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Maritime Interdiction Operations Journal

NATO Maritime Interdiction Operational Training Centre

CONTENTS

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MARITIME INTERDICTION OPERATIONS *JOURNAL*

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Transformation Staff Officer

Layout Production Manager
Ensign I. Giannelis GRC (N)
Public Affairs Officer

You may send your comments to: campanac@nmiotc.nato.int

NMIOTC Commandant's Editorial

Since October 2008 NMIOTC has managed to achieve an increasing growth of training activities not only in the number of trainees but also in the provided courses spectrum to support NATO in enhancing Maritime Security through quality training.

Maritime Interdiction constitutes the necessary tool to transform many provisions of Maritime Security Operations (MSO) into tangible tasks. Support of Maritime Situational Awareness (MSA), fight of proliferation of WMD, the protection of Critical Infrastructure (CI), the support of Maritime counter terrorism, the uphold of freedom of navigation and the contribution to maritime security capacity building are actions intimately related and connected with MIO. In that aspect NMIOTC has hosted until now more than 9000 trainees, 250 ships, 70 seminars, conferences and workshops having gained world wide recognition and trust.

As NMIOTC Commandant I am in the pleasant position to announce the last training season was a pivotal for our Centre as we reached an all - time high in record of attendance for our training and transformational events. Numerous activities have been initiated and, starting from the 2nd semester of 2014, I would like to mention the following accomplishments:

- The cooperation for the first time with the African Union Operational Headquarters and specifically the Eastern Africa Standby Force. (EASF)
- The enhancement of the cooperation with the International Maritime Organization (IMO) for the support of Regional Capacity Building efforts to counter the piracy phenomenon in East Africa.
- The reinforcement of cooperation with the George Marshall Centre and the US European Command for the development of the Illicit Trafficking at sea course.
- The implementation of efforts to impose the law enforcement culture to upon naval unit personnel by delivering relevant training modules such as Biometrics and evidence collection.
- The development of a new course, under the title "NATO Maritime Operations Law Seminar", with the cooperation of NATO School Oberammergau, the US Naval War college and the Centre of Excellence for Operations in Confined and Shallow Waters. This initiative aims to address a growing need for legal training of personnel participating in maritime operations.
- The establishment of continuous cooperation with outstanding academic institutions such as the University of Plymouth, the World Maritime University, and the University Coventry, which support NMIOTC in numerous activities.

For centuries, the maritime environment has been identified as the medium for interaction between countries. The growing global dependency on maritime trade, the increased demand for energy, the value of transportation systems and illicit trafficking will inevitably introduce new regional challenges. These systems may present themselves as attractive targets on which a successful attack by hostile forces, non-state actors or by politically motivated terrorism might lead to economic and social disruption. Bearing in mind that Maritime Interdiction Operations are a necessary tactical tool to achieve and sustain efficient maritime security, we have decided to focus on and dedicate the year 2015 to the study of Energy Security and to the development of specialized training for the Protection of Critical Infrastructures. Furthermore, as always we are on alert to tackle new emerging challenges, NMIOTC soon will launch a new course on illicit trafficking. We aim to provide all engaged actors and players with the necessary tools in order to strengthen their legal and technical capacities to prevent and stop the trafficking of people, drugs, natural resources and smuggling of migrants.

Maritime Security is one of the most dynamic and expanding sectors in worldwide security domain. A plethora of emerging threats seeks to compromise Maritime Security. NMIOTC provides robust and practical training products and introduces pioneering initiatives to support the collective effort. Accepting the challenge to keep the momentum NMIOTC personnel stands ready to improve, transform and work hard to address current and emerging maritime security challenges.

NMIOTC personnel Group photo

New Year's pie ceremony

New Year's pie ceremony

An analysis of the types, threats and security measures of offshore drilling facilities

by Lieutenant Commander Ioannis Argyriou, GRC (CG)
and
Dimitrios Christeas Inspector ISM-ISPS of
International Maritime Organization (IMO)

1. Introduction

Despite the fact that over the years technological research has turned to the development, advancement and practical exploitation of alternative sources of energy such as wind, or solar power it is still an undeniable fact that oil and gas remain the primary source of energy in almost every aspect of modern life, from industry and transport to commerce, agricultural practices and even household services. With our increasing energy driven demands and the world's natural resources rapidly running out on land it was not long before an interest was developed in facilitating the research and recovery of gas and oil reserves from the oceans. This offshore drilling is know as deep water drilling.

2. Offshore drillings

''Offshore drillings refers to a mechanical process where a well is drilled through the seabed, often to a depth exceeding 2000 meters. It is typically carried out in order to explore for, and subsequently extract, petroleum or gas which lies in rock formations ''.

2.1 Types of facilities

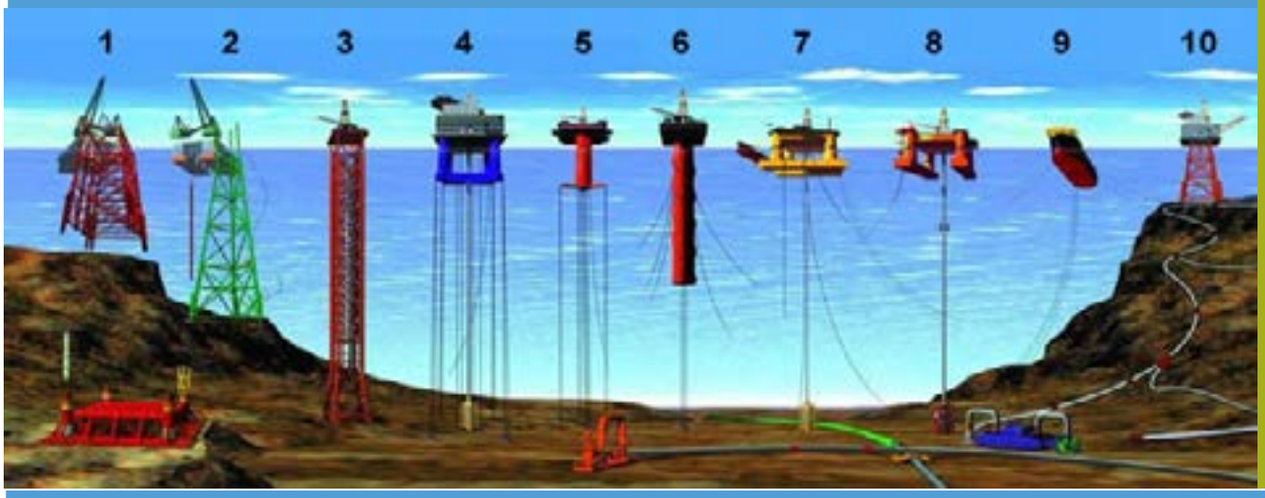
There are many different types of facilities from which offshore drilling operations take place which include:

a. Bottom founded drilling rigs, e.g., jack-up barges and swamp barges

b. Combined drilling and production facilities, either bottom founded or floating platforms

c. Deepwater mobile offshore drillings units (MODU) including semi submersibles and drill ships .

Types of Deepwater Drilling Rigs



Legend:

1,2 Conventional fixed platforms
3 Compliant tower
4,5 Vertically moored tension leg and mini-tension leg platform
6 Spar
7,8 Semi-submersibles
9 Floating production, storage, and offloading facility (FPSO)
10 Sub-sea completion and tie-back to host facility

2.2 Challenges faced in the offshore sector

The production of offshore gas and oil poses more challenges and difficulties to overcome than their recovery from ashore oil rigs, firstly due to the uninviting, remote and harsh environment where the offshore drilling rigs are located. All the stages in the building of such deepwater rigs, from the construction and operation to the support, preservation and maintenance of the facilities, require meticulous planning and implementation.

Secondly a most prominent danger not currently visible but eventually a positive constant threat to the security of offshore drilling rigs, is the possibility of piracy or terrorist attacks. Not few are the examples of terrorist acts against offshore oil platforms, such as the bloodshed strikes against oil terminals in the Persian Gulf in 2004 and in the Niger Delta in 2006.

This possibility of offshore platforms eventually becoming a key target for terrorist groups is amplified by the high degree of vulnerability of the offshore installations, as they can be attacked from surface, underwater or from the air with the use of surface speedboats and crafts, diving gear and small submarine or fighter planes and helicopters respectively. Additional security risks are posed by instances of inside theft and sabotage.

Hence, it can easily be inferred from the above the imperative need for the study and implementation of updated safety measures in order to ensure the future of the offshore drilling business in a protected operational environment.

3. LEGAL STATUS OF OFFSHORE INSTALLATIONS AND INTERNATIONAL CONVENTIONS

The legal status of offshore installations, is one of the most difficult areas in international law. When an offshore unit is located in the exclusive economic zone (EEZ) is considered to be a 'ship' and the flag state would have exclusive jurisdiction over it; but if it is considered to be an 'installation', the exclusive jurisdiction is on the coastal state. To determine the legal status of an offshore oil and gas installation in international law it would be necessary to refer to definitions of the relevant international conventions.

3.1 United Nations Convention on the Law of the Sea (UNCLOS)

The coastal state can establish security zones around offshore oil and gas installations in the territorial sea ,as long as such zones do not establish difficulties in the free passage of foreign ships. Moreover, it can temporarily suspend the innocent passage of foreign ships in specified areas if such suspension is essential for the protection of its security, or it can take 'necessary steps' to prevent passage through the territorial sea which is found to not pursuing innocent passage. The coastal state can also exercise criminal jurisdiction on board the foreign ship and if necessary arrest persons on board, when it was involved in an offshore attack. The coastal state's authority to protect offshore installations in its EEZ and on its continental shelf is much more limited than in the territorial sea. The principal protection measure for offshore petroleum installations available to coastal states under the UNCLOS is the right to establish safety zones around offshore petroleum installations up to a maximum distance of 500 m. But this convention does not specify the nature or scope of the protection measures that a coastal state can take within safety zones around offshore installations in the EEZ, but it provides that such zones should be reasonably related to the nature and function of an offshore installation.

3.2 1988 Suppression of Unlawful Acts (SUA) framework

Violent unlawful acts committed against offshore installations are specifically addressed in both 1988 SUA Convention and 1988 SUA Protocol, deal with jurisdictional and enforcement aspects relating to unlawful violent acts and operate on the fact that state parties need to pass legislation for making the unlawful acts which are described in these treaties, criminal offenses in their domestic law. The 1988 SUA framework applies to fixed offshore installations and mobile units that are on move, navigating or scheduled to navigate. Using other words, all mobile offshore installations that are on location engaged in offshore drilling or production are not covered by the 1988 SUA framework, which has many limitations such as those relating to enforcement actions that states are authorized to take against foreign ships. These conventions do not give extra powers to states to interdict and board foreign ships involved in violence and arrest perpetrators on board.

3.3 2005 SUA framework

The 1988 SUA Convention and 1988 SUA Protocol were amended in 2005 and the amended treaties became known as the 2005 SUA Convention and the 2005 SUA Protocol. The new offenses relate to using a ship as a mean of terrorist acts, non-proliferation of weapons of mass destruction (WMD) on the high seas, and the prohibition on transporting a person alleged to have committed an offense under

other UN anti-terrorism conventions. Acts that are considered offenses under the SUA framework would cover most attack scenarios and tactics that can be used by perpetrators including bomb threats, detonation of explosives or bombs, underwater attacks, hostage taking and kidnapping of workers, use of transport infrastructure as a weapon against an offshore installation, disclosure of confidential information etc.

3.4 Safety of Life at Sea (SOLAS) convention

The SOLAS amendments included requirements for companies and ships, control and compliance measures, and the requirement to fit an Automatic Identification System (AIS) on board ships. In 2006, the long-range identification and tracking (LRIT) provisions were included in the SOLAS Convention as a mandatory requirement for ships and mobile offshore drilling units (MODUs) engaged on international passages.

3.5 International Maritime Organization (IMO)'s countervailing measures

To address the risk of collisions between ships and offshore installations the IMO, adopted several resolutions related to offshore installations and safety of navigation. Among those, was Resolution A.671(16) that contains recommendations on various measures to prevent the infringement of safety zones around offshore oil and gas installations. IMO is considered to be the competent international organization authorized under UNCLOS to make recommendations on the extension of breadth of safety zones around offshore installations in the EEZ beyond 500m. The extension of safety zones beyond 500m was considered by the IMO general board between 2008-2010. Smaller ships pose a threat to offshore installations, despite the fact that are not covered by the security measures of ISPS Code. Recognizing this is gap in the regulatory framework for maritime security, in 2008 the IMO adopted Non-Mandatory Guidelines on Security Aspects of the Operation of Vessels Which Do Not Fall Within the Scope of SOLAS Chapter XI-2 and the ISPS Code.

4. TYPES OF OFFSHORE SECURITY THREATS

The first attack on an offshore oil installation took place on 2 August 1899 off the shores of Santa Barbara, California. In the last 25 years there have been about 50 attacks and security incidents involving offshore installations. These include terrorists, insurgents, pirates, criminal syndicates, environmental activists, anti-oil activists and other types of protesters, hostile Nation-States, and sometimes other unknown groups and individuals.

4.1 Piracy

Piracy is one of the most visible security threats to offshore installations .In the last seven years at least six pirate attacks have been reported worldwide. Four of these took place in the Gulf of Guinea (the 1 April 2007 attack on Bulford Dolphin mobile offshore drilling rig; 3 May 2007 attack on FPSO Mystras; 5 May 2007 attack on Trident VIII offshore rig; 5 January 2010 attack on FSO Westaf). The fifth attack took place near India in 2007 (22 March 2007 attack on Aban VII jack-up rig) and one near Tanzania in 2011 (3 October 2011 attack on Ocean Rig Poseidon drill ship).

4.2 Terrorism

On 24 April 2004, in Iraq, Iraq' s Al Basrah Oil Terminal (ABOT) and the Khawr Al Amaya Oil Terminal (KAAOT) in the Persian Gulf , there have been attacked simultaneously by boats; these attacks were performed by the Al-Qaeda-affiliated Zarqawi network, resulting in three fatalities and closure of the terminals for about a day.

4.3 Organized crime

There have been at least two reported attacks on offshore installations involving organized criminal groups. These are the attack on the mobile offshore drilling rig Allied Centurion in Malaysia on 26 December 2008, where a group of armed robbers boarded the drilling rig and stole stores of goods and property. Another incident is the attack on the offshore Moudi terminal in Cameroon on the 17th of November 2010 by a group called Africa Marine Commando (AMC).

4.4 Insurgency

Insurgency is motivated by politi-

cal interests, which are often cause destruction, damage and casualties to offshore installations. These specific groups are responsible for about one-third of attacks, most of which occurred in the Gulf of Guinea. Between 2006 and 2010, the Movement for the Emancipation of Niger Delta (MEND) insurgency group carried out at least thirteen attacks on offshore installations as part of their protest to gain fair distribution of oil profits and compensation from companies. These actions, include the attack on the Bonga FPSO on 19 June 2008 and the bombing of Forcados offshore terminal on 29 June 2009.

4.5 Civil protest

There have been at least ten security incidents where operations of offshore oil and gas installations were affected by the actions of protesters and activists. Greenpeace activists have caused interferences with operations of offshore installations on several occasions including an attempt to board an oil rig about 170 nautical miles off the coast of Massachusetts in the United States on 25 July 1981, the unauthorized boarding and occupation of Shell's Brent Spar floating offshore oil storage facility in the North Sea on 30

April 1995, an unauthorized boarding of the Stena Don offshore drilling rig off the coast of Greenland on 31 August 2010, interference with operations of the Stena Carron drillship in the waters off the Shetland Islands north-east of mainland Britain in the UK on 21 September 2010, and the unauthorized boarding of Leiv Eiriksson offshore drilling rig in Turkish waters. Furthermore, there have been other offshore security incidents caused by civil protest, such as an unauthorized boarding of Parabe offshore platform by protesters in Nigeria on 25 May 1998, and the seizure of offshore installations by striking workers on Nigeria in April 2003.

4.6 Vandalism

Vandalism can be referred to as 'the serious damage of cargo, support equipment, infrastructure, systems or facilities'. An incident that can be referred as vandalism, was on August 1899, when an oil company began to construct an oil derrick off the shores of Montecito and a local mob attacked the rig and demolished it.

4.7 Internal sabotage

Internal sabotage can be defined as 'the deliberate destruction, disruption or damage of equipment' by dissatisfied employees. The threat of internal sabotage comes from 'insiders' such as current and former employees of oil companies, contractors, offshore service providers, and other trusted persons. Additionally, intentional disclosure of sensitive/confidential information to third parties is also considered to be a serious form of internal sabotage.

4.8 Inter-state hostilities

Actions of Nation-States may also pose a security threat to offshore units. There have been at least six security incidents involving actions of hostile states including the attack in March 1983 by Iraqi planes on the Iranian offshore platform at the Nowruz oil field; the 19 October 1987 attack on the Iranian R-7 and R-4 offshore oil platforms in Reshadat and the 18 April 1988 attack on Iranian offshore

oil complexes, Salman (aka Sassan) and Nasr (aka Sirri) by US military. Other examples are the incident of the 3rd of June 2000, where the Suri-

name Navy ordered American-owned and operated offshore drilling rig, CE Thornton, to stop operating and leave the area.

4.9 Cyber security

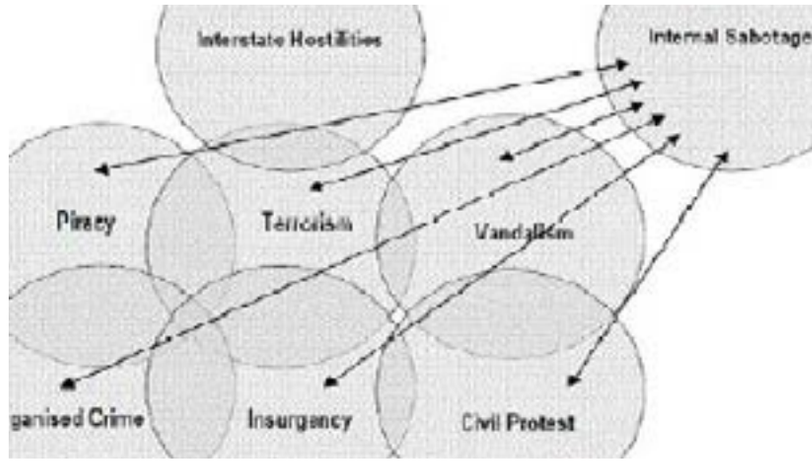
The Master Control Station (MSC), acts as the interface between the operator and the subsea equipment, and the Subsea Control Module (SCM) constitute the “brain” and “nervous system” of the production system, respectively. So, like any other computerized system, offshore oil and gas floater systems are highly exposed to cyber attacks.

The recent discovery of malware (malicious software, virus) like Flame (2012) and Stuxnet (2010) targeting for the first time industrial control systems have highlighted the susceptibility of critical infrastructures to cyber threats, even if they are operating in private networks and in isolation from the Internet, because hardware and software malfunctions may prove catastrophic both to the asset and/or the onboard personnel.

This type of “man in the middle” attack was employed by Stuxnet in 2010, which recorded normal measurements during safe operation, and played those back during the time it was interfering with the safe operation of Iranian centrifuges. As a result, false readings were presented to the operator, while centrifuges were spinning out of control.

4.10 Link between different types of threats

The assessment of the different types of offshore security threats as described above becomes



even more difficult and complex as there can be clear links and overlapping between them. More specifically, possible affiliations and interrelation of piracy, insurgency and terrorist acts be identified as the parties involved in these activities can be found to operate in the same regions, which multiplies the risk factor for the offshore installations.

5. SECURITY TECHNIQUES

Safeguarding the mentioned installations from external and internal threats has become imperative for many states especially those with significant offshore operations, which are vital to their national economic wellbeing. The challenges are often those presented by the logistical and administrative requirements needed to move men, weapons, ammunition and equipment around a wide geographic area in time.

In Offshore units, more set-piece projects are being conducted within those same high risk areas. Typically, these include seismic surveys or exploratory drilling, cable laying and pipeline repair. The difference is that these projects tend to take place over a longer period, so their exposure to the local threats is greater. They are also normally within the coastal state's territorial waters or economic zone, so the regulations and responsibilities will be different from those in international waters

Additionally, there are certain areas where there is known to be a specific or higher level of threat from piracy, militants or criminals. In those areas, for example the Gulf of Guinea on the west coast of Africa and the Gulf of Aden, Northern Indian Ocean and the Northern Mozambique Channel, it is clear that a higher level of security is called for, and in many cases it is deemed necessary to have armed personnel onboard to provide that additional security and measure of safety. Generally within the exclusive economic zone (EEZ) of the coastal states, it is their responsibility to provide locals with armed security forces, and help personnel who have little training or experience in the offshore industry understand the requirements and operate at industry standards.. The crew usually change by helicopter or by crew-change vessel and the weapons and equipment are complying with local and international rules regarding licensing for moving them. Furthermore, some specific security equipment such as radios and bin-

oculars may be categorized as controlled items and are subject to strict import and export rules. Another important fact is that the security staff need to have the same safety qualifications, certification and level of training as the offshore workers themselves. Some of these operations included up to 30 of private personnel and another 15-20 of the local military force engaged over a period of months to protect deep water drilling operations.

5. CONCLUSION

This article focused on presenting and describing the various types of offshore drilling facilities as well as the challenges and predicaments faced due to specific vulnerabilities of the offshore sector. The article also offered a thorough analysis of the legal status and framework pertaining the offshore installations, followed by an overview of the various security threats and risks to the offshore oil and gas facilities. Finally, it discussed the adoption of a range security measures and techniques with reference to the particular location and vulnerabilities of the threat environment of an offshore installation.

Lieutenant Commander GRC (CG)
Ioannis Argyriou

He holds a University degree in Physics (Patras University). In 2001, he joined the Hellenic Naval Academy (Coast Guard Officers' Cadet School) and in 2002 he was sworn in as Ensign of the Hellenic Coast Guard. During his career in the Hellenic Coast Guard he has served in a number of local Port Authorities:
-Port authority of the island of Milos, as Harbor Master (2009-2012)
-Central port authority of Chania Crete, as Deputy Commander and Commander of Port Police (2003-2007) and Assistant Harbor Master (2013)
-Port Authority of Souda Bay as assistant Harbor Master (2007)
Moreover he has served in the Merchant Naval Academy in Crete (2008)
In March 2014 he was appointed a National Briefing Officer and liaison by FRONTEX on issues of illegal immigrants.
Since April 2014 he has been serving at NATO Maritime Interdiction Operational Training Center (NMIOTC) as an instructor and an officer of primary responsibility for the conduction of training events by the International Maritime Organization (IMO) and East Africa Standby Force (EASF). Moreover he coordinate the training for various groups from NATO state members and other affiliated countries.

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DIMITRIOS CHRISTEAS

He holds a Technical University Diploma in Electronics, Mechanics and Computer engineering(Honored B.Eng) and a M.Sc in Telecommunications and Satellite Security Systems.
-From 2011, he is a certified PFSO,CSO,SSO,FSO,MWS, IMO roster consultant and ISPS internal auditor and he serves as the authorized Port Facilities Security Officer of Greek government in Souda and Chania port .
-From 2013, he is an official Lecturer of Greek Ministry in International Laws and Conventions at Sea.
-From 2013, he is scientific consultant of ISPS Code and security matters of the Municipality of Chania.
-As an Inspector he concluded the specially designed course of Lloyd's maritime academy for offshore energy security and Marine Warranty Surveying.
-Moreover, he is responsible for the training in ISPS of Special Assigned Security Team of Port Authorities of Chania and a Force Protection Officer for war ships that are moored in Souda and other ports in Greek Territory.

Boarding Team members of HS NIKIFOROS FOKAS using a biometrics device.

Training of Hellenic Coast Guard in small arms.

Visit of Defence Attaché of Canada accredited to Greece, Colonel Spike Hazleton CAN (A)

7k Fun Run

NMIOTC's personnel visit to Souda island

NMIOTC's personnel visit to Milia village

Port visit of SNMG2 to Souda bay.

Ned Lundquist of Surface magazine during his visit to NMIOTC

Visit of CO of TCG Turgutreis, Commander Huseyin Temizel

DYNAMIC CAPABILITIES IN MARITIME SECURITY: A USEFUL TOOL TO SHIPPING COMPANIES

by Prof. Nikitas Nikitakos
and
Lieutenant Ioannis Nellas, GRC (N)

1. INTRODUCTION

Maritime security is an issue heavily discussed in forums and respective think tanks since there are many troubled areas in the world that require assistance. In this vein, the international community has delegated a considerable number of institutions and organizations to deal with the phenomena that disturb maritime peace. Over the last decades naval operations have transformed significantly following the tremendous technological developments in the defense industry and in the field of communications. At the same time, collaboration in the maritime domain is a prerequisite to promote Maritime Domain Awareness (MDA) in an advanced level. However, MDA requires further development and analysis of a holistic maritime picture. Terrorists and sea criminals act in a non-conventional manner creating rapidly changing environments that generate the need for the international community to act instantly by adopting innovative solutions in a considerable economic cost. In order to tackle the rising security challenges a holistic approach is required and a significant number of issues need specific answers, i.e. which is the optimal organizational structure of an organization dedicated to tackle maritime threats (Dagne 2009).On the other hand dynamic capabilities have been included in the business literature for the last twenty years and at the same time a considerable number of scholars have attempted to approach this issue.

Maritime security is a frequently discussed term with a background of uncertainty for the vast majority of scholars since many approach only the operational or the political aspect. Maritime organizations in general address the issue of maritime security by implementing various strategies and operational tactics. Inevitably indirectly or directly these organizations/ institutions follow in a certain degree entrepreneurial strategies and tactics. Their organizational structure in many cases shares a lot in common with multinational business firms. The purpose of this article is to introduce the concept of dynamic capabilities in terms of maritime security and initiate a discussion whether the implementation of a dynamic capabilities mechanism will ultimately enhance the competence of private organizations such as shipping companies.

2. DYNAMIC CAPABILITIES IN BUSINESS FIRMS

The first step before focusing on maritime organizations is to conceptualize the impact of dynamic capabilities in the business field and then try to analyze it within the context of maritime security. According to business theory as

defined by Teece et al. (1997,p.516) an important characteristic of a firm to develop successfully is its ***"Dynamic capability, meaning the ability of the firm to integrate, build, and reconfigure internal and external competences to address rapidly changing environments"***.

Another useful definition used by various scholars considers dynamic capabilities as a collective procedure where a firm modifies accordingly its operating procedures in pursuit of advanced performance through a systematic and collective effort (Zollo et al. 2002).

A more analytical approach stresses the above argument, aiming in attaining and maintaining a competitive advantage (Eisenhardt et al. 2000). Many would argue that if two firms i.e two shipping companies are considered to hold analogous dynamic capabilities the expected outcome will be the same, however this is not the case since the respective outcome would strongly depend from the costs involved and the timing of implementation of various strategies and tactics (Zott 2003).

Another relevant issue that has been pointed out refers to the complex relationships between **"resources, dynamic capabilities and firm performance"** and the academic need for further research to be conducted on this field (Baretto 2010). The word capabilities in the term *dynamic capabilities* underlines the role of strategic management and to underline the fact that we are not referring to one time achievements, but in the capacity to repeat them over time (Zollo et al 2002).

According to the respective literature the link between dynamic capabilities and competencies mainly centers on their ability to integrate and reconfigure (Teece et al. 1997; Eisenhardt et. al 2000). The benefits gained from the increase of competencies and the establishment of operational routines and resource positions contribute to an enhanced ability to address changing environments and ultimately improve efficiency. The overhaul outcome is the improved firm performance (Teece et. al 1997;Baretto 2010).

Figure 1 The influence of Dynamic Capabilities on Firms

3. SEA ENVIRONMENT AND DYNAMIC CAPABILITIES

The sea has been characterized as the lifeblood since 90% of the global trade is conducted via the sea and interconnects countries from the whole globe. Maritime Domain and Maritime Domain Awareness are terms frequently used and useful to conceptualize by adopting the following definitions:

"The **Maritime Domain** *is all areas and things of, on, under, relating to, adjacent to, or bordering on a sea, ocean, or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, vessels, and other conveyances* (Shemella 2010)".

"**Maritime Domain Awareness" (MDA)** *is the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment (Shemella 2010)*.

In this point is necessary to state the main maritime threats that jeopardize maritime security in a region, keeping in mind always that this is a widely used term that incorporates many parameters, factors and issues. In particular tackles mainly the following complicated issues:

- Illegal immigration
- Drug smuggling
- Proliferation of weapons of mass destruction (WMD)
- Trafficking
- Border Control

- Search and Rescue
- Energy Security
- Environmental Protection

The above issues are not very popular among military personnel since they are commonly considered and treated as a coastguard responsibility. Kline (2010) emphasizes that all efforts should be coordinated in domestic, regional and international level. The high seas constitute the field where global trade takes place and inevitably, apart from the involved states, the shipping companies are indirectly or directly in some cases stakeholders on this issue. Consequently an urgent need for maritime surveillance and border control is generated; in other words maritime security in these troubled areas is in high risk (Kline 2010).

Many assume that the necessary measures to address these maritime security risks require extensive efforts and resources, however this is not always the case since in a number of instances the necessary training can provided by various institutions and organizations at a local level, supported via a small budget. For example, the European Union has launched NESTOR, a civilian initiative whose main objective is to assist Djibouti, Kenya, Seychelles, Somalia and Tanzania in developing " *a self sustainable maritime capacity building concerning personnel and equipment* ". The ultimate aim of this initiative is the enhancement of regional maritime security in the Horn of Africa.

As mentioned previously, new challenges concerning the establishment of security in the maritime domain rise constantly. Several international actors i.e. European Union, NATO, China and other key players are forced to answer these challenges by adopting new strategies and policies in rapidly changing environments. However, our era is experiencing political instability in a number of regions all over the world and consequently the inability for the local authorities to establish local order. This unpleasant situation creates the necessary circumstances for phenomena such as piracy, drug smuggling, trafficking to blossom. The Mediterranean sea is a cross road of global trade and at the same time a place where significant mineral resources lie and a sea border of many troubled areas (i.e Libya, Aegean, Syria). Maritime security is a major issue and a mandate for the wider economic and political prosperity, the next step for all the involved stakeholders is to assign accordingly a qualified organization to address this issue i.e. Hellenic Coast Guard, FRONTEX, or private security company to guard specific assets (oil rigs).

4. A POTENTIAL CONCEPTUAL FRAMEWORK OF A DYNAMIC CAPABILITIES MECHANISM FOR PRIVATE SHIPPING COMPANIES

The next challenge for future researchers is to identify or conceptualize a representative framework for shipping companies, which will allow a solid evaluation of the benefits and disadvantages in the event the concept of dynamic capabilities in terms of maritime security is adopted.

Next, our academic efforts should be forwarded accordingly in order to recognize a research framework that will contains mainly the following features:

- A real maritime security challenge
- Actors
- Access to the useful data
- Proper analysis mechanism

A perspective framework that includes the elements of dynamism and is closely related to today's reality is the following, since the issue of high seas piracy is high in the security agenda and the increase of piracy incidents globally, i.e Gulf of Guinea , the need for different courses of action from all involved actors is generated. The shipping companies that share interests in West Africa should reformulate their strategies and tactics in order to address this security challenge, since the rise of piracy practically affects the conduct of daily operations at sea.

In order to sum up, there are certain prerequisites for future researchers in order to answer this basic research question whether the business concept of DCs is applicable in this field of maritime security. Future researchers have to identify and adopt a potential research framework under the context of maritime security. In this process there are specific steps that should be followed and are depicted in the following graph (2012):

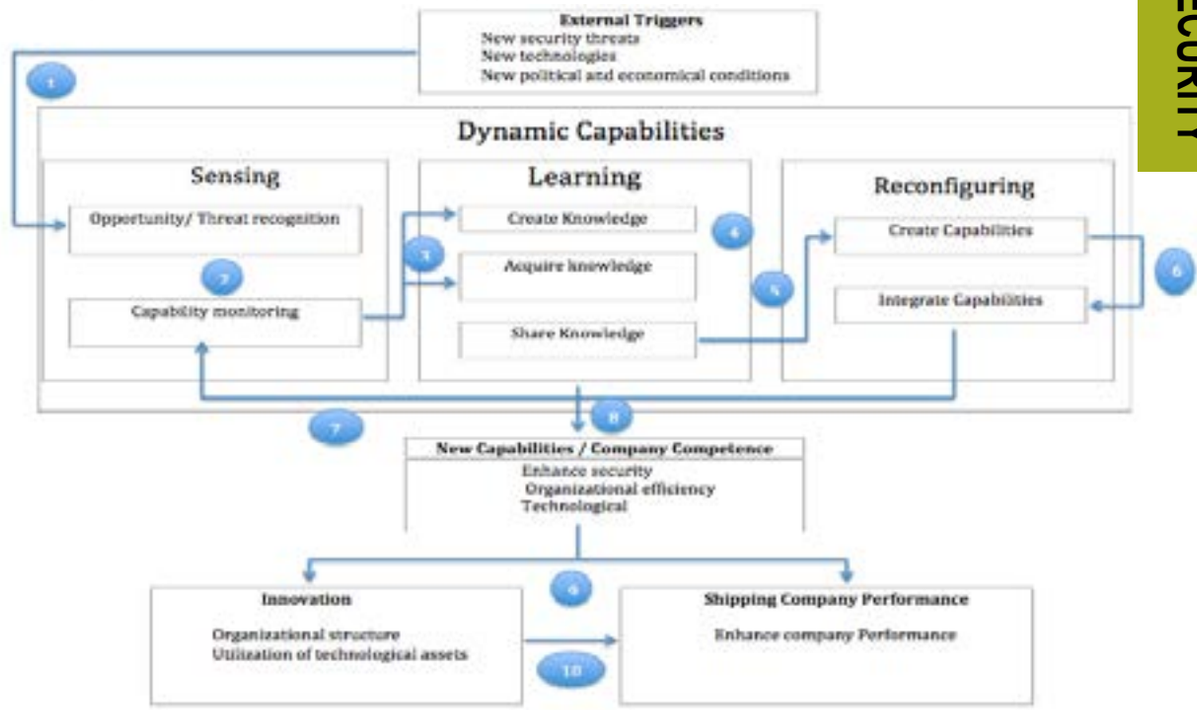

Figure 2 Dynamic Capabilities in terms of shipping companies competences

- Sensing
- Learning
- Reconfiguring

One of our aims is to advance innovation, integration of new capabilities and ultimately the promotion of each respective maritime organization in order to address external factors that jeopardize or have a severe affect on maritime security such as (Diss 2012)

- New security threats
- New technologies
- New political conditions

4.1 Dynamic Capabilities Mechanism in terms of maritime security and shipping companies

The graph in figure 2 is designed under the concept of enhancing maritime security and responding accordingly to the external triggers in the maritime environment that shipping companies hold their activities.

5. CONCLUSIONS

DCs are a feature of modern institutions/ organizations in an era where rapidly changing environments have evolved to a daily routine. The literature over this issue identifies the need to determine the organizations/institutions where this concept can be applied. A challenging academic question emerges to whether the entrepreneurial concept of dynamic capabilities is more than useful for institutions/organizations directly linked to maritime security i.e shipping companies .The study of dynamic capabilities generates the

need to define theory boundaries and bounding assumptions i.e if all kinds of dynamic environments should be included? otherwise the theory of DCs can be easily characterized as vague and non concrete (Baretto 2010; Diss 2012). In addition, the aspect of decision making is important in DCs theory and should be taken seriously under consideration.

The literature over the issue of DCs demonstrates the fact that there are commonalities between business firms; After reviewing the dynamic capabilities relevant theory, in terms of maritime security and shipping companies the need for further research is generated, which will provide answers to whether shipping companies are eligible for implementing aspects of dynamic capabilities theory and the next step will focus on determining the proper dynamic capability mechanism that will eventually lead to a better maritime performance.

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Prof. Nikitas Nikitakos *is a graduate of the Hellenic Naval Academy (1980) and holds a B.Sc. in Economics (University of Pireaus 1986) and 2 M.Sc. from Naval Post Graduate School, Monterey, CA, USA (Electrical Engineering and Applied Mathematics). He spent 25 years as Naval Officer (Captain GRC N ret.) when he participated in several NATO and EU committees. He received a PhD in Electrical and Computer Engineering from the National Technical University of Athens (1996). He is a professor of Shipping Informatics and Communications and he was Head of the Shipping Trade and Transport Department of the University of Athens (2006-2010). Prof. Nikitakos was president of AMMITEC (Association of Maritime Managers Information Technology, Electronics and Communications) from 2006 to 2010 and is currently president of the Aegean Institute of Law of the Sea and Maritime Law in Rhodes. He holds 3 international patents on renewable energies at sea and he was awarded from Lloyd's List on Maritime Technological Innovations in 2006.*

Lt Ioannis Nellas, GRC (N) *graduated from the Hellenic Academy in 2002 and has served in frigates and patrol gunboat ships. He is a Naval Postgraduate School graduate with two Masters in Applied Physics and in Civil-Military relations. He is currently serving in HS ELLI as Electronics Officer and his thesis tackled the issue of capacity building as an answer to piracy through the introduction and implementation of innovative concepts in a pioneering fashion. He is a PhD candidate in the University of Aegean.*

HELO insertion during HNLMS Johan De Witt training.

RHIB insertion during HNLMS Johan De Witt training, using a Swedish FRISC

Visit of the Defence Attaché of the Republic of Germany accredited to Greece,
Colonel Ulrich Pfeiffer DEU (AF)

Visit of the Chief of Staff of 1 Assault Group Royal Marines (1AGRM), Lt Colonel Richard Thurstan RM

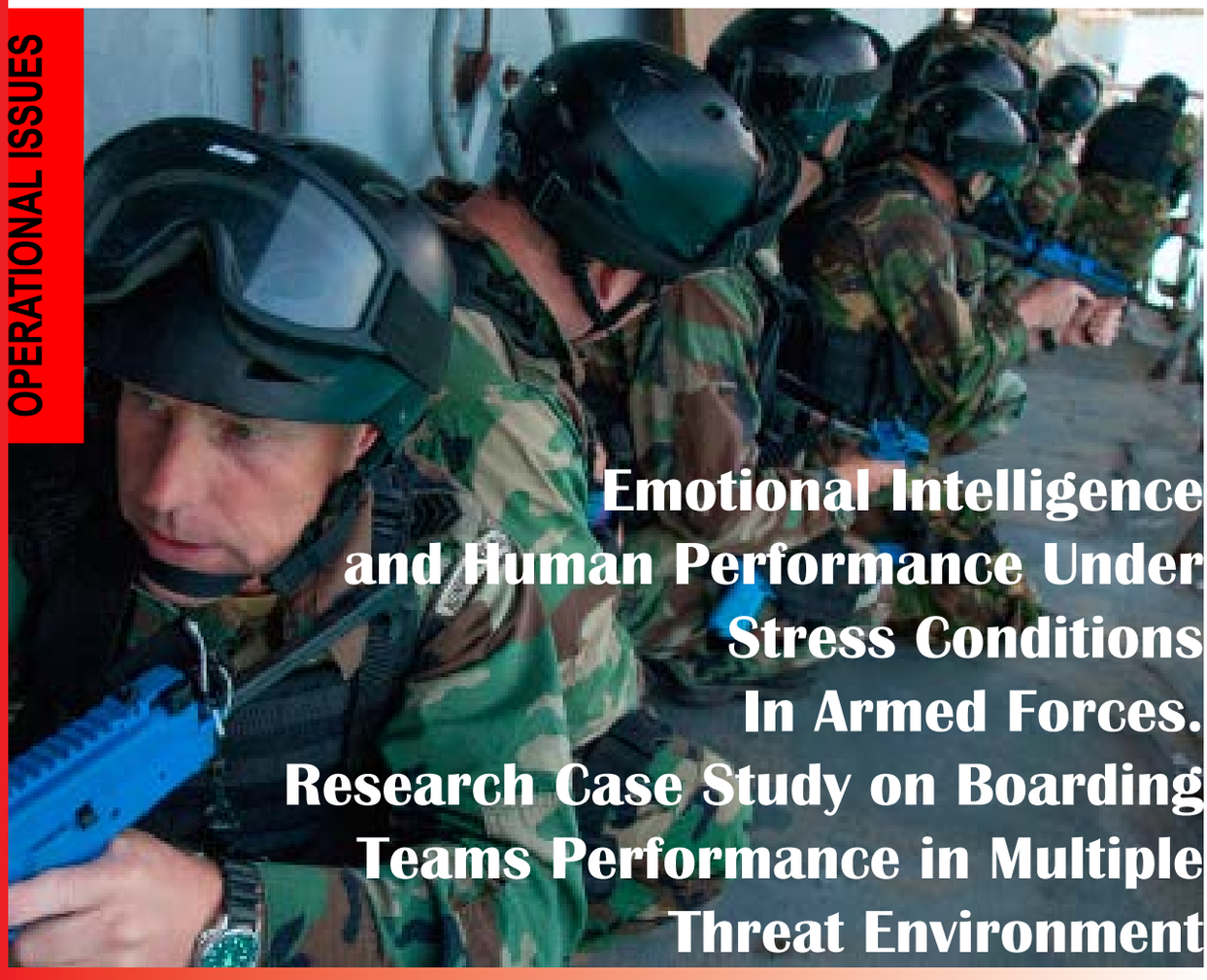
Trainees of the 7000 Resident Course, "MIO in support of Counter Piracy"
in the Simulator

Trainees of the 7000 Resident Course "MIO in support of Counter Piracy" onboard training platform ARIS

Trainee working on evidence collection onboard training platform ARIS, during the 13th training session of the IMO DCoC

Graduation of the 13th IMO DCoC training session, on advanced criminal investigation at sea.

NMIOTC's Sea Trainer demonstrating sim guns and gear used during tactical sweep training, to the Commander of MARCOM, Vice Admiral P.D. Hudson CB CBE GBR(N).



Emotional Intelligence and Human Performance Under Stress Conditions In Armed Forces. Research Case Study on Boarding Teams Performance in Multiple Threat Environment

by Lieutenant Commander K.V.Tsakonas, GRC (N) Hellenic Supreme War College
tsakonas@navy.mil.gr

Abstract

Emotional Intelligence is a concept that refers to a part of human wholeness which has been intensively studied by the academic community over the past two decades, as a key point for explaining and forecasting professional and social success. The Scientists have not reached a uniformly accepted definition or model specification, but have come to the conclusion that Emotional Intelligence is a different kind of intelligence that can be meliorated. This agreement yet with the emerging positive correlation research results of various aspects of human work and social life have led to even greater involvement and study. Our research grappled with an issue that has not yet been answered by the various studies and refers to examining the possibility of correlation of Emotional Intelligence with the human performance in simulated battle conditions. This paper describes the hypothesis, questions, assumptions and methodological tools that were included in this research, and presents the analysis of the research results and the conclusions extracted. The positive results that were drawn from our research allow us to open a new chapter in the extremely important area of human performance in the armed forces, which has failed to be reached until now.

Keywords

Emotional Intelligence; Emotional Quotient; Human Performance; NMIOTC; Combat Stress;

Introduction

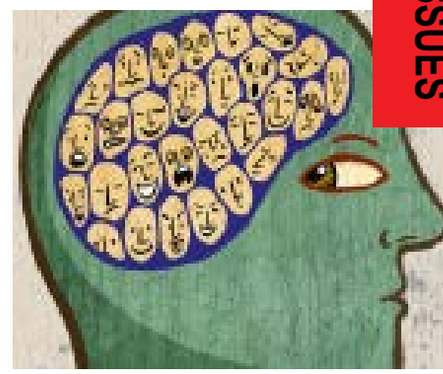
A key point in the last couple of decades is the phenomenon of the rapid rise in developments in all cognitive and technological areas, as well as the resulting high speed at which the amount of information required to be processed increases, along with the relative human skills that need to be developed. It may sound peculiar but the truth is that half of the things we learn today become obsolete within a period of time of not more than three years. This evolution dynamic continuously gives birth to new needs for adaptation and assimilation, within our personal as well as professional life.

But besides the technocratic aspect that these changes serve, a whole bunch of adaptation and integration skills are tested every day and bring up a whole new field of human wholeness; a field which does not relate with cognition and relative skills that people collect and exploit, but with less obvious skills that range in social and interpersonal human dimensions. Skills such as the way people handle these changes, their ability to absorb them, the way they work with others, how they perceive the behavior of others and manage their own behavior and many more, are rambling in the area of intelligence developed by the "upright man", due to the cooperation of logic with thymic.

Recent studies evinced the correlation of intelligence and emotional skills of man with success (Goleman, 1995) and made it clear that people need more than a high IQ to succeed professionally as well as in life in general. Already known skills of man were grouped under a new perspective in order to answer the question of the relevance of human characteristics to success and high performance, and led to the modern concept of Emotional Intelligence (EI) (Goleman, 1995) (Salovey & Meyer, 1990).

As a result, researchers increasingly study ways of how we can move within the professional performance area, and explore methodologies which will optimize this performance through cultivation of Emotional Intelligence (EI). Additionally, as made clear quite early, the intended improvement in various practical fields of human activities, especially of activities in the workplace, is based, inter alia, on practical training / education through simulation.

However, the ability of each one of us to handle one way or another the various stages of practical training - as well as the real work situations that the practical training simulates - is a human characteristic which relies on different parts of human intelligence. The human ability to maintain self-control and manage own emotional state and reactions in order to optimize the desired outcome in situations emotionally stressed, is a parameter which can be studied and evaluated. The effort expended within the current study investigates the correlation of human performance in combat conditions with Emotional Intelligence (EI) through research methodology. To this end, and taking into account that the measurement of performance in combat conditions is not yet possible, this study's approach was to test possible association of human performance under conditions of realistic combat simulation with Emotional Inteligence (EI).



Emotional Intelligence

The first of the scientific fields in which this study was based upon is the concept of EI. EI gained great interest both in Academia and the society in general during the 1990s. During this period, proposals which rely on the use of EI to predict professional success were presented. The first uses of the term "EI" were by Mayer, DiPaolo and Salovey (Mayer, DiPaolo , & Salovey, 1990) and Salovey and Mayer (Salovey & Meyer, 1990). The relatively sharp increase in interest for EI came though as a result of Daniel Goleman's book titled "Emotional Intelligence" (Goleman, 1995) and his following studies about EI in the workplace (Goleman, 1998). In 1997 another researcher, BarOn, presented the first published EI rating scale based on self-reports (BarOn, 1997).

Many attempts have been made in recent decades, dedicated to the identification and measurement of EI of people. Accordingly, Salovey and Mayer define EI as "...the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Meyer, 1990). The scientific debate on EI is ongoing, however the scientific community seems to agree that EI is a self-existent intelligence concept which is scientifically reasonable and practically useful (Roberts, MacCann, Matthews & Zeidner, 2010). This perspective is increasingly leading to EI assessment efforts and enhancement of

its use in the workplace. To this end the scientific community tries to build different tools designed to assess EI.

Simulation & Role Playing Games

The second of the scientific fields in which this study was been based on refers to the use of simulation and training with role playing games. The use of these methodologies in the educational community is not new. Instructors use these techniques for decades in an effort to strengthen the understanding and assimilation of complex educational concepts by students. These techniques are part of a larger set of teaching strategies characterized as "active learning techniques" as they aim at the active participation of students in the "build" of their knowledge. In training, simulation is often referred to as "simulation game", which is more controllable than a simple game, and simultaneously contains detailed models that reflect a state of the real world (Adams, 1973).

The educational use of this technique lies in Germany in the 1920s, where it was used to train military officers with impressive results (Corsini, Shaw & Blake, 1961) (Wohlking & Gill, 1980). Educational use of this technique began to spread more and more and today is used in both university courses and in training programs in business and industry. These methodologies allow the largest extent possible and realistic approach to the actual circumstances on which students need to be trained, while providing a controlled environment with large freedom degree. These methodologies were used during the current study in order to achieve the highest possible simulation of human performance in real conditions, since as mentioned earlier it is still not possible -to the best of our knowledge- to record the performance in combat conditions.

Emotional Intelligence and Human Performance Under Stress Conditions in Armed Forces. Research Case Study on Boarding Teams Performance in Multiple Threat Environment

The original question that led to this investigation is whether we can associate the performance of the personnel of the Armed Forces operating under battle stress with their EI. The desired and scientifically correct would be to study the performance of staff in real battle conditions. But this has not been feasible so far -at least in the spectra of an open audience- and therefore we sought a process as realistic as possible so that the results have a substantial correspondence with reality. The influence of traditional IQ in overall job performance through knowledge has been adequately investigated in the past and is now argued by the scientific community as not sufficient by itself to explain job and social success (Theodore, 2010). To the best of our knowledge, from the study of international literature, up to the preparation of this study, research referring to the investigation of the correlation of EI and performance under stress has not been conducted yet, thus this was the area that we tried to cover.

For the sake of this research, we exploited the advantage of realistic training procedures provided by the personnel and facilities of the NATO Maritime Interdiction Operational Training Centre of the Hellenic Navy (NMIOTC), which may simulate realistically battle conditions and jams in a safe environment while providing performance observation and evaluation opportunities. To this end, we made the assumption that:

"The performance of the staff of the Armed Forces in combat conditions is proportional to their performance in realistic simulated conditions"

So the key question that needs to be answered is:

"Is the association between trainees' EI and their performance in realistic simulated battle conditions, with multiple threat scenarios and stressful conditions during the practical training possible?"

Research Methodology

For the purposes of this research, the Trait Emotional Intelligence Questionnaire (TEIQue) was used as the tool for EI assessment, as well as a scale for assessing trainees' performance regarding the correct practical application of theoretical studied objects during an implementation through a role playing game in simulated "combat" environment. Both tools will be detailed below.

Questionnaire of EI as a Personality Trait (Teique)

In this research the TEIQue questionnaire

[1] http://www.psychometriclab.com/Default.aspx?Content=Page&id=14

[2] http://www.eiconsortium.org/measures/measures.html

used was in its short form (Trait Emotional Intelligence Questionnaire - Short Form or TEIQue-SF). This questionnaire is issued by the Psychometric Laboratory, UCL[1] and is included by the organization "Consortium for Research on Emotional Intelligence in Organizations"[2] in the EI measurement tools that have adequately been evaluated with empirical data in more than five (5) relevant published studies.

The TEIQue-SF is a simplified version of the relevant questionnaire for adults and is designed mainly to measure the overall EI. According to studies of the authors of the questionnaire, the reliability index (internal consistency coefficient alpha of Cronbach (Cronbach, 1951)) is usually above 0.8 (minimum 0.7) and has been used successfully in people 11 years and up. The choice of this questionnaire was based on the grounds that:

-It provides short version which requires completion time of approximately seven (7) minutes per person and therefore could fluently be used by trainees during the demanding training in NMIOTC

-It provides editions in various languages thus served best for use in the multinational environment of NMIOTC

-It allows scoring from anyone performing a research study in broad academic spectra, since the

scoring key as well as the implementation guidance is offered by the editors

-Finally, it includes an evaluation of self-control as individual-sided facet of EI, which is an important element in this study, since the ability of increased self-control in stressful conditions is the one probably leading to increased performance

Performance Assessment Tool

The performance assessment tool for the measurements of trainees' performance during simulations of non-consensual or hostile boarding procedures was built and used by NMIOTC staff and more specifically by the Education and Training Directorate (ET) of the Centre. It is based on the procedures and methodologies used by the Centre as the international standard for the teaching and evaluation at boarding issues. This tool included basic mistake control points that usually are committed by trainees when acting in an environment that simulates realistic conditions of hostile boardings, i.e. boarding against armed, hostile or aggressive crews, with hostage situations and/or opposing spatial conditions (darkness, smoke, fire, noise etc.).

The tool includes the following check points:

-Shooting accidentally
-Entering the firing sector of another team member
-Shooting against another team member
-Hesitation during entrance in compartment
-Non engagement of immediate threat
-Shooting wrong target
-Not appropriate weapon check
-Compartment sweep time (min)

Research Procedure

For the purposes of this research adult groups were used, all of which were assigned to participate in theoretical and practical training in the same subject of non-consensual / hostile boarding under multiple threats on site of NMIOTC. The kind of realistic simulation that was needed for the research purposes is performed in NMIOTC facilities, with boarding teams being trained for reacting correctly under stress and multiple threats. For this, real ships are used both at birth or underway, suitably adapted to provide realistic simulation with smoke generators, noise generators, recording cameras for debugging, pre-mounted control objects (IED, WMD, etc.), use of pre-positioned fixed or moving targets, use of replica weapons with color bullets and involvement of the experienced trainers as armed rivals and/or hostages. An idea about this training can be found through internet . The procedure followed with all participants who constituted the sample was as follows:

Initially the trainees were informed about the research in which they would participate and then were submitted to the assessment of their emotional intelligence with the TEIQue-SF questionnaire. Subsequently they participated in theoretical training concerning effective implementation of the procedure for non-consensual / hostile boarding under multiple threats. Then they participated in a prearranged role playing simulation game, where the trainees had to face their trainers in realistic conditions, in the simulation environment presented earlier, where they

would have to apply the taught reactions methodology. The process involved the gradual increase of tension in the simulated environment, following successive scenario iterations, in order to allow a smooth take-up for the trainees initially, as well as their assimilation in a much more demanding level at the end, based on the vital errors made upon the taught procedures and the relevant assessment tool that was set by their trainers as discussed earlier.

Presentation and Analysis of Research Results

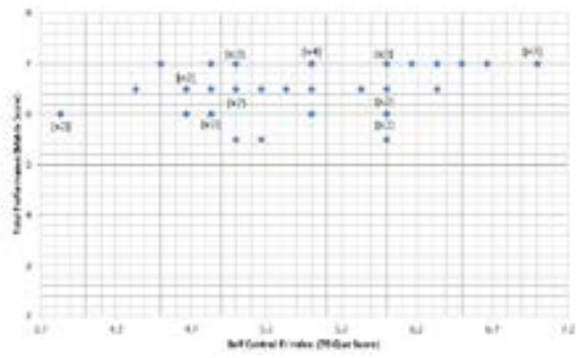
During the research phase the sample used consisted of a small group of 46 adults, aged between 20 and 35. As already mentioned, the sample included boarding team members, from various countries, having common background as Armed Forces' staff or staff of Police, Coast Guard or Armed Forces Special Teams. Although this sample is relatively small, we consider it sufficient regarding the total population of this kind of special teams and keeping in mind that we can simply rely on a trend at this phase which can be provided by a relatively small sample.

The results drawn from the above process were reflected in five diagrams that correspond to the variance of the performance of the sample members in the final phase of the role-playing simulation in correlation with their total EI and its' four individual facets, namely:

- Variance of performance in correlation with well-being
- Variance of performance in correlation with sociability
- Variance of performance in correlation with emotionality
- Variance of performance in correlation with self-control
- Variance of performance in correlation with the overall EI

Following, only two of the five diagrams will be presented and further analyzed in the context of the current discussion and in order to attempt to dig out a possible answer to our research. It should be noted that only distinct values of the investigated variables are presented in these diagrams. Therefore all duplicate points are shown as one point, and therefore the occurred values are equal to or less than the total number of 46 persons of the sample. In these diagrams the points reflecting to more than one match in the sample, bear a number in brackets referring to the total population represented by this point. So if for example in the results of the survey there were three people in the sample that were measured to have performance of 6 and EI 5, the point on the chart with coordinates (6,5) will note [x3] next to it. It should also be borne in mind that 2-4 survey elements have been removed from the charts as they were clearly out of range of price fluctuation and affecting the analysis of results.

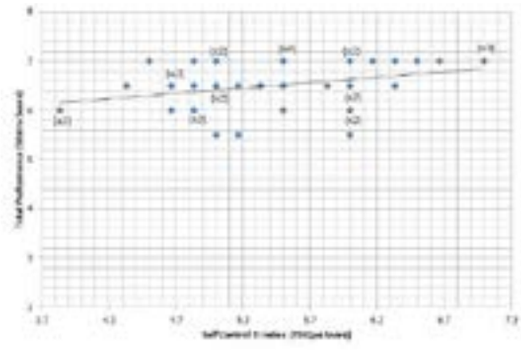
Figure 1 shows the variance of performance under stress conditions in correlation with self-control. The horizontal axis of the chart is used for the measurement of self-control through the TEIQue questionnaire



in a 7point scale. Prices of self-control ranged between 3.82 and 7. The vertical axis is used for representing measurements of performance under stress conditions as it was assessed based on the also 7point scale of the relevant tool. Prices of performance ranged between 5.5 and 7. As mentioned earlier, this facet of EI is of more significance as it concerns the feature that we appreciated in our theoretical approach that has more weight in the sample reactions under stress conditions. Values' pairs of the two tools (TEIQue-SF and performance measurement tool) corresponding to each sample member, are displayed with a blue dot, with the pair of these values as coordinates. We have to note that according to the authors of TEIQue-SF, the tool is constructed in order to measure the overall EI and provides only an indication about its facets.

Figure 1 - Variance of performance under stress conditions in correlation with self-control

This diagram depicts a relative dispersion which was expected, but in conjunction with the limited number of sample members it creates a relatively vague picture of the correlation between the two variables, namely the performance and self-control. Therefore



both in Figure 2 and 3, a linear trend line is added which is represented with a black solid line, showing the trend of the correlation of performance with self-control.
The equation that describes the trend line is:

$$y = \alpha x + \beta$$

where

$$\alpha = \frac{n \Sigma(xy) - \Sigma x \Sigma y}{n \Sigma x^2 - (\Sigma x)^2}$$

$$\beta = \frac{\Sigma y - \alpha \Sigma x}{n}$$

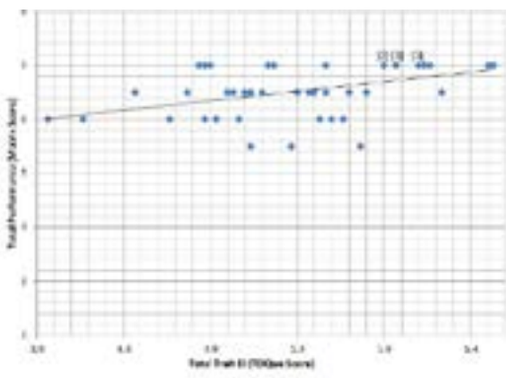
and n=point population

Figure 2 - Variance of performance under stress conditions in correlation with self-control with trend line

Observing the linear trend of variance in Figure 2, we find a positive rate of increase that was found to be 0.16. We notice that there is a significant positive correlation between self-control and personnel performance. The trend is obvious and despite the expected lack of sufficient reliability in this facet's measure as mentioned earlier it can provide an indication of the positive correlation between EI and performance. To aid the analysis and check the correctness of the measures we calculated and present below the Cronbach's alpha indices of the internal consistency - reliability of the questionnaires' answers for the five features:

Feature	Questions	Cronbach's Alpha	Population
Overall EI	1, ……, 30	0,810	30
Well-Being	5, 9, 12, 20, 24, 27	0,664	6
Self-Control	4, 7, 15, 19, 22, 30	0,647	6
Emotionality	1, 2, 8, 13, 16, 17, 23, 28	0,390	8
Sociability	6, 10, 11, 21, 25, 26	0,658	6

Table 1 - Cronbach's alpha indices of the internal consistency



Observing Table 1 we find that the results of the EI questionnaire that was used in our research show great degree of reliability for the parameter of overall EI of 0.81. The rest indices of reliability for the four facets, although lower as expected, are also good of about 0.65, with the exception of the emotionality recorded at 0.39. This justifies uniformity to the trend found in all four diagrams.

In Figure 3 the Variation of performance under conditions of stress in correlation with the overall EI is presented. The horizontal axis of the chart is used to measure the overall EI based on the 7point TEIQue scale. The values of overall EI ranged between 3.97 and 6.53. The vertical axis is used to measure the performance under stress conditions based on the also 7point scale of the corresponding tool. Prices of performance ranged between 5.5 and 7.

Figure 3 - Variation of performance under conditions of stress in correlation with the overall EI

The fact of the exceptional degree of reliability that we recorded for the overall EI allows further digging in our analysis. By examining in detail those results we draw the following conclusions:

-In the area of the chart with the lower levels of measured EI (EI <4.7), we find that the recorded performance is also low since three out of four results show performance 6 and one out of four 6.5, with minimum measured 5.5. So in this area we recorded low EI with corresponding low performance and therefore positively confirmed our research question.

- In the area of the diagram with the highest levels of measured EI (EI> 5.8), we find that the recorded performance is extremely high. In particular we observe twelve out of thirteen points with maximum performance of 7 degrees and one out of thirteen with a performance of 6.5 degrees. Therefore this area also positively confirmed our research question as we recorded increased performance and increased EI.

-At the intermediate region (4.7 <EI <5.8) the picture by our measurements is not discretely readable. Twenty-one out of twenty-seven measurements show an average performance varying between 6 and 7 which confirms our expectations. However three measurements show a high performance of 7 with EI measurement range at the low limits, and another three measurements show very low performance of 5.5 with EI ranging from medium to high. These points are a source of concern, as not consistent with the general pattern of the results. They may however be justified statistically and the estimation is that by increasing the sample, these statistics' diversions will tend to decrease in percentage.

Studying the diagram in Figure 3 and observing the linear trend of the variation, we find a positive rate of increase in it that was found to be 0.35. The combination of this significantly increased rate and the reliability of the particular result (0.81) and the analysis of the results related to overall EI and its correlation to performance, gives a clear

view on the question raised.

So from the above results we note that despite the limitation of the small sample used, we recorded a clearly positive correlation between increased performance of the sample members and an increased EI and vice versa. These records enable us to proceed to a confirmation of our research question concerning the association of EI with the performance under stress conditions. Based on the conclusions of the research process presented above, we can proceed and answer the research question that we raised and to conclude that:

"There is a positive correlation of trainees' EI with their performance in realistic simulated conditions, in multiple threat scenarios and stressful conditions during practical training"

Moreover, considering the realism of the training performed in NMIOTC on the one hand and the inability to record performance in real battle conditions on the other, we can be led to the adoption of the visa that:

"There is a positive correlation of EI with performance in combat conditions."

Epilogue

Based on the conclusions of the presented research process we were able to answer the research question that we raised and we concluded that the association of EI with performance in multiple threats and simulated stressful conditions scenarios in the practical training is positive. Furthermore we proceeded to the formulation of a visa that the association of EI with performance in combat conditions is also favorable. The results of this research give us the opportunity to open a new chapter in the extremely important area of personnel performance in the Armed Forces, which has failed to be accessed so far. Therefore the need for further deepening in the field of EI becomes clear, in order to achieve improvement on a variety of parameters within the Armed Forces.

Against this background, it is vital to continue the enrichment of the sample of this study in order to provide safer substantiated conclusions. The uniformity of the sample and the constant possibility of observation on site NMIOTC can provide valuable studies and conclusions in favor of the Armed Forces.

To this end it is possible to evaluate different tools than those used in this study, and the subsequent comparison of results. It is even possible to create a purely military EI assessment tool, based on the characteristics of all those different existing models that suit the nature of the military functions.

Additionally it is possible to continuously improve the personnel performance measurement tool to include more and more detail, but also to create relevant tools to suit the activities of other groups within the Armed Forces involved in similar educational activities. Most interesting would be if there could be measurement of performance in real conditions such as in NEO etc.

Finally, based on the positive findings of this research, it is possible to move into a very important next step: taking advantage of the opportunity to improve a person's EI -as the scientists believe-, we can pursue its improvement and the effect of this improvement in increasing the performance of personnel in stressful conditions. Therefore an extremely important step that can be studied in future work is whether we can intervene in personnel's EI using targeted methodologies based on individual EI measurements, in order to bring about improved performance in combat conditions.

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Lieutenant Commander Tsakonas Constantinos graduated from the Hellenic Naval Academy in 1994 as a Deck Officer and has served on various Hellenic warships (Destroyers and Fast Patrol Boats) at various positions, up to the duties of "HS Votsis" Fast Patrol Boat Commanding Officer. He has worked in the Fleet Operations Branch and the Operational Sea Training and Assessment of the Hellenic Fleet Headquarters as Staff Officer and Assessor respectively, as well as in the Hellenic Navy Tactical Training School as Staff Officer. He has been an instructor for the Hellenic Navy Training Command and the NATO Maritime Interdiction Operational Training Centre. He has also served as Staff Officer for the Transformation, Simulation & Modeling, and Information Systems Branches of the same Centre. He graduated from the Hellenic Navy post-graduate Schools of Specialization in Operations and Gunnery Officers for Fast Patrol Boats, the Electronic Warfare School, the School of Command and Staff Officers, and the School of Computer Programmers and Analysts of the Hellenic Army. He holds a master in Electronic and Computer Engineering of the Technical University of Crete. He studies at the School of Electrical and Computer Engineering at the National Technical University of Greece and the Hellenic Supreme Joint War College. Contact: tsakonas@navy.mil.gr

NMIOTC's LEGAD during a Mobile Training Team session in Jeddah, Saudi Arabia

Commandant of NMIOTC during the graduation ceremony in Jeddah, Saudi Arabia

Some of FS L'Androit Boarding Team receive crew control training in the Training yard of NMIOTC

Slovenian Military Police during a RHIB insertion on-board training platform ARIS

Hellenic UDT during small arms training on the helideck of training platformARIS

1: Underway Final Tactical Excersise for German Forces Boarding Operations team
2: Member of the HMS Duncan Boarding Team during Final Tactical Excersise
3: 1st Paratrooper Regiment during tactical sweep training
4: Small skiff investigation training for the Boarding Team of HMS Richmond
5: Small arms training for FS Forbin boarding team.

Maritime crime in the Gulf of Guinea Experience from the Somali Basin

by Commander Corrado Campana, ITA (N)

Piracy off the coasts of Somalia has been one of the main maritime security concerns of policy-makers globally for the past seven years. Random attacks on merchant vessels have occurred in vicinity of the coast of Somalia for more than a decade, but in 2008 apprehension for the security of the busy sea lines of communication running across the Indian Ocean and through the Gulf of Aden grew, as the number of successful hijackings rose dramatically, along with the width of the pirates' area of action and the amounts demanded in ransom payments.

The year 2008 also saw the start of resolute and coordinated international efforts to counter Somali piracy, and the effects of these initiatives are now evident.

Recently, the international attention has started shifting to the insecurity of the waters off the west coasts of Africa and in particular of the Gulf of Guinea. The coast extending from Senegal to Angola provides an economic lifeline to coastal (and also internal) West African countries, and is of strategic importance to the rest of the world. Safe passage to the ports in this region and security within these waters are vital for several aspects, and in particular for global energy production, considering that Nigeria and Angola are among the world's 10 biggest exporters of crude oil, for the fishing industry, which ensures provisions and employment for a large part of the West African population, and for the prevention of the trafficking of narcotics, people and weapons.

Indeed, it is assessed that in 2012 more seafarers were attacked in West African waters than off the coast of Somalia ("*The Human Cost of Maritime Piracy*", June 2013).

The UN Security Council Resolution 2039, adopted in February 2012, urges states of the region to counter piracy at regional and national levels, and also calls on international partners to provide

support to the regional efforts. This international attention acknowledges that, like the Somali basin, West Africa is also affected by maritime threats and these have an impact far beyond the immediate region.

There are a number of critical differences between maritime insecurity off the east and the west coasts of Africa, but the littoral states of the Gulf of Guinea can draw valuable lessons from the experience of fighting Somali piracy to help plan their responses to West Africa's maritime threats.

The threats in the Gulf of Guinea include a variety of maritime crimes affecting the Territorial Waters and Exclusive Economic Zones (EEZs) of those littoral countries, and in particular:

Piracy and armed robbery at sea: Pirate activity in the Gulf of Guinea is different from that in the Indian Ocean. While Somali pirates focus on kidnap for ransom, capturing vessels and holding their cargo and crew in order to extort money from the ship-owner, pirates in the Gulf of Guinea launch attacks primarily with the aim of stealing cargo, equipment or valuables from a vessel and its crew. Kidnapping of crew-members is not as frequent as in the Indian Ocean, therefore the levels of violence are higher as Gulf of Guinea pirates are less concerned about ensuring the safety of hostages.

Theft of oil and other cargo: Attacks on chemical tankers and vessels carrying refined petroleum are well organized, and prove that hijackers have good knowledge of how to operate these specialized vessels, as well as accurate information on ships' movements and the type of cargo they carry. The tankers are often attacked when most vulnerable, such as while in confined waters or carrying out ship-to-ship transfers at sea, and their crew is held while the cargo is transferred to smaller vessels by the hijackers to be resold onshore.

Illegal, unreported and unregulated fishing: The waters off the West African coasts are significantly affected by illegal, unreported and unregulated (IUU) fishing. Over 30 per cent of the fish caught in these waters is taken illegally and, even though this is rarely in the focus of the discussions on maritime security in the Gulf of Guinea, it is of high economic importance for West African governments, who collectively lose up to $1.5 billion annually because of IUU fishing. It is also important for the International Community as illegally caught fish is often destined to the European and Asian markets, and there are links between vessels involved in IUU fishing and other forms of organized crime at sea such as drug-smuggling.

Trafficking of counterfeit items, people, narcotics and arms: Many of the busy ports in the Gulf of Guinea lack adequate oversight, and the actual capability can be undermined by corruption, allowing smuggling routes to be established. According to UN Office of Drugs and Crime estimates (UNODC, 2013) 50 tons of cocaine, destined for Europe and worth $2 billion, transit West Africa annually.

An important opportunity to discuss the maritime threats in these waters was offered by the Summit of Heads of State and Government on Maritime Safety and Security in the Gulf of Guinea held in 2013.

Heads of State and Government from twenty-five states of the Economic Community of West African States (ECOWAS), the Economic Community of Central African States (ECCAS) and the Commission of the Gulf of Guinea (CGG) gathered on 24-25 of June 2013 in Yaoundé, Cameroon, to

adopt key strategic documents in response to illicit and illegal activities in this particular basin.

The Summit was a successful event and, on its conclusion, the three documents proposed for consideration were all signed by participants with no exceptions: a Memorandum of Understanding between the heads of ECOWAS, ECCAS and CGG, a declaration of intent by heads of state and government to cooperate to promote maritime safety and security, and a Code of Conduct which details how states will pursue the prevention and repression of acts of piracy, armed robbery, and other illicit maritime activities.

The latter, in particular, recognizes some policy lessons which can be taken from the counter-piracy efforts in the Horn of Africa and Somali Basin. In fact, like the Djibouti Code of Conduct (an agreement signed in 2009 between 20 coastal states of Eastern Africa, Gulf states and Yemen for the repression of piracy and armed robbery in the western Indian Ocean and the Gulf of Aden) this new agreement has the aim to promote the sharing and reporting of information between states, the pursuit and prosecution of people suspected of engaging in illegal activities at sea, and the harmonized treatment and repatriation of seafarers who have been victims to criminality and violence at sea. Though, in addition to this, the Code for West Africa also takes into account a limitation of the Djibouti Code: its strong emphasis on piracy, which has led the subscribing states to have very limited focus on other illegal activities affecting their waters, such as IUU fishing.

The West Africa agreement gives emphasis to actions against illicit maritime activities in a more general meaning, and could have a significant result as it has a strong support from the intergovernmental bodies of the region.

However, international stakeholders and national governments must recognize the impact that insecurity in the Gulf of Guinea has on their own interests, and it is critically important to make sure that maritime security will not fade out of the agenda as West African countries focus increasingly on their internal political issues, allowing maritime criminals, who have proved to be very easily and quickly adaptable, to take advantage of any lack of oversight.

Like in the Somali Basin, where the successful reduction of the phenomenon of piracy is the result of a combination of methods and procedures such as coordinated naval patrolling, self-protection measures and Best Management Practices (BMPs), presence of armed guards on merchant vessels and efforts in capacity building ashore, also in the Gulf of Guinea the interconnected crimes of piracy, trafficking and theft require a combined effort to achieve a long-lasting solution.

Maritime security is a key factor for aspects related to the economic growth and food security of the regional countries as well as for the reduction of the international crime.

As said, those who commit illegal acts at sea are highly adaptable, increasingly sophisticated in their techniques and often well informed, hence efforts and methods to respond to them on any level (local, regional and global) must be not only flexible and proactive, but also prompt and timely, as early action by policy-makers could do much to ensure that maritime crime in the Gulf of Guinea does not evolve and increase to an uncontrollable extent.

Commander Corrado Campana attended the Italian Naval Academy from 1987 until 1991, when he was commissioned as Ensign. He has achieved the qualification in Naval Artillery and Missile Systems and the specialization in Naval Weapons Direction. He served onboard several Italian Navy ships such as the frigates Libeccio and Maestrale and the destroyers Ardito and Luigi Durand de la Penne, and was appointed as Commanding Officer of the auxiliary ship Ponza and of the frigate Granatiere. He served in international staffs such as the Force HQ of the Multinational Force and Observers (M.F.O.) in El-Gorah (Sinai, Egypt) as Naval Advisor, and the EU Naval Force OHQ in Northwood (UK) as ACOS CJ3 Operations within the anti-piracy Operation ATALANTA. He served in national staffs such as the Command in Chief of the Italian Fleet as Head of the Artillery and Missile Systems Section, the Command of Italian Maritime Forces in Taranto as ACOS N3 Operations and at the Italian Joint Operations HQ in Rome, as Head of Maritime Operations Section (J3). He attended the Italian Joint War College and the Course in International Humanitarian Law at the Centre for Defence High Studies in Rome and also served as Tutor for the attendees. Captain Campana has achieved the Degree in Maritime and Naval Science at the University of Pisa, the Degree in Political Science at the University of Trieste, and the Master in International and Military-strategic Studies at the L.U.I.S.S. University “Guido Carli” in Rome. Since the 1st August 2013 he is appointed at the NATO Maritime Interdiction Operational Training Centre in Souda Bay, Crete, Greece as Director of the Training Support and Transformation Directorate.

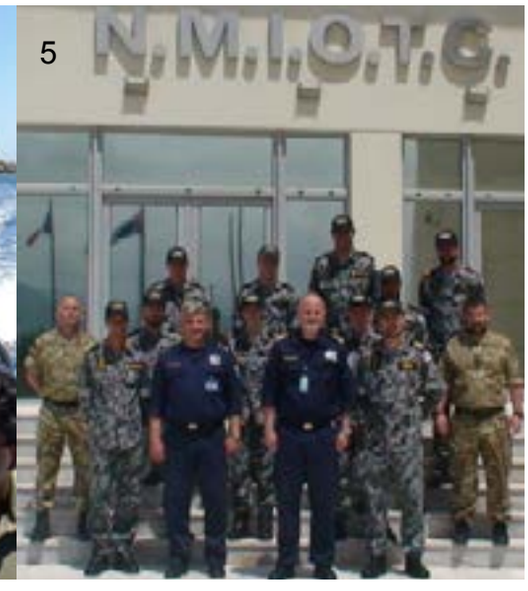
1: Change of Command Ceremony.Commodore Anastasios Tserkezoglou HN relieved Rear Admiral Ioannis Pavlopoulos HN

2: Visit of the Commander of the 6th US Fleet / COM STRIKFORNATO, Vice Admiral James G. Foggo III USN.

3: Visit of the Ambassador of Brazil to Greece, Edgard Antonio Casciano, escorted by the Alternate Minister of Defense Mister Kostas Isichos and the Chief of Hellenic Navy General Staff

4: Visit the Chairman of Joint Chiefs of Staff Committee (CJCSC) of Pakistan, General Rashad Mahmood PAK(A), escorted by the Chief of the Hellenic National Defence General Staff, General Mikhail Kostarakos GRC(A).

5: Recce visit of HMAS ANZAC



1: Attendees of NMIOTC's 6th Annual Conference
2: The Minister of National Defense, Mr Panos Kammenos.
3: The opening speech was given by the Chief of the Hellenic Navy, Vice Admiral Evangelos Apostolakis
4: In total, 143 participants attended the Conference
5: Attendees enjoying the ice breaker event

Boarding Teams and CBAN threats

by Brigadier General (ret) Ioannis Galatas, GRC (A)

Lieutenant Leonidas Palaiodimos, GRC (A)

Major Antonis Schinas, GRC (A)

In peacetime, boarding allows authorized inspectors of one nation or group, such as a Coast Guard or an international policing fleet (e.g. United Nations fleet) to examine a ship's cargo in a search for drugs, weapons, passengers which are unrecorded on the ship's manifest, or any other type of contraband that could possibly have been carried aboard. A nation's Coast Guard could also board any suspicious ships that have been overfishing in such a nation's territorial waters.

One of the primary roles of the navy during operational deployments in recent years has been maritime interdiction operations (MIOs). MIOs involve "the surveillance, interception and, if necessary, boarding of commercial vessels to verify, re-direct or impound their cargoes in support of the enforcement of economic sanctions."

The ever-changing dynamics of today's world, coupled with existing threats, reinforces the need to ensure security on the high seas as well as coastal areas. It is evident that there is a need to train and deploy a highly effective and capable boarding party – an extension of force from its parent ship – to ensure that weapons or terrorists are not being smuggled to locations where they will do harm. While these are the principal missions of the naval boarding parties in the current MIO environment, many other tasks are possible.

The latter has been explored during the WMD6000 course held in NATO Maritime Interdiction Operational Training Center (NMIOTC) (Souda Naval base, Chania, Crete, Greece; 2-6 June 2014). During the practical part of the course, Boarding Teams (BTs) practiced on how to deal with sudden exposure to chemical warfare agents while conducting an onboard interdiction. The aim of this pilot training was to understand the operational environment of BTs and ways to incorporate CBRN defense measures and directives that will protect personnel involved. The future collaboration with CBRN CoE might

lead to SOPs for operational BTs of NATO member states.

New emerging threats relevant to BTs operations

1. Chemical warfare agents (CWAs);
2. Biological warfare agents (BWAs);
3. Radiological dispersal devices (RDDs); contained radioisotopes; fusion material;
4. Nuclear warheads;
5. Explosives

1. CWAs

NATO defines CWAs as: *"chemical substances which are intended for use in military operations to kill, seriously injure or incapacitate people because of its physiological effects"* (AmedP-6[B]). Excluded from this definition are riot control agents, herbicides, smoke and flame.

Chemical Weapons Convention (CWC) defines the term "chemical weapon" in Article II, paragraph 1, where the term "chemical weapons" means – together or separately:

(a) Toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes;

(b) Munitions and devices, specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (a), which would be released as a result of employment of such munitions and devices;

(c) Any equipment specifically designed for use directly in connection with the employment of munitions and devices specified in subparagraph (b).

Purposes not prohibited include:

(a) Industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;

(b) Protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons;

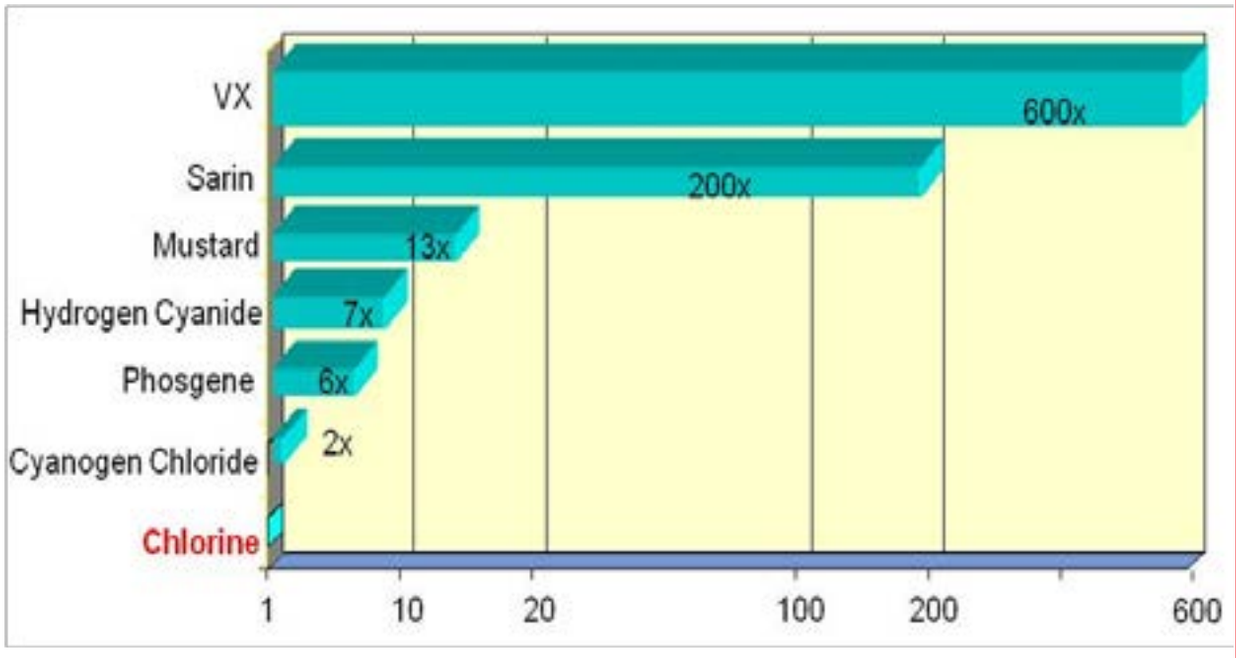
THIODIGLYCOL	Convertible into mustard gas simply by contact with hydrogen chloride
CHLOROETHANOL	Essential to one of the ways for making thiodiglycol
PHOSPHORYL CHLORIDE	Essential to tabun production. Can also be converted, with some difficulty, into methylphosphonyl dichloride
DIMETHYLAMINE	Like phosphoryl chloride, essential to tabun production, but much easier to make
METHYLPHOSPHONYL DIFLUORIDE	Convertible into sarin-family nerve gases simply by contact with any of many alcohols

(c) Military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare;

(d) Law enforcement including domestic riot control purposes.

Apart from defined CWAs dual usage chemical consist an additional operational problem for BTs since they might miss the importance during interdiction missions – examples given below:

CWAs comprise of two main categories:



	TABUN (GA)	SARIN (GB)	SOMAN (GD)	VX
Form	Colorless or brownish liquid	Colorless liquid	Colorless liquid	Colorless or yellowish liquid
Odor	May smell fruity	Odorless	Fruity - like camphor oil	Odorless
Detection	Vapors: CAM R Liquid: Paper	Vapors: CAM R Liquid: Paper	Vapors: CAM R Liquid: Paper	Vapors: CAM R Liquid: Paper
Persistence	Soil: 1-1.5d Materials: Unknown	Soil: 2-24h @ 5-25°C Materials: Unknown	Soil: Quite persistent Materials: Unknown	Soil: 2-6d Materials: Persistent
Biological effect	Vapor (mg min/m³) Ct_{50}:2-3 (miosis) LCt_{50}:400 Liquid: LD_{50} (skin: 1 g/70kg)	Vapor (mg min/m³) Ct_{50}:3 (miosis) LCt_{50}:100 Liquid: LD_{50} (skin: 1.7 g/70kg)	Vapor (mg min/m³) Ct_{50}:2-3 (miosis) LCt_{50}:50 Liquid: LD_{50} (skin: 0.35 g/70kg)	Vapor (mg min/m³) Ct_{50}:10-50(death) LCt_{50}:10 Liquid: LD_{50} (skin: 0.1 g/70kg)

1. Toxic – chocking; blood; blister; nerve agents
2. Incapacitating agents

The relative lethality of CWAs is shown in the graphic below:

CWA	Action	Adverse effects	Death
Tabun (GA)	Very fast	1-10 min	10-15 min
Sarin (GB)	Very fast	1-10 min	2-15 min
Soman (GD)	Very fast	1-10 min	1-15 min
VX	Fast	1-10 min	4-42 hours
Cyanide	Very fast	<5 min	<30 min
Mustard	Delayed	Few hours	4-12 days

Comparison: TICs vs. CWAs

Toxic Industrial Chemicals
- Not designed for warfare;
- Have low toxicity; inexpensive;
- Available legally and in high volumes;
- Accessible;
- Difficulty in detection;
- Can be effective without lethality;
- Have acute and/or chronic effects.

CWAs
- Purposely designed for warfare;
- Have high toxicity; expensive;
- Produced and stored under high security;
- Lack of accessibility;
- Have established detection methods;
- Designed to create casualties;
- Primary acute effects.

2. BWAs

Bio-weapons are grouped into three categories depending of their characteristics. Pathogens of Group A represent the biggest threat.

Category A

Anthrax (*Bacillus anthracis*)
Botulism (*Clostridium botulinum toxin*)
Plague *(Yersania pestis*)
Smallpox (*variola major*)
Tularemia (*Francisella tularensis*)
Viral hemprrhagic fevers (filoviruses [e.g. Ebola, Marburg] and arena viruses [e.g., Lassa, Mazchupol

Category B

Brucellosis (*Brucellae species*)
Epsilon toxin (*Clostridium perfringens*)
Food safety threats (e.g. *Salmonella species, Escherichia coli,* 0157:H7*, Shigella*)
Glanders (*Burkholderia mallei*)
Melioidosis (*Burkholderia pseudomallei*)
Psittakosis (*Chlamydia psittaki*)
Q fever (*coxiella burnetti*)
Ricin toxin from Ricinus communis (castor beans)
Staphylococcal enterotoxin B
Typhus fever (*Rickettsia prowazekii*)
Viral encephalitis (alphaviruses [e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis])
Water safety threats (e.g., *Vibrio cholerae, Cryptosporidium parvum*)

Source: http://www.medscape.com/viewarticle/462676

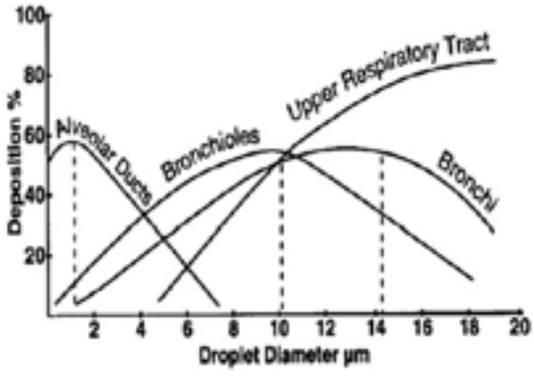
BW Attack or Naturally Occurring Disease?•

First evidence may be the sentinel ill person in the ED of hospital;
- Casualties originate from same area;
- Casualties worked outdoors;
- Higher morbidity & mortality than normally expected;
- High attack rates among those exposed;
- Disease outside normal geographic area (especially in the absence of a competent vector);
- Distinctive downwind pattern – plume;
- Simultaneous/serial epidemics;
- Unusual presentation of a disease (respiratory instead of cutaneous);
- Dead animals; multiple species; reverse spread;
- Direct evidence - discovery of a potential delivery device, suspicious activity, munitions

Distribution of Droplets into the Respiratory System

- Droplets as large as 20 microns can infect the upper respiratory tract; these relatively large particles are filtered by natural processes and are too large to reach systemic circulation;
- Access to the circulatory system requires particles ranging from 0.5-5 microns in diameter;
- Aerosol delivery systems generate invisible clouds with particles/droplets between 0.5 -10 microns that can remain suspended for long periods;
- Smaller sized particles are not efficiently retained by the human respiratory tract and are relatively unstable under environmental conditions.

Characteristics of CWAs:



In order to kill 50% of personnel in 1 km2 these are the quantities needed:

- **Phosgene 21,000 Kg**
- **Mustard gas 4,000 Kg**
- **Tabun 2,000 Kg**
- **Sarin 500 Kg**
- **Anthrax 5 g**

Toxic chemicals (CWC)

According to Chemical Weapons Convention "toxic chemicals" are defined separately as "all chemicals which through their chemical action on life processes can cause death, temporary

incapacitation or permanent harm to humans or animals" (Article II, paragraph 2);
Since the definition is limited to chemicals that cause harm to humans or animals, herbicides are excluded

Bio-terrorists

Five people infected with smallpox (officially [WHO] eradicated in 1979) can cause global havoc just in two weeks (2013 US-French-Italian study published in Nature).
Source: http://www.nature.com/srep/2013/130717/srep00810/fig_tab/srep00810_F3.html

BW Agents Differ from CW Agents

Chemical Agents:

- Man-made
- Many are volatile
- Do not replicate
- Many are dermally active
- No use other than as weapons
- Odor or taste when contaminated

Biological Agents:

- Natural
- Non-volatile
- Infectious agents replicate
- Not dermally active
- Legitimate medical use
- Odorless and tasteless

Are BWAs the Ultimate Weapon? – They might be:

- easy to procure;
- inexpensive to produce;
- can disseminate at great distance;
- agent's clouds are invisible;
- detection is quite difficult;
- first sign is common illness;
- overwhelms medical capabilities;
- simple threat creates panic;
- perpetrators escape before effects

Bio-terrorism potential of Ebola virus

Due to the ongoing Ebola outbreak in West Africa and the vast air/sea transportation of passengers and illegal immigrants there is a big debate of the bio-terrorism potential of this deadly virus (with mortality close to 70%).

- Biological weapons, unlike conventional munitions, have extensive reach capabilities.
- Bioweapons are not limited by the blast radius of a shell; rather, they can replicate in an infected host and spread from one person to another.
- Ideal bioweapons are aerosolizable in order to infect mass numbers of people quickly.
- The flu virus is approximately 100 nanometers in size, so the laboratory must have the necessary extraction equipment and personnel trained to complete the skilled techniques, all within the required biosafety level so that the technicians would not become infected themselves.
- The training and time required to extract a virus from blood correctly is significant.
- Samples cannot be extracted from an infected host and frozen for later use (anthrax spores)

Exposure dose (Sv)	Zone 1 (320 persons)*	Zone 2 (480 persons)	Zone 3 (480 persons)
Skin	0.36	0.08	0.02
Lung	5.8	1.4	0.42
Whole body (effective)	0.72	0.16	0.04

Ebola as an unconventional bioweapon is a concern:

- Recent stabbing of a federal air marshal at

Lagos airport in Nigeria with a syringe highlights a potential means for terrorist organizations to spread the virus.

- Another plausible means for a terrorist group to spread Ebola would be to infect themselves and then attempt to spread the virus to others by spending time in confined public spaces, such as in an airplane or bus ("suicide sneezers" or "suicide bio-terrorists").

Terrorist groups lack the technology, the safety equipment, and the expertise to make the virus into hearty, contagious bio-weapons like Anthrax or Smallpox. But the hidden content in a laptop discovered (August 20140 in Syria reveals that jihadists are highly interested in biological (and chemical) weapons and given the non-human behavior of IS expressed so far in the battlefields of Syria and Iraq, the probability of using BWAs against Western targets is getting bigger and more realistic.

3. Radiological dispersal devices (RDDs)

What is a dirty bomb?

Just a simple combination of a sealed pipe containing radioactive powder with conventional or high explosives like C4 or RDX. The explosion might kill a few people but the radio-contaminated plume will isolate big areas turning them to "ghost" grounds. Until today no such incident has been recorded. But there are some cases proving that such a possibility does exist:

- November 1995 - Moscow, Russia
  A Chechen terrorist group announces through a television station its ability to construct a dirty bomb. In order to prove this they give directions on how to find the IND buried in Ismailovsky Park in Moscow. A container with caesium was recovered…
- December 1998 - Argum, Chechnya
  Chechen Security Service announced that a container with radioactive material attached to a mine was hidden near a railway line 10 miles from capital Grozny.
  This is the area were terrorists belonging to the Emirate of Caucasus are operating.
- November 2002 - Moscow, Russia
  Head of the Russia's nuclear regulatory agency revealed that small quantities of weapons and reactor-grade

nuclear materials are missing for the nuclear facilities of the country. These few grams missing can be used to construct a dirty bomb…

• January 2003 – Herat, Afghanistan

Diagrams and computer files uncovered in the Province Heart by British intelligence agents pinpointed to al Qaeda and a small dirty bomb. Perhaps the isotope derived from medical devices available unguarded at that time in Kabul; the device has not been found…

Scenarios

^{60}Co source in a wagon of the Metro

After 18 hours more than 6500 people can be overexposed

Detonation of a ^{90}Sr source in the Metro platform

* Depending on the distance from the source

Source: http://www.prolepsis.gr/new/PRImages/NewsFiles/69_B.%20Introduction%20To%20Medical%20Radiology%20Sources.pdf (Galatas I. EU ETHREAT project)

Floating dirty bomb?

MV Iran Deyanat is an Iranian ship (owned and operated by the Islamic Republic of Iran Shipping Lines with a crew of 29 out of which 14 were Iranians including an enginner) that was hijacked in the Gulf of Aden by 40 pirates with Kalashnikovs and RPGs on August 21, 2008.

The ship had declared as cargo minerals and industrial products such as iron ore but Somali negotiators are alleged to have said that the true cargo included arms and chemical weapons.

The *Deyanat* had departed from China with the purported intent of selling its cargo in Germany but Somali officials say that the ship was truly headed to Eritrea;

After the hijackers took control of the ship, they used the *Deyanat* to tow their boats along. They shuttled between Reassban, Reassaaf, and other locations (purportedly to evade rival pirate groups) before meeting their boss, "Abdul Hakeem," and finally mooring off the coast of Eyl in Somalia—which is allegedly the base of a crime syndicate;

The number of pirates guarding the ship included 50 on shore and 50 on board.

Iranian news channel *Press TV* said that the United States, believing that the ship may contain uranium, offered $7 million to board and search the ship. According to Lloyd's List, the IRISL ultimately paid $2.5 million to free the ship.

Though the ship carried industrial contents such as iron ore, other potentially illegal cargo has been surmised by the blog *Long War Journal (LWJ)*. According to LWJ some of the pirates who boarded the ship suffered a strange illness, which includes loss of hair and skin burns, and some pirates having died.

Experts have said that the accounts of the illness sound more like radiation poisoning than chemical poisoning. In all, 16 pirates died from the ship's contents.

Surviving Somali pirates said that the containers that had been broken open were filled with a "powdery fine sandy soil".

The *MV Iran Deyanat* arrived at Rotterdam on 11 November 2008. A "multi-disciplinary team comprising inspectors from the port authority, customs and harbor police boarded and searched the ship" and found no hazardous substances on board. The paperwork was in order and the ship was unloaded.

Lloyd's List reported that the ship's charterer—German-based Hinrichs—denied any evidence of pirates falling ill during the hijacking.

The hypothetical part of the incident: *MV Iran Deyanat* was an enormous floating dirty bomb, intended to detonate after exiting the Suez Canal at the eastern end of the Mediterranean and in proximity to the coastal cities of Israel. The entire cargo of radioactive sand, obtained by Iran from China (the latter buys desperately needed oil from the former) and sealed in containers which, when the charges on the ship are set off after the crew took to the boats, will be blasted high into the air where prevailing winds will push the highly dangerous and radioactive cloud ashore.

Boarding Teams

Although Boarding Teams usually perform vessel inspections in high seas following reliable intelligence there is a chance to face chemical or radiological threats hidden inside the containers or other areas of the ship. Since transportation of these illegal substances is accompanied by a high level of stress of those who are aware of the real cargo and its potential, they might release or detonate them against BTs same way as suicide bombers act. There is also the possibility of accidental exposure to hazardous materials legally transported or to crew members experiencing symptomatology of a highly contagious disease. For these reasons it is wise for BTs to carry some specialized equipment that will help them survive the initial exposure and evacuate in a safe mode.

CBRN equipment for BTs

Mother warship should be equipped with the necessary means and equipment to deal with casualties following exposure to CBRN agents described within the International Maritime Dangerous Goods Code (IMDG Code) that classifies them into 9 classes:

Class 1 Explosives
Class 2 Gases
Class 3 Flammable liquids
Class 4 Flammable solids
Class 5 Oxidizing substances and organic peroxides
Class 6 Toxic and infectious substances
Class 7 Radioactive material
Class 8 Corrosive substances
Class 9 Miscellaneous dangerous substances and articles

On board there should availability for thorough decontamination, provision of antidotes, supportive treatment, negative pressure isolation unit (fixed and/or mobile), contaminated waste storage facility (for forensic evidence collection). In certain cases, MedEvac might be needed

On board suspicious vessel

BTs usually carry with them a significant load of equipment and any additional equipment might have affect on their ability to move, climb, take cover or run in a hostile or potentially lethal environment. The proposed "CBRN kit" balances weight with survival ability and it contains the following:

- A pair of CBRN butyl rubber gloves (~0.20 kg/0.44 lbs per pair); alternatively: surgical gloves can also be used (two pairs);
- A set of three (3) auto-injected nerve agents' antidotes (atropine + pralidoxime – i.e. DuoDote Auto-Injector);
- An escape hood.

This lightweight combination can be used as following:

- All BT members immediately wear their escape hoods under their helmets and their rubber gloves;
- Fast removal of affected BT member to an upwind location;
- Apply colleague's own escape hood to him;
- Use one of his auto-injectors if he is experiencing symptoms (blurred vision, coughing, difficulty in breathing, excessive salivation and/or perspiration, confusion);
- Prepare emergency evacuation from hostile vessel to mother warship;
- Inject a second antidote if during evacuation symptoms become more severe.

Both "CBRN kit" and procedures described above were tested (photos below), during an operational simulation drill conducted during the "WMD6000" course held at NMIOTC. The overall conclusion was that this specialized equipment can be proven life saving in case of intentional or accidental exposure of BTs to CBRN agents while on board a suspicious vessel.

Escape hood used was the "Training Hood NHI5" (kindly provided by Avon Protection Systems Inc., UK), with the following specifications:

- NIOSH certified (TC-14G-0302);
- Don in less than 20 seconds;
- Respiratory, vision and facial CBRN protection for a minimum 15 minutes;
- 5 year shelf life; no maintenance; no batteries;
- One size fits all (including those with beards – a common feature of BT personnel making ordinary gas masks impossible to be used in emergency situations); 13" to 18" neck size;

- High visibility; anti-fog coating on visor;
- Packaged size: 150 x 100 x 90 mm (3.4"x4.0"x6.0");
- Weight: 625g (23 oz);
- Filter performance: Particulate penetration P100 (<0.03%);
- Re-breathing CO2 (human test): < 2.0%;
- Barrier performance (tested at ECDC): GB (>30min); HD (>30min);
- SmartMan performance (tested at ECBC): GB (>30min); HD (>30min);
- Gas & vapor protection:

	25% RH	80% RH
Ammonia	> 45 minutes	> 30 minutes
Cyanogen chloride	> 30 minutes	> 35 minutes
Cyclohexane	> 45 minutes	> 35 minutes
Formaldehyde	> 45 minutes	> 45 minutes
Hydrogen cyanide	> 45 minutes	> 45 minutes
Hydrogen sulfide	> 45 minutes	> 45 minutes
Nitrogen dioxide	> 45 minutes	> 45 minutes
Phosgene	> 45 minutes	> 45 mnutes
Phosphine	> 45 minutes	> 45 minutes
Sulfer dioxide	> 45 minutes	> 45 minutes

In conclusion

BTs are confronting a spectrum of threats while on board of suspicious vessels ranging from aggressive behavior to exposure to hazardous materials. Despite the fact that the mother warship is very close to the area of operations, those on board are alone in a potentially hostile or even lethal environment. In case of intended or accidental exposure they must survive first in order to be able to successfully evacuate the ship even under fire. In that respect and in order to cover all unfortunate possibilities, a light weight "CBRN kit" should be added to standard equipment carried by members of BTs. Because the unexpected always happens!

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Brigadier General (ret'd) Ioannis Galatas, MD (Army MC), is a retired military physician with 35 years military industry experience. His is specialized in Allergy and Clinical Immunology (Board certified) and for more than two decades he served as Head of the Department of Allergy & Clinical Immunology at Army General Hospital of Athens, Greece.

Since 2001 he has been involved in CBRNE operations as planner and instructor trained (including live agent training) in a number of countries abroad. His main passion is "Hospitals' CBRN Defense & Preparedness in Megapolis Environment" and "CBRNE Design/Hardening of Critical Infrastructure" [airports, shopping malls, hotels etc]. During the 2004 Athens' Olympic Games, he served as Commandant of the Olympic Hospital CBRN Response Unit – the only hospital-based specialized unit (70 people) deployed for the Games.

He holds a Master degree (with merits) on "International Terrorism, Organized Crime and Global Security" from Coventry University, UK (2010) and he is a PhD candidate since May 2012 (Athens Medical School/Dept of Forensics & Toxicology).

His last appointment (as of August 2010), was as Head of the Department of Asymmetric Threats at the Intelligence Analysis Branch, Joint Military Intelligence Service of the Hellenic National Defense General Staff in Athens, Greece.Currently he is the Editor-in-Chief of the monthly on-line "CBRNE Terrorism Newsletter" initiated in November 2005 and delivered freely to CBRNE-CT First Responders of more than 80 countries around the globe. He is also a Research Associate at "Center for Security Studies" (KEMEA), Athens, Greece.**Web**: www.cbrne-terrorism-newsletter.com **Contact e-mail**: igalatas@yahoo.com

MAJ Antonis Schinas, MD (Army MC), graduated from the Aristotle University of Thessaloniki Medical School and the Military School of Combat Support Officers in 2002. Since then he served as Medical Officer in the 88th Medical Battalion, NATO-KFOR, and the 2nd Helicopter Battalion. As of 2012 he is a Nephrology specialist and served as Commander of the Joint CBRN Defense Company Medical Platoon (2012-2014). Currently he serves as Nephrology Consultant at the Department of Nephrology, 401 Military General Hospital of Athens and as Scientific Associate at the Preventive Cardiology Laboratory, "Attikon" University Hospital, Athens.

LT Leonidas Palaiodimos, MD (Air Force MC), entered the Aristotle University of Thessaloniki School of Medicine and the Greek Military Academy of Combat Support Officers in 2003. He graduated with "Summa cum Laude" in 2009 and was enrolled in Hellenic Air Force (HAF). Thereafter, he served as a Primary Care Physician and Search and Rescue Medical Officer at 251 HAF General Hospital in Athens, 131 Combat Group and 112 Combat Wing. At the same time, he was studying Human Neoplasms as a postgraduate student (MSc) at University of Athens School of Medicine and a scholar of Greek State Scholarships Foundation. He graduated from his MSc studies with "Summa Cum Laude" in 2014.

Dr. Palaiodimos has been a Research Associate of Preventive Cardiology Laboratory of Attikon University Hospital and also works for Greek Central Prison of Koridalos as Primary and Urgent Care Physician.

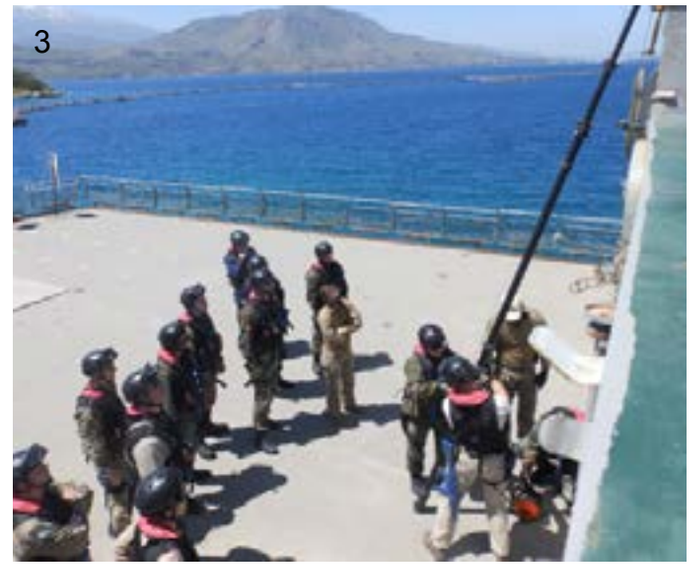
Currently he is posted at Greek Joint CBRN Company as personnel Primary Care Physician, CBRN Medical Officer and he is an active member of the CBRN Platoon of Greek Delta Force. He is also a CBRN instructor and lecturer in national/international conferences and seminars. His short-term career goal is to start his residency training in Internal Medicine in the United States.

1: Tactical Sweep training of FRA Navy Rifle-men Fusilier onboard training platform ARIS

2: Trainees of NMIOTC's first NATO Maritie Operations Law Seminar

3: Dry RHIB insertion training onboard HS ARIS during NMIOTC's Resident Course 2000-3000

4: Small arms training onboard HS ARIS during
NMIOTC's Resident Course 2000-3000



The Greek Government's interventions before the European Court of Human Rights in *Ali Samatar et al. v. France* and in *Hassan et al. v. France.*

by Mil. Judge Gr. D´ Christos Tsiachris, GRC (JC)

1) Background.

In 2008 piracy off the coast of Somalia reached its peak and, as a response to this phenomenon, the UN Security Council issued Resolution 1816[1] . At that time, two successful piracy attacks were launched against vessels flying the French flag. The French Government used its armed forces and judiciary, in compliance with UNSC Res. 1816, in order to protect French nationals and assets and safeguard its national interests and the maritime navigation in general. The trials of Somali pirates by French courts, held in 2008, were followed by two judgments of the European Court of Human Rights (ECtHR), issued in 2014.

The *Ponant* incident:

On April 4, 2008 the cruise ship *Ponant*, flying the French flag and having onboard 30 crew members, among them 20 French, was attacked by a dozen of pirates between the coasts of Yemen and Somalia. The pirates took control of the ship and sailed it towards the Somali port of Garacad. On April 11 the pirates received ransom and released the French hostages. Later in the same day the pirates were arrested by the anti-terrorist unit of the French Gendarmerie (GIGN) and detained in the territory of Somalia until April 15, by permission of the Somali Transitional Federal Government. On April 15 the suspects were put in a French military airplane and transferred to France. The plane landed in France on April 16 and the arrested were taken into police custody for 48 hours. On April 18 they were presented before an investigating judge.

The *Carré d' As* incident:

On September 2, 2008 the yacht *Carré d' As*, flying the French flag and having onboard a French couple, was hijacked by three pirates off the coast of Somalia. The yacht was sailed towards the coast of Somalia and ten more pirates got onboard. On September 5 a French frigate arrived on the scene and planned an operation to free the hostages. On September 16 the operation was successfully executed by French commandos, who arrested six suspects. The suspects were transferred and detained into the French frigate until September 22. On September 22 the suspects were transferred to the

[1] Mavropoulou Elisabeth & Hammond David (2015), "The European Court of Human Rights finds detention of apprehended pirates by France to be a violation of their right to liberty and security because of a delay in judicial process", *Human Rights at Sea Legal Review & Commentary*, 01.01.2015, p. 6.

French military base in Djibuti and on September 23 they were put in a French military plane which landed in France on the same day. The suspects were taken into police custody until September 25, when they were presented before an investigating judge.

2) The French courts' judgments.

In both incidents the suspects were prosecuted by the French judicial authorities and, finally, found guilty of piracy. Nevertheless, some of the convicted pirates complained that their detention by the French military authorities was unlawful (violation of Art. 5 § 1 of the ECHR[2]), that their detention by the French police, upon arrival in France, violated their right to be brought promptly before a judge (violation of Art. 5 § 3 of the ECHR[3]) and that they did not have access to a court to challenge the lawfulness of their arrest or their detention until they were taken into police custody in France (violation of Art. 5 § 4 of the ECHR[4])[5]. Following the rejection of the complaints by the French courts, both cases were brought before the European Court of Human Rights[6] by nine of the convicted pirates.

3) The ECtHR judgments.

On December 4, 2015 the ECtHR issued its judgments in *Ali Samatar et al. v. France*, regarding the *Ponant* incident, and in *Hassan et al. v. France*, regarding the *Carré d' As* incident, ruling that:

- France did not violate Art. 5 § 1 of the ECHR (right to liberty and security) when French authorities arrested the Somali applicants on Somalian territory because "the applicants had been able to foresee,

[2] Art. 5 § 1 of the ECHR: "Everyone has the right to liberty and security of person. No one shall be deprived of his liberty save in the following cases and in accordance with a procedure prescribed by law:
(a) the lawful detention of a person after conviction by a competent court;
(b) the lawful arrest or detention of a person for non compliance with the lawful order of a court or in order to secure the fulfillment of any obligation prescribed by law;
(c) the lawful arrest or detention of a person effected for the purpose of bringing him before the competent legal authority on reasonable suspicion of having committed an offence or when it is reasonably considered necessary to prevent his committing an offence or fleeing after having done so;
(d) the detention of a minor by lawful order for the purpose of educational supervision or his lawful detention for the purpose of bringing him before the competent legal authority;
(e) the lawful detention of persons for the prevention of the spreading of infectious diseases, of persons of unsound mind, alcoholics or drug addicts or vagrants;
(f) the lawful arrest or detention of a person to prevent his effecting an unauthorised entry into the country or of a person against whom action is being taken with a view to deportation or extradition".

[3] Art. 5 § 3 of the ECHR: "Everyone arrested or detained in accordance with the provisions of paragraph 1 (c) of this article shall be brought promptly before a judge or other officer authorized by law to exercise judicial power and shall be entitled to trial within a reasonable time or to release pending trial. Release may be conditioned by guarantees to appear for trial".

[4] Art. 5 § 1 ECHR: "Everyone who is deprived of his liberty by arrest or detention shall be entitled to take proceedings by which the lawfulness of his detention shall be decided speedily by a court and his release ordered if the detention is not lawful".

[5] ECtHR Press Release 361 (2014), 04.12.2014, "Suspects of piracy against French vessels, apprehended in Somalia by the French authorities, should have been brought before a legal authority as soon as they arrived in France".

[6] Applications nos. 17110/10 and 17301/10, regarding the *Ponant* incident, and Applications nos. 46695/10 and 54588/10, regarding the *Carré d' As* incident.

to a reasonable degree in the circumstances of the case, that by hijacking [the French vessels] and taking [French citizens] hostage they might be arrested and detained by the French forces for the purposes of being brought before the French courts", but violated Art 5 § 1 of the ECHR because the French legal system in force at the relevant time did not provide sufficient protection against arbitrary interference with the right to liberty.

- France violated Art. 5 § 3 of the ECHR (right to be brought promptly before a judge) when, upon their arrest in Somalia for piracy and transfer to France, the applicants were transferred to police custody instead of being taken directly to an investigating judge[7].

4) The Greek Government's interventions.

In both cases Greece intervened as a third party before the ECtHR in support of France and submitted written comments, according to Art. 36 § 2 of the ECHR. Namely, the Greek Government expressed its official opinion on the alleged violations of Art. 5 §§ 1 and 3 of the ECHR by the French authorities, referring to facts and legal issues. The main points of the Greek intervention in both cases are the following:

Art. 5 § 1 of the ECHR.

Regarding the right to liberty and security, discussed in *Hassan et al. v. France*, the Greek Government maintained that:

✓ "The detention by the authorities of the States cooperating In the fight against rampant piracy off the coast of Somalia, of persons arrested in the territorial waters of that country because of commission at the sea of acts of this type, in order to bring them to judicial authorities, is based on a sufficient legal basis",

✓ "Art. 105 of the Montego Bay Convention gives States the authority to arrest the perpetrators of acts of piracy on the high seas and bring them before their own courts, because piracy is a crime subject to universal jurisdiction", "Art. 92 of the [Montego Bay] Convention provides for the exclusive jurisdiction of the flag State on the high seas. In this case, since acts of piracy have been committed on the high seas on a ship flying the French flag, the criminal competence of France is deduced. Thus, […] the French authorities were competent to repress the acts of piracy in question and arrest the perpetrators even if the United Nations Security Council had not adopted Resolution 1876",

✓ "§ 7 of this Resolution [: UNSC Res. 1816] has the effect of authorizing cooperating States to intervene in this way in the territorial waters of Somalia and that § 11 requires concerned States to "cooperate in order to determine which [State] will be competent and to take the required measures to investigate and prosecute the perpetrators […], in accordance with the applicable international law"", "the Resolution (: UNSC Res. 1816) extends the scope of application of international law provisions on the fight against piracy on the high seas of this type committed in the Somali territorial waters",

✓ "Resolution 1816 provides a clear legal basis for the detention of people arrested during an operation against acts of piracy or armed robbery committed in the Somali territorial waters, since it allows cooperating States to "punish" those acts", "such a "repression" would be deprived of all effectiveness if it was limited to the release of ships and their crew or the seizure of pirate ships, and did not include the possibility to arrest and detain the perpetrators of those acts and transfer them before a judge in order to hold them accountable", "this conclusion is supported by the reference contained in § 7 of the Resolution to use "all necessary means to repress acts of piracy", since Art. 105 of the Montego

[7] Barakatt Marina (2014), "European Court of Human Rights Rules on Arrest and Prosecution of Somali Pirates in France", retrieved at: http://www.asil.org/blogs/european-court-human-rights-rules-arrest-and-prosecution-somali-pirates-france-december-4-2014.

[8] ECtHR, *Hassan et al. v. France*, Judgment, 04.12.2014, pp. 23-24 (translation by the author).

Bay Convention mentions, among measures that can be taken in the fight against piracy, the arrest of suspects and the exercise of criminal justice by the courts of the State which has intervened, which necessarily includes their detention and transfer" and "the same end [is mentioned] in § 11 of the Resolution"[8] .

Art. 5 § 3 of the ECHR.

Regarding the right to be brought promptly before a judge, discussed both in *Ali Samatar et al. v. France* and *Hassan et al. v. France*, the Greek Government "focused on the particular circumstances of the case and the fact that because of the distance and the measures to be taken regarding the implementation of international obligations and agreements, it was substantially impossible to present the applicants before the competent judicial authority immediately after their arrest" and "Referring in particular to the decision in *Rigopoulos*[9] […], [the Greek Government] deduced that the criteria posed by the case law of the Court regarding Art. 5 § 3 of the Convention are fulfilled"[10].

5) Conclusion.

By reading between the lines of the Greek Government's interventions in Ali Samatar et al. v. France and Hassan et al. v. France, one can easily recognize a mainstream interpretation of international law, as far as piracy is concerned. The Greek Government acknowledges the universal jurisdiction of States over piracy on the high seas and regards that the Montego Bay Convention gives the authority to repress piracy to all States. Moreover, the repression of piracy is achieved through the arrest, detention, transfer and prosecution of pirates, in accordance with international law.

Greece, as a European naval power, both in the military and in the merchant maritime domain, participates in EUNAVFOR Atalanta[11] for many years, mainly by providing naval units (frigates). Despite the fact that the Greek Government has clearly stated its will to repress piracy on the high seas, the Greek judicial authorities haven't yet prosecuted any suspect pirates.

In my opinion, the main reason for this shortcoming is the lack of adequate training to the Hellenic Navy personnel that will allow them to act as investigating officers and proceed to the arrest, detention and transfer of pirates. Hence, an interesting challenge to the Hellenic Navy training authorities would be to clarify the misunderstandings over the authority of military personnel to arrest and detain suspect pirates on the high seas, to enhance the training provided especially to personnel and units which participate in anti-piracy operations, such as EUNAVFOR Atalanta, and to make it consistent with the views of the Greek Government declared officially and openly to the international community in its interventions before the ECtHR. In this light, NMIOTC can play a key role in the training of national and international personnel.

Military Judge Grade D´ Christos Tsiachris GRC (JC) has a professional background combining legal, educational and military experience.

He holds a degree in law (2000) and a master of laws in international law (2005) from the Democritus University of Thrace. He was been a research fellow at the University of Lucerne/Center for Comparative Constitutional Law & Religion (2013). He is an adult educator certified by the Hellenic National Organization for the Certification of Qualifications and Vocational Guidance and a security and crisis management instructor certified by the Hellenic Center for Security Studies.

From 2000 to 2002 he served his obligatory military duty as a Reserve Officer in the Hellenic Army Special Forces. From 2003 to 2009 he worked as an attorney-at-law. In 2009 he was appointed as a military judge in the Judicial Corps of the Hellenic Armed Forces. He has served as a deputy prosecutor in the Army Court of Athens, as a judge in the Army Court of Xanthi and, currently, he serves as a judge in the Joint Military Court of Chania. He has attended various courses at the Hellenic School of Army Engineers, at the Hellenic Army Unconventional Warfare Training Center, at the Hellenic Army School of Parachutists, at the Hellenic Multinational Peace Support Operations Training Center and at the NATO Maritime Interdiction Operational Training Center.He has lectured "Constitutional & International Law" at the Hellenic Army Non-Commissioned Officers' Academy and "Procedural Criminal Law" at the Hellenic Police Academy/Department of Police Cadets. He has also been a deputy instructor of "Public International Law & International Humanitarian Law" at the Hellenic Police Academy/Department of Cadet Officers and a guest instructor of various legal modules at the Hellenic Multinational Peace Support Operations Training Center and at the NATO Maritime Interdiction Operational Training Center.

He is the author of two books and several articles on international law [contact e-mail: c.n.tsiachris@army.gr]

[9] ECtHR, *Rigopoulos v. Spain*, Judgment, 12.01.1999.

[10] ECtHR, *Ali Samatar et al. v. France*, Judgment, 04.12.2014, p. 14 (translation by the author) and ECtHR, *Hassan et al. v. France*, Judgment, 04.12.2014, p. 31 (translation by the author).

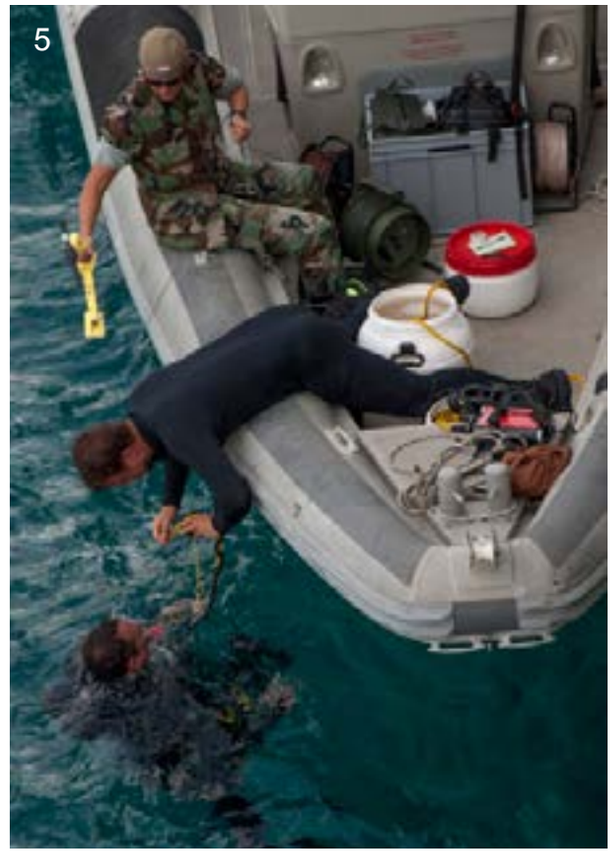
For information on the participation of the Hellenic Navy in the EUNAVFOR Atalanta read: http://www.geetha.mil.gr/el/pacif-activities-el/cat-apostoles-epixeirisis-el/%CE%B5%CF%80 %CE%B9%CF%87%CE%B5%CE%AF%CF%81%CE%B7%CF%83%CE%B7-%CE%B5%CE%B5-atalanta.html.

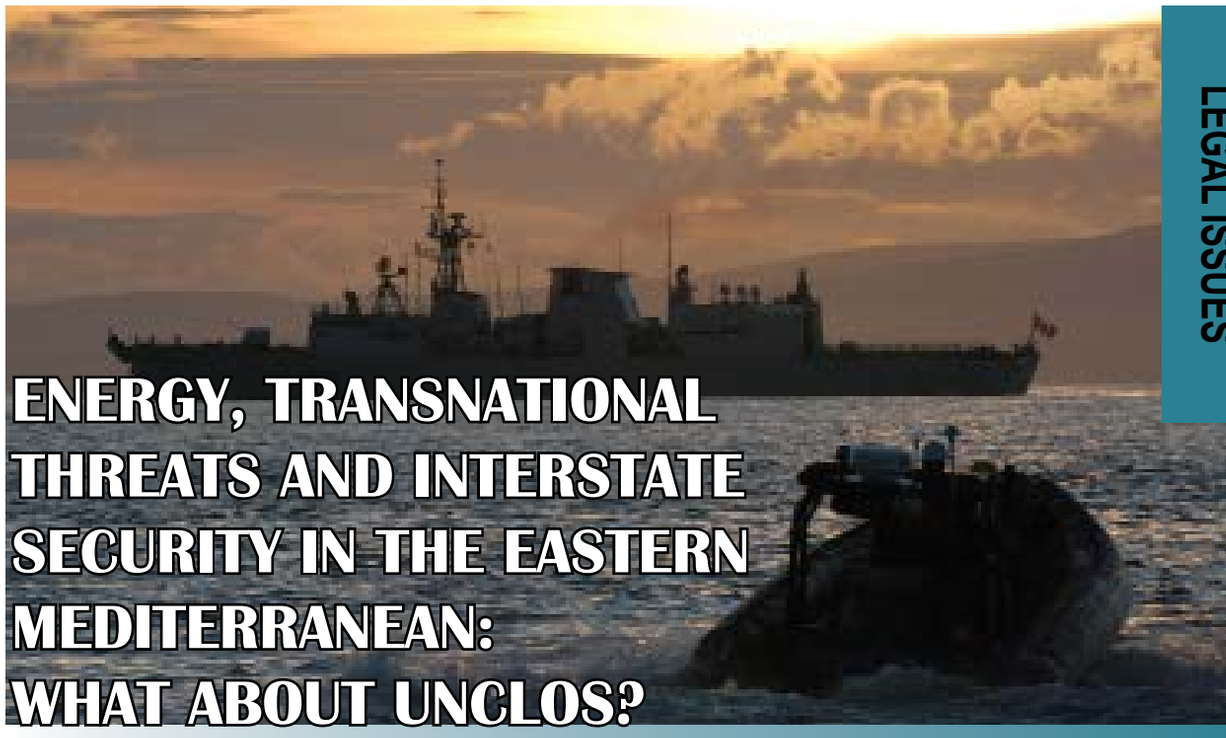
1: Crew control training during the in port phase of Noble Dina 2015

2: SNAPIR team onboard training platform ARIS, during in port training phase of Noble Dina 2015

3: Container inspection training during NMIOTC's Resident Course 1000

4, 5: Netherlands' MAR EOD during C-IED training





ENERGY, TRANSNATIONAL THREATS AND INTERSTATE SECURITY IN THE EASTERN MEDITERRANEAN: WHAT ABOUT UNCLOS?

by Aris-Georges MARGHELIS, PhDC
Center for Maritime and Ocean Law,
University of Nantes, France

The 6th NMIOTC Conference held on 2-4 June 2015 was dedicated to energy security and particular emphasis was given to the Eastern Mediterranean as both an area able to mitigate Europe's resource scarcity and reliance on Russia's hydrocarbons and an area exposed to interstate and transnational security challenges. But a fundamental aspect of the whole regional security equation has seemingly been disregarded, or, at least, not sufficiently addressed: the Eastern Mediterranean is the littoral region of the world with the most non-parties to United Nations Convention on the Law of the Sea (UNCLOS) brought together in such a small area. Today, there are 166 parties to UNCLOS and only 14 littoral countries are not party to it. Of these 14 countries, six have signed but not ratified UNCLOS and eight have neither signed nor ratified the Convention. Of these eight countries, three are located in the Eastern Mediterranean and play a key-role in regional security: Turkey, Israel and Syria. To these three countries, we shall add the United States, which is also a central security actor in the area although it represents a specific case since the non-adhesion to UNCLOS is more due to internal political factors than to any substantial security and national interest concern.

UNCLOS' essence

Negotiated between 1973 and 1982, UNCLOS is commonly accepted as one of the greatest achievement of the United Nations since its creation and as the universal legal text governing the oceans. That is mainly due to three factors: the Convention's negotiation mode; the "*package deal*" approach; and the harmony between UNCLOS and world politics.

UNCLOS' negotiation mode

The third conference on the law of the sea was the first UN conference ever to adopt an internal rule *formally* establishing the consensus as the decision-making process, through the so-called "*gentlemen's agreement*". This consensus was the key for the success and universality of UNCLOS: it was demonstrating both the fact that the negotiating parties were aware of the need to establish common rules for the oceans, and the fact that they were accepting those new rules. Indeed, contrarily to the previous attempts to reach a global agreement on a set of regulations governing the oceans, during the third UN conference on the law of the sea, the participating States understood the importance of consensus and accepted the evident reality: a narrowly defined national interest at sea could not be defended and imposed; to the contrary, there was no other way to ensure its vital interests at sea than by harmonizing everyone's interests. The acceptance of this inescapable truth greatly determined the success of UNCLOS and would not have been possible if the negotiations had proceeded through a majority vote approach that would have ineluctably compromised the relevance and applicability of UNCLOS.

*The "package deal" approach*The *"package deal"* approach is one of the genius elements of UNCLOS and a vital

ingredient of its success. Indeed, contrarily to the Geneva Conventions of 1958 that were dealing separately with each topic[1] and in which countries could choose their obligations, UNCLOS incorporated all the regulations related to the sea in a single text on which it was, moreover, impossible to express any kind of reservation. In other words, a country, by signing and ratifying UNCLOS, would inevitably be bound by each and every provision of the Convention. This strategy aimed to ensure UNCLOS' pertinence since the 1958 Conventions suffered from a substantial lack of efficiency due to the possibility of optional adherence to one or to the other text.

UNCLOS as a product and a driving force of world politics

It is worth to say that UNCLOS both proceed from international relations and shapes them. This is the very essence of international law, allowing it to remain pertinent and applicable. UNCLOS is probably one of the cases in which what could be called "collusion" between law and world politics is the most evident and successful. To take the words of the prominent professors of international law Churchill and Lowe, "*Laws, whether international or municipal, do not grow up in isolation, but mould and are moulded by the politics, economics and geography of the 'real world' to which they apply. This is particularly apparent in relation to the law of the sea*[2]". Indeed, the 1958 Conventions were concluded in an international environment that was not favorable for at least two reasons: First, the decolonization process was still ongoing, which means that in 1973, there were several new States that did not exist in 1958 and, therefore, had not participated to the international law of the sea development and were seeking to. Indeed, in 1958, there were only 82 UN members and by 1973, they were 135, a 65% increase. In order these new States to become real actors of the international community, they needed to participate to the international law-making process.

Second, in 1958, WWII was still too recent and many countries formerly under the axis occupation were not willing to collaborate with their former occupants towards whom they were still feeling suspicion. This was particularly true for some Asian States towards Japan. Moreover, the newly established bipolar international order had not yet reached equilibrium since both the U.S. and the U.S.S.R. were still in a process of building their world power resources and were not ready to cooperate for global stability, something that became obvious during the negotiations. As the President of the American delegation, Arthur Dean, summarized after the 1958 conference, "*In nine weeks it is difficult to settle the accumulated problems of a generation*[3]". In short, the conditions in 1958 were not the best in order to reach such an important agreement. Subsequently, the produced text was not reflecting the 'real world', and thus, it could not shape it neither. At the opposite, in 1973, the developing countries had already formed the Group of 77[4] in order to better promote their interests at the UN, and both the U.S. and the U.S.S.R. had similar strategic interests at sea, that is to say the protection of the freedom of navigation and particularly of the unimpeded mobility of the naval forces as a vital component of their global power. Indeed, for the first time, the two superpowers took common initiatives and formed a same negotiating group in order to promote many of their positions. In that sense, UNCLOS constituted a product of the world politics, something that turned out to be a main reason of its success.

But UNCLOS was and still is also a driving force of the international relations. Indeed, facing the danger of an anarchical process of

[1] What is called the Geneva Conventions or UNCLOS I was consisting in four distinct conventions: one on the territorial sea and the contiguous zone; one on the high seas; one on fishing and conservation of living resources of the high seas; and one on the continental shelf.
[2] R. R. Churchill and A. V. Lowe, The Law of the Sea, Manchester University Press, 1988, p. 2.
[3] Arthur Dean, "The Geneva Conference on the Law of the Sea: What was Accomplished", The American Journal of International Law, Vol. 52, 1958, p. 628.
[4] The Group of 77 or G77 was established in 1964 by 77 developing States seeking to enhance their negotiation capacities at the UN and promote their common interests.

appropriation of entire maritime areas and their corresponding resources by the coastal States and particularly by those who had the technological ability to do so, as well as the danger of a new arms race between the two world powers in order to occupy the high seas and turn them into a new field of competition, UNCLOS managed to establish new rules and habits that would authorize but regulate the State expansion at sea. In a genius way creating obligations where it creates rights, the Convention allows the inevitable extension of State jurisdiction at sea while regulating it in many aspects in order to maintain balances and fair utilization of the maritime areas. This created an unprecedented global maritime order for all nations that turned UNCLOS into a globally accepted constitution of the oceans and a central component of durable peace at sea through which all States can enjoy their legal rights and must fulfill their corresponding duties. As such, UNCLOS is a key element in the world security and stability equation.

Why is UNCLOS important for the security in the Eastern Mediterranean?

Setting the scene

What is true for the rest of the world is also true for the Eastern Mediterranean. It is even truer. Indeed, the Eastern Mediterranean accumulates some unique characteristics that make it particularly vulnerable. It is the sea of the world suffering the most from extensive fishing compared to the capacity it offers. It is one of the busiest areas in terms of maritime traffic and one of the strategically most challenging seas since one enters and exits it through international straits and its soft underbelly, northern Africa, is subject to an unprecedented political and security instability. It is a small area shared by numerous coastal States who, moreover, are extremely heterogeneous (culturally, economically, politically, demographically) and often have historical and political relations characterized by high complexity and animosity. Having this scene set, it is worth to say that the recent vast hydrocarbons discoveries in the area do not necessarily help in pacifying the regional interstate rivalries.

Why is the rule of law vital?

One might say that every problem can and should be solved through negotiation and cooperation. That is, indeed, very true. But any negotiation and cooperation needs a framework to ensure a common language and a common basis for expressing views and potential claims. This is a sine qua non condition to every negotiation and cooperation attempt. And this framework cannot be other than international law and, in the case of the attempt. And this framework cannot be other than international law and, in the case of the maritime areas, the international law of the sea, that is to say UNCLOS. The numerous, various and intense problems of the area make a common legal background net absolutely necessary in order to reach regional interstate security and stability. As seen, UNCLOS has the formidable ability to both include and regulate legitimate national interests at sea. This is, indeed, its quintessence, and, therefore, the Convention constitutes the only legal, secure and efficient way to express and satisfy national maritime interests. The same principles and ideas that prevailed during the UNCLOS negotiations should today prevail in the Eastern Mediterranean: dialogue, mutual understanding, recognition and respect of the established law as the only possible channel of regional policy in order to secure peace and prosperity.Reflecting the consciousness of the complexity of maritime issues and the subsequent fact that disagreements and competing claims would inevitably arise among actors, UNCLOS has also developed a clever dispute settlement mechanism. Indeed, the parties can resort to three types of dispute settlement mechanisms: to the International Court of Justice

(ICJ), to the International Tribunal for the Law of the Sea (ITLOS), and to arbitration. Nevertheless, once the mechanism selected, the parties are bound by the following decision. Once more, UNCLOS, for each granted right (selection of the dispute settlement process), imposes an obligation (binding decision).

In other terms, UNCLOS offers a full range of possibilities for the States to defend and promote their national interests and claims at sea, and, in case of deadlock, to resort to an efficient dispute settlement mechanism. The only condition is, of course, the acceptance of the rule of law which constitutes the basis of the post-WWII United Nations-based global order. And the rule of law at sea supposes full adherence to UNCLOS. Therefore, not only it is in the non-parties' interest to adhere to UNCLOS in order for them to efficiently and lawfully defend and promote their interests at sea, but this objective should also be the spearhead of all great maritime

nations' policy. Indeed, the latter have a duty to exert the necessary influence on that issue, without discrimination towards any actor, if they want to remain consistent with their constantly expressed views on the importance of UNCLOS and of the rule of law at sea.Consequently, it seems irrelevant to talk about energy security and transnational threats in

the Eastern Mediterranean without ensuring first interstate security. Similarly, it is definitely irrelevant to talk about interstate security without an unconditional regional adherence to UNCLOS régime. In this respect, the first step is to decide of the common rules, and they have been already established since the State practice and the massive adhesion to UNCLOS makes the Convention irrefutably universal. The second step is to accept those rules in order to establish a common language between *all* stakeholders. The third step is to respect and enforce these rules in order to reach interstate security and stability. And the fourth step is, once all the previous steps taken, to fight united against non-state transnational threats. Unfortunately, the Eastern Mediterranean is far behind this goal and remains stuck at the second stage. This may be considered as the greatest current challenge of the area since it affects structurally the Eastern Mediterranean's resilience and ability to fight against the new threats endangering peace and prosperity in the area. Moreover, considering the importance this region could acquire for all Europe in terms of energy sufficiency, it is definitely time to settle this recurrent anomaly.

Conclusive remarks

There is definitely space for all lawful actors in the Eastern Mediterranean but exclusively through the rule of law and subsequent formal recognition of UNCLOS' primacy on any State activity and claim at sea. Consequently, each and every actor shall take responsibility and be able to satisfy its national aspirations through the legal and internationally recognized frame of the established pertinent law and not through parallel channels likely to feed illegality and invite conflict. This is the only possible way to ensure a real energy security for all and to efficiently fight non-state transnational threats in the Eastern Mediterranean. In 1996, just two years after the entry into force of UNCLOS, when there were still only about 100 countries that had ratified the Convention, the eminent professor of international law, Bernard Oxman, expressed his high concern that "*if the Convention is not globally ratified, perhaps the most ambitious effort at global lawmaking in history will, sooner or later, be deemed a failure, and, as such, a warning to those who would deign to repeat the mistake*[5]". Today, the danger of a global failure of UNCLOS seems to have been successfully addressed But with regard to the Eastern Mediterranean, one could say that if the Convention is not regionally ratified, the region will never enjoy the full benefits of what is perhaps the greatest success in lawmaking history, and, sooner or later, will confront the dangerous effects of the refusal of the rule of law, a warning to those who would deign to take that risk. Put another way, can we imagine a peaceful and prosper Eastern Mediterranean without rule of law among its State actors?

[5] Bernard H. Oxman, "The Rule of Law and the United Nations Convention on the Law of the Sea", European Journal of International Law (EJIL), Vol. 7, No 3, 1996, p. 361-362.

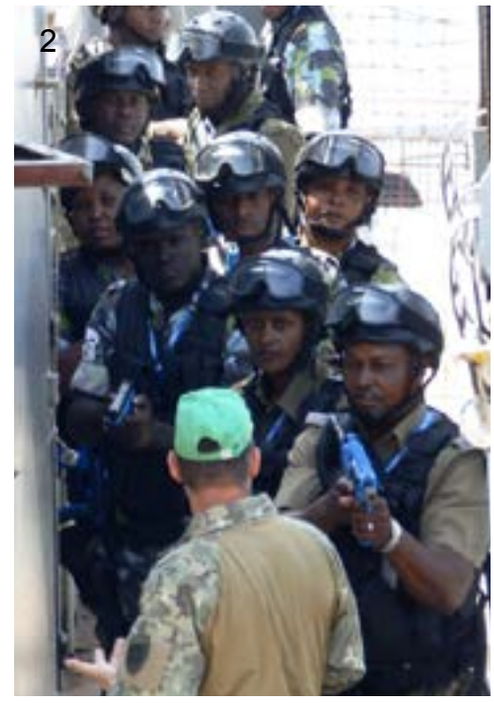
Aris-Georges Marghelis is a Greek political scientist. He holds a bachelor (maîtrise) of Political Science from the Paris 1 Panthéon-Sorbonne University, France, a master degree in International Relations from the Galatasaray University, Turkey, and a master degree in Security, Defence and Crisis management from the International and Strategic Relations Institute (IRIS), France. He is currently enrolled in a PhD program in Law of the Sea at the Center for Maritime and Ocean Law (CDMO) of the University of Nantes, France, and he writes on the strategic implications of the Law of the Sea.Contact: aris.marghelis@gmail.com

1: Small arms training for Hellenic UDT team during the in-port phase of Phoenix Express 2015

2: Croatian Boarding Team tactical sweep training during the in-port phase of Phoenix Express 2015

3: Command Team training in the simulator during the in-port phase of Phoenix Express 2015

4: Small skiff investigation training for the Boarding Team of FS Surcouf



1, 2, 3: 1st training Course of East Africa Standby Force

4: Visit the Chief of Staff of the Defence Forces of Ireland, General Connor O'Boyle IRL(A), escorted by the Chief of the Hellenic National Defence General Staff,
General Mikhail Kostarakos GRC(A)

5: NMIOTC's augementee from the Hellenic Police, during a Mobile Training Team session in
Jeddah, Saudi Arabia

Liberalism vs Realism

by Vasileios Stavropoulos

Realism advises us to be cautious in our dealings with others, and to be hesitant about placing our trust in others. Liberals, on the other hand, point to the many benefits we obtain from mutual trust, and advise us that realists over-emphasize the negative. Briefly summarize the logic behind each argument and then provide your own take on the issue.

The complexity of international relationships is attributed to differences between the states and the anarchic international system. The governance of countries worldwide is shared based on two political theories: realism and liberalism. Realism divides the world in two different fields. One in the state, which is progressive and in which society is evolving and the other one is the political actor as a member of the world, which is considered more static. This is the political field in which the power of realism is basically working. Realism considers that states are trapped in the game of survival and hunting for their interests, these interests will occasionally clash for various reasons and by that, in the absence of a sovereign government, conflict is a mean of interaction between those states. Therefore, according to the realistic aspect, the power is a strong military authority. Traditionally, in the realistic philosophy, the concept of power and the concept of armed forces are closely linked because the international system is not governed by a global authority.

On the other side, liberalism is defined as the theory that aims at personal, social and economic liberation of the individual through government action. Thus, liberalism is based on research, criticism, the free exchange of ideas and the majority rule. It is considered a more democratic concept while it is made to serve the people and not the state. Both theories try to explain the interaction of states in the international arena. However, the manner in which each theory approximates the idea of international relations is entirely different. In particular, supporters of realism argue that their theory approaches the subject in a more scientific manner. In support of this claim, the Hans Joachim Morgenthau, a leading figure in the study of international relations and one of the "fathers" of the realist school of the

Liberalism is based on reciprocity and cooperation

20th century, argued that realism is based on six basic principles. First, the policy is based on objective laws that have their roots in human nature. Second, the concept of interest is defined based on the concept of power and the concept of international power determines international policy. Third, the form and nature of power is not constant, but vary depending on the environment in which power is exercised, while the interest is the basic concept. Fourth, universal moral principles cannot be applied to the actions of states in the abstract the general terms. There can be no political morality without prudence, without taking into account the political consequences of seemingly moral action. Fifthly, states formulate their policy in a moral language only when it suits in the way that best serves their interests. Finally, examination of the above five points in the formulation of foreign policy makes the study of international relations more scientific.

The claim that the above theories are best placed to explain the lack of order in international relations would be insufficient if not taken into account the views of human nature, anarchy, power, the individual, the state, international organizations, international politics and the international system. For example, for human nature, realists would describe as highly competitive organisms, defined by lust for power, which in turn is the motive of conflict. On the other hand, the supporter of liberalism does not espouse the same negative view of human nature. Liberalists think that human nature is ultimately good and that any form of injustice within societies or any type of war between the states is the result of inadequate or corrupt social institutions and the lack of negotiations between the leaders.

Moreover, both theories have similar views on anarchy while its role not only shapes the society but also shapes the form of international relations. The difference is that liberals, unlike realists believe that domestic anarchy is limited and that it is resulted due to corrupt relations between the states. This means that there is no global governance structured for the enforcement of a hierarchy. This leads the states in partnerships to set the conditions for the international order. These partnerships in turn lead to the creation of international institutions such as the United Nations, the main purpose of which is to provide a guaranteed framework of interaction by reducing the dishonest actions throughout the world and improving the international trade facilitation.

Regarding the specific roles of individuals and nations in international relations, every theory has a different view. Liberalism argues that individuals who act in the name of particular interests play the most important role, while realism considers that states have the primary role in international relations. It is remarkable paradox for the liberal opinion: that by placing people at the center of the theory, they will act in the role of the state intentionally. Therefore, although the various preferences which are expressed primarily by individuals, eventually states are responsible for

Relative power is the dominant ideology in realism

their results worldwide. Therefore, liberalism can be considered to provide a more pluralistic explanation of the interaction and the relationships between the states in relation to realism, according to which member states are a suspending agent.

The two theories differ in the matter of peace internationally. According to realists, all states exert expansionary policy (animus dominandi), so the distinction between more and less aggressive states lacks base. For realists, any problem in the State does not affect the behavior internationally. On the other hand, liberals consider peace as unproblematic in the internal structure and the acceptance of post-conflictive zones. According to the liberals, peace characterized by democratization, human rights, free markets and international neo-liberal development.

Despite some differences, the two theories share some basic principles of international relations. For example, both believe that international cooperation is possible. Specifically, realists believe that the state transactions are limited by the duty of every state to provide security to a state of global anarchy, while the followers of liberalism argue that cooperation is achieved through the development of internationally recognized institutions.

Taking as an example the internationally policies of the most powerful actors of this world, we do see that they try to act in a combination of both of them. However, it is essential to be considered that in the past years of this century we do see more and more liberalistic cooperation in our world. This may be led as a result of the recent phenomenon of globalization, free trade and human interdependence through out the world. The recent innovations on the technology have given us the possibility to improve our communication and transportation skills. Thus, we do seem to be more responsible for each other while we are dependent on each other actions. This is also the reason why; we do see that the international conflict on the areas where those specializations are flourished is decreased.

In conclusion, the two theories that are presented, they represent two different political views and have many differences between them, but eventually they complement each other. The issue of international relations and order between states is quite complicated and difficult to be reached. The determination of these relationships can be affected by various factors such as the different internal structure of each state, the role of leaders, of the changing economy and security, which may make it difficult to create a widely accepted theory and remedy the class between states and their peoples.

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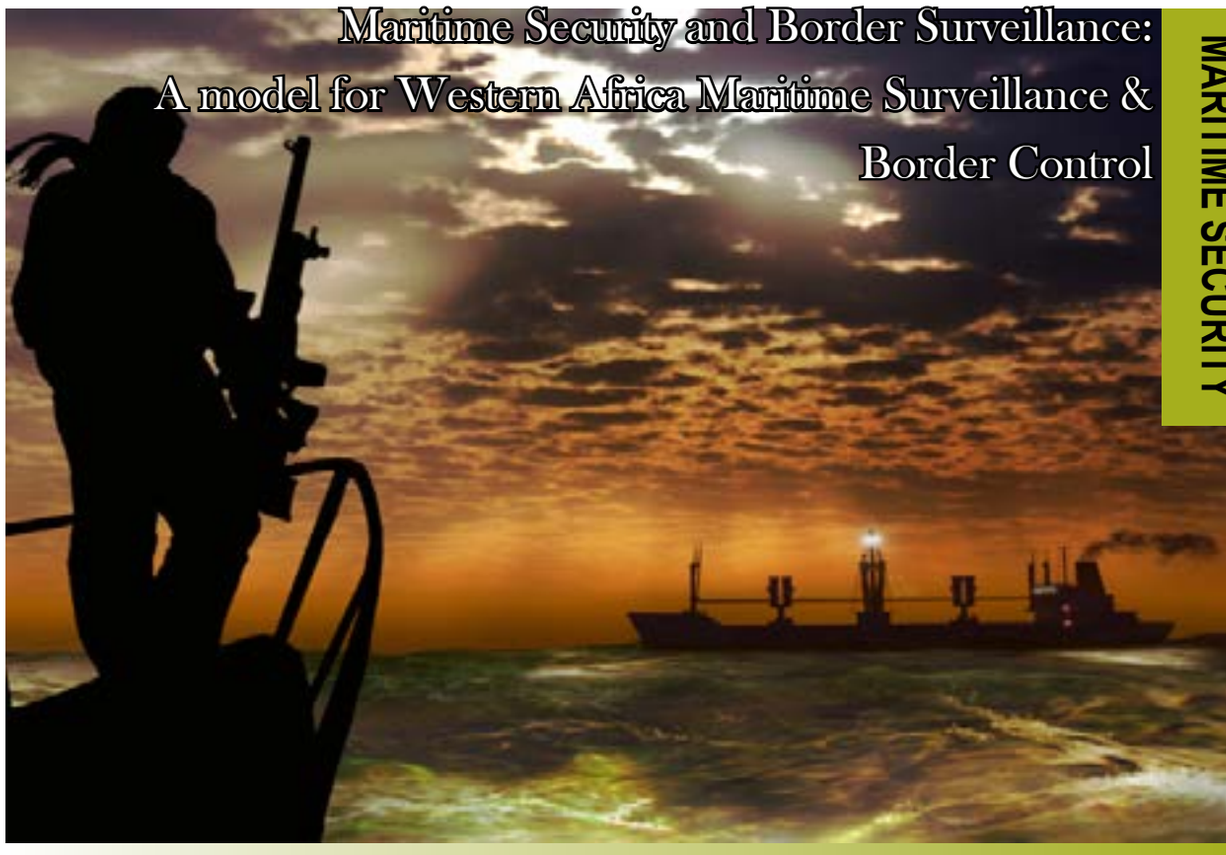
Vasileios Stavropoulos is current an undergraduate student-athlete at the University of Nebraska. He is majoring on Economics, Political Science, Global Studies and he is minoring in National Security Studies, Conflict & Conflict Resolution and Human Rights & Human Affairs. He was awarded with both academic and athletic scholarships, including the Global Delegate and McKelvie Scholarships and he was in the Nebraska Scholar-Athlete Honor Roll and the Dean's List of the College of Science and Arts. Moreover, he graduated from SHAPE American High School with the distinction of coin from SACEUR Dr. Stavridis and he was awarded with the SHAPE Officers Association Scholarship.

1: MIS Conference held in NMIOTC

2: MIS Conference attendees onboard "Black Pearl" during an NMIOTC event.

3, 4: Trainees of NMIOTC's Resident Course 6000 onboard HS ALKYON

5: 31st CSAR during crew control training



Maritime Security and Border Surveillance: A model for Western Africa Maritime Surveillance & Border Control

by Dr. Pierluigi Massimo Giansanti

1. Introduction

According to article 101 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), Sea Piracy can be defined as:

"1. Any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or passengers of a private ship…and directed: (i) on the high seas, against another ship…or against persons or property on board of such ship (ii) against a ship…, persons or property outside the jurisdiction of any state.

2. any act of voluntary participation in the operation of a ship…with knowledge of facts making it a pirate ship"

The above UNCLOS definition has been developed into international law and the International Maritime Organization (IMO) has recognized and accepted it.

According to the Maritimes Trade Department (MTD), the nature of Sea Piracy is undergoing a dramatic change. Piracy manifests itself in different ways depending on factors peculiar to its location, its space in time, and the human influence from which it is derived.

There are three predominant types of Sea Piracy attacks:

- Opportunity theft – committed by persons who are able to gain access to the vessel, while in port or anchored, and steal anything accessible, such as paint or mooring ropes;
- Planned robbery – which can occur alongside, at anchor or underway, and is targeted mainly at the crews' personal belongings, the ship's equipment, and is often committed by organised and well-armed gangs;
- Permanent hijacking – ships and cargoes, with the crew at times being murdered or held at ransom.

In terms of the extent of Sea Piracy in Africa, the European Union Internal Security Strategy (EU ISS) denotes that in 2014 there has been a noticeable increase in piracy incidents off the West African coast, particularly in the Gulf of Guinea.

Considering the timing of attacks, MTD denotes that attacks typically occur during the day (over 93%) and last between 30 and 45 minutes on average. Attacks closely mirror seasonal weather conditions, following the changes between the north eastern and south western monsoon periods.

According to IMO, permanent hijacking attacks are planned, with certain ships being deliberately targeted due to the value and easy disposal of the cargo. These attacks are conducted by highly trained and organised pirate gangs who are well armed and who board the ships using fake ships' papers and cargo papers. They then proceed to take control of the ship (as they are capable of operating the vessel without the crew's assistance and sometimes murder the entire crew) as well as re-naming and re-crewing it.The acts of piracy can be deployed

in a variety of modus operandi. A type of attack, involving more skill and understanding of piracy, can occur while the vessel is underway. In this type of attack, a small skiff or boat will approach the vessel and disgorge a boarding party and once aboard they have multiple options available to them. The pirates can proceed to commit petty theft as explained above, they could hi-jack the vessel and sell the cargo on the black market, or they could hijack the vessel and hold the crew and vessel to ransom.

There are several major causes of Sea Piracy, which include:

- Poverty
- Unemployment
- Environmental hardships
- Drought
- Illegal fishing
- Volatile security situations
- Volatile political situations

Piracy is clearly a major problem facing Africa and South Africa (and many other countries over the world). If left alone the pirates will foster it, spreading fear and racking up millions in damages, as well as an irreplaceable human cost, hence this criminal activity needs to be curbed. A proactive response is essential for the combating of this crime, as well as the Regional Comprehensive Cooperation and the Common Information Sharing Environment between all the States. Effective policing and prosecution of this crime is troublesome, due its international nature, and only by all the States coming together to find one international measure to put in place, will this crime ever be truly eradicated.

2. West Africa Maritime Threats

The global impact of piracy on the world is growing as the economic and social struggle in these deprived regions turn to extreme measures to feed their families and make a stand against the vast wealth that is being gained from the oil and other resources in these seas. In addition, the impact of Illegal, Unreported and Unregulated (IUU) fishing is uncontrolled leading to fears that this will largely affect the populations on the coastline that are dependent on fish for their source of lives. The current economic situation in these regions restrict individual states from being able to effectively tackle the problem. Unclear definitions over territorial laws and a lack of coordination between West African nations has enabled piracy to escalate with ambiguities and ways to avoid conviction or capture. The Gulf of Guinea is, in many ways, a perfect incubator for piracy, providing both resources and safe haven. Surrounded by some of Africa's most proficient oil producers, including Nigeria, Angola, Gabon, Ghana, and Equatorial Guinea, the Gulf is a major transit route for oil tankers on their way to international markets. These tankers have proven valuable prey for pirates. Unlike Somali pirates, who focus on the ransom of captured crew members, pirates in the Gulf of Guinea derive much of their income from the theft of oil. These pirates will frequently hijack a tanker, siphon the oil to another vessel, and later resell it on the local black market. In addition to the hijacking of cargo ships containing goods such as cocoa and minerals, this steady supply of tankers provides pirates in the Gulf of Guinea a lucrative source of income.

In addition to serving as a source of revenue, the under-Governed States surrounding the Gulf provide pirates ready safe haven from which to operate, both on land and at sea. Faced with widespread poverty, rampant corruption, and an inability to fully control their territory, many of these nations rank among the most dysfunctional in the world. As a result, criminal elements, including but not limited to pirates, have little difficulty establishing and maintaining onshore bases where they can plan and launch operations. Further, given that many of the states surrounding the Gulf lack significant maritime capabilities, there are few local forces available to combat piracy at sea. Even when states such as Nigeria are able to implement Maritime Counter-Piracy initiatives, many pirates simply, move their operations to the waters of weaker states such as Benin. This easy access to sanctuary, as well as the steady flow of oil through the region, has allowed piracy to flourish in the Gulf of Guinea.

The Gulf of Guinea is an important maritime route for commercial shipping from Europe and America to West, Central and Southern Africa. Its proximity to Europe and North America for the transportation of the low-sulphur crude oil from the region further raises its importance in the global supply of energy. The region produces about 5.4 million barrels of crude oil per day. The United States sources 15% of its supplies from the Gulf of Guinea. China and Japan de-

pend on it for a substantial amount of their oil and gas. It also supplies France and other countries of Europe with oil and gas. Oil companies from the West and the East have made huge investments for both onshore and offshore drilling, and since the region has the fastest rate of discovery of new oil reserves in the world, it also attracts new investments for further exploration. Fishing trawlers come to the region from all over the world. Many are there illegally because of inadequate security measures. Forestry, agricultural and mineral resources are exported through the Gulf of Guinea to markets in Europe and America. Clearly, the region is of significant importance to the world supply of crude oil and resources supplying some of the world's most powerful countries. Economically piracy in the Gulf of Guinea costs the global economy between $740-950 million last year alone and is expected to rise next year. The US has already started to implement forces in the region such as the AMLEP (African Maritime Law Enforcement Partnership) and are examine the possibility of establishing a military base in Nigeria; they also have been steadily increasing spending on Nigeria's Armed Forces such as acquiring new boats and aircrafts for their Navy, as they have done in Mozambique. The Gulf of Guinea states cannot overcome Maritime Security challenges without the support of International Partners, who need to help them address the root causes of these national security issues. The region is very much reliant upon fish for its edible protein and the effects of IUU in these waters will lead to a much more dramatic impact in the future, if these resources will be depleted. The estimated value of the fishing industry is between $10-23 billion. If the illegal fishing is not addressed it will have a significant impact on the local populations.

The resulting requirement for global aid to support the local communities would far exceed the cost of policing the issue.

The Gulf of Guinea is a vast expanse of water, stretching almost 6,000km from Senegal to Angola, with weak surveillance and uncoordinated security patrols. The historical focus of local states Security Policy on land security in the region has left the Maritime Domain unpatrolled. There has been increased incidence of armed robbery at sea and piracy; theft of hydrocarbon resources on the high seas/illegal bunkering; pipeline vandalism; illegal trafficking in arms, drugs and people; and illegal, unreported and unregulated (IUU) fishing in the waters of the region. One specific political challenge of the host communities of the rich natural resources of the region is poverty, which is fuelling the illegal activities. There are unclear definitions of piracy and armed robbery at sea, as well as an inadequate legal framework for prosecuting criminals when intercepted. Environmental pollution from exploitation and exploratory activities, and accidents from oil spills are also a significant issue for the region. For a long time Gulf of Guinea, states have neglected to exercise authority over their respective territorial waters because they perceived insecurity as a land-based phenomenon. Most of these States only observed their seas from the shore. Although the attitude of States to their territorial waters has changed since the recent discovery of oil, few have allocated substantial resources towards their Maritime Policies and in particular funding their Military Navies. A key issue is that not all the nations suffer from the piracy impact in the same way, for example, countries such as Nigeria are highly affected economically by the piracy of their oil reserves and so they are the leaders in the field in terms of their naval equipment and maritime force numbers.

3. West Africa and Ghana Maritime Surveillance, Anti-Piracy Integrated Solutions

Piracy and maritime insecurity in the Gulf of Guinea, concentrated in the

sea off Nigeria, has begun to be recognised as a growing problem internationally. The US has been voicing its concern, most recently after the kidnapping in 2013 of the crew, including two US citizens, of an oil supply vessel in the area. With the EU currently obtaining 13% of its oil and 6% of its gas through resources in the area, the Gulf of Guinea is also of clear interest from a European perspective. The Gulf is an important transit area for shipping, as well as an important fishing ground, including for European and Asian fleets. Illegal, Unreported and Unregulated (IUU) fishing is a major concern in the region. Furthermore, trafficking and illicit flows of narcotics, people, weapons and other goods are made easier by the lack of Maritime Security.

It should be noted that in the discussion concerning maritime insecurity in the Gulf of Guinea, the term piracy is commonly used to include attacks occurring within territorial waters, which constitute the vast majority of attacks. According to the UN Convention on the Law of the Sea (UNCLOS), however this is not classified as piracy, as this is only legally the case outside the 12-mile range of territorial waters, unlike the piracy off importantly of petroleum, instead of kidnappings. From attacks and theft of fishing trawlers to the seizure and siphoning of the contents of entire oil tankers, it is also generally more violent and the perpetrators are better armed than is the case of Somalia. During 2013 (up to 22 October), the International Marine Bureau (IMB) Piracy Reporting Centre listed 30 reported incidents related to Nigeria, compared with 11 related to Somalia. However, it is estimated that two-thirds of attacks are never reported. The United Nations Office for Drugs and Crime (UNODC) estimates that 100 successful attacks are carried out per year (including attacks on fishing trawlers and other vessels). A figure of one attack per day has also been put forward, together with a projected rise to two per day in 2014.

Much of the piracy, theft and sales of petroleum are linked to the Niger Delta, thus being a part of the dynamic described in the previous section. The majority of attacks take place within Nigerian waters, but Benin and Togo are also severely affected, while incidents are reported throughout the Gulf of Guinea. The smuggling of oil is thought to occur primarily through the Niger Delta, with the large black market for fuel in West Africa being critical for the economics of piracy. While information is limited and uncertain, there are also indications that smuggled oil is being exchanged for weapons, which could have significant repercussions for the security situation in the Niger Delta and the Gulf of Guinea and calls for further investigation. The threat posed to the security and economic development of States in the region according to United Nations, needs effective strategy if countries are to successfully combat the menace. Gulf of Guinea countries need a united front (Regional Cooperation Comprehensive Approach), in order to respond to effectively to the growing threat of piracy along their coasts. Isolated national initiatives are only temporarily, at best, pushing the pirates to shift their criminal operations from one country to the next. Last UN mission found that piracy in the region has become more systematic, with the pirates resorting to sophisticated modes of operations and utilizing heavy weapons, adding that so far, the attacks have primarily targeted the lucrative cargo on-board the ships rather than taking hostages for ransom. The piracy in the Gulf of Guinea hampers efforts by regional States to engage in peaceful international commerce and to exploit their vast natural resources for the socio-economic development of their countries.

Recent reports have suggested that Nigeria is losing an estimated seven per cent of its oil resources cause the criminal activities, including piracy.

The importance to enhance the support provided by members of the inter-

national community to Gulf of Guinea countries to strengthen their Maritime Security Capacities and Capabilities is crucial, as well as the need to do more in the face of the deepening

threat. Significant logistical support is required, in particular, to bolster national and Shared Regional Maritime Surveillance capacities and capabilities like the UE model. Piracy is a regional challenge requiring a Regional Maritime Security Architecture into which national and bilateral initiatives would dovetail. It is also dictated by regional challenges such as lack of financial and technical capacity and duplication of efforts owing to the lack of a real coordination mechanism.

While encouraging the continuation of ongoing limited initiatives, ECOWAS (Economic Community of West African States) urges all the parties concerned to scale up efforts, beginning with the proposed multilateral forum, to develop a Comprehensive Net-Centric Framework involving all the parties concerned to ensure a Holistic Approach to Maritime Security, in close cooperation with the UN. For instance, Ghana Navy took delivery of 4 new patrol ships, as part of efforts to boost the naval fleet for fishery controls and the protection of the country's maritime boundaries, due to the increasing incidents of piracy and other related maritime crimes. This opportunity, in order to equip Ghana Navy to be able to guarantee a Secure Maritime Environment where all legitimate entities can operate freely without hindrance, considering also other threats: drug trafficking, arms smuggling, dumping of toxic waste, illegal bunkering, illegal fishing, and pair trawling as problems that the country had had to brace up against and nip in the mud. The investment in re-equipping the Ghana Navy and other Security Agencies should be viewed as a means of sustaining the atmosphere of peace and security, needed for the development of other sectors. The Gulf of Guinea, aside the Gulf of Aden, has been made dangerous due to the activities of the pirates, which are gradually rising from 2006, particularly at the coasts of Cote d'Ivoire and Nigeria.

It is important, for the future, to launch much more consistent study on the strategies, the groups, pirates' modes of attack, their weaponry to be able to design the successful response mechanisms that we need against piracy. Since Ghana discovered oil in 2007 in commercial quantities estimated at about 5 billion barrels in proven reserves, the security of the country's shores has gained prominence ranging from piracy, terrorism and smuggling to continental shelf disputes with neighbouring countries. According to the UNODC, during the period 2012 – 2013, reported incidents in the Gulf of Guinea exceeded that recorded in the Horn of Africa during the same period.

To face piracy plague, the Ghana Maritime Authority (GMA) has launched a modern Vessel Traffic Management Information System (VTMIS), an integrated system meant for continuous electronic surveillance of Ghana's maritime space with remote sensors built with the capacity to detect and identify ships and boats on the high seas. It has communication towers equipped with marine radars, Automatic Identification Systems, and Close Circuit Television (CCTV) systems to visually monitor vessels and on-board activities far afield.

This project consists of 8 Remote Sensor Sites located at Tema, Winneba, Keta, Axim, Big Ada, Half Assini, Takoradi and Cape Coast including 3 Remote Base Stations at Keta Krachi, Yeji and Anum. The National Control Centre, the hub of the system, is located at the Headquarters of the Ghana Maritime Authority (GMA) in Accra. Automatic Identification System (AIS) for vessels/crafts operating on the Volta Lake and a

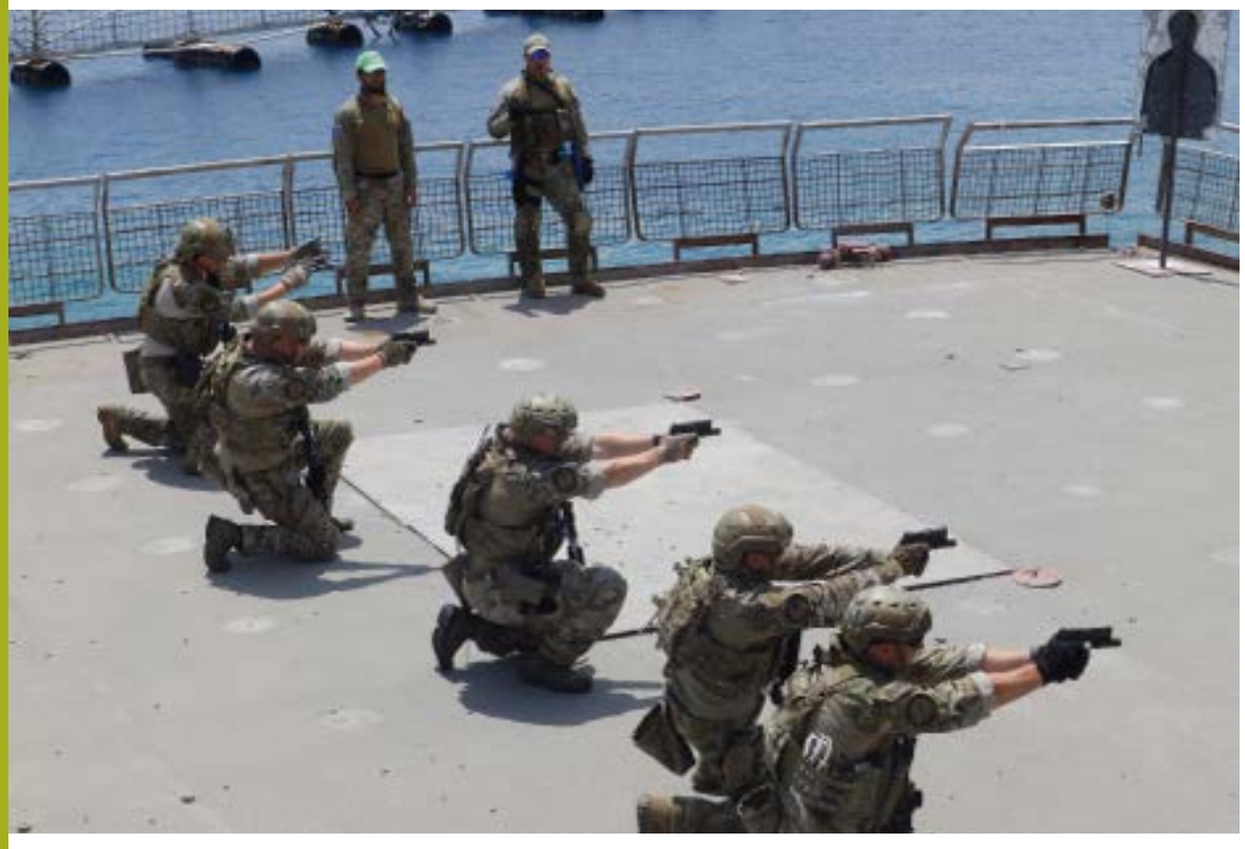
Long Range Identification and Tracking (LRIT of ships functionality and weather sensors) are included. Ghana VTMIS can track vessels within a range of 1000 nautical miles.

However, many challenges remain. Ghana VTMIS alone is inadequate to eliminate the threat of piracy. The ability to thwart attacks is as important as spotting the attack if not more. Whilst the FPSOs (Floating Production Storage and Offloading) for instance are about 200 nautical miles away, Ghana's small boats are unable to go beyond 100 nautical miles from the shores. Offshore vessels to be able to patrol Ghana territorial waters are required, in order to provide adequate cover to successfully overcome or fight off pirates.

Pirate activities have significant economic implications. It raises the risk level and causes insurance agents to adjust their rates. An increase in the incidents of piracy off Ghana's coast could have a significant effect on international insurance rates for importers and exporters and increase the cost of doing business at the country's ports. In Benin, the UNODC observes that an upsurge in attacks in 2011 resulted in the international maritime insurance adjustors placing Benin's waters under the same risk profile as Nigeria's. This significantly increased the cost of shipping to Benin. This increase in the cost of imports in turn reduces revenues, increases the cost of living and results in a decrease in competitiveness of imports. Ghana Government can avoid the same fate. Sustainably secure waters will require deliberate and Comprehensive Net-Centric Maritime Awareness Architecture that involves the Navy, Marine Police, Maritime Authority, the Army, the Interior Ministry and other allied institutions. Proactive security measures in the form of strengthening the capability of the security forces to increase Patrol and Maritime Surveillance on a regular basis using the right equipment and tools in the right measure will serve as strong deterrence. A master security plan containing on-board defensive measures, a compulsory presence of armed security teams aboard vessels, mandatory modern technology tracking and monitory devices including the Automatic Information and Vessel Traffic Management Information Systems (VTMIS) for companies should be made an obligatory requirement of vessel operations. There is a correlation between tackling economic and social problems, and the incidence of crime.

The entire region needs to tackle underlining economic and social problems. A group of peasant fisher folks, famers and youths along the coast could be inspired or enticed by foreign pirates and by the allure of the huge monies involved to take to the trade. Some could harness an existing local discontent against authorities by engaging in piracy and maritime robbery. A longer-term vision will require that Ghana institutions set up a Coastal Development Authority (CDA) to oversee the Maritime Security and development of coastal life and resources along the country's coast.

Ghana could be, in the future, the regional infrastructure to implement on a larger scale across the Gulf of Guinea (due to the concentration of attacks in these waters) a Regional



Network of Anti-Piracy Coordination Control Centres. The two main ports of Ghana are Tema and Takoradi: a potential Regional Maritime Headquarters (MHQ) could be realised between these two strategic harbours. Patrol Vessels, UAVs, Maritime Patrol Aircrafts as well as EO Satellite Systems could be utilised to support both littoral and riverine environments to control blue waters and to intercept piracy's attacks from these future hubs in the region.

African Union is working towards the rapid establishment of standardized Regional Maritime Headquarters (MHQ) linked to other Maritime Operational Coordination Centres (MOC). The goals of Regional MHQ and relevant MOCs are twofold:

1. To increase the effectiveness and the efficiency of the African Standby Force (ASF) as African Navies participate in integrated operations, a move to improve Africa's Maritime response capabilities.
2. To improve Maritime Situational Awareness within the African Maritime Domain (AMD), involving all Institutional Organizations and Agencies with a key role in Maritime Safety and Security as well as Maritime Surveillance.

All Regional MHQs and MOCs would be interoperable, due to the use of Standard Operating Procedures (SOPs) and inter-linked to both each other and the African Union -based MHQs and MOCs in a new Nec-Centric Strategic Architecture Vision. These Hubs will facilitate a real Information Maritime Awareness Sharing Network to enhance Maritime Situational Awareness and subsequent new enhanced operational capability/performance, in order to achieve a complete and efficient Maritime Domain Awareness through a Comprehensive Integrated Shared Approach to maintain and improve the Maritime Security in the Gulf of Guinea.

The MHQs and MOCs will be located along a stretch of 3704 km coastline with the intention of allowing the patrol vessels to replenish their stocks and provide crew rotation, which may take a 24 hour turnover period. Crews given improved accommodation at the MHQ allow for an effective down time to recuperate ready for their next deployment. An example operational scenario, based on Ghana, would see the patrol vessels start from Tema and Takoradi. From these harbours, the patrol vessels would transit 50nm to patrol the 250nm EEZ (Exclusive Economic Zone) area, this includes the strategic offshore oil fields and when required into the international waters.

Thanks to this Regional Maritime Headquarters (Nec-Centric Network of different Maritime National Coordination Centers, jointly integrated) in the region, it will be implemented a main shipping lane, creating a secure corridor trough the Gulf of Guinea, on witch all cargo ships on there way to Europe or the Indian Ocean are recommended to join when navigating through the Gulf of Guinea.

Dr. Pierluigi Massimo Giansanti has belonged for 25 years to FINMECCANICA Group and he is the former Executive Vice President. Business Governance & Policy Affairs as well as Director of Belgium Branch - Bruxelles for SELEX ES, a FINMECCANICA Company. First responsibility of Dr. Giansanti P. M. was to manage Procurement Activities in ENI Group for the company ENICHEM, starting from 1987 with the new diligence-project of ENIMONT, the most important Public and Private Joint Venture for Italian Oil-Chemical Business. Belonging to FINMECCANICA Group from 1990, he started his carrier in AGUSTA - WESTLAND as Executive Programme Manager - E/O Avionic Equipment, then in SELEX Galileo as Executive Programme Director for E/O Equipment, A/C Programs.

He was appointed in 1996 Area Manager Sales & Marketing – A/C Armaments for OTOMELARA.

Then he was appointed in 1998 Executive Commercial Director in MBDA and for nine years he worked in France - Paris, also for the development of new missiles systems – FSAF in EUROSAM, as Director Business Development & Sales.

He was appointed at SELEX ES in 2006 Director Business Development and in 2008 Director Institutional & Governmental Relationships.

In 2009 for SELEX ES, he was appointed Director Sales & Marketing, dealing with the commercial strategy for selling large systems for Naval and Maritime Domain, Air Defence Systems with C4I & Command & Control Centres, Maritime and Safety Integrated Systems and Smart Borders Systems.

In January 2015 he left FINMECCANICA to be appointed Executive Director for ITALIAN TECHNOLOGY as part of Board of Directors with responsibilities relevant to Business Development & Sales for Smart Security Solutions for Homeland Security and ICT Selling Innovative Solutions.In June 2015 he has been appointed also Managing Director for DBDC Limited dealing with Defence and Homeland Security (Maritime Security, Maritime Domain Awareness, Maritime Surveillance, Critical National Infrastructures Protection, Peace-Keeping Strategy, etc.) Consulting and Advisor for International Conference and Exhibition events.

Dr. Giansanti has been graduated in Rome in 1985, Mechanical & Aerospace Engineering and then he received a Master in Management and Enterprise Administration in 1986, University of Rome and a Master in Business Administration in 1988, Polytechnic of Milan.

In 1989 he awarded with the first premium for the publication about JIT in Purchase Management and he received the Master in Purchasing & Material Management, Milan – Purchase and Material Management Association.

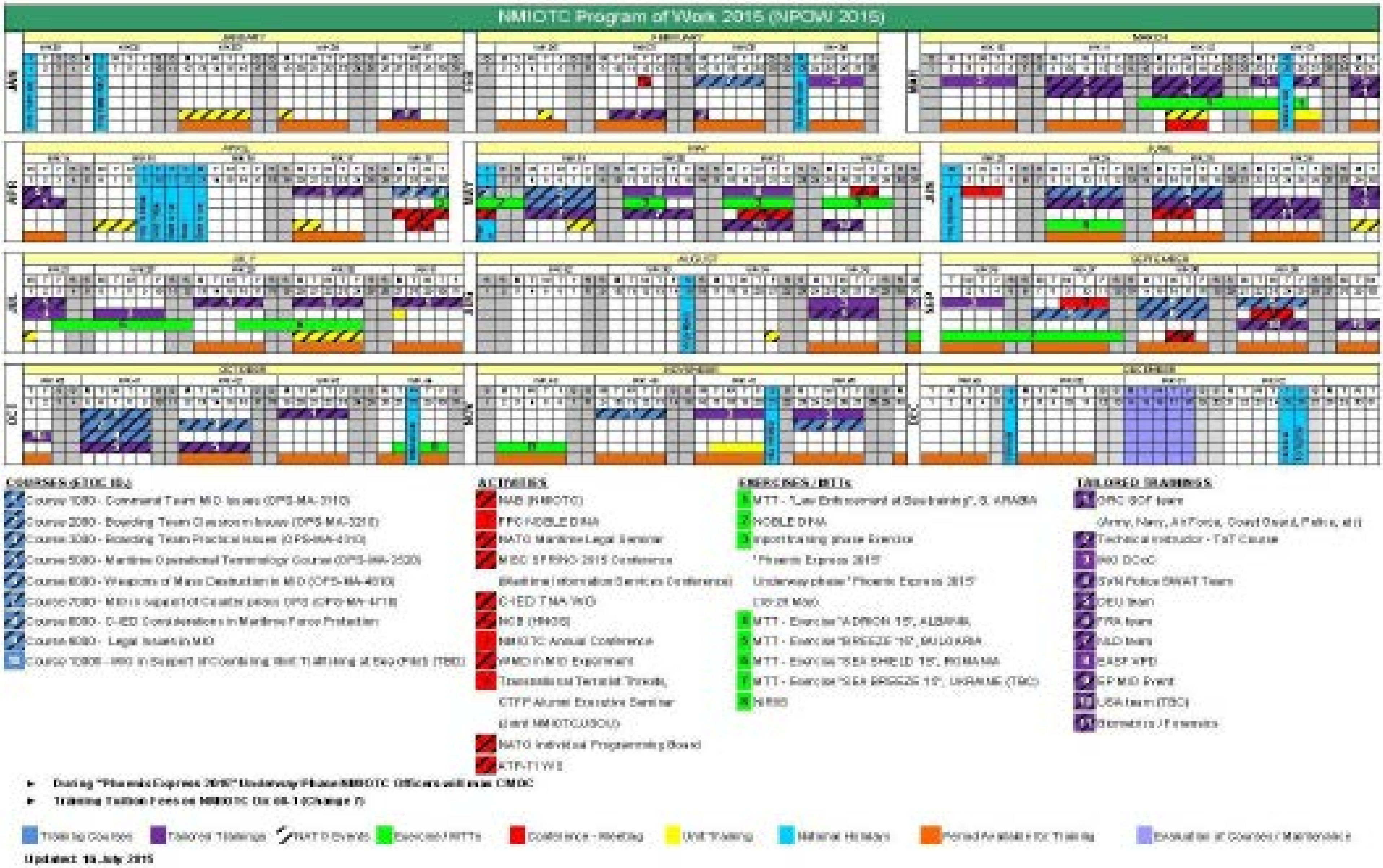
In 2010 he was awarded with the Master in International Security Advanced Studies, CASD (Military Centre for Defence High Studies) - Ministry of Defence - in Rome.He is Member of the Council of CASD Association as free consultant for Military and Civil Cooperation in Homeland Security and Military matters. He is Member of Friends of Europe – Les amis de l'Europe Association and collaborator for Security and Defence Agenda (SDA) in Bruxelles and advisor for European Parliament about Military-Civil Cooperation in Homeland Security and Maritime Surveillance/Security/Safety.Co-author for the development and realisation of various events for Ministry of Defence, Ministry of Interiors - Ministry of Transports & Infrastructures - Ministry of Foreign Affairs of Italy, concerning Internal and Borders Security and Maritime Safety Control as well as European Med-Cooperation topics. Advisor for European Union – EEAS (External European Action Service) and African Union as well as ECOWAS with West Africa countries (Ghana, Togo, Nigeria, etc.) for Homeland Security and C4ISR (Anti-Piracy and Anti-Terrorism).

Crew control training during Mobile Training Session in Durres, Albania. (ADRION 2015)

Small arms training for Hellenic SOF team onboard HS ARIS

RHIB insertion training of USS Laboon

Container inspection training of USS Laboon


NMIOTC Program of Work 2015 (NPOW 2015)
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
COURSES (ETOC ID)
Course 1000 - Command Team MIO Issues (OPS-MA-3110)
Course 2000 - Boarding Team Classroom Issues (OPS-MA-3210)
Course 3000 - Boarding Team Practical Issues (OPS-MA-4310)
Course 5000 - Maritime Operational Terminology Course (OPS-MA-2520)
Course 6000 - Weapons of Mass Destruction in MIO (OPS-MA-4010)
Course 7000 - MIO in support of Counter piracy OPS (OPS-MA-4710)
Course 8000 - C-IED Considerations in Maritime Force Protection
Course 9000 - Legal Issues in MIO
ACTIVITIES
NAB (NMIOTC)
FPC NOBLE DINA
NATO Maritime Legal Seminar
MISC SPRING 2015 Conference
(Maritime Information Services Conference)
C-IED TMA WG
NCS (HNGS)
NMIOTC Annual Conference
WMD in MIO Experiment
Transnational Terrorist Threats,
CTFP Alumni Executive Seminar
NATO Individual Programming Board
EXERCISES / MTTs
MTT - "Law Enforcement at Sea training", S. ARABIA
NOBLE DINA
Inport training phase Exercise
"Phoenix Express 2015"
Underway phase "Phoenix Express 2015"
MTT - Exercise "ADRION 15", ALBANIA
MTT - Exercise "BREEZE 15", BULGARIA
MTT - Exercise "SEA SHIELD 15", ROMANIA
MTT - Exercise "SEA BREEZE 15", UKRAINE (TBC)
TAILORED TRAININGS
(Army, Navy, Air Force, Coast Guard, Police, etc)
Technical instructor - TaT Course
SVN Police SWAT Team
USA team (TBC)
Biometrics / Forensics
Training Courses
Tailored Trainings
NATO Events
Exercises / MTTs
Conference - Meeting
Unit Training
National Holidays
Period Available for Training
Evaluation of Courses / Maintenance
Updated: 10 July 2015

NMIOTC/ΚΕΝΑΠ
Souda Bay
732 00 Chania
Crete, Hellas

Phone: +30 28210 85710
Email: studentadmin@nmiotc.nato.int
nmiotc_studentadmin@navy.mil.gr

Webpage: www.nmiotc.nato.int