

# International Maritime Safety and Security Exchange: A Promising Business Model for Global Maritime Safety and Security

**O**ur ports and waterways remain woefully vulnerable to terrorist attacks. Nearly a decade after 9/11 revolutionized aviation security, we are long overdue to apply many of those lessons learned to maritime security. This issue brief calls for the creation of an innovative, integrated International Maritime Safety and Security Exchange to mitigate existing vulnerabilities in the maritime domain.

## Context

The United States Government experienced a remarkable rebirth in aviation security after 9/11. We have become familiar with air marshals, enhanced baggage screening, passenger information exchanges, no-fly lists, body scanning and travel document standardization. As our image of aviation security matures, we have become more accepting of previously objectionable government-authorized technological applications, routines and procedures. In fact, we are much more appreciative of the persistent dimension of aviation security, especially after the attempted hijacking or destruction of American Airlines Flight 63 by the “shoe bomber” Richard Reid on December 22, 2001 or more recently Northwest Airlines Flight 253 on December 25, 2009 by Umar Farouk Abdulmutallab.

Like 9/11, these events energized security professionals to understand the gaps, acquire more technology and

## Maritime Security Studies

In 2009, the Atlantic Council initiated several efforts aimed at understanding better the national security implications of global maritime security and developing policy-relevant solutions to maritime security challenges. These efforts examined the drivers of maritime insecurity, examined current coalition maritime security operations, shared lessons learned from maritime security actors and identified challenges to and opportunities for international cooperation, with a special emphasis on information sharing in operations and maritime domain awareness. Key events included a conference on “Pirates, Port, and Partners” co-hosted with the U.S. Naval War College (<http://www.acus.org/event/5407>) and workshops with senior government officials. One of the key findings from the conference was the recognition of well intentioned yet uncoordinated and therefore ineffective maritime security efforts. This issue brief is a product of the Council's maritime security initiative.

develop procedures to prevent their occurrence in the future. Not surprisingly, aviation security increasingly relies on sophisticated scanning sensors at airports and a web of

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international databases to validate cargo (mostly people) before loading.

But is it enough? Have we completely eliminated, or at least sufficiently mitigated, aviation vulnerabilities? How will future terrorists view their chances of penetrating aviation security? **If they are deterred, might they turn to a less understood and defended domain — our maritime industry and waterways?**

The Detroit incident highlighted two key points: first, the advantage of integrated, shared and properly analyzed information with sophisticated automated rule sets to alert authorities of anomalies; and, second, the consequences of having the information available, but not properly shared and vetted. This issue brief addresses how sensor information and other data might be collected, shared, analyzed and used to determine if a particular ship and its cargo should be permitted to enter into our inland waterways and ports.

## **Uncoordinated Maritime Information Exchanges**

There are a number of national and regional efforts to promote maritime information sharing such as the Virtual Regional Maritime Traffic Center (VRMTC), the Maritime Safety and Security Information System (MSSIS), the Long Range Identification and Tracking (LRIT) and the Regional Co-Operation Agreement on Combating Piracy and Armed Robbery against Ships in Asia. All of these activities appreciate the value of maritime information especially as it advances security. The United States participates in and sponsors several of these initiatives.

But these programs are ad hoc, suffer from a lack of coordination and are incompatible with one another. They also face policy, legal and cultural barriers, all of which can negatively affect information sharing. Adding to these challenges, there continues to be significant coverage and communication gaps between these uncoordinated initiatives; the net result of which is less effectiveness. A new model for information sharing, one that can overcome these issues, will improve maritime security and safety.

## **A Model for an International Information Maritime Safety and Security Exchange (IMSSE)**

As trade in the 21st century continues to be shaped by globalization, the maritime domain will become increasingly vulnerable to a wide range of nefarious activities each of which can have cascading and harmful effects far from their sources. Such activities are inconsistent with U.S. national security interests and the broader objectives of peace, prosperity, stability and security. **Global maritime security as it exists today lacks structure, governance, resources, common information exchange protocols and standardized rule sets.** As in aviation security, proactive maritime security professionals must be able to detect an anomaly – then deliberately intervene.

The critical enablers of proactive maritime security require an understanding of what information is needed, who needs the information and how to expediently exchange the information. Today, for example, various national, regional and local authorities levy legitimate information requirements on shippers and shipping lines. Frequently, the shippers and shipping lines collect, prepare and provide the data repetitiously in varying formats at different times. For commercial stakeholders, there is no obvious correlation between these redundant and costly exercises and any apparent value (e.g., improved cargo delivery cycle time). Likewise, government authorities face volumes of raw information with little or no ability to analyze it with an automated rule set. **The maritime security community is ripe for a rebirth – like aviation after 9/11 – that incorporates an innovative model that harmonizes information gathering and sharing, and provides authorities with the tools to improve their remit.**

**Conceptually, global maritime safety and security can be thought of as a marketplace consisting of maritime stakeholders all of whom share a common bond for a safe and secure infrastructure.** Every stakeholder is invested in common maritime enablers of some sort to realize their unique commercial or governmental objectives. Increasingly, maritime domain users, both public and private, are cooperating and forming networks to streamline commerce and mitigate or counter disruptions and threats. Yet, these isolated and temporary networks fall short of the global and institutional enhancements needed for comprehensive maritime safety and security.

## **An alternative to the present reality is to institute an International Maritime Safety and Security Exchange (IMSSE).**

Exchange business models (EBM) are standard in the financial, health, industrial and government sectors. Essentially, EBMs connect providers and consumers through the exchange of some product or commodity. In this example, the commodity is information needed for security and profitable commerce. This proposal brings together members of the IMSSE for the willing exchange of maritime information in support of their own safety, security and commercial needs. The IMSSE should take on a revolving door approach that allows members to consume and/or provide maritime information. Structured in this way, an IMSSE will permit consumers and providers to realize the symbiotic relationship on which long-term global maritime commerce and security depends, in spite of differing self-interests.

Understanding the characteristics of an IMSSE is an important step to realizing a sustainable model for maritime safety and security.

- **Value of Safety and Security:** Maritime safety and security is viewed differently by various participants. Thus, the overriding driver for the IMSSE will be the interpreted value of the safety, security and speed of cargo delivery achieved. The challenge for the IMSSE will be in understanding how to provide and measure this value across the full spectrum of participants.
- **Governance:** The IMSSE's organizational and governance structure will provide policies and procedures that govern the collection, aggregation, analyses, and dissemination of information. Both governments and commercial interests must be represented in the governance structure.
- **Architecture:** The IMSSE's architecture will be framed around the information, security, and technical aspects that enable the exchange to operate.
- **Resources:** A sustainable IMSSE will rely on both governmental and commercial member financial contributions for development, operations, sustainment and capital investments.

## **Challenges and Suggested Strategies**

Launching the IMSSE will require change in the status quo. The IMSSE should leverage ad hoc, informal and temporary partnerships to overcome any disruptive perceptions. The IMSSE must be able to build on these efforts, adapt best practices and work towards a business model that satisfies both commercial and governmental needs. Specifically, the IMSSE will need to:

- **Align Incentives and Expectations:** To attract and retain participants, the IMSSE needs to align the incentives of the exchange to participants' self interests. Governments will expect the information to be the vital link for actionable and preventive assurances to confidently ensure ships and cargo on inland waters are safe. Commercial enterprises favor enhancements that promote the safe and expedient delivery of cargo. Bottom line: Everyone wants safety.
- **Foster International Government Leadership and Oversight:** Governments, the final arbiters of travel within their exclusive economic zones, must be committed to the IMSSE.
  - Countries, regions and ports have unique needs. While the IMSSE must be universal in what information is exchanged, it must also accommodate geo-specific requirements to the maximum extent practical.
  - One of the more apparent yet daunting challenges will be the development of common governance protocols. The IMSSE must take on an international, commercial-friendly, government-led, coordinated, transparent and low cost approach when developing these protocols.
  - The IMSSE must have international legitimacy. This could be conferred by aligning the IMSSE with an existing international organization(s) such as the United Nations.
- **Identify or Create Data Standards:** The IMSSE will need to use a common taxonomy and information protection system. There must be concise definitions and clear understanding of data standards and protection among all members if the IMSSE is to have a reasonable ability to rapidly obtain, dynamically transfer and securely store data from a variety of disparate

systems and initiatives. Data warehousing is a promising mechanism.

## Conclusions and Next Steps

The world's transportation infrastructure is vulnerable to terrorists as they seek to intimidate nations and citizens through fear. Attacks like 9/11, the Madrid train attack, the London subway bombing, and the Mumbai assault send a clear signal terrorists are waging a global war. Governments have reduced, and continue to reduce, vulnerabilities in transportation systems. Aviation security has been the most visible.

But governments and the commercial sector have been noticeably less creative and aggressive with ports and inland waterways. Much can be learned from the trials and progress of the aviation community, in particular:

- the potential strength of integrated and shared information – properly analyzed with sophisticated rule sets – to alert authorities of anomalies; and
- the frightening and frustrating consequences of having available information not properly shared and vetted.

To move ahead with the IMSSE concept, it is imperative to:

- identify a lead U.S. Government department or agency with the capacity to synchronize all USG maritime security activities and engage international partners;
- determine what information requirements are necessary to safely allow ships and cargo to ply our inland waters and enter our ports; and
- develop, assess, and validate the processes and technologies in a limited pilot demonstration.

**The maritime domain has the opportunity to make significant progress in maritime security if existing nascent information exchange initiatives are brought together in a formal government-led International Maritime Safety and Security Exchange.**

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## International Security Program

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