construct is emblematic of an emerging approach to collaboratively address transnational security threats outside of the formal structure of a treaty-based international organization. Participation is voluntary, as are contributions, and the organization's meetings are not conducted under the direction of the United Nations. The Contact Group started with representatives from approximately 20 participating States and impressively grew to more than 60 States as well as the private sector, though it has scaled back the frequency of meetings for some working groups based on the significantly reduced threat environment. Separately, SHADE provides a venue for discussions with States "who would not normally coordinate their naval operations to meet on a regular basis and plan how best to combat piracy." Since 2009, more than 30 SHADE meetings have been held, including as many as 100 representatives from organizations in China, Russia, Japan, South Korea, Yemen, Egypt, Bahrain, Saudi Arabia and the United States. It has proven to be a durable construct, which participants say has improved response capabilities.

With more than 100 million cargo containers moving across the globe on ships each year, enhancing container security is another key area of multilateral cooperation. The Container Security Initiative (CSI), announced in 2002 and implemented over the past decade, enables U.S. officials to mitigate container risk, in collaboration with partner Customs Administrations at 58 ports in North America, Europe, Asia, Africa, the Middle East, and Latin and Central America. Through CSI, the United States collects advance cargo information prior to containers being laden on U.S.-bound vessels, risk scores them, and works with host authorities to mitigate risk by gathering additional information, or inspecting the containers through technical or hands-on means. While the program arrangements are country-to-country, the multinational container security network has created a de facto multilateral system, leveraging traditional diplomacy in a non-traditional fashion.

Diplomatic and operational collaboration has also emerged to combat the proliferation of weapons of mass destruction at sea. Approximately 100 countries participate in PSI, which operates as an activity, not an organization. After more than a decade, PSI continues to demonstrate that an *ad hoc* diplomatic construct has a role in international security. In August 2014, more than 30 nations participated in PSI Exercise Fortune Guard in Hawaii, marking the beginning of a series of exercises that will be subsequently hosted by New Zealand, Australia, Singapore, Japan, South Korea, and the United States. Fortune Guard included "a table top exercise, a port exercise—an exercise at sea—[and] an academic seminar focused on proliferation threats and trends and regional capabilities."

Another innovative method of collaboration involves the exchange of threat/response information between national-level frameworks. One example is a strategic protocol between Canada and the United States (2012). This framework (MERP-MOTR) complements existing binational cooperation by providing a platform to bring together rapidly representatives from legal, diplomatic, customs, and military departments to securely exchange maritime threat response information. In the future, this type of collaboration is expected to expand; it brings the right people to the table at the right time for discussions, involves multiple agencies, is flexible and transparent, and supports a networked response.

Long-range legal and diplomatic cooperation, such as that conducted at the IMO and UN, remains critically important. However, strategic diplomacy does not always address the response to operational and time-sensitive threats, and new mechanisms like PSI, SHADE, and the Contact Group, are reshaping cooperation. These visionary constructs, which generally focus on specific threats, are less formal and more agile than traditional relationships, and they represent key force multipliers in effectively confronting maritime threats, especially piracy, container security, and combatting WMD.

IV. Enhanced Maritime Situational Awareness

Ships today are larger, carry more cargo, have more advanced operating systems, and ply the waters in growing numbers, which increases opportunities for exploitation and criminal acts. More than 90% of global trade moves on the oceans, transported in millions of containers on 50,000 merchant ships flagged by approximately 150 nations. Monitoring this activity to identify trends, differentiate irregularities, and examine anomalies—and support effective decision-making—is a challenge that benefits tremendously from multilateral cooperation.

To improve timely identification of illicit activity or exploitation of the oceans, nations have agreed on ship-required technology, data systems, and information sharing in the past decade. These efforts support maritime situational awareness (MSA) nationally and multilaterally. A focus on information acquisition and awareness has long existed, though the current maritime situational awareness concept flourished in the past decade. Automatic Identification System (AIS), which came into wide use in the early 2000s, the launch of a satellite-based AIS (S-AIS) constellation in 2008, and the implementation of the Long Range Identification and Tracking (LRIT) system requirement by member States at the IMO now comprise essential elements of the safety and security maritime landscape along with national-level organizations dedicated to fusing, analyzing, and disseminating information.

The Safety of Life at Sea Convention (SOLAS), developed approximately a century ago as a result of the Titanic disaster of 1912, provides the standards for the safe navigation of ships and improved maritime awareness. SOLAS amendments have enhanced the security of the global shipping cargo chain by bringing greater transparency to the maritime domain. Using technology to locate merchant ships, the amendments provide the commercial fleet and port, coastal, and flag state with greater awareness. This awareness also better enables a focus on anomalous contacts and allows for sorting legitimate commerce from suspicious activity.

The development of satellite-based AIS (S-AIS) culminated with the 2008 ORBCOMMM launch of the first operational constellation of satellites. The constellation provides a global collection capability for AIS transmitting ships, gathering information several times a day. As more S-AIS systems have been placed in orbit, there has been a dramatic, improvement in the time between collection and availability for users. That time reduction will continue to advance as more S-AIS receivers are placed in orbit.

S-AIS is especially effective when paired with radar satellite constellations now in operation. The collection of AIS from both terrestrial and, especially, satellite systems, also provides the opportunity to develop MSA shipping pattern analysis, a useful tool for assisting in the detection

of operational anomalies. Both AIS and LRIT systems complement other data sources, including multilateral collaboration, to secure timely information, including air surveillance, port security entry requirements, human intelligence, radar, video cameras, and patrol craft.

Regional information sharing initiatives include BLUEMASSMED, a pilot project that integrates maritime surveillance in the Mediterranean and its Atlantic approaches, and the Sea Surveillance Co-operation Baltic Sea. Along with the development of analytical tools and programs, capabilities will likely improve as private sector companies and organizations compete against one another to gain a competitive advantage.

Acquiring information represents just one component of maritime situational awareness. It is also necessary to turn that data into operationally useful intelligence. U.S. Coast Guard Rear Admiral Brian Salerno explained: "We cannot hold polluters accountable unless we can match them to their spills; we cannot keep vessels from colliding if we don't know where they are; we can't rescue survivors unless we find them; and we cannot intercept those who would do us harm if they are able to blend in with the millions of recreational boaters who lawfully enjoy our ports and coastal waters."

Significant multilateral developments in MSA have occurred in the past decade, yet challenges remain, including data protection, misuse of data, failure to report, and spoofing. Further, a study noted that although "most nations are able and willing to share, there can be considerable obstacles to sharing information" including legal, policy, and information classification/security obstacles. Proprietary commercial information considerations also exist, as private shipping companies are sometimes unwilling to cede their secrets of optimum route planning. As detection ability and anomaly identification improve, this will increase the ability to identify vessels of interest in a timelier manner. In governments' current budget strained environment, assessing value and measuring effectiveness of these programs will remain key considerations.

V. Multinational Maritime Centers With an Education, Training, and Research Focus

Maritime security centers in Belgium, Germany, Greece, Turkey, and the United States are transforming multilateral training, education, and research. Thousands of officials from the government, academia, and private sector participate annually in courses and projects at centers that now provide a capability previously dominated by think tanks, national-level institutions, and universities. The maritime-specific centers discussed in this section were either created or received accreditation after 2006.

The three multinational academic models that have emerged are NATO-accredited centers of excellence (COE); NATO education and training facilities; and other maritime-focused centers of excellence. NATO-accredited Centers of Excellence with a maritime focus are located in Oostende, Belgium (Naval Mine Warfare); Kiel, Germany (Operations in Confined and Shallow Waters); and Norfolk, Virginia, U.S. (Combined Joint Operations from the Sea). In addition to maritime-focused maritime centers of excellence (COE), other NATO COEs have addressed maritime issues, including the NATO COE for Defence Against Terrorism in Ankara, Turkey and the NATO COE for Energy Security in Vilnius, Lithuania, among others. The NATO

Maritime Interdiction Operational Training Centre (NMIOTC) in Souda Bay, Crete, Greece is a NATO education and training facility. And, the Maritime Security Center of Excellence (MARSEC COE) in Marmaris, Turkey, is a maritime-focused center of excellence that is not formally associated with an international organization.

NATO COE's "train and educate leaders and specialists from NATO member and partner countries, assist in doctrine development, identify lessons learned, improve interoperability, and capabilities and test and validate concepts through experimentation." NATO COEs, which are funded by the nation in which they reside as well as sponsoring and contributing nations, have the status of an international military organization. Though not part of the NATO command structure, NATO provides a COE framework and fosters cooperation and coordination between its accredited centers. In a very short period, NATO COEs have become relevant hubs of knowledge to support operations, timely decision-making, and policy development. Centers of Excellence, which could include representatives from the military, academia, and nongovernmental organizations, are a hybrid construct: Part think-tank, part policy development, and part training center. A NATO COE is expected to be active on four fields, or "pillars," that include concept development and experimentation; doctrine development and standardization; analysis and lessons learned; and education, training, and exercises.

The COE concept was developed at the 2002 Prague Summit as part of broader reorganization efforts. As of March 2015, there were 20 NATO-accredited Centers of Excellence. At a NATO COE conference in 2014, the Supreme Allied Commander Transformation remarked that the centers represent "a federated project approach to deal with the complexity of the geopolitical environment." Ambitious and substantive work is unfolding at NATO COEs.

The NATO Center of Excellence for Operations in Confined and Shallow Waters, for example, has impressively focused on topics that include maritime situational awareness, improvised explosive devices in the maritime environment, and maritime interdiction operations. At a 2014 conference on operational maritime law, approximately 70 attendees from 23 countries discussed private maritime security companies, maritime law enforcement in drug trafficking, the legal status and protection of submarine cables, and freedom of navigation. Along with this highly successful workshop, the Kiel-based center is focusing on relevant aspects of operational maritime law to examine topics with "a network of legal experts from military, academic, and civil organizations across the globe."

The second category, a NATO training center, is located in Greece. With a formal association to NATO's Allied Command Transformation, NMIOTC conducts "theoretical and practical training necessary for NATO forces to better execute surface, sub-surface, aerial surveillance and special operations activities in support of Maritime Interdiction Operations." The Souda Bay center (NMIOTC) averages more than a class a week on remarkably diverse topics including boarding team psychology, biometrics collection, small arms training, detection of chemical, biological, radiological and nuclear material during a boarding, crew control during a maritime interdiction operations (MIO), container inspection, and intelligence gathering on MIO targets. In 2014, the center hosted conferences and workshops on legal issues as well as building a law enforcement culture at sea for a more secure maritime environment, among others. More

than just a training center; NMIOTC importantly provides the Supreme Allied Commander Transformation (SACT) with "proposals for new doctrines, tactics, methods, and equipment."

The Marmaris, Turkey facility, not formally associated with NATO, is emblematic of the third category of maritime security-focused centers of excellence. MARSEC COE —"established to operate as a think tank and a common platform to address the challenges in this domain" –- provides a venue for training, workshops, multinational collaboration, and publication opportunities. The center has held workshops/training on topics that include vessel protection detachments, counter improvised explosive devices, ISPS, maritime security operations, counter piracy operations, and combatting WMD proliferation. Its first multinational maritime security workshop was held in in 2012. Discussions focused on issues that remain relevant today – MSA, freedom of navigation, countering piracy, and maritime terrorism. The center has demonstrated a unique ability to bridge discussions with representatives from a diverse array of governments.

It is likely that multinational maritime security centers of excellence will evolve. Going forward, it will be important to maintain current levels of financial support; avoid redundancy, overlap, and mission creep; and continue with diverse training curriculums, policy support, and studies.

Conclusion

Contemporary criminal and terrorist organizations have repeatedly demonstrated the ability to exploit the inherent weaknesses of seaports, offshore installations, and merchant ships. In response, the past decade has yielded a cooperative resurgence in international relations, operational collaboration, and academic expansion. There is now a treaty that proscribes the maritime transport of terrorists as well as chemical, biological, and nuclear weapons, and the use of a ship as a weapon. Diplomatic efforts over the past decade have identified illicit conduct, eliminated gaps in the law, and emphasized the value of multinational collaboration.

Whole-of-government processes have proved instrumental in national-level responses to Somali piracy, for example, as actions on the water – evidence collection, obtaining statements, duration of detention at sea, and chain of custody – are being addressed by civilian agencies in courtrooms and diplomatically. These frameworks emphasize the value of a consistent, repeatable *process* in the response to piracy, drug trafficking, migrant smuggling, fishing violations, and terrorism. Multinational efforts to develop and integrate technology on ships to improve domain awareness and safety have made more advances in the past decade than in any other period, supporting efforts to identify trends, differentiate irregularities, and examine anomalies to support timely decision-making. Maritime centers of excellence are informing the next generation of naval operators, attorneys, and policy officials, with classes on evidence collection and maritime interdictions; seminars that address a variety of issues, including human rights considerations in the maritime environment, protecting energy on the water, and combatting the maritime transport of weapons of mass destruction; and ambitious research projects on dozens of topics.

The innovations discussed in this article will prove durable and substantive additions to security, provided they continue to evolve and receive national-level support and funding. Importantly, the

five developments intersect with one another to collectively improve the maritime security landscape, build diplomatic trust, and best position networked threat responses.

*Captain Brian Wilson, U.S. Navy (Retired), is the Deputy Director, U.S. Global Maritime Operational Threat Response Coordination Center, U.S. Coast Guard/U.S. Department of Homeland Security, and is an adjunct professor at the United States Naval Academy. The views expressed are those of the author and do notreflect the official policy or position of USCG or DHS. He may be reached at brianstwilson@gmail.com.