

# Maritime Security: Lost in Translation?

## Developing a Common Lexicon to Enhance Data Integrity and Global Maritime Domain Awareness

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### Key words

maritime security, violent maritime crime, piracy, armed robbery against ships, common lexicon, threat assessment, maritime domain awareness, incident reporting, regional reporting centres, terminology, statistics

### Abstract

*With the proliferation of post-Cold War globalisation, the international community began to appreciate the immense importance of maritime security. In recent decades, numerous national, regional, and global information sharing centres have been established with an aim to provide relevant stakeholders with an assessment of the risks and threats within the maritime domain. Unfortunately, international organisations failed to simultaneously emphasise the importance of standardised terminology and definitions for use in the global maritime security context.*

*Instead of using other standardised areas of the maritime industry such as maritime safety as a guide, dozens of government agencies, regional reporting centres, private maritime security companies, and information sharing/fusion centres have now been established. Each of these uses its own unique categories, terminology, and definitions to measure and catalogue regional and global incidents of violent maritime crime. In this article, that includes acts of piracy and armed robbery against ships. In some cases, political and economic bias has played a significant role in how maritime security incident data is officially recorded and presented to the public. This lack of data cohesion has resulted in significant confusion and distrust amongst the shipping industry and policymakers. It has also created an uncertain environment for seafarers, who largely depend on their employers and regulators to keep them safe and secure at sea.*

*The research includes an analysis of several sets of qualitative and quantitative data from prominent agencies and reporting centres. Case studies are also presented to illustrate why harmonised terminology, definitions, and incident reporting protocols are integral to achieving global maritime domain awareness. The numerous challenges to achieving this goal are then explored and proposed solutions are presented. The paper concludes by proposing a lexicon for incidents of violent maritime crime, as a first step in creating a common lexicon for global maritime security. As stated in earlier issues, this journal does not seek to promote a common definition of maritime security, but a common lexicon is of more practical use.*

*This article is based on a dissertation completed as part of the master's degree in Maritime Security at Coventry University in 2022.*

### List of Acronyms

BMPs	Best Management Practices
CGPCS	Contact Group on Piracy off the Coast of Somali
EEZ	Exclusive Economic Zone
EU NAVFOR	European Union Naval Forces

GISIS	IMO's Global Integrated Shipping Information System
GRC	Global Reporting Centre
ICC-GoG	Inter-regional Coordination Centre – Gulf of Guinea
ICJ	International Court of Justice
IFC	Information Fusion Centre
IMB PRC	International Maritime Bureau (IMB) Piracy Reporting Centre (PRC)
IMO	International Maritime Organization
INTERPOL	International Criminal Police Organization
ISPS	International Ship and Port Facility Security Code
ITLOS	International Tribunal for the Law of the Sea
IUU Fishing	Illegal, Unreported and Unregulated Fishing
MDA	Maritime Domain Awareness
MDAT-GoG	Maritime Domain Awareness for Trade – Gulf of Guinea
MSC	IMO Maritime Safety Committee
ONI	United States Office of Naval Intelligence
ReCAAP ISC	Regional Cooperation Agreement on Combating Piracy and Armed Robbery Against Ships in Asia (ReCAAP) Information Sharing Centre (ISC)
RRC	Regional Reporting Centre
SHADE	Shared Awareness and Deconfliction
SMCPs	Standard Marine Communication Phrases
SOLAS	International Convention for the Safety of Life at Sea
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978
SUA	Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation
UKMTO	United Kingdom Maritime Trade Operations
UNCLOS	United Nations Convention on the Law of the Sea

## Aims

The aims of this article are to:

- explain how a global common lexicon would enhance maritime security and maritime domain awareness.
- examine the range of maritime security threat types described in commonly cited maritime security incident statistical reports.
- review current international law and regulation to ensure existing maritime security incident terminology, definitions, and protocols are preserved.
- highlight the importance of information sharing and incident reporting to achieving maritime domain awareness; and
- propose harmonised categories, types, definitions, and reporting protocol for incidents of violent maritime crime.

## Objectives

As recently encountered during meetings of the International Maritime Organization's (IMO) Maritime Safety Committee (MSC), industry stakeholders understand the great importance of harmonised maritime security terminology (Marshall Islands et al., 2019). However, the report of the 101<sup>st</sup> Session of IMO MSC (IMO MSC, 2019: 72) reflects that a handful of IMO Member States and regional organisations still prefer to hold on to the realist perspective of 'coastal State primacy' as a strategy to further national and regional political agendas rather than embracing a global view of maritime security (Chapsos, 2016: 61; Klein, 2011a: 304). Enhanced maritime security ultimately benefits all nations and regions in an increasingly globalised world. Therefore, international policy affecting the prevention and suppression of maritime security threats should be based on harmonised, politically neutral, and comprehensive data. And, by definition, therefore, terminology.

The research analyses commonalities and differences across geopolitical barriers to propose a common lexicon and reporting protocol for incidents of violent maritime crime (i.e., incidents of piracy and armed robbery against ships). This would have a significant impact on the global maritime security community by streamlining the threat assessment process and simplifying data utilised to create policy. It will also fill a significant gap in the maritime security literature, which has very rarely focused on incident statistics across multiple agencies or reporting centres.

With sufficient support from Member States and shipping industry organisations, this proposal could be refined and resubmitted to the IMO MSC for consideration and potential implementation in the form of revised IMO MSC Circulars ([MSC.1/Circ.1333](#) and [MSC.1/Circ.1334](#)). The global maritime security community must speak a common 'language' to overcome the current uncertainty and inefficiency faced by the commercial shipping industry, military/naval forces, and other maritime security stakeholders (Marshall Islands et al., 2019). Therefore, the objective of this article is to critically analyse current processes and propose the eventual creation of a complete common lexicon for maritime security. This research aims to contribute to the goal of enhancing stakeholder collaboration and global maritime domain awareness.

## Methodology

This article aims to be transformative and pragmatic. It uses a mixed-method approach where both qualitative and quantitative techniques are adopted to promote the creation and implementation of a common lexicon. Key statistical reports from government agencies, military alliances, incident reporting centres, and information sharing centres will also be compared and contrasted. Statistical data sources

include: [1] International Maritime Bureau Piracy Reporting Centre (IMB PRC), [2] Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Annual Reports, [3] International Maritime Organization (IMO) Global Integrated Shipping Information System (GISIS) piracy and armed robbery against ships database, [4] Maritime Domain Awareness for Trade – the Gulf of Guinea (MDAT-GoG) Annual Reports, and [5] the United States Office of Naval Intelligence (ONI).

### Rationale of the Study

The majority of academic literature relating to maritime security focuses on either ‘macro-maritime’ concerns such as naval power projection (Bueger & Edmunds, 2017: 1295), or ‘micro-maritime’ threats such as piracy, drug smuggling, or illegal, unreported, and unregulated (IUU) fishing (McCabe, 2018: 38). However, little academic research covers ‘micro’ components of maritime security in a global context. As noted by Feldt et al. (2013), the study of modern maritime security requires a more ‘comprehensive approach’. This article intends to cover the research gap in academic literature by addressing ‘micro-maritime’ security threats in a global context. To do so, the research examines several existing lexicons relating violent maritime crime incident data and pulls it into a cohesive, harmonised lexicon that can be easily understood worldwide.

The paper highlights that one of the most significant problems affecting maritime domain awareness is miscommunication, which often results in unnecessary confusion and inaccuracy. If the prevalence and severity of maritime security threats cannot be accurately measured, maritime security studies will not be useful to industry policymakers, and vice-versa. Therefore, the enhancement of maritime domain awareness through a common lexicon will be critical to the future of the maritime security discipline.

### Research Questions

1. How would a common lexicon improve global maritime security and MDA?
2. How can lessons learned from maritime safety be applied to maritime security?
3. What challenges are addressed by a global maritime security common lexicon?

### Theoretical Perspectives

The main theoretical frameworks of international relations used in this paper are *realism* to explain the lingering tendency to hold onto ‘traditional’ State-centric ideology; *institutionalism* to explain the collaborative effort and purpose behind developing a global common lexicon; and *liberalism* to illustrate how development is still possible through multilateral collaboration and global governance (García Pérez, 2022; Slaughter & Hale, 2011). Taken together, these three theories are very helpful to understanding how modern maritime security has developed into a new field of practice and academic study.

### Liberalism and Institutionalism

The liberal perspective (‘liberalism’) of maritime security seeks to utilise international institutions to avoid military conflict between States (García Pérez, 2022: 62). As it is not always feasible for individual States to engage in ad hoc negotiations with one another, institutions serve to reduce time constraints and costs by offering a centralised venue for dialogue and collaboration between many States at once (Slaughter & Hale, 2011). When taken in the context of creating a maritime security common lexicon, liberalism and international institutions provide an efficient and effective venue for multiple States to debate and approve proposed terms, definitions, and a standardised protocol for information sharing through security incident reporting.

The United Nations Convention on the Law of the Sea (UNCLOS) used liberalism and institutionalism by highlighting the importance of multilateral consensus and defining internationally applicable

territorial and jurisdictional boundaries; a feat that would have been impossible to achieve through bilateral negotiations alone. While UNCLOS was created through a liberal and institutionalist process to provide a framework for the prevention of traditional naval power conflict between States, the document's Articles still focus on preventing realist or traditional national security concerns. Modern maritime security threats are constantly evolving and often take the form of a hybridised (Flynn, 2022) mix of interrelated and unpredictable organised crime, conventional and irregular warfare, and terrorist activity. Therefore, UNCLOS leaves much to be desired when applied to modern maritime security threats. UNCLOS is explored in greater detail below under Maritime Security Law, Geopolitics, and Regulation.

### **Ethical Considerations**

Research is a responsible activity, and the researcher must take utmost care while conducting a study. Validity, credibility, and originality are key factors associated with research ethics. The author followed the following ethical considerations:

- 1 All utilised data was pulled from publicly available and validated sources. By selecting valid data, the researcher mitigates the risk of misleading the reader. While selecting case studies, the accuracy of incident details was thoroughly verified with the information source.
- 2 Data was collected from authentic and credible sources. Government and educational websites, peer-reviewed journals, published books, and other authentic sources are incorporated into the research.
- 3 When referencing other scholarly studies, the researcher provides appropriate acknowledgement in parenthetical citations and a bibliography section. The researcher has strictly complied with plagiarism ethics.
- 4 No human or environmental exploitation was performed at any stage of the research.

### **Understanding the Concept of Maritime Security**

According to Gesami (2021), there is no single, agreed-upon definition of the term 'maritime security' in academic literature or international law. While many scholars and practitioners have proposed definitions, an official consensus has yet to be formalised in international law or by an international organization. Therefore, maritime security has different meanings to different people (Rahman, 2009:29; Klein, 2011: 8; Bueger 2015; Bellamy, 2020: 13; Cook 2020: 50).

From a national military perspective, maritime security tends to focus on naval power projection, freedom of navigation for trade, protection of ocean resources, counterterrorism, and the suppression of drug and weapons smuggling across borders (Germond, 2015:27). For the commercial shipping industry, maritime security focuses on issues like piracy and armed robbery, stowaway prevention, access control, and maritime cyber risk management. Therefore, the meaning of the term changes according to its end-user (Chapsos, 2016: 60). Overlapping interests exist, but the priority of certain issues and concepts differ based on individual perspective.

### **The Evolution of Modern Maritime Security**

In the context of maritime security, the sea has historically been used to project military, political, and economic power between nations and superpowers (Otto, 2020:2-3). This can also be referred to as the traditional or realist perception of the discipline, with a main focus on national security and interstate military conflict (Chapsos, 2016:61). However, a modern form of maritime security has emerged in recent years. This new concept of maritime security retains traditional aspects of national sea power projection, but also includes emphasis on human security as opposed to national security (Okafor-Yarwood, 2020:

119). Modern maritime security also relies on many non-State actors, further challenging the international relations theory of realism by illustrating that maritime security does not always revolve around the State (Ryan, 2022: 29).

According to Bueger & Edmunds (2021: 10), the modern concept of maritime security originated in the late-1990s in response to a rising concern over incidents of maritime piracy and terrorism. Incidents such as the *Achille Lauro* hijacking in 1985, the sinking of the *USS Cole* in 2000, and the terrorist attacks in the United States on September 11<sup>th</sup>, 2001 prompted the International Maritime Organization (IMO) to make a concerted effort to address maritime terrorism (Otto, 2020: 2). This was officially accomplished on the 1<sup>st</sup> of July 2004 with an amendment to the International Convention for the Safety of Life at Sea (SOLAS) to include a new Chapter XI-2, better known as the International Ship and Port Facility Security (ISPS) Code. While the main purpose of the ISPS Code was counterterrorism, it can serve as a useful risk management tool for all types of maritime security threats.

As observed by Cook (2020: 50), “the traditional view of maritime security is epitomised by warships, but this is a narrow way to look at contemporary maritime security.” Maritime security presents a spectrum of threats and concerns which must be translated to have meaning (Cook, 2020: 50). The proliferation of post-Cold War globalisation (McCabe, 2018: 96) was a key catalyst behind the modern concept of maritime security, and this emerging discipline has intrigued academics, policymakers, and industry over the past 20 years (Ryan, 2022: 29).

Lutz et al., (2013: 2) explain three aims of maritime security: [1] maintaining the autonomy of the maritime sector, [2] protecting vis-à-vis flourishing commerce, and [3] ensuring sound governance at sea. The enhancement of maritime security is critical to the freedom of navigation, international trade, and the health of the global economy. Therefore, modern maritime security relies on multi-stakeholder cooperation to suppress illicit maritime activity, protect the marine environment, and ensure the human security of seafarers and coastal State populations.

### Maritime Security and Geopolitics

Although piracy, armed robbery against ships, and terrorism are among the most discussed maritime security subjects or themes, the scope of modern maritime security goes beyond singular threat types or geographic boundaries. Transnational organised crime at sea, or ‘blue crime’ (Bueger & Edmunds, 2017: 2) has become a significant focus of maritime security in recent years. Blue crime also affects environmental and food security, such as with IUU fishing (Okafor-Yarwood, 2020: 124), or human and national security concerns resulting from illegal migration. These types of maritime crime require a political response. Geopolitical power dynamics can play a very significant role in deciding which threat types and locations receive international attention or response, and which are overpowered or ‘invisibilised’ (Jacobsen, 2022: 128). If a certain maritime crime is politically significant to a certain State or region, relevant government agencies and incident reporting centres may choose to either highlight or suppress statistical data to support a preferred narrative.

For example, piracy and armed robbery statistics published by the Inter-regional Coordination Centre (ICC) Gulf of Guinea (GoG) tend to be lower than the statistics reported by the Maritime Domain for Awareness Gulf of Guinea (MDAT-GoG) or IMB PRC. The underreporting of incidents by national or regional information sharing centres may be due to several political or economic factors. For example, war risk insurance premiums may be high for ships trading in a particular region with an increased risk of violent maritime crime. To solve this issue, insurers must be convinced that violent maritime crime has been significantly and sustainably reduced in the region. Since insurers assess the risk of piracy through statistical data, setting up an official regional information sharing/fusion centre to control statistics of

violent maritime crime could be quite beneficial for the economies of the regional States in that region. Aside from economic benefits, States with low maritime crime rates also enjoy a more favourable reputation among global peers. International organisations, such as the IMO, may also notice the low crime and equate this with good maritime governance in the region. States that demonstrate effective maritime governance may have a better chance of being elected as a member of IMO Council or to other leadership roles in the Organization. Whilst national or regional data may be completely accurate, there are certainly incentives to maintaining one's own national or regional maritime security incident database. It is no secret that statistical data can be manipulated to favour certain arguments or political agendas (Jacobsen, 2022: 135).

Political agendas also played a significant role in highlighting and soliciting a response Somali-based piracy because international naval coalitions, such as the European Union Naval Forces (EU NAVFOR) Operation Atalanta, NATO Operation Ocean Shield, and United Kingdom Maritime Trade Operations (UKMTO) received specific mandates stemming from the United Nations Security Council (UNSC) authorising action to combat piracy in Somalia (UN Security Council, 2008). Over time, anti-piracy mandates began to define the purpose naval coalitions in the Indian Ocean, which in turn defined the types of incidents that were tracked and reported by these high-profile military organisations. These incident types and descriptions contributed significantly to the various lexicons used by information sharing centres today.

### **Maritime Safety versus. Maritime Security**

Terminology can often be ambiguous, which is another reason why the use of a common lexicon is critical. It is important to distinguish between the terms 'maritime safety' and 'maritime security' in the context of shipping operations. However, this is not always easily accomplished since multiple languages use the same word to describe 'safety' and 'security' (Cook, 2020: 50). While many view the terms as interchangeable, there is a clear distinction when it comes to risk management in the shipping sector (Mejia, 2003: 154). The International Maritime Organization made this distinction clear when it added Chapter XI-2 (the ISPS Code) to the International Convention for the Safety of Life at Sea (SOLAS) in 2004 (Klein, 2011b: 8-9). Prior to the introduction of the ISPS Code, SOLAS related to maritime safety and the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA Convention) related to maritime security (Mejia, 2003: 154).

Prevalent definitions of maritime safety, extracted from the literature are as follows:

#### **Unofficial Maritime Safety Definitions:**

- ...measures employed by owners, operators, and administrators of vessels, port facilities, offshore installations, and other marine organizations or establishments to: prevent or minimise the occurrence of mishaps or incidents at sea that may be caused by substandard ships, unqualified crew, or operator error. (Mejia, 2003, p.156)
- The combination of preventive measures intended to protect the maritime domain against, and limit the effect of accidental or natural danger, harms, damage to environment, risk, or loss (Fransas et al., 2021: 7).
- ...preventing or minimising the occurrence of accidents at sea that may be caused by substandard ships, unqualified crew or operator error (Klein, 2011: 8)
- *Further, definitions of 'maritime security' in the context of marine transportation from the literature include:*

**Unofficial Maritime Security Definitions:**

- those measures employed by owners, operators, and administrators of vessels, port facilities offshore installations, and other marine organisations or establishments to protect ships against seizure, sabotage, piracy, pilferage, annoyance or surprise (Hawkes, 1989: 9)
- ...protection against unlawful, and deliberate acts [at sea] (Klein, 2011b: 8)
- Avoidance of maritime violence<sup>1</sup> (Klein, 2011b: 8). Maritime violence here includes piracy, armed robbery against ships, and terrorism.
- the combination of preventive and responsive measures to protect the maritime domain against threats and intentional unlawful acts. (Fransas et al., 2021: .7)

To further illustrate the significant difference between these two concepts, the following figures show four main components of maritime safety versus four main components of maritime security.

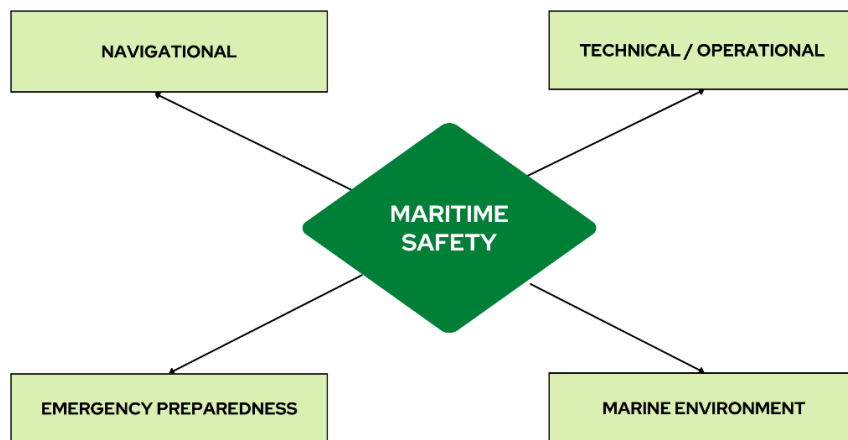


Figure 1: Four Components of Safety at Sea, adapted from Formela et al. (2019:287)

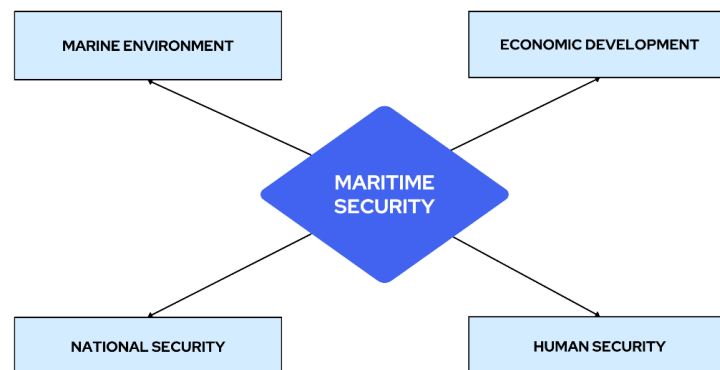


Figure 2: Four Components of Maritime Security, adapted from Bueger's "Maritime Security Matrix" (Bueger, 2015:161)

In sum, *maritime safety* relates to the prevention of accidents while *maritime security* relates to the prevention of intentional or deliberate acts (Klein, 2011b: 8). The [IMO Casualty Investigation Code](#) should



also be referenced in this context since it clarifies that marine safety investigations of a *marine casualty* or *marine incident*, “does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment” (IMO Assembly, 2008: 7). Instead, incidents involving ‘deliberate acts or omissions’ are considered maritime crimes or security incidents and are addressed by the ISPS Code, SUA Convention, the *Code of Practice for the Investigation of Crimes of Piracy and Armed Robbery Against Ships* (IMO Assembly, 2010), and the shipping industry’s series of counter-piracy Best Management Practice (BMP) Guidelines<sup>2</sup>.

Although there is a clear distinction between *maritime safety* and *maritime security*, it is also important to realise that these concepts are not mutually exclusive (Mejia, 2003: 156). Maritime safety and security are both integral components of the risk-based culture of the commercial shipping industry. As former United Nations Secretary-General, Ban Ki-Moon, observed in his 2008 report of the General Assembly:

*Until recently, the legal regimes for maritime security and maritime safety largely developed independently of one another. However, those regimes have common and mutually reinforcing objectives: a secure maritime space is certainly a safer one; and a maritime regime that prioritizes safety is less vulnerable to criminal activity and other threats to security (UN General Assembly, 2008: 14)*

### **Informalisation of Maritime Security**

One of the most profound lessons learned through combatting transnational violent maritime crime is that international maritime security processes such as information sharing, technical assistance, and capacity building can be accomplished more efficiently and effectively in an informal manner rather than through conventional, rules-based methods (Bueger & Edmunds, 2021: 5). A good example of this informalisation and experimentation was seen with the establishment and success of the Contact Group on Piracy off the Coast of Somalia (CGPCS) at the request of the United Nations Security Council (UN Security Council, 2008: 3). This successful forum to combat piracy was open to multi-stakeholder participation as a large-scale, global experiment in maritime security governance (Bueger & Edmunds, 2021: 16; Huggins & Vestergaard Madsen, 2014: 18)

Another example of informalisation which emerged from the CGPCS was the Shared Awareness and Deconfliction (SHADE) initiative in Bahrain. This bi-annual event hosted on a rotating basis by the European Union Naval Force (EU NAVFOR), and the Combined Maritime Forces (CMF) Bahrain, enabled coordination of counter-piracy operations and the sharing of intelligence and lessons learned between international militaries and multi-stakeholder civilian organisations to improve efforts toward a shared goal. While CGPCS has lost some steam and shifted focus in recent years, SHADE Bahrain has been going strong since 2008 (Bueger & Edmunds, 2021: 15). During the 47<sup>th</sup> Meeting of SHADE Bahrain in 2020, an initiative to harmonise the types and definitions of violent maritime crime was presented to the forum for consideration (Curt et al., 2020). In response, EU NAVFOR, UKMTO, and MDAT-GoG decided to harmonise their lexicons of incident types and definitions of violent maritime crime, the results of which were unveiled in June 2022 during the Djibouti Code of Conduct Jeddah Agreement High-level Meeting in Dubai, United Arab Emirates (EU NAVFOR ATALANTA, 2022). The informal and open-invitation format of the SHADE mechanism was so successful that it has now been replicated in Asia, the Mediterranean, and the Gulf of Guinea. These new multi-stakeholder and informal initiatives (in a maritime context) emphasise global collaboration and break down traditional barriers between the public and private sectors to enable pragmatic innovation and solutions (Bueger et al., 2020: 236).

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<sup>2</sup> Industry BMP Guidelines are available at <https://www.maritimeglobalsecurity.org>

## Global Maritime Domain Awareness (MDA)

Like many other components of maritime security, MDA has traditionally been closely tied to national security. Coastal States with the means to monitor safety and security threats within their own territorial waters or EEZ did so out of self-interest and protection. The enhancement of safety and security in the global maritime domain requires stakeholders to be aware of all present hazards and threats. To accomplish this goal, a common language or lexicon must be established to ensure all stakeholders are on the same page (Marshall Islands et al., 2019). The most prominent and effective method of gathering maritime security intelligence is through information sharing mechanisms.

As transnational maritime crime grew after the Cold War, nations began to realise that collective resources contributed to a regional MDA centre could better serve the shared threat awareness of all regional States (Bueger, 2015a). To successfully achieve MDA, all risks and threats must be continuously monitored, recorded, and analysed to identify trends. As published in the 2008 United Nations Secretary General Report on *Oceans and the Law of the Sea*, the following seven categories define the general scope of threats associated with the modern concept of maritime security (Bueger, 2015: 162; UN General Assembly, 2008: 18-33). Since these categories are published and recognised by an international organisation, they are also excellent candidates for inclusion in a global maritime security lexicon (see Table 1).

Table 1: Maritime Security Threat Categories, (UN General Assembly, 2008:18-33)

• <b>Piracy and armed robbery against ships</b>
• <b>Terrorist acts involving shipping, offshore installations, and other maritime interests</b>
• <b>Illicit trafficking in arms and weapons of mass destruction</b>
• <b>Illicit traffic in narcotic drugs and psychotropic substances</b>
• <b>Smuggling and trafficking of persons by sea</b>
• <b>Illegal, unreported, and unregulated fishing</b>
• <b>Intentional and unlawful damage to the marine environment</b>

## Information Sharing

While the informalisation of maritime security has many benefits, there are also a few downsides to multi-stakeholder collaboration. One of these negative effects is a lack of centralised global information sharing, collection, and distribution. Without a formally adopted global common lexicon for maritime security, multiple stakeholders have taken it upon themselves to create their own lexicons (Marshall Islands et al., 2019). This has resulted in the ambiguous maritime security environment that the shipping industry find itself in today.

For example, it is unclear why scholars, including Shemella et al. (2016), international organisations (UN Security Council, 2008), and practitioners often use the term 'armed robbery *at sea*' instead of 'armed robbery against ships.' The latter is clearly defined by an international organization (IMO Assembly, 2010), yet the legitimacy of the IMO-defined term is challenged every time an incorrect term is used as a replacement. It seems counterintuitive to use such a similar term to describe another which is already codified in international guidance. However, this is the dilemma currently faced without a definitive common lexicon for maritime security. New terms are continuously coined by scholars and practitioners

who realise that there are no 'rules' because a global lexicon for maritime security does not yet exist. For instance, the term "blue crime" was recently coined by Bueger & Edmunds (2020: 1) to describe "transnational organised crime at sea." Also, this very paper uses the term, "violent maritime crime" to describe incidents of "piracy and armed robbery against ships."

Maritime security information sharing technologies, networks, and communities typically include government agencies, non-governmental organisations, international organisations, information sharing/fusion centres, and private maritime security companies. Traditionally, national MDA information was typically collected by military government agencies. This also meant that this data was likely classified and not available to the public (Goward, 2008: 58). As modern maritime security continues to evolve, there has been an increased emphasis toward declassification of maritime security intelligence. In fact, most MDA data is available through open-source intelligence and the private sector today. Therefore, as global private sector technologies and capabilities progress, national governments have less control over who can access this traditionally secret government data (Goward, 2008: 58).

### **Maritime Security Regimes**

Recently, there has been a shift toward multilateral cooperation to combat maritime security threats. Although national security is often prioritised, globalisation has highlighted the immense importance of multilateral cooperation when faced with a shared international challenge (Mitchell, 2022: 144). UNCLOS was established in a different era to help resolve maritime territorial disputes, although it was only marginally successful. With rapid globalisation and technological advancement, maritime threats now exist across the globe, not just in certain regions or hotspots. No single nation can successfully address the challenges of transnational maritime crime by itself (Klein, 2011: 18). Of course, the extent of multi-stakeholder collaboration often depends on global economic factors and the interests of individual States (Huggins & Vestergaard Madsen, 2014).

Regional security regimes are developed through multilateral agreements that include mechanisms for which authorisation for certain actions is granted. The success of maritime security regimes has varied significantly across regions. For example, the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Information Sharing Centre (ISC) is widely viewed as the first successful regional maritime security regime since it achieved international support and recognition (IMO MSC, 2015). While ReCAAP was supposed to be a model for other regions, the system is too unique for successful replication in other parts of the world (Marshall Islands et al., 2019).

Increased technical assistance is also required to aid in capacity building and expand automation of systems for maritime domain surveillance. The opportunity to adopt a more collaborative approach to maritime security can greatly improve a nation's capacity for cooperation against maritime crime. However, capacity building is very difficult and costly for the assisting governments or organisations. If a nation in need of capacity building is not willing to commit to change, the program will not succeed. For instance, the capacity building initiatives incorporated into the Gulf of Guinea region through the Yaoundé Architecture (also known as the Yaoundé Code of Conduct) have largely failed so far due to the unwillingness of regional States to cooperate and embrace change (Mitchell, 2022: 153)

### **Economic Repercussions of Maritime Insecurity**

The economy is the backbone of development for any nation or corporation, and the maritime domain contains the most significant resources for global trade and wealth creation. A common lexicon can help promote international trade relations, helping to further economic development. The absence of a common lexicon often creates unnecessary confusion, which ultimately puts vessels and seafarers at

greater risk. Increased risk to merchant shipping leads to increased costs, resulting in negative impacts on the global economy.

### **Lessons Learned from Maritime Safety**

Identifying industry best practice and lessons learned are an integral part of the commercial shipping industry's risk management culture. Therefore, while developing a common lexicon for maritime security, lessons learned from other sectors of the maritime industry should be considered. As a closely related and well researched counterpart to maritime security, maritime safety is the most logical area to search for ideas.

### **Maritime English**

Communication barriers occur in various forms, including regional accents, dialects, lack of clarity in speech, and the use of jargon and slang. English is an internationally accepted language in the aviation and maritime sectors, and even when pilots or masters speak fluent English, hearing and interpreting the language can still present problems. According to Ahmmed (2018) and Aminah & Refnaldi (2020), 80% of maritime accidents occur due to human error related to poor communication, misunderstanding, and improper use of a common language or lexicon. As noted earlier, the role of the English language is crucial to shipping communications and operational safety.

Several researchers have observed that proficiency in English has been a fundamental prerequisite for recruitment in the maritime sector (Rosedi, 2018: 1; Aminah & Refnaldi, 2020; Sia & Said, 2018). For example, non-native English speakers often fail to compete for job opportunities due to a lack of English language skills (Dirgeyasa, 2018). In particular, shipowners complain about the poor English communication skills of Chinese seafarers (Fan et al., 2017: 142). The lack of English language skills among Chinese seafarers has seriously hurt their ability to compete with other seafarers who possess superior English language competency. This illustrates the importance of Maritime English as a common lexicon for the seafaring profession.

### **Standard Marine Communication Phrases (SMCP) as a Common Lexicon**

Rosedi (2013) emphasises the importance of the English language in merchant shipping, which is evident through the IMO's International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW), as amended. The IMO STCW Convention designates English as the official language of merchant ship operations and safety at sea using SMCP, which form an important subset of Maritime English (IMO Assembly, 2002). The use of SMCP as a common lexicon has been essential for seafarers and maritime industry personnel while conducting shipping operations to avoid miscommunication, which often leads to accidents (Astratinei, 2016). Consequently, maritime industry training materials and courses are published and delivered in English, and it is compulsory for vessel officers to be fully trained and fluent in the use of SMCPs. In fact, Maritime English training is also required for seafarers under the IMO STCW Convention (IMO Assembly, 2002: 2).

Rosedi (2013) also expresses the need to introduce cadets to SMCPs, which are critical during operations such as loading, unloading, and emergency drills. According to the author, relevant information is of utmost importance while interacting with the ship personnel, including the master, harbour authorities, and coast guard. Therefore, the following types of communication are suggested for inclusion in the Maritime English training curriculum to minimise potential miscommunication (Rosedi, 2013):

- General communication
- Radio communications

- Navigation/Bridge commands
- Emergencies/Casualties
- Ship/Cargo operations

Seafarers employed on merchant vessels often comprise multiple nationalities with a variety of native languages. This is why the use of Maritime English as a common denominator is essential for disseminating knowledge of major IMO instruments, such as STCW, SOLAS, and MARPOL (Ahmed, 2018). Prior to the use of Maritime English, communication failures led to many marine accidents. The evidence shows that poor communication is one of the critical causes of poor level of communication and the inability of the seaman to understand the common lexicon used in the shipping sector (Sia & Said, 2018). Seafarers' ability to communicate using SMCPs as a global common lexicon has been extremely important to the improvement of maritime safety.

*Sia & Said, (2018) provide several incorrect terms often used in Maritime English shown in Table 2:*

<b>INCORRECT</b>	<b>CORRECT</b>
Direction	Heading
Map	Chart
Leave the ship	Abandon ship
Coordinates of the ship	Position of the ship
Kitchen	Galley
Shore manager	Port authority
Fall into the sea	Man overboard
Rope breaking	Rope parting
Parking	Alongside/Berthing

*Table 2: Incorrect vs. Correct SMCP terminology (Sia & Said, 2018)*

Franceschi (2014) refers to spoken Maritime English as a hybrid micro-language designed to minimise miscommunication during a sea voyage. The main purpose of Maritime English is to facilitate ship-to-ship and ship-to-shore communication and internal communication on board the vessel. The following are some examples provided to illustrate how Maritime English is used to simplify and standardise terminology:

<b>STANDARD ENGLISH</b>	<b>MARITIME ENGLISH</b>
Front of the ship	Bow/fore
Propeller region (back of ship)	Aft/stern
The region between the aft and bow	Midship
The left-hand side of the vessel	Port
The right-hand side of the vessel	Starboard
Levels or floors	Decks
Base of the ship	Keel/hull

*Table 3: Maritime English Terminology (Source: marine-society.org, accessed Oct 2022)*

This section has described how SMCPs are used as a global common lexicon for maritime safety. The use of this common lexicon has been invaluable to the shipping industry by improving safety of life at sea, reducing maritime safety incidents (accidents), and increasing overall operational efficiency. This serves as excellent justification for the development of a similar lexicon for maritime security.

### **Maritime Security Law, Geopolitics, and Regulation**

While creating a common lexicon, it is important to identify currently codified terms and definitions from existing internationally recognised laws, regulations, or guidance. Several of such international instruments exist in relation to maritime security. This chapter examines the most prominent of said instruments to uncover any terms and definitions that may be useful in the maritime security common

lexicon. It also explores geopolitical influence and questions whether the IMO is the international regulatory body best suited to handle maritime security issues affecting merchant shipping.

### The United Nations Convention on Law of Sea (UNCLOS)

The United Nations Convention on Law of Sea (UNCLOS) is a statutory provision for marine activities, approved in 1982 that came into effect in 1994. The scope of maritime security is not limited to the high seas, but includes all maritime zones defined in UNCLOS. Maritime zones defined in UNCLOS include Internal Waters, Territorial Seas, Archipelagic Waters, Contiguous Zones, and Exclusive Economic Zones (EEZ) (Tanaka, 2012). Although the term 'international waters' is not defined in UNCLOS, this term is often used to describe the ocean area seaward of 12 nautical miles from the shore baseline<sup>3</sup>. The baseline includes islands belonging to a State and may also be drawn between close points on the coastal waters within the baseline, called Internal or Archipelagic waters.

The most significant contribution of UNCLOS to a maritime security common lexicon is the provision of an internationally recognised definition for 'piracy'. Article 101 of UNCLOS defines 'piracy' as:

- (a) any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:
- (i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft.
  - (ii) against a ship, aircraft, persons, or property in a place outside the jurisdiction of any State.
- (b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft; any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b). (United Nations, 1982: 57)

While this definition is neither perfect nor universally preferred, it is one of the only defined maritime security terms that is internationally accepted. Therefore, the term 'piracy' as defined in UNCLOS should be included in the maritime security common lexicon.

### UNCLOS MARITIME ZONES

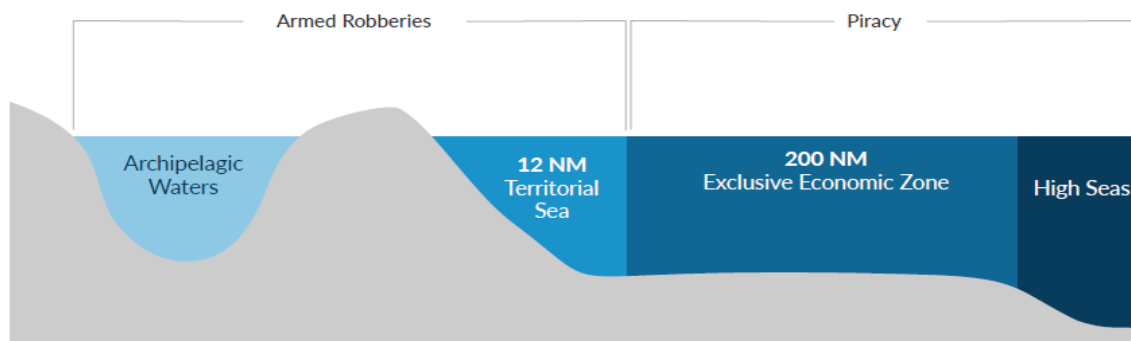


Figure 3: UNCLOS Maritime Economic Zones (Huggins et al., 2020)

<sup>3</sup> *International Waters* is defined by the United Nations Office on Drugs and Crime (UNODC) as: *Waters over which no State has sovereignty, although coastal States and flag States may hold certain enforcement rights depending upon the activity and location. International waters include the contiguous zone, the exclusive economic zone and the high seas.* (United Nations Office on Drugs and Crime, 2020: 17)

Although it was agreed under UNCLOS that piracy is a crime committed on the high seas (including the EEZ), a term was still needed to describe the same crime committed within the territorial waters of a Coastal State. Acting on this need, the IMO coined the term *armed robbery against ships*:

*Resolution A.1025(26)* (Annex, paragraph 2.2) on IMO's Code of Practice for the Investigation of the Crimes of Piracy and Armed Robbery Against Ships, determines that armed robbery against ships consists of any of the following acts:

(a) any illegal act of violence or detention or any act of depredation, or threat thereof, other than an act of piracy, committed for private ends and directed against a ship or against persons or property on board such a ship, within a State's internal waters, archipelagic waters and territorial sea.

(b) any act of inciting or of intentionally facilitating an act described above. (IMO Assembly, 2010: 4)

UNCLOS was intentionally written with ambiguity in order to achieve unanimous agreement on each Article (Walker & Noyes, 2002: 369). The vagueness of UNCLOS often leads to confusion, particularly as it relates to the interpretation of sovereignty, resource jurisdiction, and a coastal State's authority to exercise security jurisdiction beyond its territorial waters (Mitchell, 2020: 115). Aside from its ambiguity, UNCLOS also falls short when it comes to compliance enforcement by many of the Member States party to the Convention. Since UNCLOS lacks a truly effective compliance mechanism (Churchill, 2012: 779), non-compliance and misinterpretation of this soft law has become a significant issue.

UNCLOS Article 194(5) addresses the preservation of rare marine ecosystems. However, several parties to the UNCLOS do not comply with this rule. Consequently, excessive fishing activities occur in such fragile and sensitive areas, causing substantial damage to the marine ecology (Churchill, 2012: 782). The discussion suggests that UNCLOS does not have universally acknowledged applicability. Despite being international law, UNCLOS is undermined by many States which are party to the Convention (Bateman, 2007: 1). Although UNCLOS includes compliance and dispute settlement mechanisms (Churchill, 2012: 779), such as the International Court of Justice (ICJ) and the International Tribunal of the Law of the Sea (ITLOS), there is no enforcement mechanism for orders handed down from the ICJ or ITLOS (Mitchell, 2020: 116). However, as pointed out by Nguyen (2018: 115), the ICJ and ITLOS have still managed to peacefully settle multiple disputes without the need for an enforcement mechanism.

### **Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention)**

On March 10, 1988, the SUA Convention was adopted, and it came into force on March 1, 1992 (International Maritime Organization (IMO), 2019). The primary purpose behind this act was concern over the unlawful acts that threatened the safety and security of the shipping sector. In the 1980s, several cases were there on the kidnapping and hijacking of ships. During such incidents, passengers were threatened and sometimes killed. The concern was acknowledged internationally, and IMO took the appropriate initiative through an MSC Circular issued in 1986 to prevent unlawful acts against crew and passengers (IMO MSC, 1986). The SUA Convention provides numerous descriptions of what would constitute an unlawful act, but it does not assign terminology to correlate with said descriptions (Klein, 2011: 305). Therefore, while this Convention is very important to maritime security, it is not particularly useful to the creation of a common lexicon for maritime security.

### **Geopolitical and Economic Influence**

Mainstream media outlets began to focus more on piracy and terrorism after 9/11 attacks, particularly after 2007 when there was a sharp rise in piracy incidents off the coast of Somalia (Otto, 2020: 2). However, most illicit activity and disruptive operations at sea continue to involve the trafficking of arms and drugs, human smuggling, intentional environmental damage, and illegal, unregulated, and unreported (IUU)

fishing. International heavyweights like the United States and the European Union have embraced thorough maritime security strategies that strongly emphasise upholding international law against illicit activity at sea (European Commission, 2014; U.S. Department of Homeland Security, 2005). The State has established and maintained maritime security, safety, and good governance through proactive measures such as port security legislation and anti-piracy operations.

The literature on 'the politics of numbers' (Andreas & Greenhill, 2010) offers a helpful framework to highlight significant trends, such as the 'ballooning effects' of piracy spreading beyond Nigerian territorial waters, the increase of kidnap for ransom attacks, or an increase in the average number of people kidnapped per incident (Jacobsen, 2022: 132). These and other significant nuances include an increase in hybrid attacks carried out by 'poly-criminal' pirates (Jacobsen, 2019: 52), including a combination of violent and non-violent organised maritime crime (Gesami, 2021: 1).

The political components of maritime security may include national or regional use of geography and economic incentives to directly or indirectly influence maritime security operations, regulations, measures, and policies to benefit said national or regional political objectives. Jacobsen (2020) suggests that one way to avoid infusion of political agendas into maritime security is to create a system that focuses analytical attention on issues rather than statistical data. The reasoning behind this argument is based on the notion that statistical data is often skewed by national or reporting agencies to support a particular political narrative. However, political bias can also be observed without any statistical data. In fact, bias can be amplified when statistical data is unavailable. The 'politics of numbers' (Andreas & Greenhill, 2010) or misrepresentation of statistical data only becomes an issue if the statistics are reported or analysed without the use of a common lexicon. With the use of a common lexicon, incident type and severity are divided into predetermined and defined terms and categories, mitigating the risk of intentional or unintentional political bias.

### **Considering a New U.N. Specialised Agency for Maritime Security**

To achieve legitimacy, the development and establishment of a formal global lexicon for maritime security will require consideration and adoption through a relevant international organisation. The IMO is the specialised agency of the United Nations that establishes international maritime law, regulation, guidance, and customary standards necessary to enhance the safety, security, and environmental responsibility of the commercial shipping industry (IMO, 2013). While maritime security has been a permanent agenda item of the IMO Maritime Safety Committee (MSC) since the 1980s (IMO, 2013:7; Mejia, 2003: 153), this does not always mean the subject is given the attention or emphasis it deserves. According to the IMO, maritime security did not become a 'major focus' of the Organization until the early 2000s after the September 11<sup>th</sup> terrorist attacks (IMO, 2013: 2). In recent years the IMO has been shifting its focus away from maritime security in favour of safety and environmental concerns. A fair method of gauging the IMO's interest and commitment to maritime security issues is by noting how frequently the Maritime Security Working Group (MSWG) has been convened during the IMO MSC.



Committee Session	Date	MSWG Convened?
MSC 97	November 2016	NO
MSC 98	May 2017	YES
MSC 99	May 2018	NO
MSC 100	December 2018	NO
MSC 101	June 2019	NO
MSC 102	May 2020	NO
MSC 103	May 2021	YES
MSC 104	October 2021	YES
MSC 105	April 2022	NO
MSC 106	November 2022	NO

Table 4: Frequency of MSWG during IMO MSC (Source: author)

As shown in Table 4, only 30 percent of the past ten sessions of IMO MSC have had enough focus on maritime security to convene a working group. Therefore, the lack of interest or meaningful debate on maritime security issues at the IMO has raised concern over the Organization's continued capacity to take on this growing international concern, or if a new U.N. agency would be better suited to appropriately address maritime security.

Bueger (2021) highlights the potential need for the U.N. to simplify the matter of maritime security instead of making it more complex for Member States to grasp. Initially, the problems should be identified by multi-stakeholder experts from the maritime field, and then standardised solutions should be adopted and maintained to help prevent and respond to dynamic maritime security threats. Proposals for new 'outputs' by IMO Member States are not easily approved since they require consensus and will likely add new obligations for Member States. Since IMO Member State delegations typically comprise marine safety and technical experts, this may be why there is a lack of interest or appetite to address maritime security issues. Although 'special measures to enhance maritime security' and 'piracy and armed robbery against ships' are permanent agenda items of the IMO Maritime Safety Committee (Mejia, 2003: 153), proposals are rare due to a lack of delegate expertise and political sensitivities that the topic of maritime security conjures for certain Member States and regional organisations.

Several serious maritime security incidents have recently occurred that profoundly affected the commercial shipping industry. These include limpet mine sabotage attacks near the Strait of Hormuz, aerial 'suicide' drone and waterborne improvised explosive device (WBIED) in Yemen and Saudi Arabia, increased drug smuggling aboard merchant ships from South America, and seafarers left stranded at ports in Ukrainian war zones. While the IMO has gone through the motions by acknowledging and expressing 'deep concern' over these incidents, impactful discussion and response has not materialised. If the relevant U.N. specialised agency has too much on its agenda to adequately address issues of maritime security, it may be useful to explore whether these issues would be more effectively addressed by a new specialised agency of the U.N. (Bueger, 2021). In relation to the development and establishment of a maritime security common lexicon, a new specialised agency focused on maritime security would provide the necessary level of Member State interest and agenda capacity to allow for the necessary debate, drafting and implementation of such a significant undertaking.

## Current Challenges

This section lays out the multiple challenges and burdens faced by the global maritime security community due to the lack of a common lexicon.

### Conflicting Maritime Security Incident Terminology

Maritime security is often 'lost in translation' because there is no internationally recognised common lexicon to describe security threats and incident reports occurring within the maritime domain. As noted, many government agencies, MDA organisations, Regional Reporting Centres (RRCs), Information Sharing/Fusion Centres, and Global Reporting Centres have been established to track maritime security threats over the past 10-15 years. This would be a positive phenomenon if each centre used a common lexicon to define and measure incidents when publishing statistical data. However, each centre uses its own set of terminology, definitions, and reporting protocol. This is very confusing for the shipping industry and policymakers since various regional maritime security threat reports constantly change terminology as a merchant ship sails around the world. Examples are shown in Table 5.

Incident Categories	Incident Types / Severity	Unsuccessful Incidents	Effect on Seafarers
Armed Robbery	Attack	Aggressive Approach	Abducted
Activism	Boarding	Attempted Boarding	Assaulted
Blue Crime	Category 1-4	Attempted Theft	Beaten
Cyber Attack	Fired Upon	Blocking	Held Hostage
Contraband Smuggling	Hijack	Disruption	Injured
Environmental Crime	Illegal Boarding	Irregular Activity	Kidnapped
Geopolitical Conflict	Kidnap for Ransom	Sighting	Killed
Human Trafficking	Level 1-3	Suspicious Activity	Mental Distress
IUU Fishing	Petty Theft	Suspicious Approach	Missing
Organized Crime	Robbery	Suspicious Event	Psychological Trauma
Piracy	Theft	Suspicious Incident	Threatened
Terrorism			Tied-up
Weapons Trafficking			Tortured

Table 5: *Conflicting and Overlapping Maritime Security Incident Terminology (Curt et al., 2020)*

### Pre-voyage Security Threat Assessments

In accordance with the International Ship and Port Facility Security (ISPS) Code, every ship must have an assigned Company Security Officer (CSO). The CSO is responsible for communicating with the Ship Security Officer and Port Facility Security Officer as the company's designated representative. A CSO must know the ship's layout, conduct ongoing security assessments, and maintain the Ship Security Plan. CSOs may be assigned to one or more ships, depending on how many and what kind of ships the Company operates. Depending on the quantity and types of ships they operate, the Company may choose to appoint an Alternate CSO to provide backup when the CSO is unavailable.

In addition to the responsibilities outline above, the CSO is usually also responsible for conducting a thorough pre-voyage threat assessment, as per shipping industry Best Management Practice guidelines (BIMCO, ICS, IFSMA, et al., 2018: 9) The present disparities between data sets used to monitor maritime security incidents on a regional and global scale often causes an unnecessary burden for ship management while attempting to conduct accurate voyage threat assessments. Typically, the CSO, Ship Security Officer (SSO) - usually the master, the flag State Administration, and private security advisors are involved in conducting pre-voyage security threat assessments. Each of these entities may rely on different security

incident data sources with conflicting incident types and definitions, making the threat assessment process quite cumbersome and ambiguous.

### **Incident Reporting Process Ambiguity**

Often, the presence of multiple rescue coordination and information sharing centres creates confusion amongst the shipping industry, which can hinder a rapid response. When a ship faces any type of security threat, it needs a very simple and efficient way to seek assistance from the nearest trusted authorities. However, the plethora of current national and regional lexicons for maritime security incident reporting creates a great deal of confusion and inefficiency for ships under attack.

### **Global Maritime Security Data Integrity**

Accurately assessing global maritime insecurity requires prioritising data accuracy over political agendas or sensitivities. This section analyses the statistics derived from various national and international statistical reports on incidents of violent maritime crime. Significant discrepancies can be observed among the multiple organisations providing reports on violent maritime crime. As a result, it is difficult to know which set of statistics or the most accurate. Maritime security data needs to be submitted in the framework of a common lexicon, so the process is clear no matter where a ship is operating. It is essential to understand the severity and frequency of the threat.

According to IMB PRC data, Southeast Asia was most susceptible to piracy and armed robbery against ships in 2021. The IMB PRC (2021) Annual Report also claims that the Singapore Strait and Peru were the world's most vulnerable locations for piracy and identified robbery. The Singapore Strait is one of the busiest shipping lanes in the world, with an annual traffic flow of over 60,000 vessels (Pulungan, 2021: 300). Most attacks in the Singapore Strait are opportunistic in nature and occur whilst a vessel is underway (Marshall Islands, 2022). The perpetrators of these attacks are typically Indonesian fisherfolk looking for quick income through opportunistic theft (Pulungan, 2021). However, this does not mean that the attacks are any less dangerous. The perpetrators attack vessels whilst underway, are often armed with machetes or knives, and will not hesitate to subdue crew members by force (Marshall Islands, 2022).

The IMO published a slightly different report than the ICC International Maritime Bureau (IMB) for 2021. According to IMO GISIS statistics, there were 172 incidents of piracy and armed robbery against ships in 2021. The number of incidents decreased from the previous year (2020) when 229 were recorded. Since the ICC IMB, ReCAAP, and MDAT-GoG report all security incidents to the IMO, the numbers in GISIS should be comparable. However, this is not always the case, as illustrated in Table 6. The table displays the number of reported piracy and armed robbery cases per region in 2021.

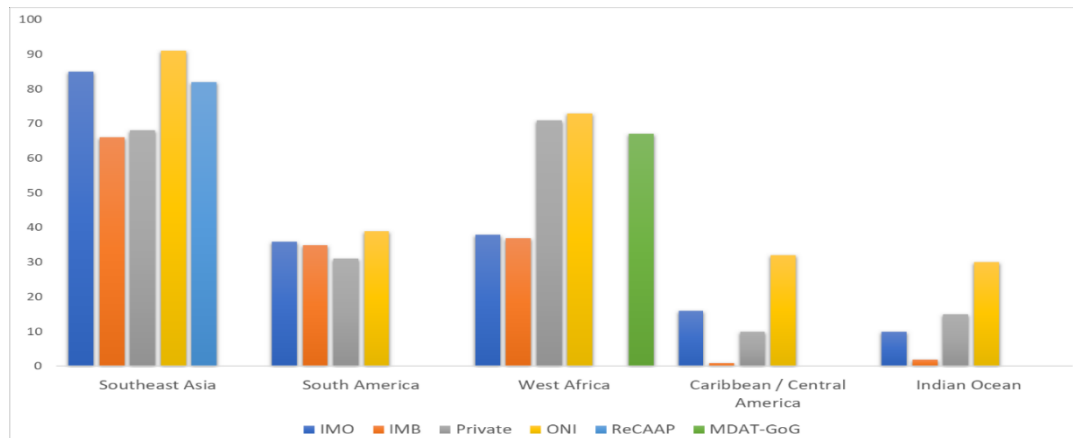


Table 6: Comparison of Violent Maritime Crime Statistics (2021)

(ICC IMB-PRC, 2021; International Maritime Organization (IMO), 2022; Maritime Domain Awareness for Trade - Gulf of Guinea, 2021a, 2021b; ReCAAP, 2020; U.S. Office of Naval Intelligence (ONI), 2022)

### Outdated Incident Reporting Guidance

After thoroughly analysing existing regional and global incident reporting protocol, a proposed revision to the reporting framework published in IMO MSC.1/Circ.1333 is suggested based on how reporting occurs today. After over a decade since initial publication, it is time for IMO MSC to revise MSC.Circ.1333 and MSC.Circ.1334. The proposed revisions would update the standard reporting protocol to include current industry Best Management Practices, which have evolved continuously since 2010. Incident categories, types and definitions should also be harmonised within a comprehensive maritime security common lexicon.

A comprehensive review of reporting procedures is necessary to provide clarity and efficiency to the incident reporting process for violent maritime crime. These improvements should be proposed transparently and collaboratively to ensure an appropriate response is provided and that policymakers are provided with accurate and harmonised statistical data on global maritime security threats. Importantly, the proposed reporting framework also respects and maintains existing reporting arrangements to the greatest possible extent. For example, the ReCAAP system of incident reporting in Asia has been preserved (refer to Appendix 1)).

### Incident Statistical Data Analysis

Access to accurate and comprehensive maritime security incident data is key to achieving maritime domain awareness and successfully mitigating maritime security risks (Goward, 2008). Unfortunately, the lack of accurate maritime security threat data remains a significant concern for the commercial shipping sector due to underreporting, political bias among reporting centres, national security concerns, selective data, and data manipulation (Jacobsen, 2022: 128).

As alluded to in section 19 of IMO MSC.1/Circ.1334, the IMO GISIS piracy and armed robbery database was designed and designated to be the central repository for worldwide incidents of piracy and armed robbery against ships (IMO MSC, 2009: 5). The Circular clarifies that efforts to avoid the infiltration of biased or inaccurate data should be taken when collecting and reporting maritime security incident data. Unfortunately, due to a lack of Member State incident reporting, the IMO has now decided to accept most of its incident data from the ReCAAP and the IMB PRC. However, the data in IMO GISIS is not organised into any meaningful or defined incident types or severity levels, which renders the data virtually useless for the purposes of voyage risk assessment (Marshall Islands et al., 2019).

For example, say the Company Security Officer (CSO) of a vessel receives orders to sail from Greece to Peru, with intermediate port calls in Qatar, India, Singapore, and Hong Kong. Assume the available statistical reports include the most recent quarterly IMB-PRC and ReCAAP incident reports. Common sense would tell the CSO that the best way to conduct a thorough voyage threat assessment for Asia is to simply combine the incident data reported by the IMB-PRC with the incident data provided from ReCAAP. Unfortunately, the incident classifications in these reports are completely incompatible. Therefore, the data from one of the two reports would need to be completely re-categorised for the incident data from both reports to be successfully merged.

### **Underreporting of Maritime Security Incidents**

Underreporting of incidents has become a very significant issue for maritime security policymakers, practitioners, and the commercial shipping industry. Since many incidents of violent maritime crime are not reported by vessel operator, it is difficult to ascertain the true prevalence of threats in certain areas. The former Director of the IMB PRC, Pottengal Mukundan, noted that, "up to 70 percent of piracy-related incidents in the Gulf of Guinea are never reported..." (The Maritime Executive, 2015). There are several reasons behind maritime security incident underreporting, including the following:

- While the IMO GISIS database is meant to be the central repository of global incidents of piracy and armed robbery against ships, the Organization relies on Member States to report these incidents to the IMO Secretariat. As of the year 2020, only one Member State was complying with its obligation to consistently report these incidents (Marshall Islands et al., 2019).
- In the shipping industry, lost time directly equates to lost profits. Shipowners and operators are often hesitant to report security incidents since it can lead to significant delays due to investigations, paperwork, and possible detention by the coastal State authorities (Deves & Post, 2013: 14; Lombardo, 2014: 6).
- Incident reporting could cause insurance premiums to be raised for shipowners, especially if required security measures were not in place (Deves & Post, 2013:14).
- A larger number of incident reports in a certain area could also prompt the Lloyd's Market Association (LMA) Joint War Committee (JWC) to include the area as a JWC 'Listed Area' for hull war, piracy, terrorism, and related perils. This increases war risk insurance premiums for all vessels transiting a JWC Listed Area.
- Commercial reputational damage plays a significant role in deciding whether to report security incidents since shipowners and ports fear the perception of having inadequate security standards or being vulnerable to attack (Deves & Post, 2013: 14; Lombardo, 2014: 15).

Addressing the significant issue of underreporting is a topic that would be best covered through additional research, since it will not be solved through the creation of a global common lexicon. Underreporting is also an issue that relates to more than just violent maritime crime, but to every maritime

security incident category listed in final section of this article, "Suggested Follow-on Research". Incident reporting must be encouraged and even incentivised; never punished. A vessel or shipping company should never fail to report a security incident for fear of negative commercial consequence. If this remains the case, the accuracy of global maritime domain awareness will continue to be compromised.

### **The Solution: Developing a Common Lexicon**

To develop a global common lexicon for maritime security, the strengths, weaknesses, and common denominators of current lexicons must first be identified. This chapter analyses the most prominent global, regional, and national maritime security information sharing centres and agencies that report incidents of violent maritime crime.

### **Global Reporting Centres**

#### **IMO Global Integrated Shipping Information System (GISIS)**

In 1982, the IMO (then known as the Inter-Governmental Maritime Consultative Organization (IMCO)) began collecting and reporting on piracy (then referred to as 'maritime fraud') incident data in partnership with the newly formed International Maritime Bureau (IMB), which was set up by the International Chamber of Commerce (ICC). Since 2002, IMO GISIS incidents have been classified by jurisdiction: [1] piracy (international waters), and [2] armed robbery against ships (territorial waters).

In 2009, the IMO Maritime Safety Committee published MSC Circular 1334. Section 19 reads:

*The recording and initial examination of reports is best done, wherever possible, by a central agency possessing the necessary skills and resources. In order to maintain the required credibility, both from Government and commercial sectors, such an agency must be accurate, authoritative, efficient and impartial in both its product and its dealings with others. It is judged that the Organization best suited to this role continues to be IMO itself, but although the use of IMB's Piracy Reporting Centre in Kuala Lumpur, Malaysia, the ReCAAP Information Sharing Centre (ISC) in Singapore, the Maritime Security Centre Horn of Africa or similar arrangement, as a satellite for dissemination of information should also be considered. (IMO MSC, 2009 : 5, emphasis added by author)*

Appendix 5 of the same Circular (Figure 4) prescribes the following format to be used by Member States when reporting incidents of piracy and armed robbery against ships to the IMO Secretariat:

## APPENDIX 5

**FORMAT FOR REPORTING TO IMO THROUGH MARITIME  
ADMINISTRATIONS OR INTERNATIONAL ORGANIZATIONS**

- |    |   |
|----|---|
| 2' | Ship's name and IMO number<br>Type of ship<br>Flag<br>Gross tonnage   |
| 3  | Date and time   |
| 4  | Latitude      Longitude<br>Name of the area**<br>While sailing, at anchor or at berth?  |
| 5  | Method of attack<br>Description/number of suspect craft<br>Number and brief description of pirates/robbers<br>What kind of weapons did the pirates/robbers carry?<br>Any other information (e.g. language spoken) |
| 6  | Injuries to crew and passengers<br>Damage to ship (Which part of the ship was attacked?)<br>Brief details of stolen property/cargo  |
| 7  | Action taken by the master and crew   |
| 8  | Was incident reported to the coastal authority and to whom?   |
| 9  | Reporting State or international organization   |
| 10 | Action taken by the Coastal State   |

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*Figure 4: Format for Reporting Incidents to the IMO (IMO MSC, 2015, p.15)*

Notably, the IMO only uses the internationally accepted and defined categories of violent maritime crime when presenting data in monthly and annual statistical reports. This greatly differs from other information sharing centres, which use their own set of incident types and definitions.

**ICC IMB Piracy Reporting Centre (IMB PRC)**

Since its establishment in 1992, the IMB PRC has developed a position of trust within the shipping industry, government agencies, regional response providers, and international organisations. The reason it has gained trust is because it gathers and reports incident without influence or political bias from coastal States or regional alliances. Incident reports are received and accepted only from vessel masters, flag State Administrations, and other highly credible sources.

As noted in its annual report (ICC-IMB, 2020), the IMB PRC uses the UNCLOS definition of *piracy* and the IMO definition of *armed robbery against ships*. Under those definitions, the IMB PRC reports and defines incidents as shown in Table 7:

<b>Crew:</b>	Kidnap, hostage, death, threat, assault, injury, missing.
<b>Vessel</b>	Damage, especially due to the discharge of weapons or when perpetrators wilfully damage vessel equipment and property.
<b>Cargo:</b>	Theft or damage to cargo.

Table 7: IMB PRC Incident Types and Definitions (ICC IMB-PRC, 2021, p.4)

According to the IMB PRC, potential consequences to the crew, vessel, or cargo, due to the above illegal acts, include (Table 8):

<b>Boarded:</b>	An illegal act of perpetrators successfully gaining access onto the vessel.
<b>Hijacked:</b>	An illegal act of perpetrators successfully gaining access onto the vessel and taking over the control of the vessel from the Master and crew.
<b>Fired Upon:</b>	An illegal act of perpetrators discharging weapons towards the vessel while attempting to gain access onto the vessel.
<b>Attempted:</b>	An illegal act of perpetrators attempting to approach a vessel with possible intention to board but remain unsuccessful due to the timely actions of the crew.

Table 8: Potential consequences of IMB PRC incidents (ICC IMB-PRC, 2021: 4)

The IMB PRC incident report form requests the following information:



<p><b>Vessel details</b></p> <ol style="list-style-type: none"> <li>Name of Ship</li> <li>IMO number</li> <li>Flag of ship</li> <li>Type of Ship</li> <li>Tonnages</li> <li>Owner information</li> <li>Manager information</li> <li>Last Port / Next Port</li> <li>Cargo details</li> </ol> <p><b>Incident details</b></p> <ol style="list-style-type: none"> <li>Date / Time of incident</li> <li>Position</li> <li>Nearest landmark/ location</li> <li>Port / town / anchorage area</li> <li>Nearest country</li> <li>Status of ship</li> <li>Own ship's speed</li> <li>Ship's freeboard during attack</li> <li>Weather during attack</li> <li>Type of attack</li> <li>Consequences for crew/vessel/cargo</li> <li>Area of ship being attacked</li> </ol>	<p><b>Details of raiding party</b></p> <ol style="list-style-type: none"> <li>Number of pirates / robbers</li> <li>Dress / physical appearance</li> <li>Language spoken</li> <li>Distinctive details</li> <li>Craft used</li> <li>Closest point of approach</li> <li>Method of approach</li> <li>Duration of attack</li> <li>Aggression / Violence</li> </ol> <p><b>Details of weapons and damage</b></p> <ol style="list-style-type: none"> <li>Weapons sighted?</li> <li>Weapons type</li> <li>Weapons used?</li> <li>Damage caused?</li> <li>Damage details</li> <li>Ladders sighted?</li> <li>Other boarding equipment?</li> </ol> <p><b>Other details</b></p> <ol style="list-style-type: none"> <li>Action taken by master and crew</li> <li>Reported to coastal State?</li> <li>Action taken by authorities</li> <li>Anti-piracy measures employed?</li> <li>Private security team embarked?</li> <li>Number of crew and nationalities</li> </ol>
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Table 9: IMB PRC Incident Reporting Form Fields  
(Source: [IMB PRC Attack Report](#), accessed 20 October 2022)

The IMB PRC also uses a method to measure the severity of incidents, using the following severity levels shown in Table 10:

<b>Severity Level I:</b>	Any incident which has a direct impact on the crew. To include: <ol style="list-style-type: none"> <li>Crew being taken hostage, assaulted, injured, killed, kidnapped, missing, threatened.</li> <li>A hijacking where the command of the vessel is taken over by those boarding.</li> <li>An incident where the crew retreats into the citadel.</li> </ol>
<b>Severity Level II:</b>	To include a vessel being fired upon, security teams firing on approaching threat, robbers, pirates identified with weapons of any type (violence is offered) whether boarded or otherwise.
<b>Severity Level III:</b>	To include an incident that does not fall into either Level I or Level II

Table 10: IMB PRC Incident Severity Levels (ICC IMB-PRC, 2021: 4)

### United States Office of Naval Intelligence (ONI)

The United States Office of Naval Intelligence (ONI) provides MDA data to the U.S. military, national policymakers, and the wider intelligence community. ONI provides monthly and annual unclassified Worldwide Threat to Shipping (WTS) Reports through its website [Worldwide Threat to Shipping \(navy.mil\)](http://WorldwideThreattoShipping.navy.mil) These reports use the following incident types and definitions (Table 11):

<b>Attempted boarding:</b>	Close approach or hull-to-hull contact with report that boarding paraphernalia were employed or visible in the approaching boat.
<b>Blocking:</b>	Hampering safe navigation, docking, or undocking, of a vessel as a means of protest.
<b>Boarding:</b>	Unauthorised boarding of a vessel by persons not part of its complement without successfully taking control of the vessel.
<b>Firing upon:</b>	Weapons discharged at or toward a vessel.
<b>Hijacking:</b>	Unauthorised seizure and retention of a vessel by persons not part of its complement.
<b>Kidnapping:</b>	Unauthorised forcible removal of persons belonging to the vessel from it.
<b>Robbery:</b>	Theft from a vessel or from persons aboard the vessel.
<b>Suspicious approach:</b>	All other unexplained close proximity of an unknown vessel.

Table 11: ONI Incident Types and Definitions (U.S. Office of Naval Intelligence (ONI), 2022: 7)

### Regional Reporting Centres

#### United Kingdom Maritime Trade Operations (UKMTO)

United Kingdom Marine Trade Operations (UKMTO) was established in 2001 in response to the terrorist attacks on the United States. Starting in 2007, UKMTO's main responsibility has been anti-piracy and maritime security operations. The UKMTO supports the shipping industry's Best Management Practice (BMP) guidelines and is the primary point of contact for merchant vessels in the event of a pirate attack (BIMCO, ICS, IGP&I, et al., 2018). UKMTO uses the following incident types and definitions (Table 12) for violent maritime crime:

UKMTO Maritime Security Definitions	
Hijack	Unauthorised persons have illegally boarded and taken control of the vessel against the will of the Master and crew
Boarding	Unauthorised persons have boarded but have not taken control of the vessel
Attempted Boarding	Close approach or hull-to-hull contact with report that boarding paraphernalia were employed or visible in the approaching boat, but were thwarted by BMP measures, PAST, weather conditions, lack of appropriate equipment, etc
Attack	An aggressive approach by unidentified craft and weapons have been discharged
Suspicious Approach	Definite alteration towards the ship, rapid increase in speed which cannot be accounted for in the prevailing conditions. Sudden changes in course towards ship and aggressive behaviour
Sightings and Irregular Behaviour	Suspicious activity not associated with the locality or prevailing conditions
Other	Maritime security events not related to piracy or armed robbery

Table 12: UKMTO Incident Types and Definitions  
(United Kingdom Maritime Trade Organisation (UKMTO), 2022)

### Information Fusion Centre – Indian Ocean Region (IFC-IOR)

Established in 2018 by the Indian Navy, the IFC-IOR is one of the world's newest regional information sharing/fusion centres. While it may seem that Indian Ocean Region MDA is already sufficiently covered by UKMTO, IMB-PRC, IMO, and ONI, this information fusion centre is different because it monitors all aspects of MDA, including all maritime safety and security incidents. Like the Information Fusion Centre in Singapore, the IFC-IOR publishes very detailed regional MDA reports on a monthly and annual basis.

IFC-IOR Mission Statement:

To advance maritime safety and security in the Indian Ocean Region by enhancing maritime domain awareness and coordinating activities, through information sharing, cooperation, and expertise development, along with partner nations and agencies. (IFC-IOR, 2022: 3)

IFC-IOR uses the following incident types and definitions for violent maritime crime:

<b>Hijack</b>	An illegal act of violence where attackers have illegally boarded and taken control of a ship against the crew's will with an objective which could include armed robbery, cargo theft or kidnapping.
<b>Kidnap</b>	An illegal act of violence involving unauthorised forcible removal of persons belonging to the vessel.
<b>Attack</b>	An act of violence, where a ship has been subjected to an aggressive approach by an unidentified craft AND weapons have been discharged.
<b>Illegal Boarding</b>	An act of violence, where attackers have boarded a ship but HAVE NOT taken control. Command remains with the Master.
<b>Sea Theft</b>	Any illegal act of stealing property from a vessel without any violence against the crew or passengers, other than an act of piracy and directed against a ship or property on-board a ship.
<b>Sea Robbery</b>	Any illegal act of stealing property from a vessel committed with arms or with violence against the crew or passengers, other than an act of piracy and directed against a ship or property onboard a ship.
<b>Suspicious Approach</b>	An action involving, definite alteration towards the ship, rapid increase in speed which cannot be accounted for in the prevailing conditions, sudden changes in course towards ship and aggressive behaviour by the craft.
<b>Attempted Sea Theft</b>	Any illegal act of an attempt to steal property from a vessel without any violence against the crew or passengers, other than an act of piracy and directed against a ship or property onboard a ship. Nothing reported to be stolen from the vessel.
<b>Attempted Sea Robbery</b>	Any illegal act of an attempt to steal property from a vessel committed with arms or with violence against the crew or passengers, other than an act of piracy and directed against a ship or property onboard a ship. Nothing reported to be stolen from the vessel.
<b>Attempted Boarding</b>	An action involving, close approach or hull-to-hull contact with report that boarding paraphernalia were employed or visible in the approaching boat, but are thwarted by BMP measures, PAST, weather conditions, lack of appropriate equipment, etc.

Table 13: IFC-IOR Incident Types and Definitions (IFC-IOR, 2022: 114)

### Information Fusion Centre (IFC) Singapore

As an information ‘fusion’ centre, IFC Singapore is tasked with monitoring the full scope of MDA for the Asian region. For IFC Singapore, this includes the following categories: [1] Theft, Robbery, and Piracy at Sea (TRAPS), [2] Maritime Terrorism, [3] Maritime Incidents, [4] Illegal, Unregulated, and Unreported Fishing (IUU Fishing), [5] Contraband Smuggling, [6], Irregular Human Migration, [7] Environmental Security (ENVSEC), [8] Cybersecurity (CYBERSEC) (Information Fusion Centre, 2021).

For this paper the relevant category is TRAPS, which includes the following incident types and definitions (Table 14):

<b>Hijacked:</b>	Any illegal act of violence whereby perpetrators HAVE boarded AND taken control/detained a vessel and/or its crew against their will.
<b>Boarding:</b>	Refers to whereby the perpetrators have boarded a ship but HAVE NOT taken control. Command remains with the Master. This also includes unsuccessful attempts to rob or steal from vessel during boarding.
<b>Attempted Boarding:</b>	Any suspicious act including but not limited to vessel(s); (1) having a very close CPA, (close approach or hull-to-hull contact) with boarding paraphernalia employed or visible and/or (2) weapons clearly seen on display or use/discharge as a show of force or threat against the against the merchant vessel.
<b>Suspicious Approach:</b>	Any act of vessel(s) approaching close proximity enough to warrant suspicion. No boarding paraphernalia or weapons are sighted on board.

Table 14: IFC Singapore Definitions of TRAPS Classifications (Information Fusion Centre, 2021: 5)

### Inter-Regional Coordination Centre (ICC) – Gulf of Guinea (GoG)

The ICC-GoG was established as a result of the Yaoundé Code of Conduct to act as the maritime security information sharing centre for the Gulf of Guinea region. The ICC-GoG uses the following incident types and definitions (Table 15):

<b>Attempted Boarding:</b>	Close approach or hull-to-hull contact with report that boarding paraphernalia were employed or visible in the approaching boat.
<b>Blocking:</b>	Hampering safe navigation, docking, or undocking of a vessel as a means of protest.
<b>Boarding:</b>	Unauthorised boarding of a vessel by persons not part of its complement without successfully taking control of the vessel.
<b>Fired Upon:</b>	Weapons discharged at or toward a vessel.
<b>Hijacking:</b>	Unauthorised seizure and retention of a vessel by persons not part of its complement.
<b>Kidnapping:</b>	Unauthorised forcible removal of persons belonging to the vessel from it.
<b>Robbery:</b>	Theft from a vessel or from persons aboard the vessel.
<b>Suspicious Approach:</b>	All other unexplained activity in close proximity by an unknown vessel.

Table 15: ICC-GoG Incident Types and Definitions (ICC-GoG, 2022, p.13)

### Maritime Domain Awareness for Trade – Gulf of Guinea (MDAT-GoG)

According to its [website](#), Maritime Domain Awareness for Trade – Gulf of Guinea (MDAT-GoG) is a partnership between the Royal Navy (UKMTO) and the French Navy (MICA-Centre) in support of the Yaoundé Architecture. The centre was established on 20 June 2016. MDAT-GoG uses the following (Table 16) incident types and definitions for violent maritime crime:

<b>Hijack:</b>	Unauthorised persons have illegally boarded the ship and taken control of the vessel against the will of the Master and crew.
<b>Boarding:</b>	An illegal boarding is where the attackers have boarded the ship but have not taken control of the vessel.
<b>Attempted Boarding:</b>	Close approach or hull-to-hull contact with report that boarding paraphernalia were employed or visible in the approaching boat, but are thwarted by BMP measures, PAST, weather conditions, lack of appropriate equipment, etc.
<b>Attack:</b>	The ship has been subjected to an aggressive approach by unidentified craft and weapons have been discharged.
<b>Suspicious Approach:</b>	Definite alteration towards the ship, rapid increase in speed which cannot be accounted for in the prevailing conditions. Sudden changes in course towards ship and aggressive behaviour.
<b>Robbery:</b>	Theft realised in territorial waters with threat/violence to crew.
<b>Theft:</b>	Theft realised in territorial waters with no violence.
<b>Sightings and Irregular Activity:</b>	Suspicious activity not associated with the locality or prevailing conditions

Table 16: MDAT-GoG Incident Types and Definitions (Maritime Domain Awareness for Trade - Gulf of Guinea, 2021b: 3)

### Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Information Sharing Centre (ISC)

According to its website, in 2006 [ReCAAP](#) became the first regional multilateral cooperation agreement to counter piracy and armed robbery against ships (ReCAAP Webpage, n.d.). There are currently 21 contracting parties to the ReCAAP, including non-Asian States such as the United States, the United Kingdom, The Netherlands, Denmark, Germany, Norway, and Australia. Based in Singapore, the ReCAAP Information Sharing Centre (ReCAAP ISC) uses a unique methodology to report statistical data for violent maritime crime in Asia. While the ReCAAP ISC has adopted the UNCLOS definition of 'Piracy' and the IMO definition of 'Armed Robbery Against Ships,' it does not classify incidents using defined types. Instead, incidents are only classified into four levels of severity (Categories 1 to 4). ReCAAP ISC determines the level of incident severity using two severity factors, described as follows (Table 17):

**A. Violence Factor.** This factor refers to the intensity of violence in an incident, and the three indicators used to determine this are:

*(1) Type of weapons used.* Incidents of pirates/robbers who board a ship with no visible weapons are generally deemed as less violent compared to those equipped with pistols, knives, machetes, or other dangerous weapons. In cases where more sophisticated weapons are used, such incidents would be considered more violent.

*Treatment of the crew.* Incidents where pirates/robbers kill, or kidnap crew are deemed to be more violent compared to petty thieves who flee upon being noticed. Other cases could include threatening crew members, assault, or serious injury.

*Number of pirates/robbers engaged in an attack.* As a rule, an incident where a larger number of pirates/robbers were involved would be considered more significant as having a large capacity (as well as probability) for use of force. A larger number of pirates/robbers may also indicate the involvement of gangs or organised syndicates rather than petty and opportunistic pirates who generally operate in small groups.

**B. Economic Factor.** This factor takes into consideration the type of the property taken from the ship. Cases of theft of cash or personal effects are generally less significant incidents compared to cases where the entire ship is hijacked either for the cargo onboard or theft of the vessel. (ReCAAP, 2021)

Table 17: ReCAAP Incident Severity Factors  
(ReCAAP ISC, 2021, p.48)

Using the severity factors described in Table 17, ReCAAP ISC data is then categorised into severity levels as follows (Table 18):

Category	Description
<b>CAT 1</b>	CAT 1 incidents involve large number of perpetrators: more than 9 men in four out every 10 incidents and 4-9 men in the other six incidents. The perpetrators were mostly armed with guns and knives, and the crew is likely to suffer some form of injury or physical violence such as being assaulted or tied up or threatened. In term of losses, the ship was either hijacked or the cargo on board was stolen, for example siphoning of cargo oil.
<b>CAT 2</b>	Majority of CAT 2 incidents involved 4-9 men who are likely to be armed with knives/machetes and in 1/4 of the incidents, armed with guns. The crew is likely to be threatened or held hostage temporarily to allow the perpetrators to steal the crew's cash and ship's property including engine spares. In a few cases, the crew suffered some form of injury or physical violence but less severe in nature compared to CAT 1 incidents.
<b>CAT 3</b>	The number of perpetrators involved in CAT 3 incidents usually involved groups of between 1-6 men. At times, the perpetrators were armed with knives/machetes/others or other items such as sticks, rods, bats etc. The crew was not harmed, although there remains a small possibility that the crew could be subject to duress during the incident but not harmed physically. In almost half of the CAT 3 incidents, the perpetrators were unable to steal anything from the vessel, but in cases where losses were reported, stores and engine spares were the commonly targeted items.
<b>CAT 4</b>	The perpetrators were not armed, and the crew not harmed. More than half of CAT 4 incidents involved 1-3 men who escaped empty-handed upon sighted by the crew.

Table 18: ReCAAP Incident Severity Categories and Descriptions (ReCAAP ISC, 2021, p.49)

### Harmonised Incident Types and Definitions

The following table (19) highlights how many of the major maritime security reporting centres and agencies already use similar incident type terminology. While the definitions of terms may differ considerably, it is important to highlight similarities to achieve consensus. As discussed throughout the article, use of harmonised terminology is a key component of achieving global understanding and awareness of the maritime domain. It will also greatly assist with statistical and trend analysis when utilised globally.



Harmonised Violent Maritime Crime Incident Types						
	ATTACK	ATTEMPT	BOARDING	HIJACK	THEFT	SUSPICIOUS ACTIVITY
EUNAVFOR	X	X		X	X	X
ICC-GOG		X	X	X	X	X
IFC SINGAPORE					X	
IMB PRC	X	X	X	X		
IOR-IFC	X	X		X	X	X
MDAT-GoG	X	X	X	X	X	X
MICA	X	X		X	X	X
NATO SHIPPING CENTRE	X			X		X
ONI		X	X	X	X	X
ReCAAP						
UKMTO	X	X		X		X

Table 19: Identifying the common denominators: Similar incident type terminology used by prominent agencies and information sharing centres (Source: author)

By selecting the most similar incident types shown in Table 19, the following common incident categories, types, and severity levels<sup>4</sup> were then combined to reveal the following lexicon proposal (Table 20) for violent maritime crime:

VIOLENT MARITIME CRIME		
CATEGORIES	TYPES	SEVERITY
Piracy > 12nm from shore	Attack	Level 1
	Attempt	
Armed Robbery Against Ships < 12nm from shore	Boarding	Level 2
	Hijack	Level 3
	Suspicious Activity	

Table 20: Proposed Incident Categories, Types, and Severity Levels (Source: author)

### Proposed Incident Type Definitions

After careful comparison and consideration of all available definitions, the author proposes the following incident type definitions for the violent maritime crime lexicon (Table 21). This proposal should be subjected to debate amongst various international stakeholders before finalisation. However, it provides a solid foundation for compromise.

<sup>4</sup> The ICC IMB-PRC Severity Level methodology has been selected for the proposed common lexicon since these are the only available severity levels from a global information sharing centre.

<b>Attack</b>	A ship has been subjected to an aggressive approach by an unidentified craft and weapons have been discharged.
<b>Attempt</b>	Attackers failed to board and gain control of the vessel or members of the crew. Boarding paraphernalia employed or visible in the approaching boat, but attack was thwarted by BMP measures, PCASP, weather conditions, lack of appropriate equipment, etc.
<b>Boarding</b>	Attackers have illegally boarded a ship but have not taken control. Command remains with the Master.
<b>Hijack</b>	Unauthorised persons have illegally boarded the ship and taken control of the vessel against the will of the master and crew.
<b>Suspicious Activity</b>	An action involving definite alteration towards the ship or a rapid increase in speed which cannot be accounted for in prevailing conditions. Sudden changes in course towards ship and aggressive behaviour by the craft.

*Table 21: Proposed Incident Type Definitions for Violent Maritime Crime Lexicon*

### Proposed Amendments to IMO Incident Reporting Guidance

The following incident reporting framework is proposed to replace the outdated chart published in Appendix 1 of [MSC.1/Circ.1333/Rev.1](#) and [MSC.1/Circ.1334](#):

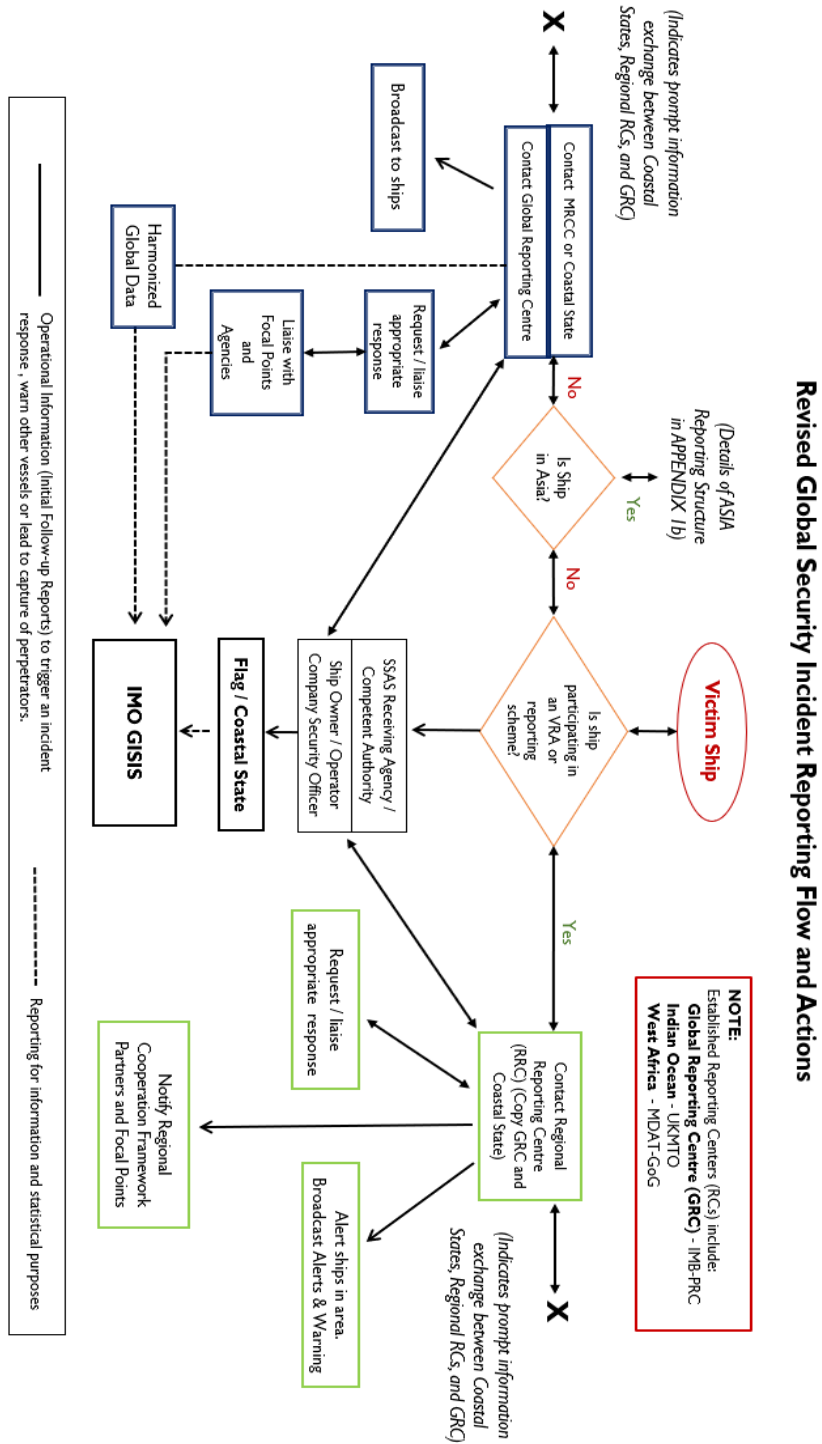


Figure 5: Proposed Incident Reporting Framework<sup>5</sup> (Marshall Islands et al, 2019, p.14)

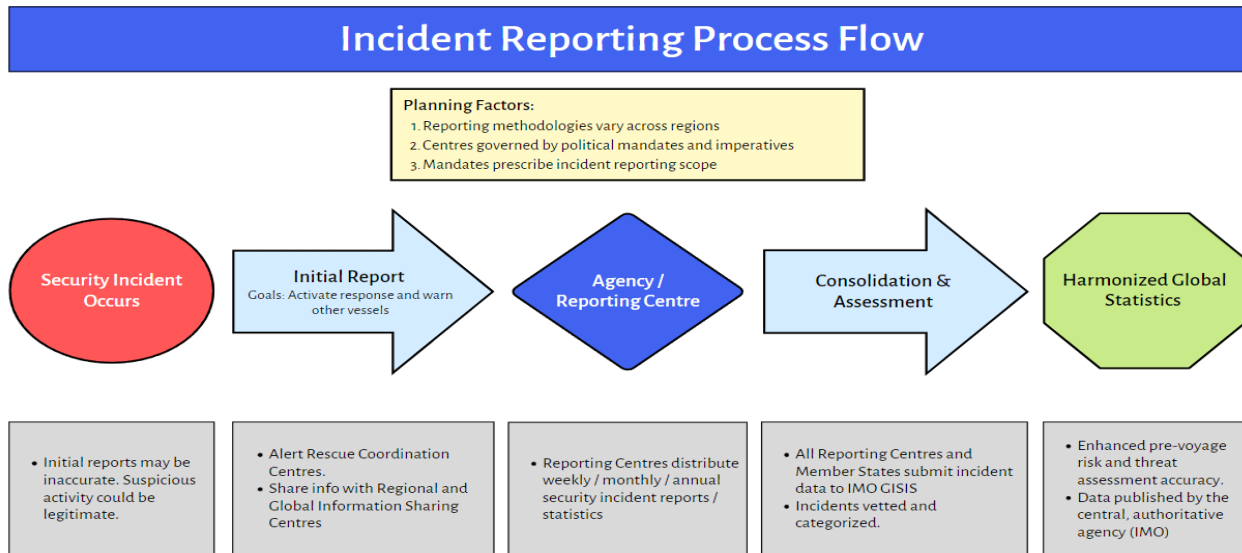


Figure 6: Proposed Incident Reporting Flow Diagram – Presented at SHADE 47 (Curt et al., 2020)

The proposed incident reporting framework and flow diagram shown in Figures 5 and 6 aim to:

- update and clarify the appropriate reporting processes to help ensure a timely response is provided for seafarers in times of danger.
- utilise a harmonised and unbiased reporting methodology to verify and consolidate all incident report data into the centralised IMO GISIS database.
- streamline the approach to data verification, accuracy, and authenticity.
- uphold existing national and regional reporting mechanisms to the greatest extent possible. The framework does not suggest any alterations to national or regional reporting systems. It only requires that all incident data is also reported to the IMO GISIS database using the harmonised incident categories, types, severity levels, and definitions contained in the common lexicon for violent maritime crime.
- include guidance for vessels participating in voluntary reporting schemes; and
- improve the accuracy of incident trend analysis, voyage threat assessment, and global maritime domain awareness.

### Harmonised Incident Reporting Format

Due to the large number of agencies and incident reporting centres, master's and CSOs are bombarded with requests to complete numerous incident report forms after a security incident occurs. As detailed in earlier in this chapter, each agency and reporting centre has their own incident report form which request the same basic information. On top of that, Masters and CSOs then must fill out an additional incident report forms for their flag State, internal investigation, and possibly for their insurers (Marshall Islands et al., 2019). There is no reason to require so many different forms for the same incident. Therefore, a universal incident reporting form should be developed or selected, which fulfils the needs of all relevant stakeholders (Lombardo, 2014: 20). This way, the same form can be submitted to multiple agencies and reporting centres at once.

<sup>5</sup> See Appendix 1 for the Asia reporting framework, which remains the same as published in Appendix 1b of [MSC.1/Circ.1333/Rev.1](#) and [MSC.1/Circ.1334](#)

A potential candidate for a universal incident reporting format may already exist in the shipping industry's Best Management Practices to Deter Piracy and Enhance Maritime Security in the Red Sea, Gulf of Aden, Indian Ocean and Arabian Sea (BMP5) counter-piracy guidance (BIMCO, ICS, IGP&I, et al., 2018). If agreement can be reached among IMO Member States, shipping industry associations, and the prominent reporting and information sharing centres, the incident reporting format provided in Annex E of BMP5 could be used as the universal format to be included in the global common lexicon for maritime security (BIMCO, ICS, IGP&I, et al., 2018). See Appendix 2 for details of this proposed reporting format. This format is very comprehensive so it should satisfy most, if not all the informational requirements of relevant authorities and stakeholders.

### Conclusion

This paper set out to explore how the development of a common lexicon would benefit maritime security stakeholders and enhance global maritime domain awareness. After thoroughly examining the concept of maritime security, associated international law, and current challenges, the paper offers a detailed path for the development and eventual implementation of a common lexicon. In particular, the paper proposes a global common lexicon for violent maritime crime, which includes all incidents of piracy and armed robbery against ships. The paper also analyses the categories, types, and severity levels of violent maritime crime and detailed the lexicons currently used by prominent agencies and reporting/information sharing centres. This uncovered a significant lack of uniformity among these prominent agencies and reporting centres, exacerbating the issue of ambiguity faced by end-users of their incident report data.

Using other areas of the maritime industry as a guide revealed that standardised maritime terminology is critical to the mitigation of maritime safety risk. Therefore, the article used lessons learned from maritime safety to argue that standardised terms can also be applied to the maritime security sector. Building upon the successes of Maritime English, SMCPs, and the STCW Convention, a common lexicon of harmonised terminology for maritime security can also be achieved.

The proposed common lexicon for violent maritime crime, detailed in **The Solution** (above), provides universal incident types, definitions, severity levels, and a streamlined information sharing/incident reporting framework. Based on empirical data and pragmatism, the implementation of this common lexicon should result in increased statistical data accuracy, increased reporting due to decreased administrative burden, enhanced global maritime domain awareness, and improved capacity to achieve adequate maritime security governance.

### Suggested Follow-on Research

As this research has only proposed incident types, definitions, and reporting protocol for acts of violent maritime crime, further research is necessary to propose a complete lexicon for maritime security, including all forms of maritime crime<sup>6</sup>. Incident terms, definitions, and reporting protocol are still needed for non-violent maritime crime categories such as IUU fishing, contraband smuggling, human trafficking, arms proliferation, environmental crime, and maritime cybersecurity. Once these categories are added, the global common lexicon for maritime security will be complete and can be considered for adoption or endorsement by the IMO or another international body. The following table has been adapted from the

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<sup>6</sup> *Maritime Crime* is defined by UNODC as: Conduct which is perpetrated wholly or partly at sea and is prohibited under applicable national and international law. (UNODC, 2020, p.3)

2008 *Oceans and the Law of the Sea: Report of the Secretary-General* to illustrate the remaining incident categories requiring research to complete the maritime security common lexicon (Table 22):

<input checked="" type="checkbox"/> <b>Piracy and Armed Robbery Against Ships</b>
<input type="checkbox"/> <b>Terrorist Acts</b>
<input type="checkbox"/> <b>Illicit Trafficking in Arms and Weapons of Mass Destruction</b>
<input type="checkbox"/> <b>Illicit Trafficking in Narcotics</b>
<input type="checkbox"/> <b>Smuggling and Trafficking of Persons by Sea</b>
<input type="checkbox"/> <b>Illegal, Unreported and Unregulated Fishing</b>
<input type="checkbox"/> <b>Intentional and Unlawful Damage to the Marine Environment</b>
<input type="checkbox"/> <b>Geopolitical Conflict / Political Sabotage</b>
<input type="checkbox"/> <b>Maritime Cybersecurity</b>

Table 22: Remaining categories to complete the maritime security common lexicon, adapted from UN General Assembly (2008: 18-33)

As noted earlier in this article, solutions to underreporting of all maritime security incidents should also be explored through follow-on research. After all, a global common lexicon will not be very helpful if incidents are not reported in the first place.

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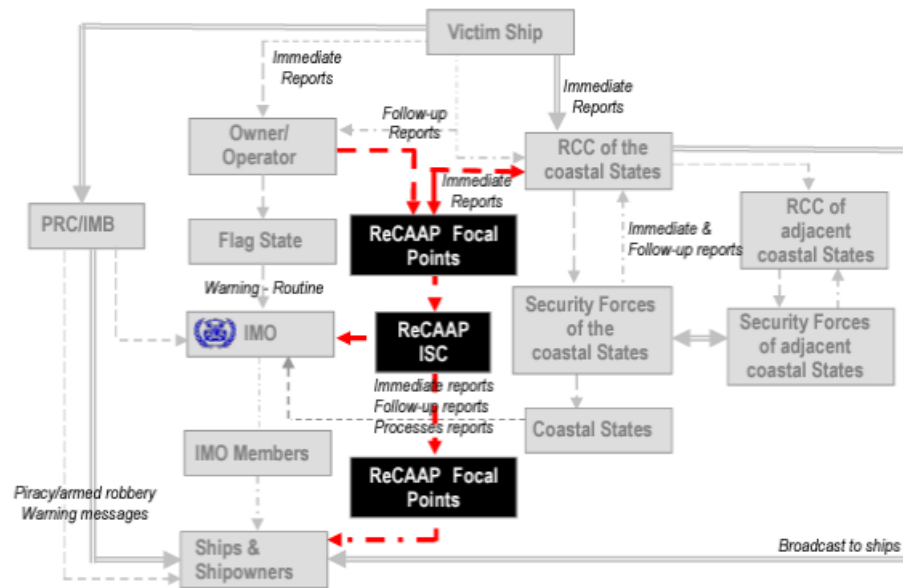
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Appendix 1:  
Flow diagram for reporting incidents in Asia



**Legend:**

Radio/GMDSS	:	—————
Fastest means	:	- - - - -
Follow-up comms	:	· · · · ·

**Notes:**

1. In the Asian region, the RCCs of some ReCAAP Contracting Parties are also their ReCAAP Focal Points (FPs). These Focal Points also disseminate incident information internally to their respective RCCs, maritime authorities and law enforcement agencies as appropriate.
2. Coastal States (in the context of this addendum) refer only to those who are Contracting Parties to the ReCAAP.
3. The incident reporting process in Asia does not change other reporting processes for incidents already in practice.

## Appendix 2:

Best Management Practices (BMP5) Incident Reporting Format for use as a Universal Reporting Format (BIMCO, ICS, IGP&I, et al., 2018)

**Incident report; vessel particulars/details**

It is recognised that during an incident time may be short and crew will be under a number of pressures and stresses. Those lines marked with an \* are those that, in extremis, are the key requirements that must be reported. Without this data responses cannot be planned or mounted and assessments will be incomplete and may be inaccurate.

INCIDENT REPORTING PART ONE – VESSEL DETAILS				
Line		Responses / Inclusions		Format
(a)	(b)			(d)
IDENTITY	1.1	A*	SHIP NAME	PLAIN TEXT
		B*	IMO NUMBER	PLAIN TEXT
		C	FLAG	PLAIN TEXT
		D	CALL SIGN	PLAIN TEXT
		E	OWNER NAME & CONTACT DETAILS	PLAIN TEXT
		F	Company Security Officer / Designated Person Assure CONTACT DETAILS	PLAIN TEXT
CREW / CARGO	1.2	A	CREW NUMBER	PLAIN TEXT
		B	CREW NATIONALITIES	PLAIN TEXT
		C	CAPTAIN / MASTER NATIONALITY	PLAIN TEXT
		D	CARGO	PLAIN TEXT
		E	CARGO SIZE / QUANTITY	PLAIN TEXT
ROUTE / SCHEDULE	1.3	A	LAST PORT OF CALL (LPOC)	PLAIN TEXT
		B	LAST PORT OF CALL DATE	PLAIN TEXT
		C	NEXT PORT OF CALL (NPOC)	PLAIN TEXT
		D	NEXT PORT OF CALL DATE	PLAIN TEXT
		E	SEA DAYS SINCE LAST PORT	PLAIN TEXT

INCIDENT REPORTING PART TWO – INCIDENT DETAILS				
Line		Responses / Inclusions	Format	
(a)	(b)		(d)	
DETAILS	2.1*	TIME OF REPORT	DTG	
	2.2	A*	INCIDENT LOCATION	LAT / LONG
		B*	SPEED AND HEADING AT TIME OF INCIDENT	PLAIN TEXT
	2.3	A*	INCIDENT START TIME	DTG
		B*	INCIDENT END TIME	DTG
		C	WEATHER CONDITIONS DURING EVENT	PLAIN TEXT
INCIDENT	2.4	A*	SIGHTING / APPROACH / COMMUNICATION / ATTACK / BOARDING	SELECT
		B	AREA(S) OF VESSEL TARGETED	PLAIN TEXT
SUSPECTS	2.5	A*	NUMBER OF SUSPECT CRAFT	NUMBER
		B	NUMBER OF SUSPECT INDIVIDUALS	NUMBER
		C	NOT KNOWN / CIVILIAN DRESS / UNIFORMS / MIX	SELECT
		D	ETHNICITY / LANGUAGES	PLAIN TEXT
WEAPONS	2.6	A*	NONE SEEN / SIGHTED / SHOTS FIRED	SELECT
		B	PISTOLS / RIFLES / MACHINE GUNS / GRENADE LAUNCHERS	SELECT
LADDERS	2.7	A	NONE SEEN / SUSPECTED / SIGHTED / USED	SELECT
		B	ADDITIONAL INFORMATION	PLAIN TEXT
CRAFT	2.8	A*	TYPE: WHALER / DHOW / FISHING VESSEL / MERCHANT VESSEL	SELECT
		B	DESCRIPTION OF VESSEL (COLOUR, NAME, FEATURES)	PLAIN TEXT

YOUR VESSEL	2.9	A*	CITADEL / SECURE AREA	YES / NO
		B*	NO SECURITY TEAM / UNARMED TEAM / ARMED TEAM	SELECT
		C	HEIGHT OF FREEBOARD AT THE TIME OF INCIDENT	PLAIN TEXT
		D	SELF PROTECTION MEASURES IN PLACE BEFORE INCIDENT	PLAIN TEXT
		E	DEFENCE MEASURES EMPLOYED	YES / NO
		F	OTHER	PLAIN TEXT
YOUR RESPONSE	2.10	A*	ALARM SOUNDED	YES / NO
		B*	CREW MUSTERED IN CITADEL	YES / NO
		C*	INCREASED SPEED / EVASIVE MANOEUVRES	SELECT
		D*	DESCRIPTION	SELECT
		E	PAST SHOWED WEAPONS / WARNING SHOTS / AIMED SHOTS / NO PAST	PLAIN TEXT
		F	WAS INCIDENT REPORTED TO AUTHORITIES? IF SO TO WHOM?	PLAIN TEXT
STATUS	2.11	A*	INCIDENT FINISHED / ONGOING	SELECT
		B	INCIDENT ENDED BY SUSPECTS / OWN VESSEL	YES / NO
		C	DETAIL	YES / NO

INCIDENT REPORTING PART THREE – STATUS AND SUPPORT REQUESTS				
Line		Responses / Inclusions		Format
(a)	(b)			(d)
STATUS	3.1	A*	VESSEL SAFE / UNSAFE / UNDER ATTACK / BOARDED	SELECT
		B	VESSEL UNDERWAY / VESSEL STATIC	SELECT
		C*	UNDER OWN POWER / SUPPORTED / WITHOUT POWER	SELECT
		D	NO DAMAGE / MINOR DAMAGE / MAJOR DAMAGE	SELECT
DAMAGE / MEDICAL	3.2	A*	DAMAGE DETAILS	PLAIN TEXT
		B	CREW AT STATIONS / CREW IN CITADEL / CREW OFF SHIP	SELECT
		C	CREW INJURIES	NUMBER
		D	INJURY DETAILS	PLAIN TEXT
		E	CREW FATALITIES	NUMBER
		F	FATALITY DETAILS	PLAIN TEXT
INTENTIONS	3.3	A*	CONTINUE AS PLANNED / RE-ROUTING	SELECT
		B*	REPAIR DAMAGE / ABANDON SHIP / SURRENDER CONTROL	PLAIN TEXT
		C	CURRENT SPEED	PLAIN TEXT
		D	CURRENT HEADING	PLAIN TEXT
		E	OTHER	PLAIN TEXT

IMAGERY	3.4	A	WAS THE INCIDENT RECORDED?	YES / NO
		B	CCTV FOOTAGE / PHOTOGRAPHS	SELECT
		C	IMAGERY ATTACHED (IF AVAILABLE PLEASE ATTACH)	YES / NO
ADDITIONAL INFORMATION	3.5	A	ANY OTHER INFORMATION WHICH MAY ASSIST?	PLAIN TEXT
		B	PLEASE ATTACH WITH THIS REPORT – A BRIEF DESCRIPTION / FULL REPORT / MASTER – CREW STATEMENT OF THE ATTACK	PLAIN TEXT