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Maritime Interdiction Operations Journal

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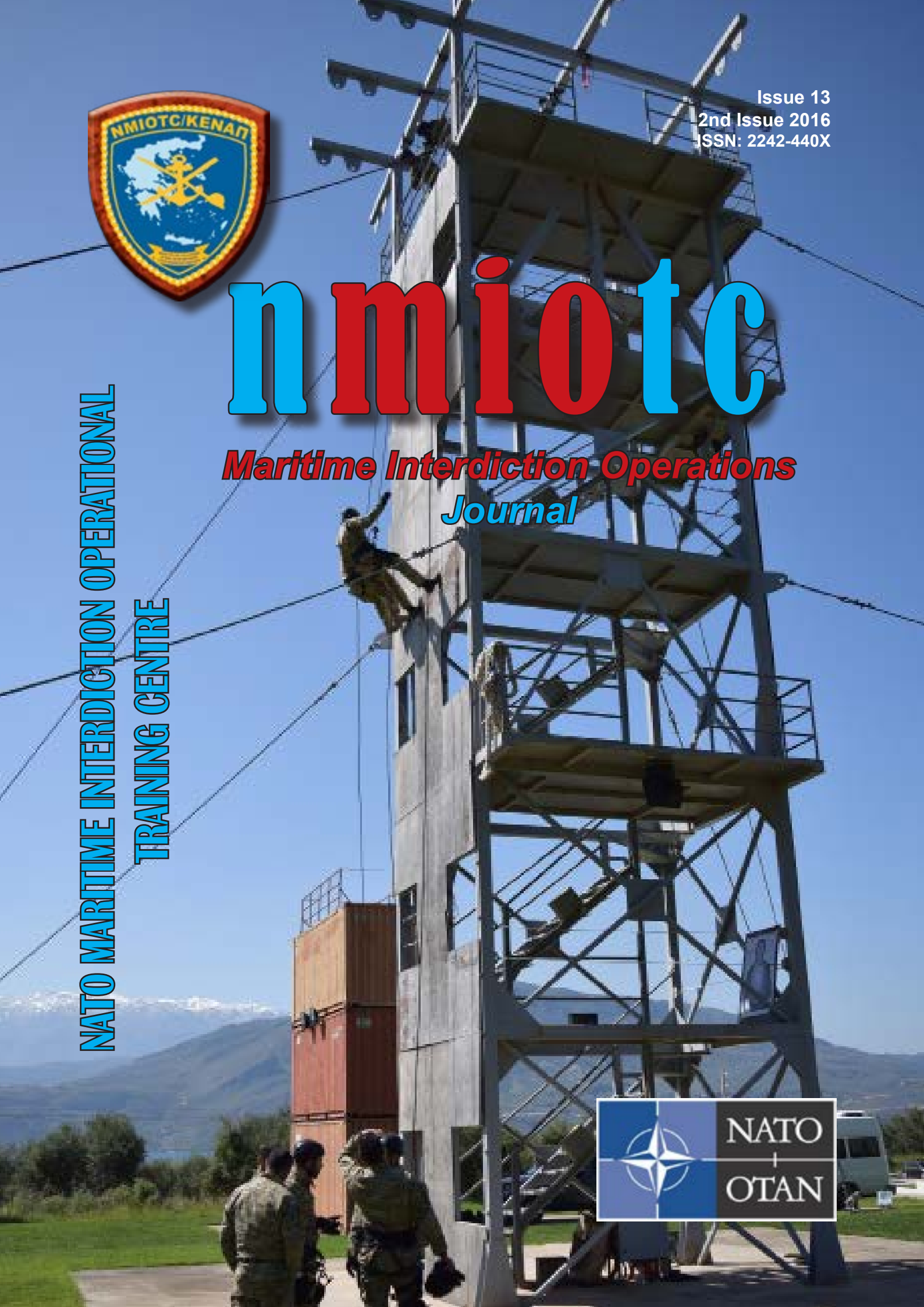
NATO
Maritime Interdiction Operational Training Centre

8th NMIOTC ANNUAL CONFERENCE

The development of maritime security operations as the instrument to cope with the current security challenges and to counter the evolving threats at sea.

06 - 08 JUNE 2017

Attribution Statement

For the paper titled "An Analysis of the Types, Threats and Security Measures of Offshore Drilling Facilities", published in issue 10 (summer 2015, pages 6-12) of the NMIOTC Journal, **due and proper attribution is owed to a significant degree, to Dr Mikhail Kashubsky**, Senior Lecturer to the Centre for Customs & Excise Studies, Charles Sturt University, Australia, and his valuable articles on **"Protecting Offshore Oil and Gas Installations: Security Threats and Countervailing Measures" (Part I & II), published originally in Journal of Energy Security on August and December 2013** respectively. The author as a well as the director and editors of the NMIOTC Journal would like to express their sincere apologies for the abovementioned lack of proper attribution to the important work of Dr Kashubsky .

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Commandant's Editorial

Last summer at the Warsaw Summit, the heads of State and Governments took serious decision aiming at adapting the Alliance in a way to enable the Allies collectively to be better prepared for the future in terms of the encountering the existing threats and coping with the emerging challenges.

Among the key decisions the following have significant impact to the maritime environment but to the geopolitical area of NMIOTC's interest, expertise and its potential for improvement.

Training being also the most demanding Secretary General's (SG's) priority shortfall area, in particular in the maritime operational environment, is considered thus it is used as such, the self power in two folds: Firstly to

engage in operational training to prepare the maritime forces prior to their deployment, their evaluation as [NATO Response Force (NRF) - Immediate Response Force Maritime, IRF(M)], Standing Maritime Groups under their provisional talking and support ongoing operations. Secondly to substantially outreach to our partners by providing means and capabilities to train them so to better prepare in achieving standardization and enhancing interoperability.

The importance of carefully balance between East and South sets a serious burden at NMIOTC for a simple reason; it is laid at the Southeast side of the Alliance's footprint and its commitment is to dedicate its capacity and potential to provide training to those

involved in both strategic directions, in the broader effort to accomplish all three core tasks and project stability as well.

Emerging security challenges, such as Critical Infrastructure Protection, Countering Proliferation of Weapons of Mass destruction, C-IED in the Maritime domain, illicit activities and organized crime at sea, interdiction at range and cyber defense in the maritime domain have been timely identified and are tackled in a comprehensive manner by both NMIOTC's Education and Training and Transformation departments. Having said that and referring to this journal, I wish to draw your attention to the fact that it presents articles focused on current and future challenges to maritime se-

curity. In particular;

In the lead article, Dr Alessio Patalano Senior Lecturer (Associate Professor) at Department of War Studies, King's College London, on his paper "A Paradigm Shift? Chinese Hybrid Warfare and its Implications for Maritime Security" draws upon the current security tensions in the East and South China Seas (or China Seas) to investigate the tactical challenges and the conceptual implications of Chinese hybrid warfare at sea. A different but not separate aspect in maritime environment is approached by Dr. Elena (Helene) Mandalenakis (University of Peloponnese) on her paper "Political Implications of Cyber Space on State Power" where she articulates political implications of cyber space on state power and the interrelations with maritime power and cyber power. Captain Corrado Campana ITA(N) at his article presents some considerations on the Mediterranean migration crisis.

The remaining part of the Journal deals with legal issues and the ISIS threat within maritime environment. Professors Francois Vreÿ and Henri Fouché from Security Institute for Governance and Leadership in Africa (SIGLA) of Stellenbosch University, present arguments in their paper in order to accentuate the importance of maritime crimes other than piracy off four African maritime regions. Finally Mr Michael J Edey, and Mr Lewis Batch from Dryad Maritime Limited, at their paper examine the current try to answer whether the terrorist group has the intent and the capability to launch and carry out a successful attack on shipping transiting the Mediterranean.

As a conclusion, taking this opportunity, I would like to announce with great pleasure, the 8th Annual NMIOTC Conference which will be held at our premises (Souda Bay – Crete) from 6th to 8th June 2017, with theme "The development of maritime security operations as the instrument to cope with the current security challenges and to counter the evolving threats at sea".

Georgios Tsogkas
Commodore GRC (N)
Commadant NMIOTC

A 'Paradigm Shift'?

Chinese Hybrid Warfare and its Implications for Maritime Security

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1. Introduction

As highlighted in A Design for Maintaining Maritime Supremacy, for the first time in a quarter of a century the United States navy faces the return of peer competition. Today sea control is no longer uncontested. Russia and China are developing a wide range of advanced capabilities to implement an anti-access area denial strategy within their immediate periphery, and to project national power and ambitions beyond these confines.[1]

Chinese activities in the maritime domain, however, are remarkable because they stretch far beyond peer competition in high-end warfare, within the spectrum of what Ken Booth defined as a navy's 'military roles'. At sea, China is engaged in coercion

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[1] Admiral John M. Richardson, US Navy, A Design for Maintaining Maritime Supremacy (Washington, DC, 2016), 3.

and competition 'below the traditional thresholds of high-end conflict'.[2] Within this context, military planners in Beijing have developed a range of capabilities that are 'hybrid' both in composition and in the way they are employed. They combine military, paramilitary and militia forces; they are deployed to pursue national objectives by exploiting the grey areas of international law.[3]

This paper draws upon the current security tensions in the East and South China Seas (or China Seas) to investigate the tactical challenges and the conceptual implications of Chinese hybrid warfare at sea. The paper builds upon, but departs from, the existing literature focusing on the 'three warfares' – the Chinese coordinated approach to media, legal, and psychological warfare – to offer a specific reflection on the impact of Chinese behaviour at sea on maritime security and strategic thinking.[4] There are two key questions addressed in this paper: Is there anything unique about Chinese hybrid warfare at sea that relates to maritime security? If so, how is this contributing to change our understanding of it?

Irregular warfare at sea is nothing new.[5] The history of naval combat is, in many ways, a history of asymmetric war in which the quest for sea control is often contrasted by attempts of sea denial, and access strategies are faced by anti-access responses.[6] However, within the context of 'constabulary roles', the paper argues that Chinese hybrid warfare is challenging our understanding of maritime security. Indeed, the paper suggests that this challenges is bringing a paradigm shift in two significant ways. First, Chinese hybrid warfare seeks to exploit the grey areas and diverse interpretations of the United Nations Convention on the Law of the Sea (UNCLOS) to legitimise activities aimed at asserting the control of disputed features and maritime boundaries. Second, Chinese hybrid warfare employs enhanced law-enforcement capabilities as well as militia forces, seemingly operating in defence of inherent maritime rights, to coerce other claimants whilst intimidating responses from other actors.

Within this paradigm shift, the paper further postulates that there are three main implications for maritime security. First, maritime security is an increasingly competitive affair. Second, core actors like coast guards are being militarised to assert national power rather than foster cooperation. Thirdly, whilst Chinese hybrid warfare focuses on re-gional disputes, it has in some cases broader strategic implications beyond the realm of constabulary functions generally connected to maritime security. The control of key island features– especially in the South China Sea – would in fact allow the Chinese military to project power across the China Seas, de facto using the pursuit of maritime rights to potentially affect the freedom of navigation and over flight along international sea-lanes linking East Asia to the rest of the word.

2. Maritime Security and Peer Competition: Preliminary Considerations

2.1 Maritime Security: The Quest for Cooperative Action

Before explaining how Chinese hybrid warfare is challenging our understanding of maritime security it is important to preliminarily discuss how the concept of maritime security has recently evolved. In the mid-2000s, British scholar Geoffrey Till was among the first authors to systematically assess how, in the aftermath of the Cold War, globalisation was affecting the way in which navies worldwide were reconfiguring their structures and capabilities.[7]

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[2] Ibid..

[3] The concept of 'hybrid' or 'asymmetric' warfare remains hotly debated. For a standard overview of its manifestation throughout history, cf. Williamson Murray and Peter R. Mansoor, Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present (Cambridge: Cambridge University Press, 2012).

[4] Major studies on the topic include Dean Cheng, 'Winning Without Fighting: Chinese Legal Warfare', The Heritage Foundation, 18 May 2012; Stefan Halper, China: Three Warfares (Washington, DC: Office of Net Assessment, 2013); Mark Stokes and Russell Hsiao, The People's Liberation Army General Political Department: Political Warfare with Chinese Characteristics (Arlington, VA: Project 2049 Institute, 2013); Michael Raska, 'China and the "Three Warfares"', The Diplomat, 18 December 2015.

[5] Well explained in Lt Cdr. Benjamin Armstrong, US Navy, 'The Most Daring Act of the Age: Principles for Naval Irregular Warfare', Naval War College Review, Vol. 63, 2010:4, 106-118; and. Naval History and Heritage Command, Irregular Warfare Special Study, (Washington, D.C., 2006).

[6] On the evolution of maritime warfare and strategy, see Beatrice Heuser, The Evolution of Strategy: Thinking War from Antiquity to the Present (Cambridge: Cambridge University Press, 2010), chapters 8-10.

[7] A first collective attempt to assess the links between globalisation and maritime affairs is Sam J. Tangredi (ed.), Globalization and Maritime Power (Washington, DC: National Defense University, 2002).

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In particular, his observations pointed towards a trend whereby some navies – including leading European maritime forces - were heading towards a 'post-modern' configuration, one in which military roles as defined in Cold War missions – sea control and power projection in a military contested space - would receive less emphasis. Their capabilities were being optimised to work together with others to deal with missions that focused on maintaining sea control, fostering governance, and allowing for the projection of power in crises.[8] This model, Till argued, stood in contrast with the more 'modern' model of development, one that pitched military roles as centred on competing over sea control. Within this model, deterrence and war fighting were regarded as core missions.[9]

For Till, the paradigm shift in maritime missions away from the struggle for command of the seas towards concerted efforts to maintain order and stability was determined by two factors. On the one hand, sea control was regarded as firmly in the hands of the United States and its allies. It is interesting to note, for example, that by the time NATO's maritime strategy was published, its content took sea control as an established precondition for the alliance maritime operations. The strategy in fact underlined that '(w)hether in support of Alliance joint operations, or when leading in a predominately maritime mission, appropriately resourced and enabled maritime forces have critical roles to fulfil, defending and promoting the collective interests of the Alliance across a spectrum of defence and security challenges'.[10] On the other hand, the lack of naval competitors challenging sea control corresponded to an increased need for cooperation to defend the international trading system from non-state actors-sponsored disruptions, stretching from terrorism to piracy. Such a need depended from the growing centrality of maritime communications to the global economy and the coming into force of the United Convention on the Law of the Sea (UNCLOS).

The result was a broad awareness towards the diverse issues to maritime governance and security prompting state actors into cooperative forms of action.[11] Indeed, maintaining 'good order at sea' to prevent disruptions to shipping and managing 'exclusive economic zones' (EEZs) have become endeavours common to maritime forces worldwide. Navies came quickly to perform these types of missions alone and, frequently, together with others, within national maritime boundaries and beyond.[12] Implicit in this development was a shared understanding within the community of western liberal democracies as well as in close US partners like Japan about the link between democratic values and liberal economies. It is no coincidence that this point is affirmed both in the Japan-US Security Treaty of 1960 and the North Atlantic Treaty of 1949, sharing similar views in relation 'to the promotion of free institutions, economic collaboration and political cooperation'.[13] In 2007, the US navy-sponsored 'Thousand Ship Navy' concept became one of the clearest and most inclusive articulations of the cooperative spirit aimed at tackling transnational issues affecting the stability of the maritime order. At heart, the Thousand Ship Navy embraced a view that no single state actor can afford to maintain maritime governance alone. This should be a cooperative effort, which for the US navy meant working in cooperation with its network of allies and partners.[14] A year later, the international coalition that started operating off the Somali coast to fight piracy became the most significant case in point of the practical value of such an approach.

2.2 Peer Competition: Beyond Power Politics?

Till's reflections on the relationship linking security priorities to naval developments and maritime cooperation well captured the debate of the time, informing the way in which in the US, NATO, and non-NATO US allies maritime security came to be understood.

[8] Geoffrey Till, 'Maritime Strategy in a Globalised World', Orbis, Vol. 51, 2007:4, 571-572.

[9] Ibid., 573-574.

[10] NATO, Alliance Maritime Strategy, Brussels, 18 March 2011.

[11] Ibid., 151-152.

[12] For a definition of 'Good Order at Sea', cf. Geoffrey Till, Seapower: A Guide for the Twenty-First Century (Abingdon, OX: Routledge, 2004), 333-350.

[13] Masashi Nishihara, 'Can Japan be a Global Partner for NATO?', in Ronald D. Asmus (ed.), NATO and Global Partners: Views from the Outside (Riga Papers, Riga, Latvia: Nov. 2006), 35.

[14] Cf. Admiral Michael Mullen, US Navy, 'A Global Network for a Free and Secure Maritime Commons', Report on the Proceedings of the Seventeenth International Seapower Symposium (Newport, RI: Naval War College, 2006), 3-8.

Today, the cooperative drive emerged a decade ago is in part challenged by the return of peer competition at sea aimed at redefining power balance and international influence. In the European context, defence planners in NATO and in some of its core state members have observed a decisive increase in Russian military activities, with missiles fired from the Caspian and the Mediterranean Seas into Syria and submarine activities in the North Atlantic surging to unprecedented levels in the post-Cold War era.[15] Russian motivations seem pre-eminently to be rooted in a quest for power and status with the aim to re-establish spheres of influence in the Baltic and in the Eastern Mediterranean Sea regions. Russia's new maritime doctrine, for example, would suggest as much in its attention to stress the importance of the Artic regions as the country aims to give sanctuary to its submarine fleet in the Barents Sea.[16]

In the Asia-Pacific, there are similar changes taking place – if anything, at an even faster pace. It is perhaps worth underlining that China is the propelling engine of the military modernisation and expansion of capabilities in a region that has surpassed Europe in defence spending in 2012, with a gap that continues to widen.[17] In 2011, former President Hu Jintao stressed that The People's Liberation Army Navy (PLAN) had to speed up 'its transformation and modernisation in a sturdy way, and make extended preparations for warfare in order to make greater contributions to safeguard national security'.[18] Premier Xi Jinping further articulated this idea by outlining his vision of a 'true maritime power', on with a neo-Mahanian styled fleet with the task to protect and expand overseas interests.[19]

Such a notion seems to be now embedded in the official national strategy that emphasises increasingly 'open seas protection' in addition to the well-known 'offshore waters defence'.[20]

Indeed, practice seems to be supporting these stated ambitions. Chinese submarines and surface assets have increased their exercises, stepped-up their shadowing activities vis-à-vis American surface groups, and increased maritime intimidation of China's neighbours, raising the profile of coercion and deterrence in the East and South China Seas.[21] Within this context, the most provocative action occurred in January 2013, when a Chinese warship reportedly locked its weapons-guiding radar on a Japanese destroyer.[22] Further, Chinese military authorities have substantially increased their military footprint across the confines of the South China Sea. The recent deployment of missile batteries and the development of long airstrips on artificially created islands – the so-called New Spratly Islands – are 'changing the operational land-

[15] 'Russia Hits Targets in Syria from Mediterranean Submarine', BBC News, 8 December 2015; Nicholas de Larrinaga, 'Russian Submarine Activity Topping Cold War Levels', HIS Jane's Defence Weekly, 02 February 2016; A. Larsen, Tome to Face Reality: Priorities for NATO's 2016 Warsaw Summit (NATO Research Paper, No. 126, Rome: January 2016), 7-8.

[16] For a brief discussion on the nature of Russian maritime ambitions, see A. Larsen, Tome to Face Reality: Priorities for NATO's 2016 Warsaw Summit (NATO Research Paper, No. 126, Rome: January 2016), 10; also, Judy Dempsey, Why Defense Matters: A New Narrative for NATO (Brussels: Carnegie Europe, 2014), 25.

[17] International Institute for Strategic Studies (IISS), The Military Balance 2013 (Abingdon, OX: Routledge for IISS, 2013), 41; David Tweed, 'China Tensions Fuel Acceleration in Military Spending in Asia', Bloomberg, 22 February 2016.

[18] Quoted in 'Hu Jintao tells China navy: Prepare for warfare', BBC News, 07 December 2011.

[19] Sukjoon Yoon, 'Implications of Xi Jinping's "True Maritime Power": Its Context, Significance and Impact on the Region', Naval War College Review, Vol. 68, 2015:3, 40-63; Sukjoon Yoon, 'Xi Jiping's "True Maritime Power" and ESCS Issues', Chinese Journal of International Law, Vol. 13, 2014:4, 887-889; 'China Firm in Its Resolve to Build Sea Power', People's Daily Online, 27 August 2014.

[20] The State Council Information Office of the People's Republic of China, 'China's Military Strategy', China Daily, 26 May 2015. For a brief analysis of the document, cf. Caitlin Campbell, 'Highlights from China's New Defense White Paper, "China's Military Strategy"', U.S.-China Economic and Security Review Commission Issue Brief, 01 June 2015.

[21] Alastair Wanklyn, 'Chinese Sub Targeted U.S. Carrier, Report Says', The Japan Times, 16 December 2015; Helene Cooper, 'Patrolling Disputed Waters, U.S. and China Jockey for Dominance', The New York Times, 30 March 2016. Ryan D. Martinson, 'Deciphering China's Armed Intrusion Near the Senkaku Islands', The Diplomat, 11 January 2016; John Chen and Bonny Glaser, 'What China's "Militarization" of the South China Sea Would Actually Look Like', The Diplomat, 05 November 2015. Also, Alessio Patalano, 'Sea Power, Maritime Disputes, and the Evolving Security in the East and South China Seas', RUSI Journal, Vol. 158:6, 48-57.

[22] Author's interview with senior Japanese naval official, Tokyo April 2013.

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scape' of this maritime theatre.[23]

In these maritime theatres, however, Chinese behaviour and actions are not merely motivated by competition for regional hegemony. China has a number of outstanding maritime disputes – encompassing both boundary delimitations and the sovereignty of island features – which are informing its activities.

In the South China Sea, Chinese authorities are employing military capabilities, law-enforcement agencies, as well as fishing militias to harass competing claimants and impose its maritime territorial and sovereign claims over more than 80% of the South China Sea. The claimed area, which encompasses island features of the Spratly and Paracel groups, is delimited by a so-called '9-dashed line'. Statements from senior Chinese officials, as much as the behaviour of fishing militias and law-enforcement agencies point to a view to regard it as 'Chinese jurisdiction', if not territory.[24] China has yet to fully clarify this point

as well as the exact boundaries of the 9-dashed line, but its claims seem inconsistent with its obligations under UNCLOS. This ambiguity, combined with the development of military capable outposts in the Spratly islands, leave freedom of navigation – including the conduct of lawful peacetime military activities - and the safe movement of shipping in most of the South China Sea at the discretion of Chinese political will. [25]

In the East China Sea too, Chinese activities can only in part be explained by strategic competition with the United States and its closest regional ally, Japan. There are, in fact, two different types of disputes between Japan and China. One concerns the sovereignty over the Senkaku/Diaoyu Islands; the other concerns the demarcation of their maritime borders and EEZ as defined by UNCLOS. Unsurprisingly, the question of the sovereignty of the islands is the core-dividing factor in Sino-Japanese maritime interactions and escalation of tensions during the

period 2012-2014.[26] In relation to the boundary dispute, Japan has thus far proposed the application of the equidistant approach, whilst China insists for the use of the principle of the prolongation of the continental shelf, arguing that in the East China Sea would entitle China an area extending up to the Okinawa Trough.[27]

Taken altogether, therefore, the experience in the China Seas suggests that competitive types of behaviours are not merely caused by power struggle for control of the seas and is not limited to the realm of high-end warfare. The assertive pursuit of territorial and maritime claims strongly suggests that competitive behaviour applies to the realm of constabulary functions too. This means that the implementation of core maritime security missions – law-enforcement activities to manage EEZs or prevent illegal acts in territorial waters – is not regarded as an opportunity for cooperation; rather, maritime security operations are an assertion of national rights that are carried out with

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[23] Admiral Harry Harris, US navy, quoted in David Brunnstrom and Arshad Mohammed, 'China Gearing Up for East Asia Dominance: U.S. Commander', Reuters, 23 February 2016. The Admiral's comments were offered in the context of a 'Statement' given on 23 February 2016 before the Senate Armed Services Committee on U.S. Pacific Command Structure. For a broader assessment of the 'New Spratly Islands', cf. James E. Fannell, 'The "New Spratly Islands": China's Words and Actions in the South China Sea', Military Power Review, 2016:1, 27-38.

[24] Adam Rose and David Brunnstrom, 'China Warns U.S. It Will Not Allow Violations of Its Waters', Reuters, 09 October 2015,; Laura Zhou, 'China's Military is Prepared "to Defend Sovereignty" in South China Sea: Military Chief', South China Morning Post, 28 February 2016; Xu Wei, 'South China Sea Economic Cooperation Zone Proposed', China Daily, 06 March 2016.

[25] Bill Gertz, 'Pentagon Concerned by Chinese Anti-Ship Missile Firing', The Washington Free Beacon, 30 March 2016,; 'China's Missile Offense: Beijing is Militarizing Island Outposts in the South China Sea', Wall Street Journal, 19 February 2016. Also, see Admiral Harris, 'Statement', op. cit., 5.

[26] Akio Takahara, 'The Senkaku Trawler Collision Incident, September 2010', in Mike Mochizuki (ed.), The Okinawa Question: Regional Security, the US-Japan Alliance, and Futemma (Washinton, DC: Sigur Centre for Asian Studies, forthcoming 2013). The author wishes to thank professor Takahara for sharing a draft of his chapter. See also, Yusuke Anami, 'Japan-China Discord and Cooperation over the East China Sea', Japan Foreign Policy Forum, No.12, November–December 2012.

[27] Clive Schofield and Ian Townsend-Gault, 'Choppy Waters Ahead in "A Sea of peace Cooperation and Friendship"?: Slow Progress towards the Application of Maritime Joint Development to the east China Sea', Marine Policy, 2011:35, 26-28. Japan and China hold also different positions as to the legal status of Okinotorishima. This atoll, located some 1,700km to the east of Tokyo, is considered by Japan as an island – and therefore capable of generating EEZ rights – a notion objected by Chinese authorities. This position is of no secondary importance for the Japanese government since the atoll sits over an area that is recognised to possess significant natural resources, which would be exploitable by the country

the intent to exclude other claimants' right to do so.[28] In one case, that of the South China Sea, Chinese actions whilst related to its territorial claims, they can easily affect the wider access and freedom of navigation of the entire basin.

3. The Hybridity of Chinese Hybrid Warfare at Sea: Actors and Tactics

How is this competitive behaviour carried out? What does 'hybridity' mean in Chinese constabulary activities? The evidence from the China Seas would suggest that Chinese hybridity has two levels of interpretations. The first concerns the actors involved – a combination of coast guard and irregular forces, including the maritime militias known as the 'little blue men' – and the capabilities they field. The second pertains to the tactics they employ.

Insofar as the 'actors' are concerned, the Chinese Coast Guard (CCG) is formally the primary agent designated to implement national maritime rights.[29] Institutionally, the CCG came into existence in the aftermath of a major structural reform conducted in 2013, when four organisations were merged together and put under the responsibil-

ity of the State Ocean Administration (SOA). The CCG included the China Maritime Surveillance (CMS), the Maritime Border Police (MBP), the Fishing Regulation Administration, and the General Administration of Customs.[30] A fifth organisation, the Maritime Safety Administration remained under the responsibility of the Ministry of Transport. Reportedly, the merger aimed at achieving two goals: firstly, it sought to increase command and control mechanisms; and secondly, it was designed to reduce the risk of uncoordinated actions by separate commanders.[31] The merger, which was coupled by a significant enhancement of the CCG capabilities, resulted in the creation of one of the largest coast guards in the world, albeit one that is still striving to possess relevant professional standards across its forces. As of 2015, the CCG commanded at least 24 vessels displacing more than 3,000t and at least 79 ships more than 1,000t.[32] In 2015, the CCG has commissioned also the lead ship of a new class of 'super cutters' with an astonishing 12.000t displacement.

This brings about the question of capabilities. The majority of vessels procured before the merger is not armed with deck guns, although they possess

advanced non-lethal equipment such as water cannons and sirens. In 2014, incidents occurred with other regional coast guards showed that Chinese water cannons are capable of projecting jets of seawater out to some 100m with the ability to disable the communication gear of other vessels and sirens capable of deafening noise.[33] Recent additions to the CCG would suggest, nonetheless, a change in terms of deck armament for larger vessels. The new super cutter feature not only a 76mm main gun, but also a helicopter pad.[34] In addition, the coast guard has added to its list a number of decommissioned PLAN frigates, featuring two 37mm guns.[35] The ensemble of qualitative and quantitative data relative to the CCG supports the notion of an organisation that is distinctively 'hybrid', increasingly closing the gap between coast guard and navies.

The coast guard is not the only act in China's constabulary landscape. Civilian assets such as oilrigs and offshore drilling platforms have been used to showcase the country's intention to exert its EEZ rights in contested areas – notwithstanding the opposition of other claimants.[36]

More importantly, over the past year, international observers have gained a

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[28] In some cases, such assertions of national rights draw upon principles that are inconsistent with mainstream interpretations of UNCLOS. See Yoon, 'Xi Jiping's "True Maritime Power" and ESCS Issues', 887; Raul Pedrozo and James Kraska, 'Will China Decide to Reduce Tension in the South China Sea?', The Straits Times, 31 May 2016.

[29] Nong Hong, 'China's Maritime Law Enforcement Reform and its Implication on the Regional Maritime Disputes', Asia Maritime Transparency Initiative, 01 April 2015; also, for a detailed account of the transformation, cf. Ryan D. Martinson, 'From Words to Action: The Creation of the China Coast Guard', Paper Presented at the Conference 'China as a Maritime Power', Arlington, VA, 28-29 July 2015.

[30] Hong, 'China's Maritime Law Enforcement Reform and its Implication on the Regional Maritime Disputes', op. cit..

[31] Ibid..

[32] Martinson, 'From Words to Action', op. cit., 45.

Ibid., 46.

[33] Ibid., 46.

[34] Ryan D. Martinson, 'East Asian Security in the Age of the Chinese Mega-Cutter', CIMSEC, 03 July 2015.

[35] Franz-Stefan Gady, 'How China is Expanding its Coast Guard', The Diplomat, 30 July 2015.

[36] 'China Moves Controversial Oil Rig Back towards Vietnam', Reuters, 26 June 2015; Nicholas Szechenyi, 'China and Japan: A Resource Showdown in the East China Sea?', The National Interest, 10 August 2015.

much better understanding of China's maritime militias, also known as 'the little blue men' in reference to Russia's 'little green men' deployed during the operations in Crimea. The Chinese militias are pre-eminently recruited from local fishing communities, especially on Hainan Island. They are trained, provided with advanced communication and other specific equipment, which in some cases include capabilities like mines and PRGs to engage with foreign ships, and available for government tasking.[37] Reportedly, these irregular forces draw upon a tradition established in the early days of the PRC, when irregular forces were responsible to carry out the 'people's war at sea'.[38] Today, these militias are regularly deployed in harassment activities – with the most notable examples including the harassment of the USNS Impeccable in 2009, and the obstruction of supplies to the Filipino detachment on an outpost at the Second Thomas Shoal in 2014.[39]

In terms of tactics, a preliminary observation is that both military and constabulary forces have been used in the China Seas. For the purpose of this paper, it is worth stressing that the above mentioned actors and their capabilities have been used used for two primary objectives: the first concerned the so-called 'salami slicing' tactic whereby Chinese forces (militias

and CCG) are deployed in contested areas to pro-actively advance claims; the second pertained to more passive
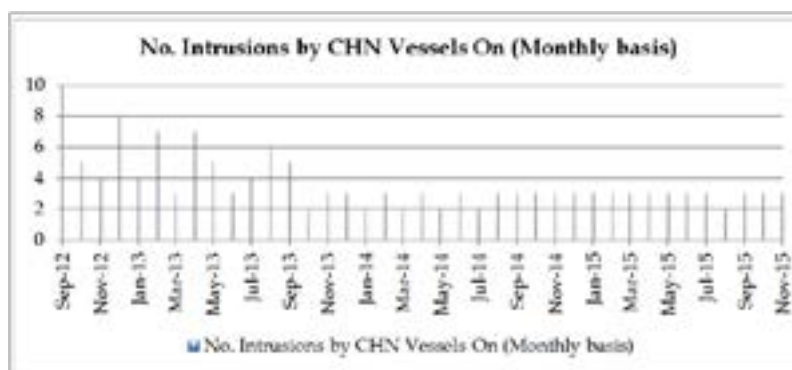

Fig 1. Number of. Intrusions within Territorial Waters of Senkaku / Diaoyu Islands

opposition to other actor's seemingly conducting activities to challenge alleged Chinese maritime rights and sovereignty claims. Examples of the latter tactics would include the harassment of US warships and military survey ships as much as he obstruction and harassment of Japanese, Vietnamese, and Filipino fishing boats and coast guard cutters. [40]

One of the most remarkable examples of attempts to advance Chinese claims concerns the on-going stand-off within the territorial waters of the Japanese-administered Senkaku Islands in the East China Sea. The islands are claimed by China under the name Diaoyu. The current situation

was initially prompted by the Japanese government purchase of three of the islands in September 2012.[41] In response to this action, Chinese authorities authorised the deployment of vessels on a regular basis within the territorial waters of the islands. The incursions lasted for a few hours during which CCG vessels chased away Japanese fishermen and confronted JCG cutters. These deployments increased throughout 2013 and settled on a 'routine' of three incursions per month (with the exception of July 2014 and 2015 – when there were only two incursions) since June 2014.[42] In January 2016, the incursions featured a former-frigate converted into maritime patrol cutter armed with cannons.[43]

The above example clearly indicates a willingness to intimidate but a clear

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[37] Simon Tisdall, 'Little Blue Men: The Maritime Militias Pushing China's Claims', The Guardian, 16 May 2016; Andrew S. Erickson and Conor M. Kennedy, 'Meet the Chinese Maritime Militia Waging a "People's War at Sea"'. The Wall Street Journal, 31 March 2015; Erickson and Kennedy, 'Irregular Forces at Sea: Not "Merely Fishermen" – Shedding Light on China's Maritime Militia', CIMSEC, 02 November 2015.

[38] Andrew S. Erickson and Conor M. Kennedy, 'Tanmen Militia: China's "Maritime Rights Protection" Vanguard', The National Interest, 06 May 2015.

[39] Andrew S. Erickson and Conor M. Kennedy, 'China's daring Vanguard: Introducing Sanya City's Maritime Militia', CIMSEC, 05 November 2015.

[40] Robert Haddick, 'Salami Slicing in the South China Sea: China's Slow, Patient Approach to Dominating Asia', Foreign Policy, 3 August 2012; Pedrozo and Kraska, 'Will China Decide to Reduce Tension in the South China Sea?', op. cit..

[41] 'Japan Government "Reaches Deal to Buy" Disputed Islands', BBC News Asia, 05 September 2011.

[42] Author's interview with Japan MoD official, London, November 2015.

[43] 'Japan Spots Cannon-like Equipment on Chinese Ship near Disputed Isles', Agence France Press, 22 December 2015.

aim at keeping the level of conflict under controlled escalation. The wide spectrum of Chinese capabilities is used in a calibrated fashion to exert pressure in different ways depending on the capabilities of opposing claimants. In particular, the aim seems to force other claimants in a difficult position to have to choose if to elevate tensions by responding in kind. A response to match Chinese forces would open other claimants to criticisms by Chinese official media seeking to present Beijing as the 'victim' of an actor seeking to 'escalate tensions'. This is exactly what happened when Japan signalled that with the appearance of armed vessels in the territorial waters around the islands the government would consider re-activating a law authorising the navy to intervene in support of the JCG.[44] The Chinese official media responded denouncing the Japanese declared intention to escalate matters within a matter of a few hours.[45]

4. Challenging the 'Cooperative' Vocation of Maritime Security?

What does this all say about the challenges to maritime security? The evidence from the China Seas clearly suggests that there is a need to partly revise the implicit assumption that maritime security activities are cooper-

ative in nature. Governance and good order at sea in contested areas is not. In the contested waters of the China Seas, the constabulary activities conducted by Chinese maritime forces are part of a strategy aimed at maximising the benefits of states' control at sea.

In the mid-1980s, Hedley Bull pondered the possibility of such a type of behaviour. He suggested that the potential scramble for resources and territorial claims nurtured a potential form of 'new mercantilism', intended as 'the use of force not to defend resources already possessed and legally owned but to seize resources belonging to others'.[46] As he pointed out, 'nations will still seek to exert military power at sea to ensure that these rights are upheld. If they do not, nations will employ military force in any case to advance their demands in the anarchical situation that will prevail'. This, he further observed, will produce a 'less publicised' scramble for ' the military instruments that will enable nations to make good their claims: patrol boats, surveillance aircraft, anti-ship missiles, attack submarines'.[47] Today, his words seem to be truer than ever.

As a result, there should be a clear distinction today, within the realm of 'maritime security' activities, between competitive behaviours to enforce sovereign and maritime claims and cooperative type of missions aimed at maritime governance and the maintenance of good order at sea, including activities such as counter-piracy, the interdiction of drug and weapons smuggling and human trafficking. Indeed, taking Booth's framework as a

Fig 2. The Constabulary Roles of Maritime Forces

[44] 'Japan Sends China warning over Incursions near Disputed Isles', Reuters, 12 January 2016.

[45] 'China Warns Japan against "Provocation" around Disputed Islets', Reuters, 13 January 2016.

[46] Hedley Bull, 'The New Environment: Sea Power and Political Influence', in Jonathan Alford (ed.), Sea Power and Influence: Old Issues and New Challenges (London: Gower and Allanheld, Osmun for IISS, 1980), 5.

[47] Ibid., 5.

reference, the lower part of the component of the triangle dealing with constabulary roles should clearly be regarded as encompassing competitive type of actions that are closer in nature to the military roles at the base of the triangle. Within this context, it seems particularly appropriate to consider the decision of the Japan Ministry of Defence to call these competitive activities as 'grey zone contingencies', for they concern competition over maritime boundaries, economic interests and unresolved sovereignty disputes.[48]

Conclusions:
A Paradigm Shift?

There is a sea change taking place in maritime security, and Chinese hybrid warfare at sea is shaping it. Competition at sea has returned, but this come back is unlikely to witness the emergence of a purely Cold War style binary type struggle for control of the oceans. Today, the world is economically interdependent and frameworks like UNCLOS have contributed to create awareness within the international community about the importance of good order at sea. As such, cooperative behaviour in the pursuit of maritime security missions will continue to represent one expression of maritime security activities.

Nonetheless, it is undeniable that in the context of ill-defined maritime boundaries and of disputed island features maritime security too is at the centre of peer competition. The experience of the China Seas suggests that compliance with the principles of freedom of navigation and UNCLOS will define the extent to which competitive constabulary behaviours will define maritime activities.

Within this context, Chinese hybrid warfare requires a change in our understanding of maritime security. The ability to 'enforce' national jurisdiction in contested EEZs or in the territorial waters of a given set of islands is an expression not so much of genuine governance; rather, it showcases national control. Chinese hybrid warfare seeks to do just that. It strives to legitimise activities aimed at asserting the control of disputed features and maritime boundaries by means of a variety of law-enforcement capabilities as well as militia forces, seemingly operating in defence of inherent maritime rights. The implications are, therefore clear. First, the experience in the China Seas suggests that maritime security is an increasingly competitive affair and it is likely to remain so in the future. Second, core actors like the CCG are being militarised – with the introduction of deck guns and other armament - to assert national power rather than foster cooperation. Thirdly, whilst Chinese hybrid warfare focuses on regional disputes, it is undeniable that in the South China Sea, the assertion of national claims overlaps with broader strategic implications, linking the pursuit of maritime security to power competition for control of the sea. The control of key island features– especially in the South China Sea – would in fact allow the Chinese military to project power across the China Seas, de facto using the pursuit of maritime rights to potentially affect the freedom of navigation and over flight along international sea-lanes linking East Asia to the rest of the word. The extent to which other actors, including NATO, will decide how to engage with this challenge is open to debate. Yet, as every journey of a thousand miles starts with one step, integrating the competitive character of some actions at sea within the spectrum of the constabulary roles is the first step in the one leading to the future of maritime security.

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[48] Japan Ministry of Defence, National Defense Program Guidelines for FY 2011 and Beyond (Tokyo, 17 December 2010), 2-3.

Political Implications of Cyber Space on State Power

Dr. Elena (Helene) Mandalenakis

Globalization is most commonly used to describe the increased economic interdependence of states and the shrinking of their physical boundaries. The technological and information revolution have created new challenges for the states vis-à-vis other state and non-state actors in the international system. Interdependence, renders unilateral state actions unrealistic due to their ineffectiveness against trans-national threats. This apparent reduction of state power sparks political debates as to whether the nation-state remains sufficiently intact to pursue its domestic and international interests, or is withering away.

This paper will explore the state's ability to deal with new threats arising from the asymmetrical distribution of the cyber power, a new form of power and its influence on maritime power, a traditional expression of state power. These forms of power are not evenly distributed to the states and the possession of one does not assume the possession of the other thus, making their relation puzzling for foreign-policy decision-makers. Hence, there is a need to determine the degree of interaction and interdependence of the maritime and cyber domains along with their impact on the overall state

power. The interaction of these forms of power challenges traditional foreign policy formation and determines a state's position in the international system.

On State Power

Different schools of thought in International Relations aim to explain state relations in the international system and the formation of state preferences. Although they are formed on different assumptions, their main goal is to describe the relation between state power and state preferences, domestically and internationally as well as to prescribe means to avoid conflict or war. The predominant theories of Realism and Liberalism will be used to relate state maritime and cyber power with state behaviour.

In Realist theory, the states are the primary actors operating in an anarchic international system. In this system there is no overarching authority above the state and states are considered unitary,[1] sovereign and rational[2] actors. All states possess the same interest, to survive in an anarchic environment through the maximization of their power. In this system, military power guarantees state security. The state's need to maximize its military power rises from the assumption that other states are potential enemies and will threaten its survival. This is best described as a security dilemma on which the states respond to by altering the distribution of power in the international system. Kenneth Waltz's Structural Realism, states that any structural changes in the international system will alter the state relations and thus, state behaviour.[3] Hence, war may be avoided due to the deterrence effect arms races have on interstate relations and not because of state cooperation.[4] The weakness of Realism however, is that although it explains change in state behaviour it fails to explain change in state interests.

The Realist assumption that military power is the state's main objective, cannot account for other state interests such as economic ones. Although Realists expanded the definition of power to include the state's maximization of utility, Liberal theory is best suited to account for changes in state interests based on the assumption that the benefits of economic exchange, make the occurrence of war unlikely. Although the international market regulates interstate free trade and profit, it does not necessarily minimize the escalation of wars, in the military and economic sense.

The attainment of security and economic interests is central in foreign policy and once these cannot be attained unilaterally, states turn to multilateral action by leading or participating in state alliances led by a dominant state. Multilateralism requires cooperation and creates procedures for the resolution of disputes thus, restraining the escalation of war. The establishment of international regimes and institutions regulates the behaviour of the states for the peaceful attainment of their common interests and objectives. This is achieved by providing a set of "principles, rules, norms and decision-making procedures around which actors' expectations converge.[5]" More specifically, security regimes are these "principles, rules, and norms that permit nations to be restrained in their behaviour in the belief that others will reciprocate.[6]" Such a regime was the Concert of Europe, in the 19th c. after a coalition of states defeated Napoleon. In the economic sphere, the General Agreement on Tariffs and Trade (GATT) regime set international trade regulations favouring the reduction of tariffs and other trade barriers and thus, eliminating trade preferences for all signatories.

Multilateralism however, does not imply equality among the participants. The most powerful states have earned the advantage of directly influencing the design of these regimes, organizations and alliances. Regarding state security, states have the choice to respond to a threat by allying with other

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[1] Unitary states act as single entities. Mark R. Brawley, Turning Points: Decisions Shaping the Evolution of International Political Economy, (Ontario: Broadview Press, 1998), 32.

[2] States are rational because they form their choices based on perfect information which reveals all their possible choices. Then, they assess the costs and benefits of all available options and choose the one that serves best their highest preference. Ibid., 34 and ft. 15, 53.

[3] Kenneth Waltz, Theory of International Politics, (Reading, Mass: Addison-Wesley, 1979), 81.

[4] Hegemonic stability theory claims that the existence of a hegemonic state in the international system guarantees the peaceful coexistence of states.

[5] Stephen Krasner, International Regimes, (Ithaca, NY: Cornell University Press, 1983), I.

[6] Robert Jervis, "Security Regimes," International Organization, 36, 2, (Spring 1982), 357-378, at 357.

states against the threat, which is a balancing act or by bandwagoning, which is the alliance with the threatening state. The power of the state, the availability of allies and the context of the states' decision determine their choice. Accordingly, state power, in terms of high capability and low vulnerability, determines state behaviour and state relations in the international system.[7]

State power has tangible and intangible components. Diplomatic power, for example, is non-tangible. However, its strength is founded upon the measurable capabilities of the state as well as the intention to use these capabilities thus, making the threat for retaliation credible and acting as deterrent against enemy actions. The power of persuasion or the threat to use force, is often as effective as the actual use of military force but certainly less costly. The emergence and the rapidly increasing dependency on electronic systems for rapid and accurate communication coupled with the capacity for instantaneous control of infrastructure, has led to a new power (although not exclusive to a state) that is capable of affecting all other powers available to the state. For the purposes of this discussion, we will examine the domain, the means and the weight (i.e. geopolitical strengths and weaknesses) of maritime and cyber power in the achievement of state power along with their level of interdependence, if any.

Maritime Power

Alfred Tayer Mahan in the late 19th c, examined the importance of a state's geographical position in the determination of sea power. Accordingly, geography and sea power determine national security policy in the anarchical international system.[8]

The state's geographical location directly influences its maritime power and defines the significance of its maritime policy in the advancement of its security and economic interests. Therefore, coastal states have an immediate interest in a strong maritime presence that will guarantee the safety of their sea borders along with the protection of their ports, natural resources and vital energy infrastructures, located within these borders.

Historically, states surrounded by sea had to defend themselves from hostile powers or alliances of those. Empires have been built upon their maritime dominance and sustained their power through their naval forces. The strength of the British navy secured and expanded the empire's borders and guaranteed the protection and advancement of its economic interests in the seas (through shipping and control of trade routes). Hence, the safety of commercial shipping operations enhances national trade interests.

Maritime power is used as a foreign policy tool, directed towards the advancement of military and commercial interests, with significant political implications for state relations. The 2015 appearance of Chinese naval ships' in the Bering Sea, which coincided with the US president's visit to Alaska, was a clear statement concerning China's naval capabilities vis-à-vis the United States.[9] A more aggressive policy is the imposition of a naval blockade to coerce states to comply with specific demands or to oblige a state to respect the imposed economic sanctions. Examples of such naval blockades are the US blockade of Cuba during the Cuban Missile Crisis in 1962 and the 2015 Saudi-led blockade of Yemen.

In the first case, the US maritime deterrent policy's military objective was the elimination of an enhanced Soviet military threat across the border and the maintenance of its balance of power during the Cold War. On the other hand, the American political objective was the maintenance or the enhancement of its domestic and international credibility as a hegemonic power facing another hegemonic power. The credibility of US's threat to strike first, coupled with its real and perceived capability to follow through this threat, significantly supported the intense diplomatic efforts made by the superpowers, to avoid a nuclear war. Hence, both policy objectives served the US interests to maintain its sphere of influence and to avoid the occurrence of a devastating nuclear war.

The 2015 naval blockade imposed to

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[7] Stephen M. Walt, The Origins of Alliances, (Ithaca, NY: Cornell University Press, 1987).

[8] Alfred T. Mahan, The Influence of Sea Power Upon History 1660-1783, (Boston: Little, Brown & Co, 1890).

[9] Phil Stewart, "Five Chinese ships in Bering Sea as Obama visits Alaska," Reuters, 2 September 2015, at http://www.reuters.com/article/us-usa-china-military-idUSKCN0R22DN20150902

Yemen, was a foreign policy tool for the realization of military and security objectives of Saudi Arabia and its allies. The US and the UK mainly offered logistical and intelligence support to their Saudi ally. The blockade restricted the arrival of commercial ships to Yemen and drastically reduced its energy exports with devastating effects on Yemeni economy. The naval blockade, supported the airstrikes carried out by the Saudi coalition and weakened the Yemeni government's ability to reorganize its defence as it prevented the import of weapons. The foreign policy interest, shared by the allies, was the end of the internal conflict in Yemen, as it posed a regional security threat, while at the same time securing the "oil supplies through the Bab al-Mandab shipping lane, a vital energy gateway from the Gulf to Europe and North America."[10]

The US had a military interest in securing the al-Annad airbase, critical to US drone operations against Al-Qaeda and the American war against terrorism. Failure to do so, could impact US counter-terrorism operations against Al-Qaeda in the Arabian Peninsula. US navy vessels, such as the USS COLE missile destroyer in 2000 and the USS THE SULLIVANS, have been subject to terrorist attacks at the Aden port in the past.

Consequently, maritime concerns and preferences are not confined within the state's maritime borders but span across international waters depending on the state capabilities. In Asia, the US foreign policy has been challenged by China's maritime territorial claims in the East China Sea, the South China Sea and the Yellow Sea. In these cases, China, by expanding its maritime borders, is interested in increasing its energy and fisheries resources and in controlling significant trade routes. These regional disputes cause political instability in the region, with security implications for the states' foreign policy and international trade routes. The US, although not directly involved in the disputes, is announcing its interest in maintaining the peace and free commerce in the area. By doing so, it is actually protecting its ability to sail in these waters and at the same time supporting its allies in the Asia-Pacific by honoring defence and cooperation treaties it has previously signed with states like the Philippines, Japan, etc.[11]

National economic and trade interests may also be shared by other states in the name of profit through cooperation. The UK's attempts to revive the economic partnership of the Commonwealth states is such a policy. India, hesitant in the past to ally with its former colonial power, is now considering joining a maritime coalition of the Eastern Hemisphere with the US, Japan, Australia and the UK.[12] A re-gional maritime alliance will not only increase the security of the states' maritime borders but will also enhance the regional and international security of trade routes with economic benefits for the UK.

Other maritime interests are the prevention and response of navy patrol vessels to illegal actions at sea, such as piracy, drug, weapons and people-trafficking, water pollution, over-fishing and most recently illegal migration. Germany's recent decision to send 650 troops to join the "Sea Guardian" NATO mission in order to combat arms smuggling by ISIS in the Mediterranean Sea is an example of such action.[13] Also, in the past few years the Italian and Greek coast guards have assumed principal roles in the combat of illegal migration and in the rescue of illegal migrants crossing the Mediterranean Sea.

It is evident then that the maritime domain is governed by geopolitics and as the navy is considered an extension of the state, maritime policy has profound political implications on state power.

Cyber Power

Studies on the role of state power in the digital or information age are not yet adequate to build a theory that can conceptualize the impact from the use of cyber technology in state relations. The political relations of the

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[10] "Egypt Initiates Naval Attacks in Yemen," The Maritime Executive, March 30, 2015 at http://www.maritime-executive.com/article/egypt-initiates-naval-attacks-in-yemen

[11] B. Dolven, S. A. Kan and M. E. Manyin, "Maritime Territorial Disputes in East-Asia: Issues for Congress," Congressional Research Service, January 30, 2013, at http://www.fas.org/sgp/crs/row/R42930.pdf

[12] C. Raja Mohan, "Britain could Join India in a Maritime Coalition," World Today, August 17, 2016, at http://carnegieindia.org/2016/08/17/britain-could-join-india-in-maritime-coalition-pub-64347

[13] "Germany to send 650 troops to fight ISIS smuggling in Mediterranean," Alarabiya Net, 14 September 2016 at http://english.alarabiya.net/en/News/middle-east/2016/09/14/Germany-sends-650-troops-to-fight-ISIS-smuggling-in-Mediterranean-.html

state in the context of cyber space are still largely unexplored as it is difficult to place them in terms of traditional forms of power such as sea, air and land powers. The reasons lie behind the non-physical nature of this form of power, the multiplicity of stakeholders and the transnational consequences of cyber actions that differentiate it from the traditional forms of power.

"War" in cyber space has not yet been regulated, if ever, "by legal provisions as to the principles of military conduct and rules of engagement of just war.[14]" This is due to the fact that the rules of engagement and conduct were designed for sovereign state actors. The use of cyber technology is not the exclusive domain of military and intelligence agencies and is largely dominated by non-state actors such as legal entities and individuals who may or may not act in their own interest. Cyber espionage, for example, is being currently practiced at various levels by state and non-state actors alike. Of course, the use and level of advanced technology varies and is dependent on the user, the sector it is applied in and the purpose it aims to achieve. The lack of evidence of cyber operations further complicates the strategic theorizing of cyber warfare. Therefore, what would constitute cyber war between states? Where can we draw the line between war and muscle-flexing between states in cyber space?

As discussed earlier, territorial sovereignty is the foundation of the realist paradigm for state relations. When talking about cyber space, emphasis is being given on the non-physical nature of strategic information leading to assumptions that states have been superseded. State responsibility regarding any offensive and defensive cyber actions, cannot be dismissed, as "physical infrastructure of cyberspace" is geographically located and regulated by state laws regardless of who owns this infrastructure.[15] Governmental agencies, private actors, even individuals operating within a state's territory must abide to its laws and regulations.

Cyber Interferences on State Power

In cyber advanced states, the state infrastructure is entirely digitized and all the information can be located in cyber space. Cyber systems are globalized, inter-connected and highly integrated which facilitates the spread of any disruption in the local system with unforeseen risks and consequences. Cyber interferences take the form of remote electronic system manipulation, through existing hardware or software vulnerabilities. Depending on the type of the systems attacked as well as the scale and level of expertise of the attackers, they can affect both domestic and international stakeholders. Such interference could have varied effects, ranging from simple business disruptions to potentially threatening the security of the state itself. They can cause malfunctions or even deny access to electronic systems operated by the state, companies and individuals and have the capacity to become more exacerbated in crisis situations or state of emergencies. In such cases, they could be used to cause disruption of communication between the chain of command on all political, economic and military levels due to their interconnectivity and thereby depriving the state of an effective reaction to the crisis.

The perception of threat of cyber interference is a powerful psychological tool that can be used to enhance the notion of insecurity on the safety and validity of the information at stake and to demoralize decision-makers. Although the effect is not as hazardous as a real cyber-attack, it can lead the affected state to either engage in elaborate additional security protocols or entirely abandoning procedures in favor of more outdated but more secure means of protection and communication. A return to an analogue age if you wish. This obviously leads to considerable delays in the relay of any information, as physical validation and security is implemented. This is particularly the case for governmental and military institutions that have already been attacked, as in many cases cyber-attacks are not easily detectable, resulting in the exacerbation of insecurity after the discovery of their effects.

This capability of cyber interference can act as a deterrent for enemy states from acting in any hostile or provocative manner. This capability, like other types of capability, does affect the diplomatic and military power of a state as well as its reputation by allies and enemies alike.

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[14] Ugo Pagallo, "Cyber Force and the Role of Sovereign States in Informational Warfare," Philos. Technol., 28, 2015, 407-425.

[15] John B. Sheldon, "Geopolitics and Cyber Power: Why Geography Still Matters," American Foreign Policy Interests, 36, 5, 286-293, at http://dx.doi.org/10.1080/10803920.2014.969174

Positive Effects of Cyber Power over Maritime Power

Modern warships have taken advantage of the advent of technological innovation by automating their functions to render them capable to be manned and operated at maximum efficiency by considerably fewer personnel. The

Arleigh Burke class Destroyer, first deployed in 1991, has a crew complement of 329 sailors. By comparison, the first example of the Zumwalt class Destroyer, launched in 2013, has a crew complement of only 158 sailors but manages to improve strike group defense 10 times over. The benefits of automation are self-evident. However, the total reliance on electronic systems for navigation, defence and offense, renders them susceptible to the threat of cyber-terrorism, as it may be the only efficient means of disabling a warship, short of directly engaging it in combat.

The possibility of a successful cyber-attack on a warship may be far reaching, considering the levels and multiple

layers of encryption that are employed to maintain security and integrity of the various systems. The same, however, cannot be said for commercial vessels engaged in the global supply chain of commodities. They also rely heavily on automated systems for their navigation and control to achieve maximum efficiency in their operations.

Granted, the drive behind commercial vessel automation lies purely on economic considerations rather than security, but the effect is one and the same: the ability to man the ship with the fewest personnel possible while at the same time considerably increasing its efficiency. In the commercial industry this drive is aggressively implemented. A point of example is the 400-meter-long Triple-E ship series on order by Maersk Line. They are larger than any vessel of any kind currently on the water, yet they are designed to be operated with a minimum crew complement of 13 and a maximum one of 34.

This degree of automation however, is not limited to the vessels travers-

ing the high seas. Ports and Oilrigs have also taken advantage of the existing technologies to increase their efficiency and their safety margins. They have been largely the testbeds for technological concepts that would have been perceived as a byproduct of science fiction no more than a decade ago. The Delta Terminal of the Port of Rotterdam is otherwise known as the Ghost Terminal. The reason behind this, lies in the fact that the loading and stacking of containers is handled by autonomous robotic cranes and computer controlled guided vehicles, thus entirely eliminating the human factor from these operations. In the Oilrig industry, the level of automation is as aggressive with Dynamic positioning for station-keeping on floaters being amongst the first fully automated systems in the offshore industry. Currently there is technology in the testing phase that allows for unmanned drilling operations through the development of an innovative autonomous robotic drilling rig. The concept intends to eliminate the human factor from the most dangerous part of drilling operations, one that is plagued by repetitive actions and thus, subject to high degrees of mistake.

Negative Effects of Cyber Power in the Maritime Domain

Taking into account the current interconnectivity of the maritime and cyber spheres, it is obvious that cyber interference can and does take place in the maritime domain. The intent behind an interference is none other than the disruption of the normal maritime operations. According to ENISA in 2011, maritime cyber security is very low, as

existing maritime security standards focus on physical security alone.[16] As the electronic aids employed in the maritime industry are designed to provide highly accurate results, they require to be remotely connected to land-based services for their continuous update and maintenance. This is their greatest strength and at the same time their greatest weakness. A cyber-attack can either be performed directly on the vessel or via the link to these services. The extent of such an attack can range from disabling parts or the whole of the vessel, to directly assuming control of its navigation, or even indirectly, by feeding false information to the instruments demanding a certain reaction from the crew. The possibilities are only limited by the ingenuity of the attacker. The GPS can be manipulated to veer a vessel of its plotted course, the ECDIS (Electronic Chart Display and Information System) can be hijacked via an internet download or through the insertion of a simple USB flash drive enabling access to the entire shipboard network, the AIS (Automatic Identification System) can be deceived to create ghost vessels or false alarms for collision or weather conditions or even making the vessel disappear by repeatedly delaying the transmission time. The

possibilities are endless. The actual threat however, is to take advantage of the vulnerabilities in the commercial maritime operations and use them to disrupt military maritime operations. A plausible scenario would be to remotely hijack commercial vessels and put them on collision course with military vessels.

The interference however, is not limited to sea vessels but extends to the ports and Oilrigs as well. There has been a case reported in the port of Antwerp where the vulnerabilities of the electronic cargo ID system were exploited to allow the deletion of containers with illicit substances from the system. Essentially, the containers became invisible and were delivered to the smugglers without any control from the port authorities and the police.[17] In regards to Oilrigs, hackers managed to shut down drilling for a week in 2014 by tilting an Oilrig.[18] The financial damage was estimated in the millions of dollars from this unscheduled interruption.

Information is Power and He who Controls the Flow of Information, Controls the World.

Actual threat scenarios based on suc-

cessful cyber-attacks, however are even more frightening. A cyber-attack can target nearly everything connected, directly or indirectly, through a public network of communications. This includes the internet, satellite transmissions, wireless and cable communications. Through these data streams, a hacker can gain access to the most critical of infrastructures including the military. A person worthy of reference to that effect is Gary McKinnon, a Scottish hacker, who was accused of hacking into 97 United States military and NASA computers over a 13-month period between February 2001 and March 2002. His cyber-attack was dubbed the biggest military computer hack of all time.[19] Although this attack was limited to the collecting of information, it is the perfect example to demonstrate that even the military infrastructure is not impervious to a dedicated and imaginative individual. This becomes even more apparent after the events of 4 December 2011, where the Iranian government announced that an American unmanned aerial vehicle (UAV), a Lockheed Martin RQ-170 Sentinel specifically, was captured by its cyberwarfare unit which commandeered the aircraft and safely landed it.[20] However, random or even targeted cyber incursions on

[16] ENISA, "Critical Infrastructures and Services," November 2011 at
https://www.enisa.europa.eu/topics/critical-information-infrastructures-and-services
[17] Tom Bateman, "Police warning after drug traffickers' cyber-attack," BBC News, October 16, 2013 at http://www.bbc.com/news/world-europe-24539417
[18] "All at Sea: Global Shipping Fleet Exposed to Hacking Threat," Reuters, April 23, 2014, at http://www.reuters.com/article/us-cybersecurity-shipping-idUSBREA3M20820140423
[19] Clark Boyd, "Profile: Gary McKinnon," BBC News, July 30, 2008 at http://news.bbc.co.uk/2/hi/technology/4715612.stm
[20] Scott Peterson, "Exclusive: Iran Hijacked US drone says Iranian Engineer," The Christian Science Monitor, December 15, 2011, at http://www.csmonitor.com/World/Middle-East/2011/1215/Exclusive-Iran-hijacked-US-drone-says-Iranian-engineer-Video

military infrastructures are not the real threat.

Targeted cyber-attacks on the civil critical infrastructure are even more hazardous in effect. Specifically, by targeting the critical infrastructure such as the power grid, water supply, communications and the stock market, they have the capacity to cripple a country from within and lead to a state of national emergency. In September 2007, American researchers conducted an experimental cyber-attack that changed the operating cycle of a generator, causing it to stop. The experiment was intended to demonstrate the vulnerabilities of the system.[21] Similar attacks on the power grids, although not government sanctioned, have already occurred in Ukraine[22] and Israel.[23] In respect to cyber-attacks on financial institutions, in October 2010 Nasdaq was breached by an unknown intruder[24] and more recently in June 2016, Anonymous hacked the London Stock Exchange (LSE).[25] The difference between the two lies in the fact that the LSE attack was attributed to hacktivism while the Nasdaq attack, to a still unknown or undisclosed foreign intelligence service, which used an at-

tack code similar to Stuxnet that was designed to destroy. It is generally regarded among cyber security experts that spreading a malware like Stuxnet, one that could hit critical infrastructure, is considered an act of war.[26]

If such a threat scenario is realized, one that would involve a declaration of war or even the initiation of hostilities between two states, with one using its cyber power and the other its maritime power, the result would favour the cyber capable state. The deployment of a military navy requires planning, the reconnaissance and identification of targets and a sufficient amount of time to render the effective deployment of the fleet at a distance favouring its attack capabilities. In contrast, the deployment of cyber power requires considerably less time, the infrastructure required is mobile and dispersed, the target identification is already clear and present and the effects of continuous and coordinated attacks could bring a country on its knees without firing a single shot. It is clear that if one deconstructs a state from within, it denies it the effective deployment and use of its military assets.

Proposals On Possible Measures For The Protection of Maritime Power From Cyber Power Abuse

The unchecked development and use of cyber power is not just a national concern but a transnational threat that demands international cooperation. Sadly, at this time, there are no concrete measures at the international level. There are only certain proposals but we may be quite far from any effective solution. Specifically, within the EU, ENISA concludes that maritime security awareness is almost non-existent and thus, proposes to its member-states to include cyber security aspects in their maritime policies. In addition, ENISA calls for better information exchange on cyber security, reducing the risk for the maritime sector, as well as for the close cooperation and alignment of maritime policies at the international, European and national level.[27] The US has taken a more practical approach and developed a specific cyber protection system called RHIMES (The Resilient Hull, Mechanical and Electrical Security). RHIMES protects the ships' physi-

[21] "Sources: Staged Cyber Attack Reveals Vulnerability in Power Grid," CNN, September 26, 2007 at http://edition.cnn.com/2007/US/09/26/power.at.risk/index.html?iref=topnews

[22] J. Robertson, M. Riley, "How Hackers Took Down a Power Grid," Bloomberg, January 14, 2016, at http://www.bloomberg.com/news/articles/2016-01-14/how-hackers-took-down-a-power-grid

[23] Pierluigi Paganini, "Israeli Public Utility Authority hit by a severe cyber attack," Security Affairs, January 27, 2016 at http://securityaffairs.co/wordpress/43989/hacking/israeli-public-utility-authority-under-attack.html

[24] M. Riley, "How Russian Hackers Stole Nasdaq," Bloomberg, July 21, 2014, at http://www.bloomberg.com/news/articles/2014-07-17/how-russian-hackers-stole-the-nasdaq

[25] A. Cuthbertson, "Anomymous Hackers Target London Stock Exchange," Newsweek, June 6, 2016, at http://europe.newsweek.com/anonymous-hackers-london-stock-exchange-icarus-tech-466790?rm=eu

[26] Pierluigi Paganini, "Cyberwar – The Cyberspace is Already a Dangerous Battlefield," Security Affairs, August 6, 2016, at http://securityaffairs.co/wordpress/50059/cyber-warfare-2/cyberwar-cyberspace.html

[27] ENISA, "Critical Infrastructures and Services," November 2011 at https://www.enisa.europa.eu/topics/critical-information-infrastructures-and-services

cal systems from any interferences, even when these are in progress, by diversifying the controller systems and avoiding the infection of all linked systems with one attack.[28] So in the event of a cyber-attack onto the shipboard, the hacker would not be able to attack more than one hardware system using the exact same exploit. In addition, the US Coast Guard has already adopted a cyber security strategy, oriented on the prevention, response and recovery from cyber-attacks.

On the theoretical plane there are several proposals to counteract cyber interference that should be considered:

1) The creation of cyber alliances is a controversial topic and highly interesting from a political science point of view. The idea is based on the traditional aspects of strategic military alliances, which were necessary for neutralizing or deterring a military threat. The problem with this idea lies in the fact that although a military alliance is based on tangible and measurable military assets that are situated in defined state borders, the same is not possible in a cyber alliance. This is due to the fact that there is neither a quantifying measure of cyber power capacity nor territorial boundaries to limit its effect and application.

The discussion about sovereignty and territoriality relates to the issue of jurisdiction and responsibility. It is not a matter of borders in cyberspace but of jurisdiction and responsibility as no political acts can exist in vacuum, they must be situated within a political context as their outcomes do. This is even more exacerbated by the general unwillingness of the states to reveal their true cyber powers which could only be quantified by measuring the effects of cyber-attacks that they took responsibility for. In the realm of cyber power, admitting to a cyber-attack is tantamount to taking responsibility for an offensive military action.

On the other hand, states attempt to extend their sovereign control over cyberspace in order to eliminate security risks to their economic interdependence and military vulnerabilities. The case of the Heartbleed bug is just an example of e-insecurity due to some states' attempts to regulate encryption and not allow the public use of the highest encryption for security purposes.[29] The point is that cyber power exercised as a state power is more akin to clandestine operations. Departing from that veil of protection could compromise a state's ability in exercising its sovereign rights through more public avenues.

2) Regulation of the cyber domain at the national and international levels is another controversial topic. Currently, there are various pieces of legislation worldwide attempting to regulate the use of the electronic domain. These attempts suffer from harmonization problems as each state interprets the existing or potential dangers of cyber abuse in a different way. The fact that the majority of regulation resides in the national domain and taking into account the transnational nature of the cyber domain, the prosecution of an offence will be limited by national jurisdiction.

In addition, there is a general lawlessness dominating the cyber domain. Currently the public internet is comprised of the surface web and the deep web. The deep web is the part which is not indexed by standard search engines, is considered to be 550 times larger than the surface web and its mere existence and continuous use for nefarious purposes speaks volumes on the state of effective regulation. Any other attempt to regulate on the physical location of the servers is merely scratching the surface.

3) Self-regulation is another controversial option. Proponents of the idea, suggest that universities should apply academic vigilance and undertake the responsibility for a secure and open cyberspace, "since it was from 'the university' that the Internet was born, and from which its guiding principles of peer review and transparency were founded."[30] The creation of Linux was one of the success stories for the proponents of the theory. The source code of Linux was distributed freely and the hacking com-

[28] RHIMES is expected to protect systems related to anchoring, hydraulics, electric power, climate control, damage control and firefighting, steering and engine control. "Protecting Navy ships from cyberattacks," Homeland Security News Wire, September 25, 2015 at http://www.homelandsecuritynewswire.com/dr20150925-protecting-navy-ships-from-cyberattacks

[29] James A. Lewis, "Heartbleed and the State of Cybersecurity," American Foreign Policy Interests, 36, 5, 2014, 294-299, at http://dx.doi.org/10.1080/10803920.2014.969176

[30] Ronald J. Deibert, "Bounding Cyber Power: Escalation and Restraint in Global Cyberspace," Internet Governance Papers, The Centre for International Governance Innovation, 6, October 2013,1-22, at p.14 at https://www.cigionline.org/sites/default/files/no6_2.pdf

munity took it upon itself to provide their input in securing the vulnerabilities of the system. It should be noted however, that this should be regarded as a romantic approach to state security, as it is largely based on the notion that all entities and individuals share the same notions regarding the protection of national interest.

Conclusion

The state benefits from both the maritime and the cyber sector. Although the maritime and cyber domains are separate and autonomous policy areas, they overlap and interfere with each other. The success of maritime operations depends on the security of cyber space.

Maritime power is closely connected to defined territorial borders and interests within and beyond state borders. It manifests itself in the expansion or shrinking of state territory, in economic benefits or loss and inevitably in the state's international position. Cyber power is not as affected by geopolitics thus, it strives away from traditional determinants of power such as territorial boundaries, powerful economies and natural resources.

Consequently, the lack of territorial boundaries in cyber space, the difficulty to determine the source of a cyber operation, which allows states to refrain from claiming responsibility along with the amplitude of cyber operations in a technologically advanced state, makes this source of power invaluable. Furthermore, the importance of cyber space (except for the obvious technological reasons) lies on its interference with the sources of state power (in this case, maritime power) thus, affecting essential policy areas domestically as well as internationally.

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Considerations on the Mediterranean Migration Crisis

by Corrado Campana
Captain ITA (N)

The Mediterranean Sea, given its geographic position that makes it the hub between different continents and cultures, is particularly sensitive to the current record-breaking dimension of the immigration to Europe.

Ongoing hybrid conflicts along the Mediterranean shores and in its neighboring regions provide the framework and the context for understanding the world's highest number of refugees since World War II. These conflicts involve a broad and diverse array of entities and issues, and are characterized by a violence that often occurs in an asymmetric manner in which civilians are frequently the victims and even the targets of fighting, causing large numbers of refugees and internally displaced persons.

Irregular migration in the Mediterranean Sea is a particularly complex phenomenon as it crosses through and involves the continents of Europe, Africa, and Asia.

A glance to the Mediterranean may form the image that this Sea constitutes a natural barrier between southern Europe, northern Africa, and the Middle East. However, throughout the

history of human civilization, the Mediterranean has provided connective tissue between the three continents just as much, if not more, than it has acted as a barrier between them.

The Mediterranean Sea has witnessed several consequences of interactions between diverse empires, ethnicities, religions, and cultures. Historically, such interactions have at some times led to conflict and hostility and, at other times, they have led to the sharing of ideas, traditions and technologies that fostered and helped the progress of

foreign fighters transit, and the fragile economic situation of the Euro-zone.

A very important consideration to make is that migrants crossing the Mediterranean are in no way representative of a single or homogenous group. For this reason, rather than using the term "illegal migration" when referring to the Mediterranean crisis, the terms "mixed migration" and "irregular migration" appear to be more accurate to describe the situation. Indeed, different types of migrants are subject to different international laws and, because on this,

gration, Europe's conventional policy framework has been designed to distinguish the forms of migration, in particular 'voluntary' versus 'forced'. Simply put, the question is whether the migrants are choosing to migrate to improve their own economic condition and prospects, in which case they are most commonly referred to as "economic migrants", or whether they are forced to escape from their countries of origin out of fear of political, ethnic, religious or other forms of persecution. Through the international legal prin-

humankind. Today, there are dissimilar socio-economic and geopolitical realities on the different sides of the Mediterranean, and yet they are strung together by mass human population movements which are a dramatic demonstration of how occurrences on one part of the Mediterranean reverberate across all of its shores. This phenomenon is causing particularly high tensions in Europe as it is taking place at a time when Europeans are particularly concerned with terrorism,

they will face different treatments in their host countries. In other words, "irregular migration" is a broader term that refers in general to migrants traveling between countries without the officially authorized travel documentation for doing so. Given the legal rights to which they may be entitled under certain circumstances, some of the irregular migrants and asylum-seekers may therefore not be considered illegal migrants.

To address different forms of immi-

ciple of Non-Refoulement, established by the European Convention on Human Rights (Article 3) in parallel with the Geneva Convention on Refugees of 1951 (Article 33), this latter group of migrants is protected from being returned to a country where their lives or freedom would be threatened or endangered, and they may be granted a form of asylum.

In order to process the applications of migrants for asylum their identities must be verified and their reasons for

entry must be evaluated. In reality this already complex matter is complicated by the fact that migrants travel to Europe by irregular means from all across West Africa, sub-Saharan Africa, and the Middle East for varied reasons, and the distinctions between 'chosen' versus 'forced' forms of migration are increasingly unclear. Indeed, it is not easy to determine at what point the conditions of life in the country of origin are so bad and the human rights are so seriously endangered that staying becomes intolerable, and consequently emigration is no longer a voluntary option but a necessity. An additional complication of the process is given by the fact that some migrants may also attempt to claim certain nationalities, such as Syrian, that would more easily entitle them to the desired protection.

The majority of migrants crossing the sea arrive to Europe from Libya, though most of them are not Libyan nationals, thus in order to provide clarity, irregular migration may best be explained by differentiating the country of origin from the transit countries, and also the destination country is often different from the first European country they reach.

The majority of migrants do not intend to stay in the European countries in which they first arrive, like Italy, Greece or Malta. In general, these are primarily planned as transit countries while migrants aspire to ultimately reside in more northern European countries like Germany and Sweden, where they perceive they will find more opportunities and better treatment.

Europe's Dublin regulations are in conflict with these migrants' aspirations to reside in their planned destination countries, as they affirm that the country through which an irregular migrant first enters the European Union is responsible for processing that migrant's application for asylum. Furthermore, a migrant caught illegally residing in another European country is sent back to the country through which they first arrived.

In addition to its impact in Europe on the legal, the social and the economic level, the migration crisis in the Mediterranean Sea also entails significant security challenges, which are so complex and so strongly perceived that some European countries are tempted to cope with them nationally, though it is evident that the transnational and cross-continental nature of this phenomenon requires a strong collective and multilateral approach which must take into consideration the interconnected character of the wider Mediterranean basin and its particular socio-economic and geopolitical realities.

The former president of Malta, Professor Guido de Marco, has probably said it best when he stated that, "there can be no security in Europe unless there is security in the Mediterranean and there can be no security in the Mediterranean unless there is security in Europe."

Captain 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.

Islamic State

A Maritime Threat to Europe ?

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Abstract

The paper examines the current and emergent threat to shipping posed by Islamic State/Daesh from an Open Source perspective, and will look to answer whether the terrorist group has the intent and the capability to launch and carry out a successful attack on shipping transiting the Mediterranean. It will cover a wide range of topics; from ISIS's intent and capabilities to disrupt to the flow of shipping and the current state of terrorism and civil war in Libya and the Mediterranean, to the impact to shipping were a successful attack to happen.

Keywords

Maritime; Security; Terrorism; Shipping; Daesh; IS

1. Introduction

The purpose of this paper is to identify the effects on the commercial shipping industry by the maritime security threat posed by the terrorist group known as Islamic State/Daesh. The report will evaluate its intent and capabilities, and look at its recent activities to provide an intelligence-based assessment of the threat it poses to commercial shipping.

It will also consider whether there is any evidence to suggest that ISIS are using shipping routes to transport materials and fighters to its strongholds, and if maritime led attacks, such as the one on an oil terminal in the Libyan port of Zuetina earlier this year, could signal a change in modus operandi for the terrorist group.

2. ISIS in North Africa and Mediterranean

2.1 ISIS in North Africa

North Africa has continued to struggle with severe social problems, including poverty and high youth unemployment rates, which contribute to produce a fertile recruitment ground for terrorist operations in the area. Currently, several of the North African countries are incapable of defeating the militant Islamist groups in the area, whilst others such as Morocco have so far succeeded in producing an effective counter terrorism operation.

In Morocco and Algeria, the security situation will continue to be better than that further east. Algeria has a history of dealing with Al Qaeda in the Magreb (AQIM) terrorists in both the mountainous north and oil rich south, holding years of experience in fighting the terrorist threat. Similarly, Morocco has been successful in developing its counter terrorism outfit, regularly disrupting ISIS cells and preventing sympathisers from reaching Libya. The creation of the newly formed Central Bureau of Judicial Investigation (BCIJ), dubbed as Morocco's FBI by the media, as well as assistance from

Spanish and French security services has done this effectively. However, with tourism to Morocco increasing due to threats to security in Turkey, Egypt and Tunisia, Morocco is likely to become a more appealing target to ISIS cells. In December 2015, the Moroccan BCIJ foiled an attack aimed at attacking busy areas and nightclubs in Fez, as well as busy areas in the ports of Tangier and Kenitra.

Tunisian authorities have largely failed to counter the terrorist threat throughout the country. The attacks on westerners in the spring of 2015 deeply upset the Tunisian government, who until the attacks had successfully protected its predominantly tourist based economy. In response, the country declared a state of emergency, which was renewed for a further three months on 23 March 2016. The presence of extremist elements in Tunisia, as well as the collapse of security in neighbouring Libya, continues to pose a significant threat to foreign travellers. This said, the country has started to develop a successful counter-terrorism outfit, disrupting several ISIS sympathisers in Tunisian port cities. On 07 February 2016, Tunisia said it has completed the first stage of a 200km barrier along its border with Libya, designed to deter terrorism through its power void neighbour.

The downfall of Gadhafi and subsequent Libyan civil war provided ISIS with the opportunity to exploit a nation of lawlessness with Al Qaeda based groups and other Salafist organisations active throughout the Maghreb. Its presence in Libya has not only allowed ISIS to create a caliphate, but

to do so on Europe's doorstep, with the ability to destabilise neighbouring regions who have not fully recovered political stability following the Arab Spring. Whilst ISIS in Iraq and Syria have used oil as an important source of income on the black market, ISIS soon established that it would be difficult to sell black market oil so close to western nations in Southern Europe and western back states in North Africa. Subsequently, ISIS has begun to target Libyan oil to agitate Western oil flow and importantly to demonstrate ISIS presence in the area while limiting the Libyan economy's ability to recover from the civil war.

Similar to Tunisia, Egyptian authorities have failed to counter the terrorist threat throughout the country. In Egypt, the military is engaged in fierce fighting against ISIS in Sinai and other local terrorist groups; however, in the short term, the military have not been able to defeat the militant Islamism that resides throughout the country. The bombing of a Russian airliner and attacks in Sharm El Sheik, which have previously thought to have been safe, have had a dramatic effect on tourism, forcing the country to increase security efforts.

2.2 ISIS Intent in North Africa/ Maghreb

The Islamic State is overall a land-based organisation focused on the establishment of a caliphate both within Syria/Iraq but also across the whole of the Islamic world[1]. Libya was very much seen as the next stage of the caliphate's expansion and acknowledges

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[1] http://www.theatlantic.com/magazine/archive/2015/03/what-isis-really-wants/384980/; http://www.brookings.edu/~/media/research/files/papers/2015/03/ideology-of-islamic-state-bunzel/the-ideology-of-the-islamic-state.pdf

its strong position in the Mediterranean and its vicinity to Europe. More recently, with the sustained attacks on ISIS in Iraq and Syria, Libya is beginning to be seen as 'Plan B' if the caliphate in Iraq/Syria fails. ISIS propaganda has highlighted the possibility of using Libya as a springboard to attack southern Europe and to support the 'closure of shipping lines because of the targeting of "Crusader" ships and tankers'. It should be recognised that the analysis by the organisation that produced the original report on which the intelligence alert was based, The Quilliam Foundation, judged that the unnamed propagandist was not seeking to intimidate enemies, but attempting to recruit jihadists to the cause of assisting the ISIS mission in Libya. Furthermore, the publication sought to highlight the strategic advantages of access to the maritime domain, primarily for logistic access to southern Europe, and did not take into account the significant international naval forces in the Mediterranean when discussing the possibility of 'closing shipping [lanes]'.

This is not the first time that Islamic jihadists have declared an intent to attack western shipping. The attacks on the MV Limburg and USS Cole in 2000 were followed by a threat to shipping in the Strait of Gibraltar, whilst Al Qaeda made a declaration to attack shipping in 2014. These earlier threats have extended to the Mediterranean as well with a leaked Russian Intelligence Agency (FSB) report from 2011 assessing that sixty AQIM operatives were ready to conduct maritime attacks; a threat that came to nothing. Whilst it is evident that ISIS has a desire to disrupt the flow of shipping through the Mediterranean, from the Strait of Gibraltar to Port Said and the Suez Canal, how much of this is the actual goal of the ISIS leadership in Syria and Iraq is unclear. While the Libyan based ISIS organisation may have long-term objectives that include attacking commercial vessels, the establishment and maintenance of a permanent foothold on land carries a much higher priority. Put shortly, ISIS is a land based phenome that seeks to assert a caliphate and destabilise neighbouring companies of which it can exploit. Whilst Al Qaeda linked groups have an experience of multi-operational approach to targeting symbols of the West and capitalism, ISIS's main aims are less diverse.

3. ISIS Maritime attacks and Capability in North Africa

3.1 ISIS attacks

Infamous for its violence, particularly towards captured non-combatants, and its use of social media to communicate its message of fear and showcase its brutality, particularly against Westerners, ISIS has established itself as an alternative jihadist group to Al Qaeda, amongst others, in its fight against the West. Over the last few years, the group has sought to expand its reach from its central inland bases in northern Iraq and eastern Syria to Libya, Pakistan, Yemen and Saudi Arabia and beyond, with the group stating an intent to use Libya in particular as a springboard to attack southern Europe.

Despite warnings and declarations of attacks at sea over the years, the majority of terrorist activity remains land based across the globe. In addition, the vast majority of terrorist activity that does take place at sea is logistical in nature to facilitate attacks ashore, such as occurred in Mumbai in 2008. According to the Global Terrorism Database, seaborne terrorism incidents were only 2 percent of all international incidents in the last 30 years and of these only a handful were actual attacks at sea, a rather small figure considering the global scale of the shipping industry.

This statistic has been borne out by recent events within Libyan waters involving the repeated use of small boats to resupply the militias across the country with only limited attempts to use the maritime domain to conduct an attack, notably the reported attempt on the port of Zuetina on 09 January 2016. Three ISIS boats attempted to attack the oil port of Zuetina, before being repelled by guards from Libya's Petroleum Facilities Guard. At the time of writing, ISIS have not launched any attack on maritime vessels in Libya; however, reports continue to be received that suggest the use of the maritime domain for resupply using small boats the Libyan's call 8"bulldozers. In 2015, merchant shipping operating close to Libya was more at risk of attack by the Libyan air force than by terrorists[2].

Despite the lack of maritime success,

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[2] The Libya air force attacked MT Araevo 4 Jan, MV Tuna 1 11 May, MT Anwar Afriqya 24 May

ISIS is attacking oil terminals both inland in Libya and also across the coastline of the Gulf of Sirte. There have been several attacks already this year. Between the 4 - 6 January 2016, ISIS launched land-based attacks on the oil terminals of As Sidr and Ras Lanuf, resulting in the death of 18 guards and leaving more than 50 people injured as ISIS' rockets caused fires at seven oil storage tanks at those terminals. Just days later, on 9 January, three boats attempted to attack the oil port of Zuetina. A representative for Libya's Petroleum Facilities Guard stated that his guards had repelled the attack before any of the craft managed to enter the port. It was believed that the raid was instigated by militants allied to ISIS forces. On 21 January 2016, militants affiliated with ISIS reportedly attacked oil installations and set fire to several crude storage tanks near the port of Ras Lanuf. Targeted in the attack were storage tanks and a pipeline leading from the Amal oilfield to As Sidr, and in a video posted online by one of the perpetrators threats of further attacks on the ports of As Sidr, Ras Lanuf, Brega and Tobruk were issued.

These attacks highlight the threat ISIS poses east of their stronghold in Sirte, and the possible risk to commercial vessels that transit close to these ports. The wider attacks on the oil infrastructure demonstrates ISIS's intent to disrupt the flow of oil whilst displaying their presence to the international community. In Iraq, ISIS's approach was to seize oil installations in order to sell oil onto the black market

and fund its future operations; in Libya they appear far more interested in their destruction.

3.2 ISIS Maritime Capability

This section will look at Manning, Equipment, Training and Sustainability.

Dryad estimates that ISIS's presence within Libya has increased to several thousand militants. ISIS's leadership is dedicating significant resources to Libya from Iraq and Syria, seeking to perpetuate instability in the country and set conditions for ISIS to capture Libya's oil wealth. At the same time, there are fears that a strong Libyan cell can act as a launch pad for attacks in neighbouring Tunisia and Europe.

It is reported that at the core of the Libyan organisation is around 400-500 fighters that have returned from operations in Iraq, although other reporting suggest that they are not all Libyans; total numbers are reported to be in the region of 7,000. The numbers of ISIS supporters, sympathisers and active members in other North African countries is more difficult to judge but Tunisia is acknowledged as one of the major recruiting grounds with recent estimates of 6,000 to 7,000 Tunisians fighting for the self-proclaimed caliphate, whilst as many as 15,000 others have been barred from international travel.[3]

Numbers have increased with estimates of around 7,000 fighters operating in and around Sirte. Despite being a land-centric organisation, it is likely ISIS have recruited or co-opt some of the local fisherman to operate some boats. At this stage, the numbers involved would likely be small, if any. The majority of ISIS fighters will be fully occupied with fighting both the official Libyan government and Operation

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[3] http://www.wsj.com/articles/how-tunisia-became-a-top-source-of-isis-recruits-1456396203

Dignity forces as well as the opposing Libya Dawn Islamists, especially with the recent reports (May 2016) of the LNA massing for an attack on the ISIS stronghold. It is unlikely that with such pressure ashore they will be able to release the manpower to mount an extensive maritime offensive, however the possibility of a limited one off attempt cannot be discounted.

Equipment & Sustainability

While there is little doubt that ISIS in Libya has sufficient weapons to conduct a maritime attack on shipping deep in the Mediterranean, it is not clear if they have access to suitable vessels. To attack a vessel underway in the Mediterranean, maritime terrorists normally require boats that have both a speed advantage over their intended targets and the ability to operate at considerable distance from their base, possibly for an extended period. The way that Somali pirates have achieved this in the past is by the use of small, fast craft with relatively limited endurance that are supported by a 'mothership' to enable them to conduct and sustain long-range operations.

Dryad judges that the typical Mediterranean fishing vessels of around 500 tonnes, supporting two or three small boats would be suitable. However, analysis of available overhead imagery and open source photographs of the Libyan ports assessed to be under ISIS control suggests that the numbers of this type of vessel are possibly limited. It should also be noted that another Somali pirate method of using slower 'whalers', with barrels of fuel on board to tow faster skiffs to an attack position, is unlikely to be successful, given that this type of fishing is not as widespread in the Mediterranean and could be more easily identified as being out of the ordinary.

Dryad is aware of reports of ISIS using small boats locally called 'Bulldozers', from which militants have attempted to launch attacks on oil instillations and have used to transport weapons and operatives along the Libyan coast. These are assessed as not being capable of launching attacks on ships offshore but could be used to attack slow moving or anchored vessels close to Libyan ports.

Training

Prior to conducting a successful maritime attack offshore there would likely need to be some level of rudimentary training in operating the mothership, the launching of the boats and in how best to approach a vessel underway. However, it is highly unlikely that this training would take place in any formal manner, given the desperate and suicidal nature of the fighters involved, but could be more likely represented by attacks on smaller vessels closer to Libya, some of which will fail. This was the manner of the development of Somali piracy before they reached the height of success in 2010-2011; even then, the majority of attempts were unsuccessful for a variety of reasons.

Dryad has no positive evidence to suggest that ISIS currently have the capabilities to successfully conduct an offshore attack. It is possible that such a capability could be developed in the future, but this would probably be preceded by a stronger foothold in Libya, providing the necessary launch points and logistics for such activity. However, the requirements for an attack on a vessel close to port are far easier to achieve and could result in a Limburg or Cole incident close to one of the operating ports.

4. Does ISIS have an opportunity to disrupt Western shipping?

Having looked at the intent and capability of ISIS to attack shipping in the Mediterranean, the final aspect is the opportunity. While it has been shown that it is unlikely that ISIS have the capability or really the intent at this stage to disrupt Western shipping 'on the open sea', to be even a small threat they must have the opportunity to do so and must therefore maintain access to the coast.

The most notable evidence of this intention was the taking of the port town of Derna in eastern Libya in December 2014, which saw the absorptions of local jihadist organisations already established in the town. It was this action that initially prompted the concern over ISIS's ability to attack Mediterranean shipping. ISIS's decision to establish itself in the town of Derna was not a random event, as it has a long history of extremism and supplying foreign fighters to Al Qaeda in Iraq. The loss of the town to local Islamist forces and the eventual expulsion of ISIS from the region has limited its access to the sea. In many ways Derna was an ideal location from which to conduct maritime attacks on Western shipping as it was relatively close, approximately 80NM to the main shipping channels but during ISIS's 12 months in control no attacks took place.

Similarly, the capture of Sirte also heralded a new opportunity for ISIS. However, at approximately 250NM from the main sea-lanes of communication, Sirte represents less of an opportunity to attack shipping than Derna. ISIS's capture of other towns in the Sirte re-

gion, along with propaganda material outlining the advantages to ISIS's expansion into new regions of Libya, is also deeply concerning but highlights the main intent of the group at this stage: to expand its influence in the country.

A further factor that limits ISIS opportunity is the level of scrutiny it is under. Since ISIS established itself in Derna and then Sirte, US and other western nations have been closely monitoring its activity, with the US increasing its reconnaissance flights by patrol aircraft and UAVs from Sigonella in Sicily. Overall, the central Mediterranean could be considered to be relatively well policed with forces from EUNAV-FOR MED, as well as Italian and Greek Coastguards[4] and NATO's Operation Active Endeavour. Finally, since the ISIS takeover of Derna, it is almost certain that if NATO or the EU has any concerns of possible attacks by ISIS at sea then there will be a further build-up of naval forces in the region. As the military command and control (C2), as well as the political mandate, is already in place, it would not suffer the delays and arguments seen in establishing the NATO and EU operations in the Indian Ocean to counter Somali pirates. In addition, the Libyan coastguard continues to be active with a number of vessels detained, mainly for fishing, throughout 2015.[5] This is not the Gulf of Aden and while not a perfect blockade this level of naval activity further limits the opportunity for ISIS to get offshore to conduct a successful attack transiting western shipping.

4.1 Does ISIS pose a threat to shipping 'arteries' such as the Gibraltar strait, Straits of Malta, Suez canal etc?

Away from the Central Mediterranean and the ISIS forces based in Libya, there remains concern that Western shipping still could be targeted at the 'chokepoints' of the Strait of Gibraltar in the west and the Suez Canal in the east.

Strait of Gibraltar

In 2003, the fear of an Al Qaeda attack in the Strait of Gibraltar, prompted NATO to begin escorting shipping through the gateway to the Mediterranean. Whilst the threat in 2003 was from an active Al Qaeda cell, one which still exists through Morocco and Algeria, there has been an increasing ISIS presence in Morocco since the Libyan Civil war; Frontex estimated 2,500 Moroccans have left the country to fight for ISIS, in Syria and Iraq, with a proportion travelling to Libya.

However, a series of security and criminal networks prevent a serious ISIS threat from disrupting Western shipping in the Gibraltar Strait. Morocco has for decades suffered from severe issues of drug smuggling and has a history of counter-terrorism operations against AQIP militants. Subsequently, due to its position as a transit country for large quantities of cannabis and cocaine, transnational crime agencies such as Interpol and Europol closely monitor the country's maritime border. It is therefore unlikely that a serious ISIS maritime threat could be established on the North African country's coastline.

Egypt and the Suez Canal

The security of shipping in the Suez Canal has long been of concern, and rightly so. On 16 July 2015, Islamist militant group 'Sinai Province' attacked an Egyptian naval patrol vessel off the Sinai Coast close to the border with Israel. A rocket fired from shore struck the coastguard vessel, fortunately with no crew fatalities. Two years previously, a group calling itself the 'Al Furqan Brigade', fired an RPG at Panamanian-registered MV Cosco Asia in July 2013 whilst transiting the Suez Canal. In July 2015, there was a Muslim Brotherhood plot to target the canal's infrastructure, rather than shipping. However, despite the inclusion of a Suez Canal Authority employee, Egyptian authorities disrupted this attack and it failed to achieve anything significant.

Whilst not much is known about the 'Al Furqan Brigade', who carried out the attack, apart from a loose association to Al Qaeda, the attack did enough to increase what was already good security. It is highly unlikely ISIS could pose any sustained activity in the area

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[4] Operation Sophia was announced on 07 October 2015, and has enabled naval vessels to board, search, seize and divert vessels suspected of smuggling migrants, operating 40km off the Libyan coast

[5] http://www.libyaobserver.ly/news/libya-navy-releases-statistics-intercepted-vessels-territorial-waters t

of Suez without response from the international community - in particular the US who are considering directing a greater presence to the Sinai. Recent improvements including the building of a security wall and fence will significantly reduce any opportunity terrorists have of attacking the Canal Zone, thereby reducing the overall threat to vessels. As the canal continues to expand so security is likely to increase.

5. Summary

The threat from ISIS to western shipping transiting the Mediterranean is limited. They do not really have the intent, despite propaganda saying otherwise. They also lack the capability and, with the level of naval and air force activity off the coast, have a limited opportunity for a successful offshore maritime attack. Closer to Libya the possibility remains that a tanker or merchant ship approaching one of the ports could be attacked in the same way as the USS Cole or MT Limburg. However, even here security in the ports remains high. With forces preparing for an attack on the ISIS forces in Sirte, the chances of a major attack offshore is reduce further.

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Mike Edey served over 21 years in the Royal Navy, both at sea and ashore, in operational as well as instructional, capability management and maritime intelligence roles in support of the UK's strategic decision makers. Mike's operational experience includes the Middle East, West Africa and the Mediterranean, but he has also participated in exercises in other parts of the world, including South America and Southeast Asia. Mike has a great deal of experience in working in multi-national environments, including NATO and Coalition Maritime Forces in the Middle East, and presenting on the subject of maritime crime and piracy to high-level international audiences.

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FOUR HUBS OF MARITIME INSECURITY OFF AFRICA: FROM ANTI-PIRACY TO ANTI-CRIME?

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Piracy and counter-piracy dominated the African maritime security scene for the best part of the last decade and in the process served constructive and damaging agendas. On the constructive side, piracy raised a maritime awareness of piracy at sea that galvanised international will towards greater efforts for its eradication. Piracy also served as a catalyst for African decision-makers to take a greater interest in defending their maritime zones. On the damaging side, anti-piracy drives became a conduit to view maritime threats off Africa as singularly related to piracy. The piracy fixation became detrimental to an organised/ structured approach for dealing with other maritime crime off Africa that co-existed within, or on the periphery of real or constructed piracy threats.

LEGAL ISSUES

Other maritime crimes played second fiddle to piracy and hold dangerous antecedents if left unchecked.

Anti-piracy took centre stage by way of renewed attention to international law and conventions which had hitherto not been applied and which had to be "re-discovered and re-learned" to a certain extent. The anti-piracy learning curve generated a knowledge and skills base that shaped an international and transnational anti-piracy coalition of note.[1] The learning also portrays how actors used the piracy threat to bring their own "maritime houses" in order. They deployed or acquired naval assets, joined international bodies and other collective arrangements, and adjusted their legislation to promote maritime security in their own, as well as international waters.[2] Africa's responses to its maritime landscapes shows its own repertoire as Africa's attributed rise as a continent of note is hardly credible if the continent's maritime landscapes are seas of criminality adjacent to unstable littoral states. The setting for, as well as the architecture of the African responses are both in need of closer attention as Africa's littorals house much of the potential to co-create the future growth of the continent.

SCOPE

Arguments in the paper aim to accentuate the importance of maritime crimes other than piracy off four African maritime regions. First mapped out are governance indices off the four maritime regions – East Africa, North Africa, Southern Africa and West and Central Africa. The second argument frames maritime crime as the emergent and a salient threat to Africa's waters before shifting the focus to briefly address crime and response profiles in each of the four regions. The paper concludes with a brief summary of crime at sea off Africa as the threat that requires effective policing, prosecution and sentencing of perpetrators.

DISCUSSION

Although piracy off the Horn of Africa accentuates the threat of maritime crime to the international community, it also highlights the urgent need for multiple responses, not only anti-piracy. The piracy threat to Africa's maritime landscapes rapidly entered the African security agenda since circa 2005, but important and neglected crime dimensions remain. One outcome of the neglect is unfolding off North Africa, another lies latent along southern Africa, and probably continues off West and East Africa. The neglect and perceived dangers that lurk are often over-discussed, but the 2014 report from the Danish Maritime Days programme contrasts and depicts the preferred reality of maritime security off Africa by offering three interdependent perspectives that collectively re-frames the need to secure Africa's maritime waters more comprehensively:

• An African Vision: Secure port facilities and maritime domain awareness (MDA)

• Industry's vision: Unhindered access to trade routes and seafarer safety

• Seafarers' vision: To sail without attack risks and feel secure, as well as state and industry protection against threats. [3]

The underlying notion of the Danish Maritime Days report reflects that it is no longer about whether threats exist, what they are or what they hold, but a matter of more attention to how to respond.[4] It is therefore prudent to map out threats and opportunities that have a reciprocal impact to reinforce or marginalise the other. Inherently, the Danish critique is about more than piracy, and in all probability an approach that is more critical by asking questions about the wider maritime security landscape, one beyond piracy and a challenge to the confines of the preferred or embedded piracy – anti-piracy mind set.

African maritime economic opportunities

Good order at sea relates to upholding safe and secure access to marine resources, minerals, transport routes, information and opportunities on and below the oceans. Multiple security actions and from several agencies promotes and sustain good order at sea in times of peace[5] and for Africa it is no different. What is on offer for Africa is becoming increasingly important and one can flag the following aspects that serve to accentuate how maritime opportunities and other scenarios play out:[6]

• Trade: Coastal trade to compensate for the limited overland transport infrastructure on the continent.

• Port operations: Available, but limited and thus a brake on the international growth and African imperatives to grow its blue economy.

• Fishing: The economic and human dependence of African countries on the fishing industry. As an income, for job opportunities and food security activity.

• Tourism: A latent potential where crime is perhaps the greatest

obstacle. At sea as well as on land, but within the land-sea interface in particular.

•　　　Oil, gas and minerals: Both present and upcoming with the scope of significant new discoveries emerging.

•　　　Submarine infrastructure and landing points where international information networks develop alongside more traditional infrastructure.

Accepting that maritime crime off Africa is a major deterrent to economic activities that depend upon good order at sea, successful strategies against maritime crime off Africa unlock opportunities that are often not understood or expressed in maritime terms. African products, harbours, and regional communities all stand to benefit if authorities successfully combat crimes at sea. Some advantages to consider are as follows.

First, connectivity of African products to global markets through its maritime gateways becomes more of a reality. Second, removal of a criminal overlay to Africa's ageing maritime infrastructure softens the further limitation of growing maritime fleets that bypass Africa. Third, landward preferences also constrain maritime opportunities and thus isolates a socio-economic landscape that is then further plundered by criminals amidst uncalled for political ignorance. Fourth, led by, or masked by piracy, unchecked crime curtails the delivery of goods from Africa's maritime zones. This curtailment functions in spite of the rising awareness, and selective responses from Africa's leadership to integrate the sea in their overall strategies to grow their economies, foster development and raise public goods delivery to African societies.[7]

While piracy directly and indirectly interferes with shipping, crimes related to fishing, pollution, smuggling of drugs, counterfeit medicines, fire arms and illegal cargoes to the likes of human trafficking, collectively make African waters insecure. As a result, the collective impact of maritime crimes, not just piracy, interferes with the latent potential that Africa's littoral zones house and as such, must be disrupted, prosecuted, and dealt with at sea and on land.[8]

Africa harbours four important maritime regions alongside rather volatile regions or countries in some cases. To the east, the Horn of Africa is best known and generally viewed as a typical example of how weak and often absent governance on land cultivate voids that allowed sea piracy to escalate as a major threat to international shipping in general.[9] The Gulf of Guinea off the densely populated West Africa came to be known for petro-piracy against installations and energy product carriers due to the inability of Nigeria in particular to contain a mixture of criminality and rebellion in its oil-rich south-eastern littoral.[10] To the north in the Mediterranean, the maritime narrative assumed a stark humanitarian face that overshadows seemingly all the other maritime landscapes off Africa. Events in North African countries and the space it offers for migrant flows portray how a lack of good maritime governance offers room for events at sea to assume crisis proportions where the cause is on land, but the spill-over to the sea is all about neglected human security.[11] Around southern Africa threats at sea are low-keyed off a coast line where clusters of governance on land and at sea are equipped to deal with

threats in terms of stable governance and effectively functioning criminal justice systems. Here the threat is more about possible spill-overs from further north, and low-keyed maritime crime in regional waters with environmental crimes probably the one matter in need of attention.[12] South Africa has the requisite agencies to address maritime crime, but all indications are that of an unexplained void between the ways and means, and dealing with maritime crime.

All 54 African countries form part of regional economic communities, although overlapping memberships do occur. Each region reflects a number of littoral countries tied into the Indian Ocean, the Atlantic Ocean, the Southern Ocean and the Mediterranean Sea. In total 38 coastal countries make up the African littoral region.[13] Of the top ten African countries, the coastal states include five of the largest African states, eight with the largest populations, nine with the highest HDI, nine states with the highest literacy rate, nine harbouring the lowest arable land, and the top ten countries with the highest life expectancy at birth. Altogether eight Regional Economic Communities (RECs) depict the regional setting of African countries with each belonging to one or more RECs.[14] Irrespective of the particular REC, each one harbours a maritime domain on the long African coastline. In alphabetical sequence, the 38 African coastal countries are distributed through the RECs as follows: (Due to overlapping memberships the total does not add up to 38.)

•　　　Central Africa (Economic Community of Central African States): Angola Cameroon Congo DR Congo Equatorial Guinea Gabon São Tomé

Table 1. REC landward governance scores off the RECs. (/100 for full governance)

	Safety/ Rule of law	Participation & Human Resources	Economic Opportunity	Human Development
Central Africa CA	41.2	38.9	33.6	49.7
East Africa EA	43.9	41.8	38.5	53.1
North Africa NA	47.3	43.0	48.1	66.5
Southern Africa SA	63.4	59.2	51.5	61.6
West Africa WA	54.8	56.1	43.9	54.7

Compiled from: Mo Ibrahim Index: Access http://www.moibrahimfoundation.org/iiag/data-portal/ dd 13 March 2016.

and Príncipe.
• East Africa (East African Community and IGAD: Kenya, UR of Tanzania, Djibouti, Eritrea, Somalia, Sudan.
• North Africa : Arab Maghreb Union – Algeria, Libya, Mauritania, Morocco, Tunisia.
• Southern Africa (Southern African Development Community): Angola DR Congo Madagascar Mauritius Mozambique Namibia Seychelles South Africa UR of Tanzania.
• West Africa (Economic Community of West African States): Benin Cabo Verde Côte d'Ivoire Gambia Ghana Guinea Guinea Bissau Liberia Nigeria Senegal Sierra Leone Togo.
The extent to which weak governance on land is judged to promote weak maritime security governance, the following indicators from the 2015 Mo Ibrahim Index portray the landward-maritime governance interplay. Table 1 depicts the levels of landward governance that are argued to be average or below average, and generally seen as a contributing factor to questioning the overall state of maritime governance. Broadly, the weak landward-maritime security governance nexus is visible in the country index, but one in need of a closer interface.
The index of governance in the littoral

countries in each of the RECs shows the following counts and brings the maritime and littoral states into closer proximity. Although the littoral index is somewhat higher than overall regional indexes it forms part of, the counts are still average or lower. Southern

Table 2. REC littoral country scores /100

	Overall score*	Safety & Rule of Law#	Lowest scores for littoral states
CA	44.9	46.1	DRC 33.9
EA	43.26	38.5	Somalia 8.5
NA	51.2	47.3	Libya 35.5
SA	60.9	63.5	Angola 40.8
WA	53.0	55.3	Guinea Bissau 35.7

*Littoral states per region   # Littoral states per region

Compiled from: Mo Ibrahim Index: Access http://www.moibrahimfoundation.org/iiag/data-portal/ dd 17 March 2016

African littoral states show the highest governance index to support the better landward-maritime governance connection.

Perspectives on maritime crime off African regional communities.

The piracy – anti-piracy focus.

All RECs experienced attacks or attempted attacks [2011-2015] in its waters which form the focal point of

statistics kept by maritime bodies such as the ICC IMB in London.[15] The UN places a strong focus upon East Africa, the HoA, and West Africa, the Gulf of Guinea in particular. Attacks, attempted attacks and robberies top the reports and totals are as follows.

• East Africa - Attacks and attempted attacks: 224 [IMB]
• North Africa - Attacks and attempted attacks: 22 [Clingendal Report]
• West Africa - Attacks and attempted attacks: 184 – [IGD study]
• Southern Africa - Attacks and attempted attacks: 11 [IMB]
[Compiled from various sources]
In assisting to determine the effectiveness of governance in a state's maritime domain, Nincic[16] suggests, a number of factors which could possibly

also have an effect on such governance as, official corruption; failed or failing states; presence of conflict and a low risk of getting caught and punished. A desktop comparison of perceptions of a number of states, members of various REC's in Africa, regarding the absence of crime, effectivity of investigations and regulatory enforcement, level of corruption in police/military against the backdrop of levels of civil conflict, the World Justice Project, (Rule of law index 2015)[17] offers interesting information. When compared to the manifestation of attacks against ships

2015 a recorded high adherence to the rule of law in terms of the absence of civil conflict. Similarly, states which experienced 2 or less low level thefts from berthed or anchored vessels, with the exception of Ghana which experienced 1 hijacking of a vessel underway, also have in 2015 a high adherence to the rule of law in terms of the absence of civil conflict.

Nigeria, on the other hand, which has a recorded low adherence to the rule of law in terms of the absence of civil conflict, has a high number of incidents against ships while

were kidnapped from vessels at anchor and in three of the incidents involving ships whilst steaming crew members were kidnapped (World Justice Project,2015:125), (ICC-IMB,2015:59-67).[20]

Effective investigations are necessary if prosecutions are to be successful. None of the countries in the Rule of Law Index table above have significantly high scores, indicating that investigations are effective. Kenya, however, which has the lowest score in terms of effective investigations, has in fact successfully convicted over 100 pirates. These successes can possibly be attributed in part to greater or successful cooperation with the international community and international organisations such as the United Nations in terms of the capability to deal with transnational crime.

Crime in four African maritime hubs: Beyond piracy

Although piracy styled or attributed attacks (real or attempted) receive the bulk of the attention as demonstrated in the strong naval responses off the Horn of Africa and in the Gulf of Guinea,[21] attacks do not expose the horizontal expanse of crime at sea off Africa. Each of the regions that monitoring institutions target to map out the presence of attacks and attempted attacks on vessels, also houses other crimes at or from the sea. This prioritising of piracy raises the important question on maritime crime beyond the piracy threat. As piracy off Africa is increasingly contained or shut out in some quarters, it does not suppose the decline of maritime crime in general. Although dangerous and

Table 3. Rule of Law Perceptions of selected African States.[18]

	Absence of crime	Effective investigations	Effective regulatory enforcement	No corruption in police/military	Absence of civil conflict
Egypt	0.34	0.43	0.32	0.45	0.92
Morocco	0.47	0.43	0.54	0.49	0.92
Senegal	0.55	0.58	0.60	0.61	1
Sierra Leone	0.37	0.49	0.41	0.37	1
Liberia	0.4	0.4	0.54	0.51	0.87
Ivory Coast	0.78	0.23	0.4	0.42	0.75
Cameroon	0.52	0.38	0.42	0.24	0.75
Ghana	0.4	0.45	0.47	0.45	1
Nigeria	0.34	0.41	0.4	0.24	0.04
South Africa	0.11	0.47	0.51	0.7	1
Tanzania	0.55	0.52	0.78	0.95	1
Kenya	0.34	0.24	0.55	0.22	0.75

Source: World Justice Project, Rule of Law Index 2015

Table 4. Actual and attempted attacks on ships January to December 2015

	ACTUAL ATTACKS		ATTEMPTED ATTACKS	
Location	Boarded	Hijacked	Fired Upon	Attempted
Egypt	1	-	-	-
Morocco	-	-	-	-
Senegal	-	-	-	-
Sierra Leone	-	-	-	-
Liberia	2	-	-	-
Ivory Coast	1	-	-	-
Cameroon	1	-	-	-
Ghana	1	1	-	-
Nigeria	8	1	-	5
South Africa	-	-	-	-
Tanzania	-	-	-	-
Kenya	1	-	-	1

Source: ICC International Maritime Bureau: Piracy and Armed Robbery against Ships Report for the period 1 January – 31 December 2015

off Africa during the same period, reported by the ICC International Maritime Bureau Piracy and Armed Robbery against Ships report for the period 1 January-31 December 2015[18] the following results emerge.

In comparing the tables above, states which had no attacks or attempted attacks against ships in 2015 have in

steaming (4), at anchor (3) and while berthed (2) including 3 attempted thefts from anchored vessels and 2 from berthed vessels. In one of the incidents against vessels underway, the vessel was hijacked and the crew held hostage while the fuel oil cargo was transferred into another vessel. In two incidents ship's crew

costly, piracy in some cases merely remain part of or even peripheral to the scope of larger crime landscapes at sea - whether inter- or intra-regional. In a certain way Southern and North Africa seems somewhat marginalised and one could argue that it is due to the absence of incidents that serve as a conduit to place the said two regions in the piracy fold. Both regions however depict a maritime threat landscape of their own. The following regional outlines offers some insight on maritime crimes beyond piracy.

East Africa: The piracy - anti-piracy paradigm

Off the Horn of Africa the tendency to prioritise piracy in spite of decreasing numbers of incidents, remains a salient factor. As a prioritised maritime crime, sea piracy off East Africa solicited a surprising naval response in terms of its international compilation, staying power and eventual decline of attacks upon shipping. The naval response to other crimes, in the absence of a coordinated approach, initially varied according to the individual rules of engagement, which required specific ROUs for intervention in crimes other than piracy. Subsequently, off the Horn of Africa the naval responses dealt with adjacent maritime crimes as well in terms of UN Resolution 2184 (2014) which calls upon willing states to contribute to fighting piracy and armed robbery at sea off Somalia in particular, but also members of criminal syndicates involved in some way.[22] In 2014 the multinational naval partnership effectuated more than 10 seizures for a combined total of more than 16000 kg of hashish and more than 2,200 kg heroin. This is equivalent

to more than 40% of heroin seizures for all of western and central Europe in 2012[23] . In 2015 Australian navy ships alone seized 2 tonnes of heroin[24] . The problem, however, is that the drugs are being destroyed at sea, thereby once again destroying valuable evidence for prosecution. Navy coalition warships have also seized large quantities of weapons destined for the Horn of Africa region under United Nations sanctions which authorise interdiction on the high seas of illicit weapons

Table 5. Percentage of GDP[27]

	Oil	Fishing
Angola	38.5	1.1
Congo	59.4	0.5
Cameroon	8.1	1.2
Ghana	6.3	1.5
Gabon	35.7	0.6
Nigeria	12.9	0.5

*Angola forms part of more than one REC.

destined for Somalia[25.]
In essence, the drop in piracy offers leeway to use available, even limited resources to respond uniformly to crimes at sea. Maritime crimes other than piracy, from the outset received lesser attention which is a typical outcome of securitisation and prioritization of a particular risk that actors frame and elevate to the existential threshold of threats and vulnerabilities. Lesser crimes are also dangerous and for example play out as illegal fishing, people smuggling, drugs, smuggling of firearms and other weaponry and environmental crime[26] The discrepancy one can attribute to differing rules of engagement which in most cases did not make provision for the interdiction of other crimes Collectively the latter cluster of crime has a more direct impact upon

matters related to human security, and seemingly more closely tied into the lack of good landward governance and weak or limited extension of public goods to societies – security and policing in particular.

West Africa: The paradigm of petro-piracy

Crime at sea spills into the Gulf of Guinea from states belonging to ECOWAS and ECCAS. Some point

to the often neglected crime against fishing vessels of all kinds in the Gulf of Guinea and it being a double assault on the fishing industry if one also takes into account the matter of illegal and under-reported fishing. The energy-fishing crime cluster reflects a significant assault on two – existential for some - industries off West Africa. For individuals, as well as some governments, interference with fishing and oil flows are disastrous. Add to this the parallel crime on land, and the threat escalates significantly for the oil industry and individual GDP readings in particular.

While threats to energy product carriers, and the energy infrastructure at sea itself make headlines, analysts accentuate other Gulf of Guinea crimes less so. Two publications from the Frederik Ebert Stiftung (2013)

and International Crisis Group (2012) however, frame these lesser crimes clearly. Smuggling of drugs, fake and sub-standard pharmaceuticals, human trafficking, small arms trafficking, illegal migration, illegal fishing and ecological risks remain threatening, but of a lesser concern. Although not as prominent as piracy and illegal oil bunkering, the human and environmental risks of the lesser crimes are deeply humanitarian and environmental in kind. The impact of illegal and available small arms, drugs and their fake counterparts, smuggling of people given the densely populated region (highest in Africa) and denial or scarcity of protein intakes, as well as environmental pollution from energy production and illegal dumping, all hold stark humanitarian dangers, as opposed to the state and corporate financial losses of the oil piracy threat.[28] Attacks from the sea on land targets such as banks, also take place. Criminal groups are skilled in using the sea as gateways to rob onshore targets and to escape after committing crimes such as bank robberies. Cameroon and Equatorial Guinea experienced this particular avenue of attack.[29] The flip-side of oil-piracy in the Gulf of Guinea is thus a horizontal crime expanse that impacts people more severely than regime security.

Illegal fishing in the Gulf of Guinea also ties in with numerous other crimes. INTERPOL links illegal fishing to crimes such as corruption as far as legalities of fishing rights and permissions are concerned. In addition drug trafficking, people smuggling and exploitation of labour, as well as larger transnational networks come into play. It is the latter that complicates prosecution and allows for transgressions at sea to go

unpunished as the perpetrators do not often set foot on land in West African harbours.[30] The crime of illegal fishing thus intersects with human security transgressions and environmental concerns. Transnational networks raise a regional threat as transgressors from different West and Central African countries are involved. The transnational character points towards actors, as well as the scope or reach of their networks with the drug and fishing networks stretching well-beyond West Africa while the humanitarian threat is much more regional in kind. While

Table 6. Spill-overs of maritime crime in the Gulf of Guinea.

Implications	IUUF	Drugs	People	Arms	Oil products
Unemployment	X				X
Social unrest	X		X	X	X
Poverty	X		X		
2nd Order crimes	X	X	X	X	X
Intra societal tensions	X	X		X	X
Food insecurity	X				X

(Own Compilation)

geographics are important, the second-order spill-overs and consequences of maritime crime in the Gulf of Guinea is summarised in Table 4.

Southern Africa: Anticipating the piracy wave

Littoral states of Southern Africa are located alongside seemingly safer sea routes and maritime regions as one moves further south. While Angola and Tanzania experienced some piracy and robbery incidents in the past, Mozambique, Namibia and South Africa hardly feature in records of credible monitoring agencies.

Non-piracy crimes off Southern Africa feature more prominently in the absence of high-profile reporting on piracy, armed robbery, kidnapping and related attacks on shipping. South Africa acts as the de facto lead-nation to counter threats to

Table 7. Actual and attempted attacks: Southern Africa[31]

	2011	2012	2013	2014	2015	Country totals
Angola	1	0	0	1	0	2
DR Congo	4	5	0	1	3	13
Mozambique	0	2	2	1	1	6
Namibia	0	0	0	0	0	0
South Africa	0	0	0	0	0	0
Tanzania	0	2	1	1	0	4
Year totals	5	9	3	4	4	[25]

*Compiled from IMB Report for January-December 2015.

the region's maritime province and views the less-than-satisfactory state of order at sea on SADCs northern maritime boundaries as dangerous.[32] South Africa also reflects a deficit as far as maritime crime responses are concerned and still lacks a coherent and integrated maritime strategy – a matter only showing some growing national concerns with the recent turn to Operation Phakisa.[33] Any crime spill-overs from the north stand to upset the beneficial good order at sea in southern African waters and this perception remains the reigning threat paradigm to South Africa and the region.[34] The perception is strongly piracy related as stated in 2011 by the then South African Minister of Defence and this perception continues to direct the regions first attempts at a regional maritime strategy.[35] Regional responses to maritime crime in southern Africa show room for a more preventative profile or architecture as the threat levels are still sufficiently low to allow for early warning and corresponding responses. SADC understands the required responses to piracy, illegal fishing, pollution, and smuggling of human and other cargoes as expressed consistently in a declaratory manner. The region's maritime strategy is unfortunately heavily, but wrongly slanted towards a naval emphasis upon the goal of good order at sea as the basis for the desired maritime security of Southern Africa.[36] All threats are at a rather low-level and thus more amenable to address from the land, as well as at sea by regulating and policing actions at national and regional levels.[37] Militarised responses to uphold maritime governance off Southern Africa are thus not cognisant of the superior interface between security

and responses not dominated by navies.

North Africa: "People piracy"

With very little reporting done on attempted attacks, and robberies of vessels in the North African region, criminal exploiting of a humanitarian crisis starkly reflects the absence of maritime governance off North Africa. The scope of the migration flows also increased the scope and sheer numbers of the smuggling practices. Events in Libya and Tunisia in particular stimulated drug flows and contraband. In Libya the room for criminality grew due to the lapsing governance situation. Drugs, arms and oil derived from easier access to Libyan military arsenals and contested control over oil fields, which collectively facilitated an illegal export trade from Libya.[38] Egypt is hard hit by the illicit drugs trade and the country remains a traditional hub for international drug flows.[39] However, the most prominent and widely reported crime at sea off North Africa remains illicit smuggling or trafficking in people.

Illegal migration flows remain the core security matter that reflects an inherent maritime security bond. The migration-criminal syndicate link became particularly salient through the threat to human life from dangerous conditions at sea and the loss of life. Libya remains at the core and Tunisia and Egypt lesser so. During the second quarter of 2014, 88% of the estimated 53000 migrants came through Libya.[40] Libya as a transit hub, and as a source in itself, contribute to the migration flows, most of which is illegal, and where the sea crossing in particular results from extended, but highly dangerous smuggling networks.

The Mediterranean transit and the threat it holds for the migrants, as well as the large number of undocumented refugees that arrive in Southern Europe from Africa (Spain and Italy in particular) feature at the core and in need of attention. Here the security of European countries as cultural and social stability remain at odds with the rights of the migrants. It is the latter security interest that is at stake as preventing the loss of life, protection against smugglers and ensuring the rights of migrants are blatantly flouted.[41] Off North Africa the interplay of collapsed landward and maritime governance is starkly visible at sea in the loss of innocent lives of civilians.

The varying levels of maritime security off Africa raises the next logical question – that of fitting responses to the said maritime crimes off Africa. The following sections outlines a response array that is strongly founded upon the legal framework set by the UN and then its required interface with national legislation whether existing or in process. The section also offers current responses as far as possible in order to bring responses into step with the threat landscapes outlined earlier.

Reponses

The UNODC 2015 Global Maritime Crime Programme,[42] highlights the collective responsibility of states to adopt a coordinated and comprehensive approach to dealing with maritime crime and that includes -interrupting criminal activities at sea -strengthening domestic maritime law-enforcement capacity addressing the root causes of maritime crime on land.

The responses of the various regions in Africa to dealing with, in some instances burgeoning crime in the maritime domain, or the threat of such crime is dealt with regionally.

West and Central Africa: Regional and national response profiles

In September 2011 Nigeria and Benin concluded a bilateral agreement to jointly patrol the waters off Benin. This led to a successful decrease in the number of attacks against ships in Benin waters.[43] In September 2012 a spokesperson from the Nigerian Navy, stated that due to the success of the operation it was being contemplated to widen its scope by including the navies of Togo and Ghana, if possible.[44]

According to Dr Augustus Vogel[45], in 2011, there were fewer than 25 maritime craft longer than 25 meters available off of west and central Africa for interdiction operations. A report of the United Nations assessment mission on piracy in the Gulf of guinea [46], recommended that international partners provide funding and support to Benin for the purchase of navy vessels. It had become clear that to keep the sea lanes in the Gulf of Guinea open one would first need to assess the effectiveness of capacity building assistance in the region and concomitant ability of states to singly or jointly patrol their territorial waters.

Pursuant to United Nations Security Council resolutions in 2011[47], and 2012[48], the UNODC developed a strategy in relation to piracy, armed robbery against ships, and maritime crime in the Gulf of Guinea Region with a core focus on criminal justice capacity building, geared at enhancing the capacity of states to carry out effective maritime law enforcement.[49] In June 2013 twenty two West African states became signatories to an anti-piracy code of conduct for West and Central Africa, which incorporates many elements of the successfully applied Djibouti Code of conduct signed by 20 states, including South Africa, in East and Southern Africa.[50] Countries in the GOG region began increasing their capacity to deal with maritime crime. Between 2000 and 2013 Nigeria, Cameroon, Equatorial Guinea, Ghana and Sierra Leone acquired vessels from China.[51] By 2015 the EU had set up Critical Maritime Routes for the Gulf of Guinea (CRIMGO) and the USA had started the AFRICOM at-sea maritime exercises and an Africa partnership Station (APS) program to support capacity building for anti-piracy missions in the region.[52] In response to the high number of attacks against ships in Nigeria in 2015 the Nigerian authorities conducted a security operation in which 1,600 suspected pirates, militants and criminals believed to have been involved in piracy, illegal bunkering as well as kidnapping, were reportedly arrested by Nigerian military officials.[53] In addition, Nigeria's Maritime Administration and Safety Agency (NIMSA) is calling for the expediting of the passage of anti piracy laws being considered by the National Assembly to address the burgeoning crime.[54] Till points out that relatively moderate forces, acting with determination, can achieve disproportionately effective results. He also lauds the positive approach adopted by African countries towards investing in the defence of their waters and highlights Nigeria's acquisition of patrol boats, helicopters and maritime surveillance systems.[55]

Southern and East Africa

In southern Africa the region's responses are naval, regional and South African dominated. Maritime security matters are much less regulated or directed by explicit UN and resolutions as found off West and East Africa in particular. In response to attacks on ships in the waters of SADC members off the east coast of Southern Africa, South Africa, Mozambique and Tanzania have been patrolling the Mozambique channel since 2011, pursuant of a Memorandum of Understanding between their governments on maritime security cooperation which gives their forces the right to patrol, search, and arrest, seize and undertake hot pursuit operations on any maritime crime suspect in their waters.[56] Much, if not all of these efforts turned upon the anti-piracy drive as the main catalyst for policy-decisions and operational deployments and cooperation.

By 2015 joint action, authorised by United Nations Resolutions, by foreign navies culminated in the arresting, investigating and prosecuting of pirates operating from Somalia. This proved to be a successful deterrent to attacks against ships as no incidents of attacks on ships off Somalia were reported for this period.[57] Restoring security governance off Somalia in particular became the acid test for moving from stark naval operations to de facto softer security roles for the multi-national naval contingents. In 2016 South Africa, Kenya, Mozambique, Tanzania and the Seychelles participated in a regional military exercise, sponsored by the

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US Africa Command and designed to improve regional cooperation to increase participating nations' capabilities to counter sea-based illicit activity.[58]

Concurrent to exercises and joint cooperation to improve naval responses to illicit activities at sea the United Nations and other international organisations are providing on-going assistance to improve the efficacy of Eastern and Southern African littoral states' criminal justice systems, thereby increasing their ability to deal with maritime crime. The UNODC has, for example, provided assistance to the following countries in East Africa, Kenya, Mauritius, Seychelles and Tanzania to train judges, prosecutors, prison staff, police and coast guard officers and to Somalia to establish maritime law enforcement institutions.[59] In reality, this translates to judicial capacity building to complete the justice cycle of arrest, prosecution, sentencing and incarceration with the latter reflecting a growing African profile.

The key to dealing effectively with maritime crime in this region lies thus in capacity and resource building to provide the tools to law enforcement and navies (operating as coast guards at large) to interdict perpetrators and to follow up with prosecution through effective criminal justice systems while at the same time empowering coastal communities. All three are in process off East Africa in particular (Somalia, Kenia, Tanzania & Seychelles) with the reliance on naval power gradually balanced with enhanced prevention, prosecution and sentencing to fill in on absent governance not offered by the military intervention of naval platforms.

North Africa

North Africa shows its own share of UN based responses, but ones largely vested in UN resolutions such as UNSC Resolution 12072 that provides for member states to intercept suspected refugee carrying vessels off Libya. Resolution 12072 operates in the face of the Libyan lack of resources and their landward commitments to restore governance over its territory.[60] A second observation is the absence of African contributions to stem the humanitarian tide in the heavily affected zones north of Libya. International responses from southern Europe appear to dominate, and later from a larger European effort to operationalise European Union (EU) responses through a wider and better funded operation visible in the move from Italian rescue missions (MARE NOSTRUM) to FRONTEX, Triton[61] and as of late, Operation Sophia to intercept suspected refugee-carrying vessels north of Libya. The latter operation reaches down to the 12 nautical mile mark of Libya's territorial waters.[62] Responses off North Africa also show the same uncertainty and initial lack of cooperation that once characterised the actions of the naval contingents arriving off the coast of Somalia. The humanitarian side of the refugee flows does not allow for the learning curve that took shape off Somalia. It is rather a matter of a willingness to cooperate properly and to operationalise the existing EU agreements on human security on Europe's southern doorstep, as opposed to the Gulf of Guinea or the Gulf of Aden.

SUMMARY AND CONCLUSION

Piracy tends to mask the reality and prosecution of maritime crimes other than piracy off the African coast. Crime at sea ties in with governance on the African continent and regarding the latter, only southern Africa, shows some exception to the general argument on the land-sea governance nexus. From a prosecution and rule of law perspective, African littoral states also show weaknesses. Here South Africa/Southern Africa again seems to be the exception. Overall however, each of the four maritime hubs show the horizontal expanse of maritime crime, but it is the array of responses, as highlighted by the Danish Maritime Days Report that requires closer attention. Four matters are of importance and play out in the regions discussed. First, West-Central Africa, East Africa, as well as Southern Africa have responded to maritime threats in their water, whether individually, regionally, or in partnership with international actors. Second, North Africa remains the exception with Europe taking most of the responsibility to deal with the humanitarian crisis and the criminal syndicates that are the true perpetrators. Third, stark naval responses paved the way for more extensive interventions to build the crime-prosecution capacities and off East Africa in particular. Fourth, maritime crime off Africa probably drew together one of the largest civil-military alliances to respond to a rising security sector long neglected.

Piracy is in effect the trail blazer for lessons how to fight other maritime crimes simmering in the shadow of

anti-piracy priorities. Although the politico-military (naval) coalition led the way and, if sustained, could well also drive back piracy, North Africa demonstrates the reality of maritime crimes other than piracy reaching crisis levels with harsh and direct humanitarian consequences if left unimpeded.

Africa's heightened awareness of the need to take responsibility for the defence of its maritime zones, as a requisite for reaping their latent potential economic benefits, has fostered an awareness of the manifestation of maritime crime, other than piracy, as also posing a serious threat to governance and economic development.

The ensuing response, by building up and exercising naval assets, broadening maritime legislation, and engaging in capacity building in terms of enhancing the capacity of their criminal justice systems, together with other African and international partners, has had an impact on the combating of the other, less sensational crimes, burgeoning and existing parallel with piracy.

The focus of resources on dealing with piracy and the ensuing prosecutions of perpetrators will have a deterrent effect on would be perpetrators of other maritime crimes, as the myth of impunity when committing crime in the maritime domain is challenged.

The key to obtaining successful prosecution resides in the efficacy of the criminal justice system and in particular on the ability to conduct effective investigations. The weakness in this regard, in some of the African states, underlines the need for the continued training of investigators as well as officials in the criminal justice system. Such training also needs to focus, in addition to piracy, on the investigation and prosecution of other crimes, including environmental crimes, perpetrated in the maritime domain, and which could negatively affect a state's ability to benefit from the economic potential available for utilisation from within the maritime domain.

The need to focus on maritime crimes, other than piracy, and their potential to also have a devastating effect on the governance and economies of African states, is plainly demonstrated by the opportunistic criminal exacerbation of a humanitarian crisis through the illicit smuggling or trafficking of people from North Africa to Europe. North Africa is thus a clarion call for African countries to deal with crime at sea as the piracy and a refugee crisis at sea demonstrate how unchecked criminal syndicates raise criminal threats to international crisis proportions if left unchecked.

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HIGH VISIBILITY EVENTS

7th NMIOTC Annual Conference, 07-09 JUN 16

Visit of COM JFC NAPLES Adm. Michelle Howard US (N), 22 JUN 16

Visit of the Romanian Chief of the Navy
Real Admiral(UH) Alexandru Mirsu Ph.D. , 07 JUL 16

EUNAVFORMED delegation site survey, 22 JUL 16

1st *Cyber Security Conference, 4-5 OCT 16*

Visit of SACEUR Gen. C. Scaparrotti USA (A) , 04 OCT 16

8th Birtday of NMIOTC, 14 OCT 16

In Brief meeting for op. SEA GUARDIAN, 05 NOV 16

Visit of Egyptian delegation, 10 NOV 16

Exercise MEDUSA 16, 05,07-08 DEC 16

Resident Course 14000, 13-17 JUN 16

Training of ITS BERGAMINI, 21-23 JUN 16

Training of German FBD Team, 11-22 JUL 16

Weapons Proficiency Training 11 OCT 16

Resident Course 18000 Maritime Biometrics Collection and Tactical Forensic Site Exploitation, 17-21 OCT 16

Resident Course 12000 C-IED Considerations in MIO, 31 OCT – 04 NOV 16
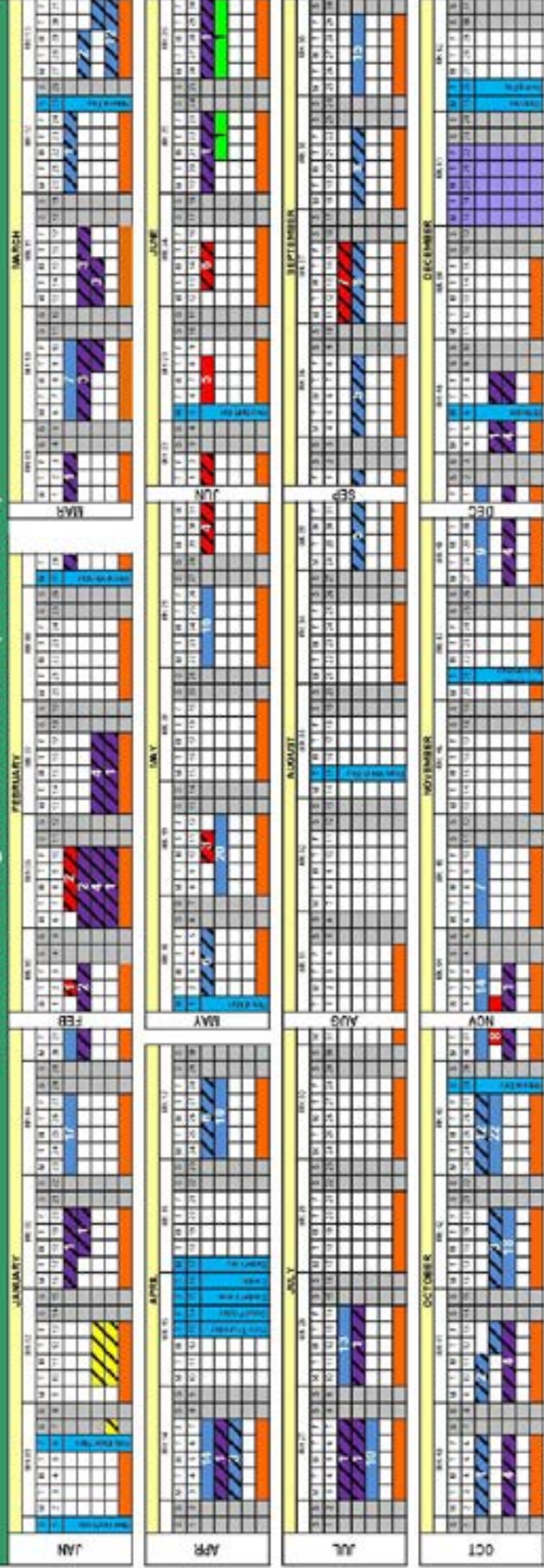
Resident Course 7000 MIO in support of Counter Piracy, 07-14 NOV 16

Resident Course 13000 MIO in Support of Migration Related Operations, 14-18 NOV 16

Draft NMIOTC Program of Work 2017 (NPOW 2017)

Education and Training

Calendar months: JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC

TAILORED TRAININGS
1 GRC SOF team
(Army, Navy, Air Force, Coast Guard, Police, etc)
2 LBY team
3 MEU team
4 DEU team

EXERCISES / MTTs
1 UVEX ADRION

ACTIVITIES
1 NAB (NMIOTC)
2 MAREVAL COURSE (26th)
3 NCB (HNGS)
4 NATO Maritime Operations Law Seminar
5 NMIOTC Annual Conference
6 ACT C-IED Conference
7 ATP 71 WORKSHOP
8 Cyber Security Conference

COURSES (IETOC ID)
1 Course 1000 - Command Team MIO issues (MOP-MO-51201)
2 Course 2000 - Boarding Team Classroom Issues (MOP-MO-51202)
3 Course 3000 - Boarding Team Practical Issues (MOP-MO-41205)
5 Course 5000 - Maritime Operational Terminology Course (MOP-MO-11200)
6 Course 6000 - Weapons of Mass Destruction in MIO (MOP-MO-31209)
7 Course 7000 - MIO in support of Counter piracy OPS (MOP-MO-41210)
8 Course 8000 - C-IED Considerations in Maritime Force Protection (IED-ED-31167B)
9 Course 9000 - Legal Issues in MIO (LGL-LE-31613)
10 Course 10000 - MIO in Support of Countering Illicit Trafficking at Sea (P) (MOP-MO-32012)
11 Course 11000 - AVPD Course (on demand) (MOP-MO-32011)
12 Course 12000 - MIO in a C-IED (A/N) Maritime Environment (IED-ED-31904)
13 Course 13000 - MIO in Support of International Efforts to Counter Human Trafficking Activities at Sea - Command Team issues (MOP-MO-32015)
14 Course 14000 - Maritime IED Disposal (IED-ED-32008)
15 Course 15000 - MIO in Support of International Efforts to Counter Human Trafficking Activities at Sea - Practical Issues
16 Course 16000 - Maritime Aspects of Joint Operations
17 Course 17000 - Train the Trainers Technical Instructor
18 Course 18000 - Maritime Biometrics Collection and Tactical Forensic Site Exploitation
19 Course 19000 - Cyber Security Awareness in Maritime Environment
20 Course 20000 - Protection of Critical Maritime Infrastructure [CIMI]
22 Course 22000 - Medical Combat Care in MIO

Legend
▲ Updated 19 Jan 2017
- Training Courses
- Tailored Trainings
- Exercise / MTTs
- Conference - Meeting
- Unit Training
- National Holidays
- Available Period for Training
- Evaluation of Courses / Maintenance
- NATO Events

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