



Deliverable D.2

Report

“Novel threats to Maritime Security”

Project Acronym : EUMARSEC2020+
Project Full Title : EU Maritime Security Beyond 2020
Project Number : HFRI-00465
Classification : Public
Version Number & Date : 1.0_final
Author(s) : Nikolaos Bourazelis; Apostolos Skoutas; Dr Marliza Deftou; Dr Dimitra Papageorgiou. Edited by Dr Efthymios Papastavridis.

EU MARITIME SECURITY POST 2020

**REPORT ON TRADITIONAL AND NEW THREATS TO
MARITIME SECURITY**

I. Introduction: The concept of maritime security under international and EU law

1. The concept of maritime security under international law

A “universally accepted definition of the term ‘maritime security’ under international law has not yet emerged,¹ as the nature of the term itself provides for ample interpretative flexibility depending on the particularities of the context in which it is invoked.² For example, Klein states that “the term ‘maritime security’ has different meanings depending on who is using the term or in what context it is being used.”³ She defines maritime security as “the protection of a state’s land and maritime territory, infrastructure, economy, environment, and society from certain harmful acts that take place at sea”.⁴ As a starting point in her study, she considered the concept of maritime security as an expanding category and stated that some factors such as climate change will reveal the problem of maritime environmental security.⁵ Bueger also created a maritime security matrix and essentially evaluated it in four different concepts, namely sea power, marine safety, blue economy, and human resilience.⁶

In any event, although the term originally refers to matters primarily involving direct threats to the integrity of the State, such as armed attacks against military vessels, in its modern context, it should be understood in a much broader sense encompassing not only piracy and armed attacks but also unlawful acts including people smuggling,

¹ UN Doc. A/63/63, Oceans and Law of the Sea, Report of the Secretary-General, Mar. 10, 2008, p. 15, para. 39.

² M. Evans and S. Galani, “The interplay between maritime security and the 1982 United Nations Convention on the Law of the Sea: help or hindrance?” in M. Evans and S. Galani (eds.) *Maritime Security and the Law of the Sea* (EE Publishing, 2020), p. 2-3.

³ Natalie Klein, *Maritime Security and the Law of the Sea*, (Oxford University Press, 2011), 11.

⁴ *Ibid*, 8.

⁵ *Ibid*, 319-320.

⁶ Christian Bueger, ‘What is Maritime Security?’ (2014) 53 *Marine Policy* 160-1.

human trafficking, marine pollution, drug trafficking, arms trafficking, and the depletion of natural resources such as fisheries.⁷ Authoritatively, the UN Secretary General in his 2008 Report on Oceans identified seven specific ‘threats to maritime security’: 1) piracy and armed robbery against ships, 2) terrorist acts against shipping, offshore installations and other maritime interests, 3) illicit trafficking in arms and weapons of mass destruction, 4) illicit trafficking in narcotic drugs and psychotropic substances, 5) smuggling and trafficking of persons by sea, 6) IUU fishing, and 7) intentional and unlawful damage to the marine environment’.⁸

To this non-exhaustive list, one can add new threats that have inevitably come to the fore recently. Suffice it to mention here the threat posed by attacks to offshore critical infrastructures, like artificial islands and oil platforms as well as submarine cables and pipelines. The recent attacks on Nord Stream 1 (NS1) and Nord Stream 2 natural gas pipelines illustrates this point.⁹ Further, cyberattacks against vessels as well as the use of autonomous maritime systems pose significant threats to maritime security and a host of intriguing and difficult legal questions under international law.

2. Maritime security under EU Law

The core of the EU legislation on the matter of maritime security consists of Regulation (EC) No 725/2004 on enhancing ship and port facility security, in tandem with Directive 2005/65/EC on enhancing port security.

A. Regulation (EC) No 725/2004 on enhancing ship and port facility security

In essence, the measures of maritime security introduced by the Regulation on enhancing ship and port facility security are primarily focused on security measures implemented aboard commercial vessels and their immediate surroundings at the port,

⁷ R. McCabe, D. Sanders and I. Speller, “Introduction: Europe, small navies and maritime security” in R. McCabe, D. Sanders and I. Speller (eds.) *Europe, Small Navies and Maritime Security: Balancing Traditional Roles and Emergent Threats in the 21st Century*, (Routledge, 2020), 26, see also N. Klein, “A Maritime Security Framework for the Legal Dimensions of Irregular Migration by Sea”, in V. Moreno-Lax and E. Papastavridis (eds.) *Boat Refugees’ and Migrants at Sea: A Comprehensive Approach Integrating Maritime Security with Human Rights* (Brill/Nijhoff, 2016), 36-37.

⁸ UNGA RES A/63/63, (n 1), paras 54, 63, 72, 82, 89, 98, 107–8.

⁹ See more details and a legal analysis here: <https://www.ejiltalk.org/arc-sabotage-of-submarine-pipelines-an-armed-attack-triggering-a-right-to-self-defence/>. On other sabotages against submarine pipelines and cables in Europe see here: <https://www.ejiltalk.org/attacks-against-europes-offshore-infrastructure-within-and-beyond-the-territorial-sea-under-jus-ad-bellum/>

which are intended at the enhancement of their security against the threat of internationally wrongful acts perpetrated against them. Furthermore, the Regulation's objective is to facilitate the interpretation, implementation, and monitoring of the special measures for the enhancement of maritime security adopted by the International Maritime Organization in 2002, which amended the SOLAS Convention and Established the ISPS Code.

Under Article 2 paragraph 5 of the said Regulation, the term "maritime security" is defined as: "*the combination of preventive measures intended to protect shipping and port facilities against threats of intentional unlawful acts*".¹⁰

Moreover, perambulatory clauses 1-3 of the Regulation, referring explicitly to terrorism, which is identified as one of the grave perils against the ideals of freedom and democracy as well as to acts of piracy and the maritime transportation of substances that are especially dangerous to the environment provide valuable interpretative insight on the nature of acts related to maritime security shedding light on both the ordinary meaning of the term itself, as well as on the object and purpose of Regulation (EC) No 725/2004.

Important also was the *Directive 2005/65/EC on enhancing port security*, which, subsequently, extended the application of such security measures in all ports of member states that contain areas of port activity that fall within the scope of application of Regulation (EC) No 725/2004. Accordingly, the definition of maritime security under the Directive should be considered identical to that of the Regulation. In other words, Regulation (EC) No 725/2004 constitutes the foundation of EU legislation on Maritime Security and subsequently Directive 2005/65/EC provides for a more comprehensive legislative coverage of the matter.

B. Commission Regulation (EC) No 324/2008 of 9 April 2008 laying down revised procedures for conducting Commission inspections in the field of maritime security

¹⁰ Regulation (EC) No 725/2004 of 31 March 2004 on enhancing ship and port facility security [2004], OJ L 129/8.

By virtue of Regulation (EC) No 324/2008,¹¹ the Commission is further tasked with conducting inspections on the effectiveness of maritime security measures undertaken on national level by member states so as to safeguard the appropriate implementation of EU legislation on the matter. To that end, the Maritime Security Committee (MARSEC), established by virtue of article 11 of Regulation (EC) No 725/2004, is tasked with assisting the Commission on the implementation of both the Regulation as well as the Directive, while also facilitating the mutual exchange of sensitive information between Member States on matters relevant to maritime security, such as the evaluation of new and existing threats. This readily substantiates that the normative content of maritime security is of a dynamic nature, evolving along with and in response to newly arising threats.

C. The decisive role of EMSA in the development of EU legislation on Maritime Security

Since its establishment in 2002, by virtue of Regulation (EC) No 1406/2002,¹² alongside the EU legal framework examined above, the European Maritime Safety Agency (EMSA) has been decisively engaged in assisting both the Commission and individual EU Member States on the matter of maritime safety and security, focusing primarily on “the continuous process of updating and developing Community legislation in the field of maritime safety¹³ and prevention of pollution by ships”,¹⁴ while subsequent amendments have already expanded and developed its core mandate.¹⁵

Principally, EMSA is tasked with safeguarding the proper implementation of Regulation (EC) No 725/2004 on enhancing ship and port facility security while simultaneously providing technical assistance to the EFTA Surveillance Authority on

¹¹ Commission Regulation (EC) No 324/2008 of 9 April 2008 laying down revised procedures for conducting Commission inspections in the field of maritime security [2008], OJ I. 98/5.

¹² Regulation (EC) No 1406/2002 of 27 June 2002 establishing a European Maritime Safety Agency [2002], OJ I. 208/1.

¹³ J. Kraska and R. Pedrozo “International Maritime Security Law”, (Martinus Nijhoff Publishers, 2013), p.5 note that the interdependent evolution of the terms “maritime safety” and “maritime security” has resulted in their intertwined invocation and application.

¹⁴ Ibid, perambulatory clause No. (13).

¹⁵ For example, see Regulation (EU) 2016/1625 of 14 September 2016 amending Regulation (EC) No 1406/2002 establishing a European Maritime Safety Agency [2-16], OJ I. 251/77.

ship security. In effect, EMSA's mandate on maritime security fully reflects the regulatory scope of Regulation (EC) No 725/2004 on the matter. Indeed, Regulation (EU) 100/2013 amending Regulation (EC) 1406/2002 establishing EMSA explicitly states that:

“(f)or the purposes of this Regulation, ‘maritime security’ is to be understood — in accordance with Regulation (EC) No 725/2004 of the European Parliament and of the Council of 31 March 2004 on enhancing ship and port facility security — as the combined preventive measures intended to protect shipping and port facilities against threats of intentional unlawful acts.”¹⁶

Hence, in the context of EMSA maritime security is understood as referring to all preventive measures implemented for the protection of EU shipping against internationally unlawful acts, such as piracy, armed robbery, terrorism and maritime violence and recently also forms of cybercrime affecting EU shipping.

D. The European Union Maritime Security Strategy (EUMSS)

As discussed above, the matter of maritime security has entered and has remained in the spotlight of EU's overall maritime policy since the late 1990s, primarily focusing on counter-terrorism initiatives. In 2014, the vital importance of maritime trade for EU's economy was stressed in a Joint Communication of the High Representative of the European Union for Foreign Affairs and Security Policy to The European Parliament and the Council, Dr. Anna Bredima – Savopoulou, urging for the establishment of a maritime security strategy by the EU so that an open and secure global maritime domain could be maintained.¹⁷

A few months later, in June 2014 the Council of the European Union unanimously adopted the *European Union Maritime Security Strategy (EUMSS 2014) designed to safeguard and promote EU's interests in “the global maritime domain” by means of*

¹⁶ Regulation (EU) No 100/2013 of the European Parliament and of the Council of 15 January 2013 amending Regulation (EC) No 1406/2002 establishing a European Maritime Safety Agency, [2002], OJ I. 39/30, perambulatory clause (11).

¹⁷ Joint Communication of the High Representative of the European Union for Foreign Affairs and Security Policy to the European Parliament and the Council for an open and secure global maritime domain: elements for a European Union maritime security strategy, Brussels, March 6, 2014, JOIN(2014) 9 final.

enforcing pertinent international and national law.¹⁸ So far, the implementation of EUMSS has been premised upon the Action Plan of 2014,¹⁹ which has been subsequently revised in 2018,²⁰ without any significant revision regarding the content of the core notion of maritime security.

The European Union Maritime Security Strategy of 2014 officially defines the term “maritime security” in a broad and inclusive manner, as encompassing:

“a state of affairs of the global maritime domain, in which international law and national law are enforced, freedom of navigation is guaranteed and citizens, infrastructure, transport, the environment and marine resources are protected”²¹

Moreover, EUMSS sheds further light on the definition of “maritime security” by outlining specific aspects of maritime security that fall within the scope of the EU’s maritime security strategy, namely:

- a) The security of the EU, its Member States and their citizens;*
- b) The preservation of peace in line with the Charter of the United Nations, the peaceful settlement of maritime disputes in accordance with international law, the prevention of conflicts and the strengthening of international security, including through EU engagement with international partners, without prejudice to national competences. This promotes international maritime cooperation and the rule of law and facilitates maritime trade and sustainable growth and development;*
- c) The protection against maritime security risks and threats, including the protection of critical maritime infrastructure, such as specific areas in ports and port facilities, off-shore installations, energy supply by the sea, underwater pipelines, seabed cables, as well as the promotion of scientific research and innovation projects;*
- d) The preservation of freedom of navigation, the protection of the global EU supply chain and of maritime trade, the right of innocent and transit passage of ships and the security of their crew and passengers;*
- e) The protection of economic interests, including the safeguarding of maritime energy resources, the sustainable exploitation of natural and marine resources in the different maritime zones and the high seas, the control of illegal, unregulated and unreported (IUU) fishing, the security of Member States' fishing fleets and the delimitation of maritime zones, such as the exclusive economic zone, which presents a potential for growth and jobs;*

¹⁸ Council of the European Union, *European Union Maritime Security Strategy*, Document No. 11205/14, Brussels, 24 June 2014.

¹⁹ Council of the European Union, *European Union Maritime Security Strategy (EUMSS) - Action Plan*, Document No. 17002/14, Brussels, December 16 2014.

²⁰ Council of the European Union, *Council conclusions on the revision of the European Union Maritime Security Strategy (EUMSS) Action Plan*, Document No. 10494/18, Brussels, June 26 2018.

²¹ Council of the European Union, *European Union Maritime Security Strategy*, Document No. 11205/14, Brussels, 24 June 2014, p. 3.

f) *The promotion and development of common and validated maritime situational awareness;*

g) *The effective management of the Union's maritime external borders and maritime areas of EU interest in order to prevent and counter cross-border illegal activities;*

h) *The protection of the environment and the management of the impact of climate change in maritime areas and coastal regions, as well as the conservation and sustainable use of biodiversity to avoid future security risks*".²²

E. Concluding Remarks:

In conclusion, "maritime security" in the context of EU law in certain aspects "goes beyond international obligations"²³ so as to effectively serve the purpose of securing the highest possible level of protection of maritime transportation and trade and introduces regulations stricter than contemporary equivalent international standards.²⁴ The term should be interpreted in a dynamic – inclusive manner encompassing matters of both civil nature, such as the protection of maritime trade and the environment, as well as more *stricto sensu* "security" affairs, such as counter-terrorism,²⁵ so as to yield due prominence to the truly hybrid nature of international maritime security law combining "*principally elements of the international law of the sea, international criminal law, international human rights law, and the law of naval warfare, which is a subset of international humanitarian law*".²⁶ Hence, ultimately, it can indeed be supported that from an EU perspective as well, the notion of maritime security has transcended into a "maritime security matrix" incorporating matters of national security, human security, the environment and economic development at sea.²⁷

²² Ibid. IV. MARITIME SECURITY INTERESTS, pp. 6-7.

²³ Statement of the EU Commission on the matter of "Maritime Security", available at: https://transport.ec.europa.eu/transport-modes/maritime/maritime-security_en, accessed 21/04/2023.

²⁴ S. Kopela, "Tackling maritime security threats from a port state's perspective", in M. Evans and S. Galani (eds.) "Maritime Security and the Law of the Sea", EE Publishing, (2020), pp. 180-201, p. 196.

²⁵ J. Kraska and R. Pedrozo "International Maritime Security Law", (Martinus Nijhoff Publishers, 2013), p.61, see also N. Klein, 'Maritime Security', in DR. Rothwell et al. (eds), *Oxford Handbook on the Law of the Sea* (Oxford University Press, (2015), pp. 582-583.

²⁶ J. Kraska and R. Pedrozo "International Maritime Security Law", (Martinus Nijhoff Publishers, 2013), p.2.

²⁷ C. Bueger, (n 6), at 159.

3. Scope and Outline of the Report

In the light of the foregoing analysis, it is readily apparent that ‘maritime security’ is a dynamic and inclusive concept, the threats to which may include while a flurry of illegal activities. It goes without that it is beyond the compass of this Report to exhaustively address all the existing or potential threats to maritime security, as conceptualized above. Rather, its purpose is to discuss few of such threats, encompassing however both ‘traditional threats’ and ‘emerging’ or ‘novel’ threats to maritime security, which would sufficiently illustrate the contemporary challenges that the public order of the oceans faces. Specifically, the focus of the present Report is centered on such threats to EU maritime security, in particular those prevalent in the Mediterranean Sea.

Accordingly, the Report will address, first, some of the traditional threats, namely drug trafficking (Section II), arms trafficking (Section III), Illegal, Unreported, and Unregulated (IUU) fishing (Section IV). This would be followed by an analysis of more modern challenges or threats, such as protection of critical infrastructures, including offshore platforms and pipelines (Section V), and threats from cyber-attacks and autonomous maritime systems (Section VI).

This Report was prepared by the members of the Research Team of the EUMarSec +20 (<https://www.eumarsec.law.uoa.gr/>). In particular, Mr Nikolaos Bourazelis has drafted the Introduction; Mr Apostolos Skoutas Sections II, III, and VI; Dr Marliza Deftou Section IV; and Dr Dimitra Papageorgiou Section V. The Principal Investigator Dr Papastavridis was responsible for the editing process.

II. Drug Trafficking

1. Introduction

According to the latest information provided by the UN, in 2019, more than a quarter of a billion people was estimated to have used drugs at least once in the previous year, an increase of 22 per cent from 2010.²⁸ In one of the most developing geographical regions of the planet alone, Africa, the number of drug users “is projected to rise in the next decade by as much as 40 per cent, simply because of demographic changes”.²⁹ Moreover in 2019, half a million people lost their lives prematurely due to drug-related abuse, while drug use disorders resulted in 18 million years of healthy life lost, mostly due to opioids.³⁰

As evident, the international community has struggled to confront both the rise in illegal drug use (i.e., Cannabis, Cocaine, Opioids, Amphetamine-Type Stimulants - ATS and New Psychoactive Substances - NPS), and the international trafficking of drugs, which occurs mostly through well - known maritime routes. Drugs trafficking constitutes a well-known major maritime security threat that albeit the plenty and various efforts of the international community,³¹ still plagues everyday maritime law enforcement operations. These operations are mostly founded on various public international law obligations, arising from the 1961 Single Convention on Narcotics Drugs,³² the 1971 Convention on Psychotropic Substances³³ and most importantly, the Vienna Drug Trafficking Convention,³⁴ which heavily focuses on international trafficking issues.

The present report aims towards conducting a ‘mapping exercise’ of the international legal issues that hinder the effectiveness of the current drugs trafficking framework, focusing specifically on the Mediterranean Sea and the post 2020 challenges that may necessitate a corresponding State and EU response. To this end, the following are

²⁸ UNDOC, World Drug Report 2021- Global Overview: Drug Demand / Drug Supply, p.19.

²⁹ UNDOC, World Drug Report 2021- Executive Summary – Policy Implications, p. 26

³⁰ *Ibid*, p. 3.

³¹ Natalie Klein, 'Maritime Security', in Rothwell *et al* (eds) (n 25), at 590.

³² Single Convention on Narcotic Drugs 1961, New York, 30 March 1961, entered into force 13 December 1964,) 520 UNTS 151.

³³ Convention on Psychotropic Substances, Vienna, 21 February 1971, entered into force 16 August 1976, 1019 UNTS 176.

³⁴ UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, Vienna, 19 December 1988, entered into force 11 November 1990, 28 ILM 493.

critically asked: Have recent technological advancements affected the relevant treaty-making? Additionally, is the current framework indeed capable of addressing the multifaced challenges of the ever-evolving drug trafficking activity?

2. Drugs trafficking in the Mediterranean Sea

As mentioned above, drug trafficking routes are well established and usually well-known to maritime law officials. However, the most common trafficking routes differ from one illegal commodity to another. For instance, it should not come as a surprise that Spain, due to the nature of its geography, finds itself more often than not in the epicenter of maritime law enforcement operations considering cocaine. Lying in the entry point of Mediterranean region, according to the European Monitoring Centre for Drugs and Drug Addiction, Spain is in the forefront of illegal drug seizures among EU Member States.³⁵ As reported, the routes entering Spain's territorial waters have varied over time; traffickers were exploiting transatlantic routes through West Africa when interdiction operations at the Caribbean were multiplied and more well-co-ordinated, but then again, the Caribbean Sea is still seemingly the most used transit trafficking point for cocaine shipped to Europe from Latin America (mostly Venezuela and Brazil).³⁶ As a matter of fact, in one recent prominent case, approximately 3 tons of cocaine, were transferred to Europe (Romania) through the Mediterranean Sea from Latin America (Brazil).³⁷ The drugs were initially stored in Romanian territorial waters, "with the aim of transporting and distributing them to Western Europe and the Western Balkans."³⁸ As particularly noted by the EU Agency for Criminal Justice Cooperation, the drugs not eventually seized by the authorities "were lost by the criminal network during transport by sea..."³⁹ a well-known tactic of drug traffickers, targeting to destroy evidence in the face of imminent arrest.

³⁵ Eric L. Olson & Nina Gordon, *'Shifting trafficking routes for illicit narcotics and the importance of Spain-US-counter-narcotics cooperation'*, Real Instituto Elcano, 25 Jun 2018, available at < <https://www.realinstitutoelcano.org/en/analyses/shifting-trafficking-routes-for-illicit-narcotics-and-the-importance-of-spain-us-counter-narcotics-cooperation/> >, last accessed 1 July 2022.

³⁶ Ibid.

³⁷ European Union Agency for Criminal Justice Cooperation: International drug trafficking network dismantled, Press Release (2020).

³⁸ Ibid.

³⁹ Ibid.

On the other hand, the trafficking of opioids follows completely different routes, given that the substance is largely produced in Asia (mainly in Afghanistan). Thus historically, most of the heroin trafficked to Europe has followed the so – called Balkan route, i.e., the route “linking Afghanistan to Iran then passing through Turkey” as the most direct land route to European consumer markets.⁴⁰ Turkey and the so called ‘Turkish Republic of Northern Cyprus’ are instrumental to the well-functioning of this route, since heroin can be shipped via plenty of possible branches to Western Europe (importantly for the Mediterranean, through Greece, Albania and Italy).⁴¹ As it has been also reported, opioids’ merchants follow additional alternative sea routes for their shipments to Europe via the Mediterranean Sea, most commonly through the Arabian Peninsula and West Africa.⁴²

In contemporary times, drug traffickers in Mediterranean waters have altered significantly, and crucially for the current state of the law, their ‘*modus operandi*’. Accordingly, many well founded judicial and port authority operational norms have been constituted powerless in the face of rapid technological evolvement. For instance, reference out to be made to the case of semi-submersible and fully submersible vessels which are fully manufactured and deployed by transnational criminal organizations in the Caribbean Sea almost three decades now; said vessels were eventually also deployed in trafficking in “European waters”. In 2021, the Europol (coordinating an operation with five different countries), proceeded in the seizure of the coast of Spain, of the first ever half-submersible vessel built on European territory, and used for the trafficking of illegal substances.⁴³ Additionally, drug trafficking schemes in both sides of the Atlantic have already exploited Marine Autonomous Vessels (MAV),⁴⁴ in their effort to avoid the physical dangers and the criminal charges associated with the activity.⁴⁵

⁴⁰ European Monitoring Centre for Drugs and Addiction, Perspectives on Drugs: Opioid trafficking routes from Asia to Europe (2015), p. 2

⁴¹ Ibid.

⁴² Ibid.

⁴³ See the announcement on the official site of the EUROPOL, < <https://www.europol.europa.eu/media-press/newsroom/news/spanish-police-seize-first-ever-narco-submarine-made-in-europe> >, last accessed 2 July 2022.

⁴⁴ The regulatory issues arising from the deployment of Marine Autonomous Vessels are described in the Cybersecurity chapter of the present report.

⁴⁵ See concerning the transport of marijuana in Italy, < <https://www.metropolitotizie.it/la-droga-la-consegna-il-barchino-con-il-pilota-automatico/> >, last accessed 2 July 2022.

The increasing usage of cutting-edge technology, especially related to the deployment of MAV, has created reasonable worry that the present operational framework for marine enforcement operations (including those related to drug trafficking) may soon become obsolete. Although this opinion has its merits, it is the view of the author that international regulation of the issue is not lacking substantially ‘per se’, but rather that further changes are to be effectuated, especially considering the integration of crewless ships in the law of the sea framework. Given that the issues associated with maritime cybersecurity and MAV are addressed in another chapter of the present report, our analysis will focus on the operational legal tools used for the interdiction of drug trafficking vessels and their discrepancies with the reality marine enforcement officials currently face.

3. International Regulation for the Interdiction of Drug Trafficking Vessels

A. The United Nations Convention on the Law of the Sea (UNCLOS)

UNCLOS,⁴⁶ the “constitution of the oceans” admittedly only scarcely refers to the issue of illicit drug trafficking, considering its importance in the maritime security framework. The Convention, when contemplating on the scope of the criminal jurisdiction of the coastal state in Art. 27, states that it “should not be exercised on board a foreign ship passing through the territorial sea to arrest any person or to conduct any investigation in connection with any crime committed on board the ship during its passage, save only ... *if such measures are necessary for the suppression of illicit traffic in narcotic drugs or psychotropic substances* (emphasis added).” Intriguingly, it has been also as of recently debated, whether Art. 33 of UNCLOS (i.e., contemplating on the jurisdictional powers in the contiguous zone) applies to drug trafficking.

While it would seem almost obvious that the trafficking of illicit substances falls under the customs regulations of the coastal state and thus the state may exercise the control necessary to prevent their infringement at least for outward ships, a pertinent ICJ judgement⁴⁷ points to the contrary. Specifically, the Court in “Nicaragua vs Colombia,

⁴⁶ UN Convention on the Law of the Sea (Montego Bay, 10 December 1982, came in force 16 November 1994) 1833 UNTS 3 (hereinafter referred to as ‘UNCLOS’).

⁴⁷ ICJ Judgement, “*Nicaragua vs Colombia, Alleged Violations of Sovereign Rights and Maritime Spaces in the Caribbean Sea*”, dated 21 April 2022, p. 64-65

Alleged Violations of Sovereign Rights and Maritime Spaces in the Caribbean Sea” notes, that “security was not a matter that States agreed to include in the list of matters over which a coastal State may exercise control in the contiguous zone; nor has there been any evolution of customary international law in this regard since the adoption of UNCLOS”;⁴⁸ thus, states may not interdict vessels on the contiguous zone, claiming reasonable suspicions on the grounds of drug trafficking. Furthermore, it should be noted that whilst the Convention, according to Art. 60 para 2, also delegates enforcement powers to coastal states regarding drug trafficking occurring on artificial islands and installations, the latter in practice, may only be scarcely used.

On the high seas UNCLOS provides under Article 108 that “all States shall cooperate in the suppression of illicit traffic in narcotic drugs and psychotropic substances engaged in by ships on the high seas contrary to international conventions.”⁴⁹ Given the dependance on other instruments regulating the trafficking of drugs, such as the Vienna Convention, one understands that the wording of Art. 108 sets an obligation of conduct rather than a result.⁵⁰ Thus, it is falling short of providing an effective enforcement mechanism, especially when read in conjunction with para. 2 of the same Article.⁵¹ Most strikingly absent however from the UNCLOS, regarding drug trafficking on the high seas, is the absence of the issue under discussion from the list of activities provided in Art. 110 for which the right of visit applies. Accordingly, States may only make good use of the provision of Art. 110, as regards drug trafficking when dealing with interdictions on the grounds of the “absence of nationality” prerequisite.⁵² Critically, as it can be understood, UNCLOS falls rather short of granting extensive powers of enforcement for drug trafficking issues. While, that is perhaps, since UNCLOS is not the only multilateral convention regulating the issue, most of the multilateral modern

⁴⁸ Ibid.

⁴⁹ For the interesting US approach on the UNCLOS provisions regarding the subject matter (the US has not yet ratified the Convention), see Charles R. Fritch, 'Drug Smuggling on the High Seas: Using International Legal Principles to Establish Jurisdiction Over the Illicit Narcotics Trade and the Ninth Circuit's Unnecessary Nexus Requirement' (2009) 8 *Washington University Global Studies Law Review* 701, 719-721.

⁵⁰ Efthymios Papastavridis, 'The Illicit Trafficking of Drugs' in David Attard, Malgosia Fitzmaurice, Norman Martinez, Riyaz Hamza (editors), *The IMLI Manual on International Maritime Law: Volume III: Marine Environmental Law and International Maritime Security Law* (OUP, 2016), 467.

⁵¹ “Any State which has reasonable grounds for believing that a ship flying its flag is engaged in illicit traffic in narcotic drugs or psychotropic substances may request the cooperation of other States to suppress such traffic.” For the arguments, against the effectiveness of the provision, see Papastavridis, *ibid*, 467-468.

⁵² *Ibid*, 468-469.

treaties for drug trafficking, as provided below, only slightly improve on the needed operational framework.

B. The 1988 Vienna Drug Trafficking Convention

Evidently, the Vienna Drug Trafficking Convention constitutes a more specialised tool for drug trafficking interdictions at sea, providing importantly a clear-cut mechanism for boarding vessels of other state parties. Specifically, Art. 17, para. 3 reads that “(a) Party which has reasonable grounds to suspect that a vessel exercising the freedom of navigation in accordance with international law and flying the flag or displaying marks of registry of another Party is engaged in illicit traffic may so notify the flag State, request confirmation of registry and, if confirmed, request authorization from the flag State to take appropriate measures in regard to that vessel.”⁵³

On the face of the provision, it is obvious that the provision requires the explicit authorization of the flag state, which according to Art. 4 of the Convention, may be granted not only for boarding and searching the vessel, but importantly, if evidence is found, for the assertion of further enforcement measures, i.e., appropriate action both *in rem* and *in personam* for the crime of drug-trafficking. Albeit an effective tool, it is admittedly based more on the good co-operation ‘animus’ of the corresponding state party. Thus, the Vienna Convention remains inadequate to address modern methods of drug trafficking on a variety of grounds.⁵⁴ Predominantly, given that the provided enforcement mechanism is found on the existence of prescriptive jurisdiction, even if Art. 4 requires state parties to criminalize serious offenses⁵⁵ committed on board their vessels, it nevertheless fails to address the establishment of offenses on board state parties’ vessels committed by their nationals.⁵⁶ Furthermore, it fails to address the (critical for the efficiency of the judicial procedure) priority in a scenario of concurrent jurisdiction, that is when explicit authorization is accorded by the flag state to the boarding party and competing claims are made by the state parties.

⁵³ See for the 1988 Vienna Convention, Natalie Klein, *Maritime Security and the Law of the Sea* (OUP, 2011) 131-32 and 312-313.

⁵⁴ See Papastavridis (n 49), at 470-472.

⁵⁵ Provided in delated in length under Art. 3 of the Convention.

⁵⁶ See Papastavridis (n 49), at 470-472.

4. Regional and National Regulation on Drug Trafficking

A. The 1995 Council of Europe Agreement and MAOC-N

Another regional multilateral Convention of interest to the EU maritime security regarding modern drug trafficking operations, is the 1995 Council of Europe Agreement,⁵⁷ covering effectively for plenty of the shortcomings of their predecessors with regards to the subject matter.⁵⁸ While the explicit authorization of the flag State is still required, the Convention importantly recognizes the so-called preferential jurisdiction, according to Art. 1 (b), i.e., the right to exercise flag state jurisdiction “on a priority basis, to the exclusion of the exercise of the other State’s jurisdiction over the offence”. Furthermore, it requires the extension of prescriptive criminal jurisdiction to relevant offenses taking place on board the flag vessels of other state parties as well as vessels without nationality.⁵⁹

In the context of multilateral European initiatives to combat the illicit trafficking of drugs, the MAOC-N taskforce (Maritime Analysis and Operation Centre) should be also highlighted, which is established by 6 EU Member Countries (France, Ireland, Italy, Spain, Netherlands, Portugal) and the UK and is co-funded by the Internal Security Fund of the European Union. The Centre has showcased important operational success, supporting from 2007 to May 2022, the seizure of over 259 tons of cocaine and over 649 tons of cannabis.⁶⁰ Interestingly, the Centre claims his success is founded on what seems to be missing from the above-mentioned conventions, less bureaucracy, cooperation with third countries, advanced intelligence, and improved operational activity. Specifically, it is stated that “in addition to the intelligence provided, MAOC (N)’s success can be attributed to other factors, such as the working model (Liaison Officers working together with full transparency and equality), as well as the civil-

⁵⁷ This is considered as implementing the prerequisites of Article 17 of the Vienna Drug Trafficking Convention. See, Explanatory Report to the Agreement on Illicit Traffic by Sea, implementing Article 17 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances dated 31 January 2022.

⁵⁸ See Yoshifumi Tanaka, *The International Law of the Sea* (CUP, 2012), 168 and Klein (n 3), at 134-135.

⁵⁹ Art. 3 para. 3 of the Agreement requires each participating State “to take such measures as may be necessary to establish its jurisdiction over the relevant offences on board a vessel without nationality”.

⁶⁰ See for related information <<https://maoc.eu/who-we-are/>>, last accessed 13 November 2022.

military connection and cooperation with West African countries. The MAOC (N) model, working practices and operations are conducted in a format which aims to minimize bureaucracy, whilst maximizing operational activity.”⁶¹

B. The Spain – Italy Treaty on the Suppression of the illicit Traffic in Drugs at Sea and the Spain – Portugal Treaty for the Repression of the illegal trafficking of drugs at sea

A useful agreement in the effort to combat drug trafficking, especially for geographical reasons in the European continent is the 1990 Spain – Italy Treaty on the Suppression of the illicit Traffic in Drugs at Sea.⁶² The treaty differs from its multilateral counterparts since it does not require a prior explicit authorization from the other party in order the coastal State concerned to exercise the right of visit on the high seas. It does however, similarly to the 1995 Council of Europe Agreement, recognize the preferential jurisdiction of the flag State, providing however the right of the boarding party to request the flag state to renounce its preferential jurisdiction.⁶³

Spain, being on the entry point of the Mediterranean Sea has concluded a treaty of similar nature with Portugal (another important in the context of maritime narcotics operations country), namely the Treaty between the Portuguese Republic and the Kingdom of Spain for the Repression of Illicit Traffic of Drugs at Sea.⁶⁴ The treaty operates in a similar manner but allows for interdiction only when the proper flag state authorization cannot be obtained in a timely manner.⁶⁵

C. National regulation regarding the illicit trafficking of drugs – The case of the Hellenic Republic

It should be first noted that on an EU level, almost none ‘ad hoc’ drug trafficking initiatives related specifically to maritime enforcement has been observed. Nevertheless, the European Union Agency for Criminal Justice Cooperation has found

⁶¹ Ibid.

⁶² Signed on the 23rd of March 1990 and entered into force on the 7th of May 1994.

⁶³ See Art. 6, para. 1 of the Spain – Italy Treaty.

⁶⁴ Signed on the 2nd of March 1998 and entered into force on the 21st of January 2001.

⁶⁵ See Papastavridis (n 49), at 484-485.

at least some operational success ‘field’ success as of 2022,⁶⁶ showcasing the exceptional importance of co-ordination initiatives in counter-drug-trafficking legislative proposals. Admittedly, member states of the EU do enjoy full competence on criminalizing the illicit trafficking of drugs, especially in conformity with their international obligations.

Taking as an example the state of the Hellenic Republic, Law 4139/2013 describes rather adequately (and exhaustively) the criminalization of drug trafficking, stating among else that drug trafficking is defined as “any act involving the circulation of narcotic substances or precursor substances ... and in particular the import, export, transit, sale, purchase, offer, distribution, disposal, shipment, delivery, storage, disposal, manufacture, possession, transportation, adulteration, sale of counterfeit monopoly narcotics ... the production and extraction of narcotic substances ... the management of a shop which, with the knowledge of the offender, is systematically used for trafficking narcotics, the financing, organization or management of narcotic traffic activities ... as well as mediating any of these acts”.⁶⁷

It should be added that according to Art. 5 of the Greek Penal Code, “Greek criminal laws apply to all acts committed within the Greek territory, even by foreigners” and “Greek ships or aircraft are considered territory ... unless according to international law they are subject to foreign law.”⁶⁸ Also, importantly,

One can observe that these broad lists of criminalized acts should be deemed as adequate for the proper characterization of drug trafficking as a criminal activity. Furthermore, one must praise the provision of universal jurisdiction of the Hellenic Republic for the act of drug trafficking,⁶⁹ which could prove critical when dealing with remotely controlled vessels or crimes committed on the high seas on board foreign flagged ships. Notably, by virtue of Art. 8, the said Code provides for the universal jurisdiction of Greece over drug-trafficking, i.e. wherever the crime was committed and by whomever, be it Greek or foreign national, the relevant Greek laws apply, and the

⁶⁶ See for instance <<https://www.eurojust.europa.eu/news/operation-against-drug-traffickers-italy-spain-and-netherlands-24-arrests>>, last accessed 13 January 2022.

⁶⁷ See, Law 4139/2013 “Law on addictive substances and other provisions”, Government Gazette A’74/20.3.2013.

⁶⁸ See Art. 5 of Law 4619/2019, as currently in force (Penal Code, Government Gazette A’ 95/11.06.2019).

⁶⁹ Notably, drug trafficking is present in the list of crimes provided in Art. 8 of the recently modified Penal Code.

suspect may be tried before Greek courts. In any case, similarly to the international regulation regarding the subject matter, one should be critical of the absence of specialized provisions for the deployment of a coordinated policing and judicial mechanism, among private telecommunications providers, public satellite centers and regional agencies.

5. Concluding Remarks

As excellently put, regarding interdiction provisions related to drug trafficking “(w)hat might have been considered a common interest in reducing unlawful trafficking in narcotic drugs and psychotropic substances, was superseded by what was perceived as a greater common interest in adhering to the principle of *mare liberum*”.⁷⁰ Since the issue of drug trafficking in international law has been and still is mostly dominated by concerns regarding (superseding) the jurisdictional power of the flag state, the author finds that the current framework needs to be partially adjusted in the face of modern technology related threats, that will require a more flexible well-coordinated operational approach. As described above, states should strive to adapt to the technological advancements exploited by drug trafficking organizations, such as more rapid, stealthier, and in the not-too-distant future, remotely controlled vessels, by introducing critically public-private, and regional intelligence co-operation norms. The success of the MAOC (N) model which utilizes a less bureaucratic operational philosophy, based on greater cooperation, advanced intelligence and enhanced maritime policing presence, provides undoubtedly safe suggestions on the treaty making response that must be necessitated.

⁷⁰ Natalie Klein (n 3), at 137.

III. Arms Trafficking

1. Introduction

It is well known in the international community, that illicit arms trafficking and the proliferation of WMD (i.e. Weapons of Mass Destruction) should be considered a complex legal and political phenomenon that comprises a major maritime security threat.⁷¹ In the Mediterranean Sea, in particular in the context of the ongoing Libya crisis,⁷² the elimination of illicit arms trafficking has been a major point of contention for regional States and International Organizations, mainly the United Nations, NATO and the EU.⁷³

This Section will first present the international legal framework for arms trafficking considering maritime security, and then it will contemplate on the post-2020 challenges stemming from the present geopolitical balance, focusing specifically on the shortcomings of the existing legal landscape. Libya's political reality and the related NATO and UN Security Council operations and decisions, constitute a highly interesting point of reference for unbundling the future for the EU maritime security, and thus, naturally, a substantial part of this report will be dedicated to the developments on the Libyan arms trafficking regime.

2. Arms Trafficking incidents in the Mediterranean Sea

Before proceeding to the legal analysis of the contemporary arms trafficking framework, let us have regard to certain related incidents hindering drastically the peace and security of the EU seas. On 10 June 2020, a Greek warship, under the auspices of Operation IRINI, which will be scrutinized under Chapter 6 of this Part, attempted to inspect the cargo vessel *M/V Cirkin*, flagged to Tanzania, suspected of illicit arms

⁷¹ Klein (n 3), at 309.

⁷² For an interesting view on the topic see, Pierre Thielbörger, 'The Status and Future of International Law after the Libya Intervention' (2012) 4 *Goettingen Journal of International Law* 11, and especially, Patrick CR Terry, 'The Libya intervention (2011): Neither Lawful, Nor Successful' (2015) 48 *The Comparative and International Law Journal of Southern Africa* 162.

⁷³ See Muhammad Alaraby - Alexander Müller, Policy Paper titled 'Countering Illicit Arms Transfers in the Mena Region: The Case of Yemen and Libya', October 2020, p. 4-5.

trafficking to Libya.⁷⁴ The vessel, which was escorted by three Turkish frigates, ignored the request after reportedly the accompanying warships claimed that it was under the protection of the Turkish state.⁷⁵ The incident, albeit a peculiar one, should not be considered ‘sui generis’, i.e. an exception to the irregularity of the well-hidden illicit shipments of firearms to Libya since according to the Panel of Experts on Libya in 2019 (established by the SC),⁷⁶ “the transfers to Libya were repeated and sometimes blatant, with scant regard paid to compliance with the sanctions measures.” Furthermore, “(t)he Panel identified multiple cases of non-compliance with the arms embargo in support of both parties to the conflict”. It should be underlined that additionally to the abovementioned standoff, an almost identical incident occurred later the same day,⁷⁷ when a French warship supposed to investigate the suspicious cargo vessel, was allegedly halted by an aggressive Turkish warships’ response, resulting in the severe diplomatic frustration of the French Republic, and inner-NATO fragmentation.⁷⁸

The European seas, and especially the Mediterranean, have been no strangers to a vivid history of past incidents related to arms and WMD trafficking. After the 9/11 attacks, the NATO invoked art. 5 of the North – Atlantic Treaty and agreed to deploy its Standing Naval Forces to supervise the Eastern Mediterranean Sea, with the task of interdicting vessels related to the function of the Al Qaida terrorist group.⁷⁹ It has been communicated, that since 2001 and after Operation Active Endeavour extended to the whole of the Mediterranean Sea (in 2003), there have been approximately 172 boardings of suspect ships, which critically for international law, were ensued via “the

⁷⁴ Interestingly, the Panel of Experts’ report on Libya references three attempts under Operation IRINI. See, Letter dated 8 March 2021 from the Panel of Experts on Libya established pursuant to resolution 1973 (2011) addressed to the President of the Security Council, p. 20.

⁷⁵ Ibid. See also the related question referring to the *M/V Cirkin* incident on the European Parliament, <https://www.europarl.europa.eu/doceo/document/E-9-2020-003726_EN.html> last accessed, 18 May 2022 .

⁷⁶ See, Letter dated 29 November 2019 from the Panel of Experts on Libya established pursuant to resolution 1973 (2011) addressed to the President of the Security Council, p. 19.

⁷⁷ See for the incident, <<https://www.reuters.com/article/us-libya-security-france-turkey-idUSKBN23P2SJ>> last accessed 18 May 2022.

⁷⁸ Ibid. Also for the subsequent diplomatic turmoil, see <<https://www.france24.com/en/20200617-france-blasts-extremely-aggressive-turkish-intervention-against-nato-mission-targeting-libyan-arms>> last accessed 18 May 2022.

⁷⁹ See, Michael N. Schmitt, 'The North Atlantic Alliance and Collective Defense at 70: Confession and Response Revisited' (2019) 34 *Emory International Law Review* 85, 98.

compliance of the ships' masters and flag states".⁸⁰ For instance, in the eminent *BBC China* incident, a German-owned vessel was ordered by the German government to dock at Taranto in Italy, after being suspected of transporting uranium centrifuge parts to Libya.⁸¹ Contrary to another well-studied incident, the *So San*,⁸² the Italian authorities ultimately removed and seized the highly dangerous cargo headed to Libya, an action which was supposedly partly responsible for the termination of the latter country's WMD programme.⁸³

It should be expected that the international framework for arms trafficking, especially after the Russian invasion of Ukraine in February 2022 and the subsequent turmoil between the NATO and the Russian Federation, will find itself again on the epicenter of the international and especially the European political agenda.⁸⁴ It must be marked, that only a few days after the initial attack on Ukraine, France seized in the English Channel the cargo ship *Baltic Leader*, which headed to St. Petersburg, as it was "strongly suspected of being linked to Russian interests targeted by the sanctions".⁸⁵ The incident should be reasonably deemed as only the starting point for a series of future interdictions related to the sanctions imposed on Russia, that will inevitably involve potentially dangerous arms trafficking skirmishes. Considering the latter, the law of the sea and the international arms trafficking framework constitute unavoidably the foundation of legality for any maritime security actions taken.

⁸⁰ See about the Operation Active Endeavour, that was eventually terminated in 2016 and replaced by Operation Sea Guardian, in https://www.nato.int/cps/en/natolive/topics_7932.htm, last accessed 18 May 2022.

⁸¹ Efthymios Papastavridis, *The Interception of Vessels on the High Seas: Contemporary Challenges to the Legal Order of the Oceans*, (Oxford: Hart Publishing, 2013) 114.

⁸² Where a vessel carrying ballistic missiles from North Korea to Yemen was lawfully boarded, but eventually released, since there was no legal ground banning the associated trade, see Douglas Guilfoyle, 'The Proliferation Security Initiative: Interdicting Vessels in International Waters to Prevent the Spread of Weapons of Mass Destruction?' (2005) 29 (3) *Melbourne University Law Review* 733.

⁸³ Efthymios Papastavridis, *The Interception of Vessels on the High Seas: Contemporary Challenges to the Legal Order of the Oceans*, (Oxford: Hart Publishing, 2013) 114.

⁸⁴ See the Council Decision (CFSP) 2022/582 of 8 April 2022 amending Decision 2014/145/CFSP concerning restrictive measures in respect of actions undermining or threatening the territorial integrity, sovereignty and independence of Ukraine

⁸⁵ See for the incident and its related backstory that led to the seize by France on 26 February 2022, in <https://www.reuters.com/world/europe/france-seizes-ship-suspected-violating-russia-sanctions-official-2022-02-26/>, last accessed 18 May 2022.

3. The Illicit Arms Trafficking and the Maritime Security framework

A. *The proliferation of WMD and the Arms Trade Treaty*

By way of introduction, even if partly outside of the scope of the present essay, one cannot address the illicit arms trade, without referring first to the proliferation of WMD and the corresponding international law regime. WMD are defined as nuclear, biological and chemical weapons alongside their delivery systems and are inextricably linked to terrorism, since in their core, the international efforts are not targeting the existence of WMD *per se*, but rather the dystopian scenario where WMD will end up in the 'wrong hands'.⁸⁶ Accordingly, non-proliferation treaties, including mainly the Nuclear Non-Proliferation Treaty of 1968,⁸⁷ the 2005 International Convention for the Suppression of Acts of Nuclear Terrorism,⁸⁸ the 1993 Chemical Weapons Convention⁸⁹ and the 1972 Biological Weapons Convention,⁹⁰ strive to reverse the proliferation of WMD to their eventual complete disarmament, by stunting their testing, funding and available resources.⁹¹ Unsurprisingly, the UN Security Council has been also a prolific key institutor of legal responses concerning WMD, frequently condemning nuclear tests and adopting crucial resolutions of interest to the law of the sea, namely SC Resolution 1373 (2001) and SC Resolution 1540 (2004), since in its vast majority, the trade of parts or lunch systems occurs through the oceans.

Understandably, since the scope of this paper is limited to the maritime security aspects of the illicit arms trade, with a focus on the Mediterranean Sea, the international response to the phenomenon of arms trafficking, and that of the proliferation of WMD

⁸⁶ Quoting, John R. Bolton (Under Secretary for Arms Control and International Security, US Department of State), 'Nuclear Weapons and Rogue States: Challenge and Response (2003)', available at <<https://2001-2009.state.gov/t/us/rm/26786.htm>>, last accessed 22 May 2022. Also see, Nina Tannenwald, 'Keeping Weapons From Terrorists: The Urgent Need for Arms Control' (2002) 8 *The Brown Journal of World Affairs* 27.

⁸⁷ Treaty on the Non-Proliferation of Nuclear Weapons, Washington, Moscow and London, 1 July 1968, EIF 5 March 1970, 729 UNTS 161.

⁸⁸ International Convention for the Suppression of Acts of Nuclear Terrorism, New York, 13 April 2005, EIF 7 July 2007, 2445 UNTS 89.

⁸⁹ Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, Geneva, 3 September 1992, EIF 29 April 1997, 1975 UNTS 45.

⁹⁰ Convention on the prohibition of the development, production and stockpiling of bacteriological (biological) and toxin weapons and on their destruction, Washington, Moscow, London, 10 April 1972, EIF 26 March 1975, 1015 UNTS 163.

⁹¹ See Efthymios Papastavridis, *The Interception of Vessels on the High Seas: Contemporary Challenges to the Legal Order of the Oceans*, (Oxford: Hart Publishing, 2013) 117.

and the associated efforts for an effective framework, can only be selectively explored. Thus, the present segment briefly focuses on the major initiatives for the regulation of the trafficking conventional arms (mostly Small Arms and Light Weapons – SALW - in comparison to WMD)⁹² and the conclusion of the prolific 2013 Arms Trade Treaty (“ATT”).⁹³

The ATT was concluded almost a decade after the international community had unanimously agreed on an important initiative of similar nature, namely the 2001 UN Programme of Action on small arms and light weapons.⁹⁴ Most of the agreement’s arrangements are almost universally accepted as effectively reinforcing the international response to the illicit arms trade.⁹⁵ Specifically, the Arms Trade Treaty which is rightfully considered only a ‘*lato sensu*’ disarmament treaty,⁹⁶ regulates significantly both the illicit trade of conventional arms⁹⁷ and bans the trade of arms with the “knowledge at the time of authorization that the arms or items would be used in the commission of genocide, crimes against humanity, grave breaches of the Geneva Conventions of 1949, attacks directed against civilian objects or civilians protected as such, or other war crimes...”⁹⁸. Indeed, the 2013 instrument, has been suggested as capable of effectively controlling the manufacture, storage, trade, and transfer of conventional arms and SALW, and constitutes an important legal tool for monitoring the effectiveness of the SC arms embargo on Libya.⁹⁹ Nonetheless, it must be marked

⁹² According to art. 2 of the ATT, conventional weapons are not strictly defined, but are considered as “conventional arms within the following categories: (a) Battle tanks; (b) Armoured combat vehicles; (c) Large-calibre artillery systems; (d) Combat aircraft; (e) Attack helicopters; (f) Warships; (g) Missiles and missile launchers; and (h) Small arms and light weapons.”

⁹³ Arms Trade Treaty, New York, 2 April 2013, EIF 24 December 2014, 3013 UNTS 269.

⁹⁴ The UN Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons was adopted by the UN Conference at its 10th meeting, on 20 July 2001. Its main policies include the improvement of national laws, enhanced assistance and co-operation, stockpile management and import and export monitoring and control, according to sections 2 and 3 of the Programme. For more information, visit, <<https://www.un.org/disarmament/convarms/salw/programme-of-action/>>, last accessed 22 May 2022. Worth mentioning in the international regime for the arms trade regulation is also The Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition (Firearms Protocol). For a short review of the international arms trafficking confrontation efforts, besides the ATT, see United Nations Institute for Disarmament Research. European Action on Small Arms and Light Weapons and Explosive Remnants of War - Final Report. Geneva, United Nations Institute for Disarmament Research (2006), p. 15-19.

⁹⁵ See, Eva Nave, 'The Importance of the Arms Trade Treaty for the Implementation of the Sustainable Development Goals' (2019) 24 Journal of Conflict & Security Law 297, 310 and 323.

⁹⁶ Yasuhito Fukui, 'The Arms Trade Treaty: Pursuit for the Effective Control of Arms Transfer' (2015) 20 (2) J Conflict Security Law 301, highlighting specifically the US position on the subject matter.

⁹⁷ See Arts. 1 and 6 of the Arms Trade Treaty.

⁹⁸ See Art. 6 para. 3 of the Arms Trade Treaty.

⁹⁹ Muhammad Alaraby - Alexander Müller, Policy Paper titled 'Countering Illicit Arms Transfers in the Mena Region: The Case of Yemen and Libya', October 2020, p. 6.

that even if the ATT created importantly various treaty organs overseeing its function and administration,¹⁰⁰ a great deal of implementation powers have been delegated to the signatory states, and hence, loosely regulated national schemes of illicit trafficking can lead to eventual loopholes on the ATT's effectiveness.¹⁰¹

The international community as in the case of WMD, regulates also arms trade embargoes via the decisions of the SC and regional international organizations as the EU - usually in the form of sanctions against a particular state.¹⁰² The arms trade embargoes, which critically for our case constitute the trade of weapons, illicit, usually involve a variety of different measures, such as prohibiting “directly or indirectly, technical assistance related to equipment” or “financial assistance related to the provision of armed mercenary personnel”.¹⁰³

B. Legal tools for the interdiction of vessels on the high seas under the premise of Illicit Arms Trafficking

Since a plethora of important arms trafficking related tools have been provided, the research will turn its focus on the main premise of this report, i.e., the question of when the interdiction of vessels suspected of illicit arms trafficking in the EU seas should be considered in accordance with international law. Evidently, the framework for confronting the illicit trade of arms on the world's oceans has remained mostly the same for many decades. Of course, that it is not to say that the present framework is necessarily obsolete, but rather that arms trafficking has been considered a traditional maritime security threat with a handful only of changes in its confrontation

¹⁰⁰ See an excellent analysis considering the subject matter, in William Thomas Worster, 'The Arms Trade Treaty Regime in International Institutional Law' (2015) 36 U Pa J Int'l L 995.

¹⁰¹ Yasuhito Fukui, 'The Arms Trade Treaty: Pursuit for the Effective Control of Arms Transfer' (2015) 20 (2) J Conflict Security Law 301, segment no 4.

¹⁰² For instance, in the Greek legal order, the export or re-export of material for military purposes is strictly regulated, subject to the competent ministerial decisions, which must take into consideration “criteria related to safeguarding the country's national interests and commitments deriving either from EU legislation and the decisions of the United Nations Security Council or from the country's participation in International Organizations and regimes related to the trafficking of controlled materials.” See, article 3a of Law 2168/1993 “Regulation of matters relating to arms, ammunition, explosives, explosive devices and other provisions” as currently in force, Government Gazette 147/03.09.1993.

¹⁰³ See, Art. 3 of COUNCIL REGULATION (EU) 2016/44 of 18 January 2016, concerning restrictive measures in view of the situation in Libya and repealing Regulation (EU) No 204/2011.

methodology, which is usually founded, as the Libyan war showcases, on SC decisions. Additionally, besides the argument that the arms trade is not always illegal per se, as the frustrating *So San* incident highlighted,¹⁰⁴ it seems that the international community has focused a great deal more on the counter-terrorism aspects related to the proliferation of WMD, especially with the conclusion of the SUA Convention's 2005 Protocol.

i) UNCLOS and General International Law

Perhaps surprisingly, UNCLOS, as the 'constitution of the oceans', does not provide under Article 110 (Right of Visit)¹⁰⁵ any legal justification for unilateral interdiction measures in relation to neither international terrorism nor WMD. However, the article has some limited applicability to arms trafficking cases since occasionally, vessels that engage in the illicit trafficking of arms such as the *So San*, do not display flags and thus are subject to the interdiction on the grounds of "the absence of nationality". The interdicting naval vessel could also attempt to advocate for its actions on the grounds of piracy, as again provided under Article 110 of the LOSC, but one could reasonably expect the application of Article 110 to be concerned almost exclusively with the transnational terrorism aspect of the arms trafficking issue.¹⁰⁶ Regarding said issue, the right of self-defense under general international law, could also in theory advocate for an interdiction of crucial importance attempted on the high seas. Its practical relevance and application should be however expected to be rather narrowly construed,¹⁰⁷ since

¹⁰⁴ "Where a vessel carrying ballistic missiles from North Korea to Yemen was lawfully boarded, but eventually released, since there was no legal ground banning the associated trade, see Douglas Guilfoyle, 'The Proliferation Security Initiative: Interdicting Vessels in International Waters to Prevent the Spread of Weapons of Mass Destruction?' (2005) 29 (3) Melbourne University Law Review 733."

¹⁰⁵ Article 110 para. 1 is provided here for convenience purposes: "Except where acts of interference derive from powers conferred by treaty, a warship which encounters on the high seas a foreign ship, other than a ship entitled to complete immunity in accordance with articles 95 and 96, is not justified in boarding it unless there is reasonable ground for suspecting that:

- a. the ship is engaged in piracy;
- b. the ship is engaged in the slave trade;
- c. the ship is engaged in unauthorized broadcasting and the flag State of the warship has jurisdiction under article 109;
- d. the ship is without nationality; or
- e. though flying a foreign flag or refusing to show its flag, the ship is, in reality, of the same nationality as the warship."

¹⁰⁶ Efthymios Papastavridis, *The Interception of Vessels on the High Seas: Contemporary Challenges to the Legal Order of the Oceans*, (Oxford: Hart Publishing, 2013) 148-149.

¹⁰⁷ *Ibid*, 149-154.

contrary to the case of the WMD proliferation,¹⁰⁸ arguments for a right of *collective self-defense* are hardly expected to apply to a single cargo of conventional arms.¹⁰⁹ Additionally, the invocation of the right of *individual self-defense* on the high seas almost certainly presupposes that the recipient of the illicit SALW cargo is founded on the territory of the state attempting to board. It is hence the view of the author that a more specific legal ground for interdiction should be contemplated, given that the functionality of the above arguments under general international law and the law of the sea remains inadequate

ii) *The SUA Convention and the lack of the US model in the Mediterranean Sea*

As already referenced, besides UNCLOS and its limited applicability, another convention of interest is the SUA Convention and its 2005 Protocol which specifically concern the boarding of vessels and the establishment of jurisdiction for offences committed beyond the territorial zone.¹¹⁰ Regrettably, even if the Convention, being largely inspired after the ‘MS Achille Lauro’ incident, targets terrorist acts at sea, potentially even associated with WMD,¹¹¹ it remains silent about the illicit trafficking of SALW. Nevertheless, based on the doctrine of ‘*aut dedere aut judicare*’,¹¹² the Convention provides an enhanced co-operation framework which could serve as a treaty prototype for the much-needed similar arms trafficking proposals. It is suggested as plausible for the SUA Convention to incorporate another Protocol expanding its scope on the illicit trafficking of arms, which is widely associated both with terrorist

¹⁰⁸ Ibid.

¹⁰⁹ The aforesaid remains also true for arguments considering the law of necessity. Contrary to the illicit arms trade, the right to a collective self-defence-based interdiction has more merit when dealing with the proliferation of WMD. See an interesting analysis on the right of self-defence, David Kretzmer, 'The Inherent Right to Self-Defence and Proportionality in Jus Ad Bellum' (2013) 24 The European Journal of International Law 235, 244 – 247.

¹¹⁰ Maximilian Malirsch and Florian Prill, 'The Proliferation Security Initiative and the 2005 Protocol to the SUA Convention' (2007) 67 ZaöRV/HJIL 229.

¹¹¹ See the Preamble of the Convention which emphatically states: “RECALLING ALSO resolution 1540 (2004) of the United Nations Security Council, which recognizes the urgent need for all States to take additional effective measures to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery ...” Similarly (to the function of the SUA Convention), the Proliferation Security Initiative (PSI), an ambitious counter – proliferation soft law partnership, fostered under the GW Bush Administration, is also involved only with WMD and not with the counter arms trafficking regime.

¹¹² Regarding the principle, see, Final Report of the International Law Commission, The obligation to extradite or prosecute (*aut dedere aut judicare*) (2014), especially p.5 (referencing the Convention, note 440).

groups and (although arguably) the endangerment of navigation itself, as the recent skirmish in the Eastern Mediterranean highlighted. However, even if such a Protocol is to be promoted by the IMO, its practical relevance considering urgent EU matters, and specifically for the present Libya arms embargo would be admittedly restricted, accounting for the almost certain absence of ratification by state actors pursuing arms trafficking in the area.

Evidently, in contrast with the US model for high seas interdiction, which has demonstrated that bilateral boarding agreements constitute a most successful tool for the advancement of maritime security in international law,¹¹³ or even its Caribbean Sea counterpart (i.e., the CARICOM agreement), the EU admittedly lacks the necessary regional framework to effectively enforce the arms trade embargoes considering both Libya and Russia. Even if the EU has been a prolific institutor of sanctions related to the UN SC measures,¹¹⁴ having in the meantime established its own operation for their enforcement, the absence of an arms trafficking regional maritime interdiction agreement with other prolific key non-EU states, such as Turkey, has resulted as openly admitted, “in a totally ineffective arms embargo” so far.¹¹⁵

4. The Libya Crisis and Operation IRINI

Following the collapse of the Gaddafi Regime in 2011 and from the initial years of a prolonged civil war, Libya has been the epicenter of illicit arms trafficking in the Mediterranean Sea.¹¹⁶ The UN Security Council (SC), recognizing “the deteriorating

¹¹³ See Aaron C. Davenport, 'Lessons from Maritime Narcotics Interdiction: Interdiction in the Maritime Source, Transit, and Arrival Zones of the Western Hemisphere', in Edward R. Lucas, Samuel Rivera-Paez, Thomas Crosbie and Felix Falck Jensen (editors), *Maritime Security: Counter-Terrorism Lessons from Maritime Piracy and Narcotics Interdiction* (IOS Press, 2020) 17, stating that “*The importance of bilateral maritime security arrangements plays out in the performance of the U.S. Coast Guard. Vice Admiral Charles Ray stated that, in FY2016, 59 percent of Coast Guard interdictions relied upon “bilateral or operational procedure agreements”.*”

¹¹⁴ See for instance, recently, the Council Implementing Regulation (EU) 2020/1309 of 21 September 2020 implementing Article 21(2) of Regulation (EU) 2016/44 concerning restrictive measures in view of the situation in Libya and Council Implementing Regulation (EU) 2020/1309 of 21 September 2020 implementing Article 21(2) of Regulation (EU) 2016/44 concerning restrictive measures in view of the situation in Libya.

¹¹⁵ Letter dated 8 March 2021 from the Panel of Experts on Libya established pursuant to resolution 1973 (2011) addressed to the President of the Security Council, p. 14

¹¹⁶ Muhammad Alaraby - Alexander Müller, Policy Paper titled 'Countering Illicit Arms Transfers in the Mena Region: The Case of Yemen and Libya', October 2020, p. 4-5.

situation, the escalation of violence” and the “heavy civilian casualties”¹¹⁷, has imposed an arms embargo on Libya since February 2011, calling exceptionally later:

“(U)pon all Member States, in particular States of the region ... to inspect in their territory, including seaports and airports, and on the high seas, vessels and aircraft bound to or from the Libyan Arab Jamahiriya, if the State concerned has information that provides reasonable grounds to believe that the cargo contains items the supply, sale, transfer or export of which is prohibited”.¹¹⁸

The SC, has moreover called for the co-operation to such inspections from all flag States of such vessels and aircrafts, and authorized Member States “to use all measures commensurate to the specific circumstances to carry out such inspections”.¹¹⁹ According to the Panel of Experts’ 2021 Libya report, Egypt, Jordan, the Syrian Arab Republic, Turkey and the United Arab Emirates were found to be in non-compliance with paragraph 19 of Resolution 2213 (2015), “in that they did not inspect the cargo of suspicious commercial vessels or aircraft destined for Libya, which originated in or passed through their territory, for which there were reasonable grounds.”¹²⁰

The Foreign Affairs Council of the European Union, aware of the above circumstances, initiated on 17 February 2020 the new Common Security and Defence Policy in the Mediterranean, Operation IRINI (meaning peace in Greek), focused on the implementation of the UN SC arms embargo on Libya, while closing former Operation SOPHIA.¹²¹ Operation IRINI, which launched on 31 March 2020 and is still in place, uses aerial, maritime, and importantly satellite assets¹²² to monitor arms

¹¹⁷ UN Security Council Resolution 1973 (2011), p.1.

¹¹⁸ Ibid, p. 4. Also of interest, the rather lengthy order of para. 19 of UN SC Resolution 2213 (2015), calling “upon all Member States, in order to ensure strict implementation of the arms embargo established by paragraphs 9 and 10 of resolution 1970 and modified by subsequent resolutions, to inspect in their territory, including seaports and airports, in accordance with their national authorities and legislation and consistent with international law, in particular the law of the sea and relevant international civil aviation agreements, vessels and aircraft bound to or from Libya, if the State concerned has information that provides reasonable grounds to believe that the cargo contains items the supply, sale, transfer, or export of which is prohibited by paragraphs 9 or 10 of resolution 1970 (2011), as modified by paragraph 13 of 2009 (2011), paragraphs 9 and 10 of 2095 (2013) and paragraph 8 of 2174 (2014) for the purpose of ensuring strict implementation of those provisions, and calls upon all flag States of such vessels and aircraft to cooperate with such inspections;”

¹¹⁹ See, UN Security Council Resolution 1973 (2011), p.4.

¹²⁰ Letter dated 8 March 2021 from the Panel of Experts on Libya established pursuant to resolution 1973 (2011) addressed to the President of the Security Council, p. 14 – 15.

¹²¹ For official information on Operation IRINI, visit <<https://www.operationirini.eu/about-us/>>, last accessed 20 May 2022.

¹²² See Art. 2, para.1 of COUNCIL DECISION (CFSP) 2020/472 of 31 March 2020 on a European Union military operation in the Mediterranean (EUNAVFOR MED IRINI). Although, as noted by the 2021

trafficking activity and implement its main task,¹²³ the inspection of vessels “*on the high seas off the coast of Libya* (emphasis added) suspected to be carrying arms or related material to and from Libya”.¹²⁴

Contrary to Operation SOPHIA, which did not sustain sufficient naval forces to conduct the necessary inspections at sea, Operation IRINI has already showcased enhanced, but nonetheless limited, inspection and boarding success.¹²⁵ The latter serves as an example towards the right operational direction, commanding the presence of more naval assets, while exploiting crucial satellite data to detect arms trafficking cases, without limiting substantially the freedom of navigation. It should be also noted that Operation IRINI effectiveness is not so much hindered by the interdiction prerequisites of the law of the sea framework, given that under the SC decisions, states do enjoy the right to inspect vessels reasonably suspected to engage in arms trafficking, but rather from the lack of information and the extraordinary in nature violations of the embargo.¹²⁶

While this remains true for the illicit arms trade considering Libya, the phenomenon of arms trafficking remains as illustrated above, undervalued in the law of the sea. Thus, even if the EU and its member states momentarily have the necessary legal tools for interdicting vessels on the Libya front, a regional framework of enhanced operational, technological, and jurisdictional co-operation, similar to the SUA Convention or even better, the CARICOM, would further promote the goal of enforcing the EU trade embargoes on SALW. On the subject of further-cooperation, it should be deemed worthy of considering, that the present Council Decision 2020/472 does not provide for the need of co-operation between Operation IRINI and commercial satellite-based companies.¹²⁷ Hence, notably, one of the questions to the EU Parliament considering

Panel’s Report (p.18), the identification of maritime violations using satellite data had to overcome counter-surveillance measures such as “the suspension of cargo discharges during the daily 90 minutes of daytime commercial satellite coverage”, “the limit of its occurrence to the night” and critically, “the use of container shielding at Libyan ports”.

¹²³ See Art. 1 of COUNCIL DECISION (CFSP) 2020/472 of 31 March 2020 on a European Union military operation in the Mediterranean (EUNAVFOR MED IRINI).

¹²⁴ Ibid (n.39). The authority was initially granted by Resolution 2292 (2016), paras. 3 and 4, as subsequently modified.

¹²⁵ Thus (about Operation SOPHIA), fulfilling mainly training and surveillance roles, see, Letter dated 8 March 2021 from the Panel of Experts on Libya established pursuant to resolution 1973 (2011) addressed to the President of the Security Council, p. 20 – 21. About the operational recent success of Operation IRINI, see <<https://www.operationirini.eu/operation-irini-seizes-illegal-cargo/>> , last accessed 12/11/2022.

¹²⁶ As noted under Ch. 2 of the present report.

¹²⁷ See Art. 10 of the Council’s Decision stating: “EUNAVFOR MED IRINI shall cooperate with the relevant Member State authorities and shall establish a coordination mechanism, and, as appropriate,

the 10 June 2020 M/V Cirkin incident, was directly related to the technological co-operation and the expected unhindered flow of information data, asking critically, “What European Union Satellite Centre (SatCen) assistance has been requested in connection with the incident and which commercial providers have been asked to supply additional satellite images?”¹²⁸

5. Conclusion

It can be understandably contended, especially due to the violent initiation of the war and the rapid advancement of technology, that the shortcomings of the arms trafficking framework in the EU waters, and specifically in the already heated Mediterranean region, will have to be rapidly taken into consideration by the competent EU institutions. The EU Commission, on the eve of another war near its borders, must effectively answer the call for enhancing the co-operation between its members states, while altering the field operational framework, by recognizing the increasing value of advanced technological instruments, such as satellites, drones, and MASS (Marine Autonomous Surface Ships). The regulation of their usage through a cohesive framework, should stand the test of time, while relating to the nuanced EU geostrategic approach instituted after Russia’s invasion of Ukraine.

conclude arrangements with other Union agencies and bodies, in particular Frontex, EUROPOL, EUROJUST, the European Asylum Support Office, the European Union Satellite Centre (SATCEN) and relevant CSDP missions.”

¹²⁸ See “Question for written answer E-003726/2020”, <https://www.europarl.europa.eu/doceo/document/E-9-2020-003726_EN.html>, last accessed 18 May 2022. Vice-President Borrell answered that “Operation IRINI reported the incident of its encounter with MV Cirkin and Turkish military vessels to the UN Panel of Experts” and that “it continued to monitor MV Cirkin activities in the following hours and days, including through satellite imagery provided by the EU Satellite Centre.” Mr. Borrell also marks that “The EU regrets that its question addressed to the Turkish authorities concerning the claim that MV Cirkin was entitled to sovereign immunity under international law during the incident remains unanswered.” See <https://www.europarl.europa.eu/doceo/document/E-9-2020-003726-ASW_EN.html>, last accessed 18 May 2022.

IV. Illegal, Unreported, and Unregulated Fishing (IUU Fishing)

1. Introduction

Illegal, unreported and unregulated (IUU) fishing poses a clear threat to fisheries and fisheries-dependent communities, not to mention marine ecosystems and by extension, societies as a whole. Given the multifaceted societal impact, the rise and systematization of IUU fishing activities has lately raised public and political awareness on the matter. States struggle to reach a consensus on the perennial need to bring together national efforts to combat IUU fishing. IUU fishing poses a serious challenge to effective ocean governance, and thus rightfully concerns the international community. Touching upon the general *problématique* of maritime security, IUU fishing gives rise to law of the sea considerations when assessing the rights and duties of the States involved in such activities within different maritime zones.¹²⁹

Broadly defined, this overarching term encloses a wide variety of fishing activity that concerns all types and dimensions of fisheries; it occurs both on the high seas and in areas within national jurisdiction. It concerns all aspects and stages of the capture and utilisation of fish, and it may sometimes be associated with international organized crime.¹³⁰ And it is exactly this association of IUU fishing with fisheries-related, transnational crimes, such as forced labour, human trafficking, fraud, money laundering and corruption, that highlighted its global repercussions and fueled the discussion around the criminalization of IUU fishing at the regional and international level.¹³¹ As Davor Vidas notes, IUU fishing comprises an interlinked chain of ‘events’

¹²⁹ For the connection between maritime security and fisheries management, see Richard Barnes and Mercedes Rosello, Fisheries and maritime security: understanding and enhancing the connection in Malcom Evans and Sofia Galani(eds.), *Maritime security and the Law of the Sea* (Elgar Publishing 2020), pp. 48-82.

¹³⁰ UNGA, A/RES/64/72, “Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments”, Sixty-fourth session, Agenda item 76(b), 19 March 2010. See also INTERPOL, “Leading the fight against transnational fisheries crime”, Press Release (5 October 2018); INTERPOL, “Fighting illegal, unreported and unregulated fishing”, Press Release (5 June 2019).

¹³¹ See relatively Nilufer Oral, Reflections on the Past, Present, and Future of IUU Fishing under International Law (2020) 22 *International Community Law Review*, pp. 368–376; Teresa Fajardo, To criminalise or not to criminalise IUU fishing: The EU’s choice(2022) 144 *Marine Policy*, pp.1-9.

– the ‘IUU chain’ – of which ‘at sea’ operations are only a part.¹³² The nature of IUU fishing activity, along with its beneficial (real) ownership, is often transnational and lacks accountability and transparency. Indeed, it constitutes a key component of transnational organized crime at sea.¹³³

According to the Food and Agriculture Organization (FAO) International Plan of Action IPOA-IUU,¹³⁴ the elements of that definition are as follows:

- *Illegal fishing* refers to activities:

- i) conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;
- ii) conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.

- *Unreported fishing* refers to fishing activities:

- i) which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations;
- ii) or undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.

¹³² D. Vidas, ‘IUU Fishing or IUU Operations? Some Observations on Diagnosis and Current Treatment’, in D.D. Caron and H.N. Scheiber (eds), *Bringing New Law to Ocean Waters* (Leiden: Martinus Nijhoff, 2004), pp. 125–144, at pp. 127–130

¹³³ See UNODC, ‘Combating Transnational Organized Crime at Sea’ Issue Paper (Vienna 2013) (http://www.unodc.org/documents/organized-crime/GPTOC/Issue_Paper_-_TOC_at_Sea.pdf) and C. Heinlein, ‘Below the Surface: How Illegal, Unreported and Unregulated Fishing Threatens our Security’. Royal United Service Institute for Defense and Security Studies (RUSI) Occasional Paper, (July 2017), available at <<https://rusi.org/publication/occasional-papers/below-surface-how-illegal-unreported-and-unregulated-fishing-threatens>>

¹³⁴ See The International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (adopted by the FAO Committee on Fisheries on 2 March 2001 and endorsed by the FAO Council on 23 June 2001) (hereafter: IPOA-IUU), available at <<http://www.fao.org/docrep/003/y1224e/y1224e00.htm>>. See also the 2005 Rome Declaration on Illegal, Unreported and Unregulated Fishing, Adopted by the FAO Ministerial Meeting on Fisheries, Rome, 12 March 2005. For a scholarly commentary see e.g. W. Edeson, ‘The international Plan of Action on Illegal Unreported and Unregulated Fishing: The Legal Context of a Non-Legally Binding Instrument’, (2001) 16 *International Journal of Marine and Coastal Law* 603–623.

-*Unregulated fishing* refers to fishing activities:

- i) in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization;
- ii) or in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.

In practice, a fishing vessel is notably presumed to be engaged in IUU fishing activities, if it is shown to carry out activities in contravention with the conservation and management measures applicable in the area concerned. Such a situation might occur, *inter alia*, when fishing without a valid licence, in a closed area, beyond a closed depth or during a closed season, or by using prohibited gear, as well as the failure to fulfil reporting obligations, falsifying its identity, or obstructing the work of inspectors or/and by stateless vessels or by vessels flying the flag of non-State party to relevant regulations violation of applicable international law. It may also appear as unreported or misreported fishing. Encompassing fishing practices that systematically disregard maritime and fisheries laws or regulations, the notion “illegal fishing” mostly refers to any fishing activities violating applicable laws/ regulations or international obligations while “unreported fishing” refers to fishing activities that remain not reported or misreported to relevant authorities.

Last but not least, as “unregulated fishing” can be considered any fishing activity that occurs in areas in which there are no applicable conservation or management specifications or rules. Such fishing activities are conducted in a manner inconsistent with conservation measures set under international law. Unregulated fishing is the fishing that is undertaken within the confines of a Regional Fisheries Management Organization (RFMO) and carried out by stateless vessels or by those flying a flag unrecognized by the RFMO or even in a manner incompatible with state

responsibilities for the conservation of living marine resources under international law.¹³⁵

As FAO correctly points out “IUU fishing undermines national and regional efforts to conserve and manage fish stocks and, as a consequence, inhibits progress towards achieving the goals of long-term sustainability and responsibility”.¹³⁶ It possibly gives rise to discrimination concerns since in contradiction with IUU fishers there are always fishers who act responsibly, honestly, and in conformity with the regional fishing regulations.

That is why tackling IUU fishing was readily found at the center of the international legal responses to great, unsustainable threats to marine ecosystems. Under international law of the sea, UNCLOS,¹³⁷ although adopted prior to the emergence of the IUU fishing concept, remains the main binding legal tool to eradicate IUU fishing at the global stage. In particular, the provisions relevant to the conservation and management framework of marine fisheries are to be found in Part V (Exclusive Economic Zone) and Part VII (High Seas- Section 2) of the UNCLOS as well as Part IX on the Protection and preservation of the marine environment.¹³⁸ Additionally, some provisions applicable to fisheries activities are also laid down in Part II with regard to the territorial sea and Part IV on archipelagic waters, and Part XV on dispute settlement. All the provisions included in the said parts of UNCLIOS constitute the core set of rules that serves as the main point of reference governing fisheries activities in the maritime zones and the high seas. Subsequently, the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (*‘FAO Compliance Agreement’*),¹³⁹ adopted at the 27th of the FAO conference in

¹³⁵ Fisheries and Agriculture Organisation of the United Nations, What is IUU fishing?, available at <https://www.fao.org/iuu-fishing/background/what-is-iuu-fishing/en/>. See specifically on the function and transparency of RMFOs Chris Wold, *Combating IUU Fishing and Improving the Long Term Conservation of Fish Stocks : Increasing Transparency in Regional Fisheries Management Organizations*, (2021) 44 *Fordham Int'l L.J.* 967. Alyssa Withdraw, 5 Ways that IUU threatens the national security, American Security Project ,available at <https://www.americansecurityproject.org/5-ways-iuu-fishing-threatens-national-security/>.

¹³⁶ For a thorough review of which unlawful fisheries activities fall within the scope of IUU see Fisheries and Agriculture Organisation of the United Nations, *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*(2001), available at <https://www.fao.org/documents/card/en/c/71be21c9-8406-5f66-ac68-1e74604464e7> , p.2-3.

¹³⁷ UN Convention on the Law of the Sea (1982) 1833 UNTS 3 (UNCLOS).

¹³⁸ See further Ellen Hey, ‘The Fisheries Provisions of the LOS Convention’ in Ellen Hey (ed), *Developments in the International Fisheries Law* (Kluwer Law International 1999), pp. 13-29.

¹³⁹ Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, opened for signature 24 November 1993, 2221 UNTS 91 (entered into force 24 April 2003) (*‘FAO Compliance Agreement’*).

1993, sought to enhance 'flag-state responsibility' for fisheries activities on the high seas and ensure implementation of international conservation and management measures by restricting the 're-flagging' practice with flags of States that systematically avoid to comply with such measures. In addition, the United Nations '*Fish Stock Agreement*',¹⁴⁰ an implementation agreement of the UNCLOS adopted in 1995, applies to the conservation and management of straddling fish stocks and highly migratory fish stocks beyond areas under national jurisdiction.¹⁴¹ Another soft legal instrument with a global reach which is greatly used to attack the problem of IUU fishing is the FAO *Code of Conduct for responsible fisheries*¹⁴². According to its objectives, laid down in Article 1, the Code of Conduct mainly purports to provide "principles and standards applicable to the conservation, management and development of fisheries", covering the capture, processing, and trade of fish and fishery products, and the integration of fisheries into coastal area management.

More recently, a number of binding and non-binding international agreements have addressed IUU fishing, either directly or indirectly. Of great relevance are the non-binding FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing of 2001 (IPOA-IUU),¹⁴³ and the binding FAO Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing (PSMA).¹⁴⁴

The specificities of the Mediterranean are definitely playing their part in the exacerbation of the IUU's detrimental impact on the marine ecosystem. Despite its semi closed basin with narrow straits (e.g. Suez Canal, Dardanelles) to other maritime masses

¹⁴⁰ Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, opened for signature 4 August 1995, 2167 *UNTS* 3 (entered into force 11 December 2011) ('FSA').

¹⁴¹ *Ibid.*, Art.3(1). See on the international legal instruments regulating the area of IUU fishing see R. Baird, International Law Applicable to IUU Fishing in: *Aspects of Illegal, Unreported and Unregulated Fishing in the Southern Ocean: Reviews, Methods and Technologies in Fish Biology and Fisheries*, (Springer 2006), vol 5., pp. 85- 119.

¹⁴² FAO, *Code of Conduct for Responsible Fisheries*, Rome, 1995, available at <https://www.fao.org/3/v9878e/v9878e.pdf>.

¹⁴³ FAO, International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2001, available at <https://www.fao.org/documents/card/en/c/71be21c9-8406-5f66-ac68-1e74604464e7>

¹⁴⁴ FAO, Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (revised edition), opened for signature 22 November 2009, UN Reg No I-54133 (entered into force 5 June 2016) ('PSMA'). See also Callum Musto and Efthymios Papastavridis, Tackling illegal, unreported, and unregulated fishing through port state measures (2021) 22 *Melbourne Journal of International Law*, pp. 1-47; Andrew Serdy, The Shaky Foundations of the FAO Port State Measures Agreement: How Watertight Is the Legal Seal against Access for Foreign Fishing Vessels? (2016) 31(3) *The International Journal of Marine and Coastal Law*, pp. 422-441.

and its remarkably small surface –less than 1% of the global oceanic surface- the Mediterranean sea features as the natural marine habitat of 4-18% of all known fisheries species. Naturally, the 21 coastal states and their populations along its shores are heavily relying on fisheries activities.¹⁴⁵ Moreover targeting vulnerable fisheries stocks not only threatens the Mediterranean marine biodiversity but also fosters food insecurity for the local communities that see the seafood resources as their primary source of protein and the livelihoods of those involved in the sector hurting the coastal economies.¹⁴⁶

Importantly, EU Mediterranean countries are bound by the EU legislation on IUU fishing that was adopted in 2008. The European Commission (EC) adopted Regulation 1005/2008 to prevent, deter and eliminate Illegal, Unreported, and Unregulated (IUU) fishing on 29 September 2008 which entered into force on 1 January 2010.¹⁴⁷ One of the core elements of the IUU fishing Regulation is to ensure that all maritime fisheries products which are to be traded with the EU are obtained in compliance with existing conservation and management measures. The European Commission subsequently released Commission Regulation (EC) No 1010/2009 of 22 October 2009 laying down detailed rules for the implementation of IUU fishing regulation, also known as ‘Fisheries control Regulation’.¹⁴⁸ Last but not least, the Commission issued a special Commission Decision to undertake specific tasks under the EU IUU Regulation.¹⁴⁹

¹⁴⁵ Bayram Öztürk, Nature and extent of the illegal, unreported and unregulated (IUU) fishing in the Mediterranean Sea, *Journal of the Black Sea / Mediterranean Environment*, p.67-68; European Commission, https://ec.europa.eu/oceans-and-fisheries/ocean/sea-basins/mediterranean-sea_el#ecl-inpage-111.

¹⁴⁶ For a brief outline of the multifaceted transboundary impact of the IUU fishing globally see <https://www.americansecurityproject.org/5-ways-iuu-fishing-threatens-national-security/>.

¹⁴⁷ Council Regulation (EC) No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999, OJ L 286, 29.10.2008.

¹⁴⁸ Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Union control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006. Several amendments of this document have been made. A consolidated version of the Fisheries control Regulation is available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02009R1224-20190814>.

¹⁴⁹ Commission Decision 2009/988/EU of 18 December 2009 designating the Community Fisheries Control Agency as the body to carry out certain tasks under Council Regulation (EC) No 1005/2008.

The main objective of the EU IUU Regulation was to build a regime of sanctions that applies specifically to IUU fishing activities as an infringement of the CFP rules. This is the *rationale* behind the drafting of a very specific list included in Art. 3 para.1 of the IUU Regulation that included twelve specific cases as serious infringements of the common fisheries policy (CFP).¹⁵⁰ Of course, Member States are required to implement the list of serious infringements and to supply national sanctioning regimes with administrative or criminal sanctions that will effectively deter the continuation of relevant violations.¹⁵¹ While IUU fishing features as one of the leading threats to the ecosystem of the Mediterranean affecting all States along its shores,¹⁵² the focus of the present study remains on some of the EU Member States that are also Mediterranean States: Cyprus, Greece and Italy.

The remainder of this Part is thus structured as follows: Section 2 maps out the challenges that some of the most affected EU Member States are facing when it comes to fisheries management in the Mediterranean Sea. In this respect, the analysis focuses on the most noteworthy incidents of IUU fishing documented in the waters of Cyprus, Greece and Italy. Section 3 casts some light on their national legal tools-or the lack of

¹⁵⁰ Art.3 para.1 of IUU Fishing Regulation reads as follows: “1. A fishing vessel shall be presumed to be engaged in IUU fishing if it is shown that, contrary to the conservation and management measures applicable in the fishing area concerned, it has: (a) fished without a valid licence, authorisation or permit issued by the flag State or the relevant coastal State; or (b) not fulfilled its obligations to record and report catch or catch-related data, including data to be transmitted by satellite vessel monitoring system, or prior notices under Article 6; or (c) fished in a closed area, during a closed season, without or after attainment of a quota or beyond a closed depth; or (d) engaged in directed fishing for a stock which is subject to a moratorium or for which fishing is prohibited; or (e) used prohibited or non-compliant fishing gear; or (f) falsified or concealed its markings, identity or registration; or (g) concealed, tampered with or disposed of evidence relating to an investigation; or (h) obstructed the work of officials in the exercise of their duties in inspecting for compliance with the applicable conservation and management measures; or the work of observers in the exercise of their duties of observing compliance with the applicable Community rules; or (i) taken on board, transhipped or landed undersized fish in contravention of the legislation in force; or (j) transhipped or participated in joint fishing operations with, supported or re-supplied other fishing vessels identified as having engaged in IUU fishing under this Regulation, in particular those included in the Community IUU vessel list or in the IUU vessel list of a regional fisheries management organisation; or (k) carried out fishing activities in the area of a regional fisheries management organisation in a manner inconsistent with or in contravention of the conservation and management measures of that organisation and is flagged to a State not party to that organisation, or not cooperating with that organisation as established by that organisation; or (l) no nationality and is therefore a stateless vessel, in accordance with international law.”

¹⁵¹ See Bariş Soyer, George Leloudas and Dana Miller, Tackling IUU Fishing: Developing a Holistic Legal Response (2017) *Transnational Environmental Law* 1; Efthymios Papastavridis, Legal Gap Analysis: Provisions of the EU IUU Regulation, Control Regulation, Control Implementing Regulation and their implementation in the Greek legal order(2021)[on file with the author].

¹⁵² See indicatively the WWF briefing mostly focusing on sharks and rays titled “Sharks and rays: a deadly harvest widespread evidence of illegal, unreported and unregulated fishing in the Mediterranean”(2020) available at <https://www.wwfmmi.org/?364633/Illegal-fishing-of-sharks-and-rays-caught-on-camera-in-the-Mediterranean>.

them- seeking to implement the EU fisheries legislation on IUU fishing. Finally, Section 4 offers some concluding remarks on the current state of play and the way forward.

2. Incidents of IUU fishing in the Mediterranean

A. Cyprus

Cyprus has a long-standing fisheries tradition. Despite its limited contribution (around 0.8%) to GDP, the Cypriot fisheries sector holds significant socio-economic importance, particularly in coastal areas. Over 300 types of different fisheries species have been found in the sea around Cyprus, some of them immigrants from the Red Sea through the Suez Canal.¹⁵³

In particular, sharks and rays have been present on earth for nearly half a billion years, with more than 1,200 extant species. The pivotal importance of cartilaginous fish for marine ecosystems is highlighted by the fact that most shark and some ray species constitute top predators, thus possess central and stabilizing functions in marine food webs. Based on the latest report of IUCN at least half of the rays (50%, 16 of 32 species) in the Mediterranean Sea face an elevated risk of extinction, as well as 54% of sharks (22 of 41). The principal driver for this is overfishing along with the life history characteristics of these species (low reproductive, slow growth rates, and long life span). More than 30 species of cartilaginous fish have been reported to be present in Cypriot waters to date.¹⁵⁴

WWF declares that “*Sawback angelshark*, *Squatina aculeata* Angel sharks used to be widespread, and were highly prized for eating. But unsustainable exploitation of this slow-breeding family led to population collapse: today they are one of the most endangered shark families worldwide, and all three Mediterranean species are critically endangered”¹⁵⁵

¹⁵³ Zacharias Kapsis, *The current development of the fishing industry in Cyprus*, 2021, available at <https://www.linkedin.com/pulse/current-development-fishing-industry-cyprus-zacharias-l-kapsis/> .

¹⁵⁴ ISEA, “Sharks and Rays in Greece and Cyprus”, available at <https://isea.com.gr/activities/projects/fisheries/sharks-and-rays-in-greece-and-cyprus/?lang=en>.

¹⁵⁵ WWF, *Sharks and rays: A deadly harvest widespread evidence of illegal, unreported and unregulated fishing in the Mediterranean*, n 21.

According to the 2020 Annual Report of the Department of Fisheries and Marine Research(DFMR) of the Ministry of Agriculture, Rural Development and Environment of the Republic of Cyprus, only in 2020, the DFMR inspectors conducted a total of 773 controls along the coast, in harbours and fishing shelters, at selling/storage facilities of fishery products and at inland waters and of course, at sea that amounted to the reporting of 402 infringements. IUU fishing incidents concerned particular fisheries species, namely bluefin tuna and swordfish fisheries in the Mediterranean.¹⁵⁶

At the same time, Cyprus is one of the Mediterranean islands that are most susceptible to IUU fishing particularly due to the Turkish activities in both the Cypriot territorial sea and Exclusive Economic Zone(EEZ). The Cypriot Minister of Agriculture Costas Kadis has formally stated that Turkey operates illegally in EU waters in the Eastern Mediterranean.¹⁵⁷ Turkish vessels have been repeatedly spotted fishing red tuna inside Cypriot the territorial waters and within the county's exclusive economic zone.¹⁵⁸ The Cypriot Minister has brought the issue before the EU institutions since Turkish activity violates the sovereign rights of Cyprus, freedom of fishing and customary international law while undermining efforts to promote equal competition.

Illegal, unreported, and unregulated Turkish fishing activity off Cyprus was also addressed by the EU. The European Fisheries Commissioner Virginijus Sinkevičius has expressed the full support of the Union and of the Member States with regard to the Turkish activities in the Eastern Mediterranean. This led to the first airborne mission of its kind, conducted in August and September 2020. Frontex and the European Fisheries Control Agency (EFCA) have joined forces to support Cyprus in tracking down illegal fishing in the southern part of the Exclusive Economic Zone (EEZ) of Cyprus. Frontex supported the operation by providing surveillance aircraft and validating vessels not transmitting their position in the area of interest in a bid to address Turkey's unilateral,

¹⁵⁶ 2020 Annual Report, Department of Fisheries and Marine Research(DFMR) of the Ministry of Agriculture, Rural Development and Environment of the Republic of Cyprus, available at http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/page07_en/pag07_en?OpenDocument&Start=1&Count=1000&Expand=1

¹⁵⁷ See relatively Ministry of Agriculture, Rural Development and the Environment, "The issue of IUU fishing from Turkey was raised by Costas Kadis at the Council of Ministers of Agriculture and Fisheries of the EU", Press release, 1 July 2020, available at <https://moa.gov.cy/tin-paranomi-kai-anarxi-alicia-apo-tin-tpurkia/>.

¹⁵⁸ Minister Kadis also highlighted the incidents during which Turkish operation forces had captured Cypriot-flagged fishing boats and arrested the crew as well as incidents of harassment of Cypriot-flagged fishing boats by the Turkish research vessel "Barbaros". Ibid.

illegal actions in this part of the Mediterranean under Cyprus' jurisdiction.¹⁵⁹ EFCA, being a promoter of innovative technologies, is closely cooperating with the European Maritime Safety Agency (EMSA). As a result, the Copernicus satellite products came in support of this specific operational action in Cyprus.

B. Greece

Greece's cultural and economic nexus with the Mediterranean dates back to ancient times. Numerous archeological findings showcase that ocean fisheries played a key role in Greek life. Besides the well-known historical background, the Greek coastline is one of the longest coastlines of any nation on earth as it encompasses 17,204 kilometers and its island territory alone includes 3,200 islands in the Aegean, Ionian, and Cretan Seas encompassing 25,710 square kilometers.¹⁶⁰ Thus, it comes as no surprise that IUU fishing is widespread in the maritime areas under Greek jurisdiction, mainly operated by professional fishers.¹⁶¹ Numerous IUU fishing practices are applicable, varying from trawlers and purse seiners that fish out of limits to dynamite fishing, spear fishing while scuba diving and catching endangered and protected species.¹⁶² While the Greek fishing fleet, which operates almost exclusively in the Mediterranean, is the EU's largest fleet in terms of the number of vessels (13,950 active fishing vessels in May 2021),¹⁶³ and Greece remains a great exporter,¹⁶⁴ major amount

¹⁵⁹ For this operation see <https://frontex.europa.eu/media-centre/news/news-release/frontex-teams-up-with-efca-to-support-cyprus-in-fisheries-control-vn91cv> ; <https://eucrim.eu/news/airborne-mission-fight-illegal-fishing/>, <https://cyprus-mail.com/2020/10/08/eu-support-to-tackle-illegal-fishing-in-cyprus-eez/>

¹⁶⁰ See Lisa Uffman-Kirsch, *Local, Co-managed fisheries: A path to sustainable fishing in the coastal and island communities of the Greek seas* (2013) available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2426834 ; Theodore C. Kariotis, *Greek Fisheries and the Role of the Exclusive Economic Zone*, in *GREECE AND THE LAW OF THE SEA* 189, 189 (AEGEAN INSTITUTE OF THE LAW OF THE SEA AND MARITIME LAW) (Theodore C. Kariotis ed., Kluwer Law International 1997); Emmanuel Roucouas, *Greece and the Law of the Sea*, in *THE LAW OF THE SEA, THE EUROPEAN UNION AND ITS MEMBER STATES* 225, 225 (Tullio Treves ed., Martinus, Nijhoff Publishers 1997) (Publications on Ocean Development, Vol. 28, *A Series of Studies on the International Legal, Institutional and Policy Aspects of Ocean Development*, Shigeru Oda, gen. ed.).

¹⁶¹ Papastavridis (n 151), p. 1.

¹⁶² See <https://archipelago.gr/en/combating/destructive-fisheries/>.

¹⁶³ Hellenic Republic, Ministry of Rural Development and Food Directorate-General for Fisheries Greek Fishing Fleet 2020 Annual Report Pursuant to Article 22 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council, May 2021.

¹⁶⁴ OECD, *Fisheries and Aquaculture in Greece Report*, January 2021, https://www.oecd.org/agriculture/topics/fisheries-and-aquaculture/documents/report_cn_fish_grc.pdf

of fisheries are leaked in the market due to extensive IUU fishing.¹⁶⁵ Amateur fishers are particularly renowned for committing various infringements, but also fishing vessels with various gears (except dynamic tools) and bottom trawlers account for a significant share. Also, there are data available for by-catch in bluefin tuna fisheries, which are included in the bluefin tuna recovery plan. Conversely, there is no data available for other species, for ghost fishing and for estimated revenues of IUU products.¹⁶⁶

C. Italy

Italy's coastline runs 9.136 km, making up 8.75 % of the total EU coastline. The surface of the coastal regions is about 181.289 km² covering approximately 10 % of the EU total and 60 % of the national territory.¹⁶⁷ The Italian fishing fleet remains one of the largest in Mediterranean despite its constant decline during the last decade. Inevitably, numerous instances of IUU fishing are yearly reported, including in connection with the use of small nets placed in protected areas in front of estuaries all year around. The illegal selling of IUU catches with longliners is also widespread, including by non-commercial fishermen. No estimate has been made, however, for revenues generated by this and other kind of IUU fishing. Main fishing gears used in IUU fishing operations are trammel nets and longlines. Lack of control is a recurrent problem linked to IUU fishing in Italy and it is believed that most coastal fish stocks are seriously depleted in most areas.¹⁶⁸

According to Oceana, one of the largest international NGOs devoted to restoring world's oceans, Italy remains the main perpetrator of IUU fishing practices in the Mediterranean.¹⁶⁹ The latest report of the organization states that Italian trawler-equipped vessels have accumulated more than 10,000 hours of illegal fishing activity

¹⁶⁵ Total catches represent only the 1,25% of the total EU fisheries catch. See Konstantina Alexopoulou, Greek Seas Under Threat of IUU: What Can Be Done?(May 2019) Policy Brief No 2019/17 available at http://edutrip.eu/files/policybriefs/No17_KONSTANTINA_ALEXOPOULOU_POLICY-BRIEF_2019.pdf

¹⁶⁶ See Öztürk, n 14, p. 73

¹⁶⁷ See on Italian fisheries Eurofish International Organisation, "Italy's fishing sector and its response to the pandemic", 9 August 2021, available at <https://eurofish.dk/italy-s-fishing-sector-and-its-response-to-the-pandemic/>

¹⁶⁸ See Öztürk, n 14, p.74.

¹⁶⁹ Oceana, "Oceana uncovers dozens of cases of illegal fishing in protected areas in the Mediterranean", 12 July 2018 available at <https://europe.oceana.org/press-releases/oceana-uncovers-dozens-cases-illegal-fishing-protected-areas/>

in the Strait of Sicily where an area has been established to protect young hake populations as the stock is already overfished.¹⁷⁰

Another report released by UN's Food and Agriculture Organization (FAO) declared Mediterranean and Black Sea as the most unsustainable fisheries in the world.¹⁷¹ The organization, based on data from Automatic Identification Systems (AIS) tracking from Global Fishing Watch (GFW), reported that Italy is systematically turning a blind eye to IUU fishing in the Mediterranean Sea. Oceana has also detected suspected cases of bottom trawlers operating in Fisheries Restricted Areas (FRA) and foreign vessels active in waters exercising IUU. Therefore, Italy appears to be the main offender in the region. The IUU vessels were also discovered using GFW's fishing detection algorithms while numerous suspected cases remain undetected or unidentified due to lack of a common automatic identification system. According to Oceana, Italian vessels have been already engaged in IUU fishing activities in African waters (reportedly) since 2012.¹⁷² The findings were discussed at two governmental meetings of the General Fisheries Commission for the Mediterranean but Italian authorities failed to provide clear response as for whether the fine system has been lawfully applied.¹⁷³

3. National (legal) responses to IUU fishing

A. Cyprus

The Cypriot fishing fleet comprised 858 vessels in 2019, with a combined GT of 3,811 and a total engine power of 40,801 kW. The fleet is classified into three categories: small-scale coastal fishing vessels, bottom trawlers and purse seiners. Since 2010, the compulsory use of Vessel Monitoring Systems (VMS) is applicable to all professional fishing vessels of less than 15 metres in length overall that hold an A and B Category licence. Cyprus accepted the European legislative initiatives with respect to Cypriot

¹⁷⁰ Ibid.

¹⁷¹ See "Oceana blames Italy for turning a blind eye to illegal, unreported, and unregulated fishing", Euromeat News 16 July 2020, available at <https://www.euromeatnews.com/Article-Oceana-blames-Italy-for-turning-a-blind-eye-to-illegal%2C-unreported%2C-and-unregulated-fishing/1597>.

¹⁷² Oceana, "Fishing the Boundaries of Law How the Exclusivity Clause in EU Fisheries Agreements was Undermined", September 2017, available at https://usa.oceana.org/wpcontent/uploads/sites/4/fishing_the_boundaries_of_law_final.pdf.

¹⁷³ Chris Chase, "Oceana report claims Italy ignoring IUU", Seafood Source, 13 July 2018, available at <https://www.seafoodsource.com/news/environment-sustainability/oceana-report-claims-italy-ignoring-iuu>.

Fisheries Law (Chapter 135) of 1933,¹⁷⁴ and it was generally agreed that the policy, priorities, management and other measures applied by Cyprus in this sector are aligned to this. In this vein, Decree 403/2014 and 354/2018 have been adopted to lay down the principles of the EU point system and its implementation procedures. A Fishing Monitoring Centre has been also established to enforce the European Common Fisheries Policy.

The authority responsible for fishery matters in Cyprus is the Department of Fishery and Marine Research (DFMR) of the Ministry of Agriculture, Natural Resources and Environment. The mission of the DFMR is the sustainable management and development of fisheries and aquaculture, and the protection and preservation of the marine environment through an integrated scientific approach.¹⁷⁵

In practice, Cyprus is among the Member States that opt for issuing mostly warnings instead of a fine for non-serious infringements of IUU Regulation raising concerns with regard to the potential deterrent effect.¹⁷⁶ In addition, while in other Member States the average minimum fines for administrative sanctions is high, the minimum fines for similar infringements in Cyprus is significantly lower (approximately 200 €).¹⁷⁷ There are also underlying gaps in terms of control and enforcement, particularly when it comes to illegal discards. Since Cyprus often applies remote monitoring, this strategy can be insufficient for illegal discards which can easily escape this type of control.¹⁷⁸

B. Greece

Likewise, considerable regulatory efforts have been made to implement EU law on fisheries management in the Greek legal order. Following the adoption of the relevant EU law regulating the fisheries domain, the Greek national legislator appeared to focus

¹⁷⁴ The Fisheries Law (Chapter 135) has been amended many times. For a full list of amendments and all pieces of legislation on fisheries see Department of Fishery and Marine Research, Legislation (in Greek) available at http://www.moa.gov.cy/moa/dfmr/dfmr.nsf/page08_gr/pag08_gr?OpenDocument.

¹⁷⁵ See Kapsis (n 153).

¹⁷⁶ European Court of Auditors (ECA), “EU action to combat illegal fishing : Control systems in place but weakened by uneven checks and sanctions by Member States”, Special Report 2022, available at <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=61941>, p.41.

¹⁷⁷ Ibid.

¹⁷⁸ Ibid. Report from the Commission to the European Parliament and the Council on the application of Council Regulation (EC) No 1224/2009 establishing a Union control system for ensuring compliance with the rules of the common fisheries policy as required under Article 118 for the period 2015-2019, COM(2021) 316 final, p.8.

on fishing authorizations, monitoring of fishing vessels and fishing activities as well as on trade and trade related activities that concern fish and fish products to conform with the EU obligations. The main competent authorities involved in the management of fisheries and fishing activities are the Hellenic Ministry of Rural Development and Food¹⁷⁹ and the Hellenic Ministry of Shipping and Island Policy.¹⁸⁰ Within the Ministry of Rural Development and Food there is the Directorate General for Sustainable Fisheries (hereinafter: DG),¹⁸¹ which is divided into the Directorate for Fisheries Policy and Resources;¹⁸² the Directorate for Aquaculture and Development of Products and the Directorate for the Monitoring of Fishing Activities and Products, further divided into departments. The core legislation regarding the regulation of the fisheries sector remains the Fisheries Code and Royal Decree (R.D.) 666/1966 entitled “Fishing Licenses”.

When it comes to the implementation of the Regulation, several Ministerial decisions and decrees have been adopted. M.D 1750/32219/2015 implementing EU Control Reg has laid down specific trade restrictions with regard to fishing seasons, types of vessels and gear, quotas, catch certificates, and fisheries as well as the sanction system provided by the Regulation. Another Ministerial Decision, the M.D 3866/78486/2015 implemented the famous point system for serious infringements according to art. 42(1) EU Regulation 1005/2008.

Overall, Greek legislation seems to comply with the IUU fishing Regulation, albeit not satisfactorily. The national authorities have been so far reluctant to identify the nationals engaged in (IUU) fishing activities. This is readily apparent from the fact that the sanctioning system targets only the master and the actual owner (or operator) of the fishing vessel that commits a fisheries-related offence while sailing under the Greek flag. Yet, the fact that the new legislation has allowed for the punishment of nationals involved in the trade, import, export etc. of fisheries products that have been obtained through infringements of EU or national law can be deemed as a positive sign.

More importantly, the existing legislation lacks rules on the effective identification and punishment of Greek nationals that are involved in IUU fishing

¹⁷⁹ See further information at <<http://www.minagric.gr/index.php/en/>>.

¹⁸⁰ Presidential Decree No. 70/2015, G.G 114/A/22-09-2015, see also 103/2014, G.G 170/A/28-08-2014

¹⁸¹ P.D 107/2014, article 8.

¹⁸² Department of Programming and Fisheries Applications, Department of Common Fisheries Policy, Common Market and International Relations, Department for the Development of Collective Fisheries, Department for the Management of Collective Fisheries.

activities as operators or beneficial owners of FVs under the flag of a third state. The rules governing fisheries management and enforcement, particularly the sanctions regime, are of administrative nature and thus do not allow for the expansion of investigatory powers of the competent authorities in cases involving beneficial ownership and flag-hopping.¹⁸³

In terms of sanctions, therefore, the Greek national legislator has failed to satisfactorily implement article 42 of the Regulation, which is of particular importance in the fight against IUU fishing. Although the list of art. 2 is included in Annex I of the Ministerial Decision that adopts a point system, the administrative sanctions provided for these breaches are those under article 11 of the outdated Fisheries Code that fails to reflect the ‘seriousness’ of the infringements concerned and vary according to the gravity of the latter. The practice of the competent authorities shows that they indeed employ the criteria set out in art. 41(2) before determining the measures to be taken and the sanctions to be imposed. However, these authorities still have to apply national rules and so the legal gap cannot be filled without a particular legislative action. The maximum amount of fine that, in principle, can be imposed is still far less than the anticipated profit of IUU fishers and thus fails to act as an effective deterrent. Also, although art. 11 of the FC provides for a range in sanctions, practice shows that it is very rare for the maximum of the fine to be imposed.¹⁸⁴

It is of primary importance that new rules are adopted to replace the dated ones and thus fully implement the core EU legislation on fisheries, namely the IUU Regulation. The serious infringements list of IUU reg. art. 3 and the provisions of article 42(1)(b)(c) have to be implemented in a legislative text that will provide for administrative sanctions graver than the ones in force.¹⁸⁵ In this regard, it will be particularly welcomed if a special competent authority is created with broader

¹⁸³ Papastavridis (n 151), p.25.

¹⁸⁴ Ibid.

¹⁸⁵ According to the recent research study for the PECH Committee, “whilst all Member States have implemented the point system established in the EU Regulation some of them have included more severe rules for certain cases. For instance, in France the obstruction of work of officials in the exercise of their duties in inspecting for compliance with the applicable conservation and management measures; or the work of observers in the exercise of their duties of observing compliance with the applicable Union rules results in 7 points. Moreover, the French law broadens the range of activities that would fall under this category of violation. The law punishes with a six months prison sentence and a EUR 15,000 fine the refusal or obstructing of visits by fisheries control agents, while it also punishes with a one year prison sentence and a EUR 75,000 fine the commanders that try to evade controls at sea”. M. Sanz, K. Stobberup, R. Blomeyer, “Implementation of the current EU fisheries control system by Member States (2014-19)”, Research for PECH Committee, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, p.38.

investigative powers that, under specific conditions, extend outside the territory of Greece. Finally, a general reconstruction of the national legal system applying to fisheries may be required. The present image is that of scattered rules to be found in various legislative texts, some of which also include irrelevant provisions. A serious amendment of the FC with a view to including all the above-mentioned points in a single comprehensive legal instrument would be definitely suggested.

C. Italy

In Italy, Direzione Generale della Pesca Marittima e dell'Acquacoltura (Pe.M.Acq.) within the Ministry of Agricultural food and Forestry policies (MIPAAF), is the competent authority for the implementation of fisheries regulations. The Coast Guard under the Ministry of Infrastructures and Transport is entrusted to keep the leading role when it comes to control and monitoring the fishing activities along the national coasts. However, the law also assigns duties of control to the Policy Department for Structural and Cohesion Policies, The Police, The Financial Police (Guardia di Finanza), Carabinieri, or even to “Sworn agents” (Agenti giurati).

In the wake of the adoption of the EU fisheries regulations, the Italian legislator adopted three main legal instruments to simplify the implementing legal framework to regulate IUU fishing activities at the national level. At the outset, the Legislative decree n. 4, approved on 9 January 2012, introduced the penalty point system in the Italian legislative framework and set the basis for future changes.¹⁸⁶ Secondly, Law 154, approved on 28 July 2016, introduced significant pecuniary sanctions for serious violations. Importantly, it established a special regime for the protection of *Thunnus thynnus* (Atlantic Bluefin tuna) and *Xiphias gladius* (Swordfish) and left all the provisions regulating the implementation of the point system untouched.

This third piece of legislation, Law 44, approved on 21 May 2019, maintained the point system as it stands today as well as the special regime as regards Atlantic Bluefin tuna (*Thunnus thynnus*) and Swordfish (*Xiphias gladius*). Yet, it remarkably reduced the pecuniary sanctions established by Law 154, as a result of strong backlash

¹⁸⁶ Gazzetta Ufficiale della Repubblica Italiana (2012), DECRETO LEGISLATIVO 9 gennaio 2012, n. 4 Misure per il riassetto della normativa in materia di pesca e acquacoltura, a norma dell'articolo 28 della legge 4 giugno 2010, GU Serie Generale n.26, 01-02-2012, available at <https://www.gazzettaufficiale.it/eli/id/2012/02/01/012G0012/sg>

from the industry.¹⁸⁷ In general, the minimum and maximum fines stipulated appear to be low and not dissuasive enough to act as a deterrent to violations of the rules. However, the possibility for further sanctions in the form of confiscation of catch/gear, suspension/withdrawal of licenses is available. Italian authorities consider that the reform of the sanctioning system resulted in a weaker system, since it reduced previously existing penal sanctions although this interpretation does not sit comfortably with the one of the industries.

Despite the legislative amendments in several aspect of the national legislation on fisheries, the procedure for allocation of points and subsequent suspension or revocation of licenses, as well as the appeal process in Italy remains lengthy and bureaucratically complex. According to the recent research study conducted for PECH Committee, the European Parliament's Committee on Fisheries, this appears to be a relatively effective detection of infringements and follow up sanctions. Italy is the country with the highest number of cases where points have been attributed. The number of control inspections carried out were approximately 64-65,000 per year, but they have been doubled during the past five years. According to the figures provided by the Italian authorities, Italy is the country that has identified the highest number of infringements and imposed the highest number of sanctions from all the Member States that have provided data.¹⁸⁸ This might be due to the power of inspectors entitled to both detect potential infringements of the fisheries legislation and impose economic penalties and officially propose the assignation of points.¹⁸⁹

A priority was apparently given to the imposition of administrative sanctions, seen as of more direct concern than criminal sanctions because of the perceived inefficiency of the Italian judicial system. The *rationale* behind this state practice is the lack of enforcement of criminal sanctions, no matter how severe or strict they are. In addition, the latest legislative initiative to reduce penalties for IUU infringements sets

¹⁸⁷ See among others, Imperia Post, "IMPERIA. PESCATORI SUL PIEDE DI GUERRA CONTRO LE NUOVE NORMATIVE EUROPEE. ROSSETTI: "PESCA ARTIGIANALE A RISCHIO DI ESTINZIONE" / I DETTAGLI. *ImperiaPost.it*, 16 February 2017. Available at <https://www.imperiapost.it/232640/imperia-pescatori-sul-piede-di-guerra-contro-le-nuove-normative-europee-rossettipesca-artigianale-a-rischio-di-estinzioe-i-dettagli> Il Fatto Quotidiano, "Protestano i pescatori: bombe carta e petardi a Montecitorio. "Sanzioni sproporzionate, Martina ci riceva"". *Il Fatto Quotidiano*, 28 February 2017, available at <https://www.ilfattoquotidiano.it/2017/02/28/protestano-i-pescatori-bombe-carta-e-petardi-a-montecitorio-sanzioni-sproporzionate-vogliamo-parlare-con-martina/3422857/>

¹⁸⁸ Sanz, Stobberup, Blomeyer (n 185) p. 38.

¹⁸⁹ With 3,210 cases where points were assigned, Italian authorities have attributed more points than all other Member States combined (3,607 cases for 13 Member States that provided data on points).

an alarming precedent, potentially seen as a “green light” to operators who are willing to carry out IUU fishing operations.¹⁹⁰

Overall, as it was the case of the Greek legal framework, the Italian legislation on fisheries is also marked by fragmentation and confusion which creates additional challenges for stakeholders to keep track of legislative changes. A number of legislative acts have been adopted to supplement the core piece of national legislation and implement the relevant EU regulations on IUU fishing. In Italy the legislative measures for fisheries have often been included in the framework of other legislative interventions. As a result, extensive overlap, ambiguity and gaps have not been avoided. A coherent approach would, therefore, have a significant deterrent effect and would also enhance enforcement of both controlling and sanctioning mechanisms.

4. Concluding Remarks

Certainly, the EU has stood as a trailblazer in the field of IUU fishing regulation at the global stage. The legislative initiatives have set several standards along with a sanction system that binds not only the EU member states but also affects third states engaged in fishing activities. Positive measures have been yielded. Mediterranean, with all its specificities as a semi closed basin, is no longer treated as a “permanent exception” to the regime established for the management of Atlantic and North Sea fisheries, as it was previously the case. Indeed, Mediterranean issues were tackled without the same degree of strategic management applied –for instance- for Atlantic resources, leaving significant discretion to the Mediterranean Member States to create a tradition of delays and non-compliance with regard to the management of the local resources.¹⁹¹ Yet, there are still gaps and loopholes in the EU fisheries legal system: the complexity of the sanctions system, unclear criteria for the definition of serious infringements, the lack of cooperation between control agencies/EFCA or even the lack of a universal standard and a holistic approach. IUU fishing is not just an unsustainable form of fishing. It stands out as a transnational crime with a number of implications touching upon human rights, political stability and the international rule of law.¹⁹² It flows thus from the above analysis that, at the EU level, the specific needs of the Mediterranean Sea call for

¹⁹⁰M. Sanz, K. Stobberup, R. Blomeyer (n 185), p. 38.

¹⁹¹ Ibid., p.133.

¹⁹² See Oral (n 131).

revisiting the current legislative package on IUU fishing in a bid to tackle the documented problems and more importantly, enhance enforcement to deter regular offenders –either State or non-State actors- to operate.¹⁹³

ANNEX

Table of Treaties

UN Convention on the Law of the Sea (1982) 1833 UNTS 3 (UNCLOS).

FAO, Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, opened for signature 24 November 1993, 2221 UNTS 91 ('FAO Compliance Agreement').

FAO, *Code of Conduct for Responsible Fisheries*, Rome, 1995,

FAO, International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2001('IPOA-IUU')

FAO, Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing(revised edition), opened for signature 22 November 2009, UN Reg No I-54133 (entered into force 5 June 2016) ('PSMA')

UNGA, "Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments" , A/RES/64/72, 19 March 2010.

Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 2167 UNTS 3 ('FSA Agreement')

Council Regulation (EC) No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing, amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999, OJ L 286, 29.10.2008

Commission Decision 2009/988/EU of 18 December 2009 designating the Community Fisheries Control Agency as the body to carry out certain tasks under Council Regulation (EC) No 1005/2008.

¹⁹³ Barış Soyer, George Leloudas and Dana Miller, see n 11.

Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Union control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006.

Table of National Legislation

CYPRUS

Fisheries Law(Chapter 135)

Decree 403/2014

Decree 354/2018

GREECE

Fisheries Code and Royal Decree (R.D.) 666/1966 entitled “Fishing Licenses”

Ministerial Decision 1750/32219/2015

Ministerial Decision 3866/78486/2015

ITALY

Legislative decree n. 4(2012)

Law 154 (2016)

Law 44(2019)

Select Bibliography

Barnes, R. and Rosello, M., Fisheries and maritime security: understanding and enhancing the connection in Malcom Evans and Sofia Galani(eds.), *Maritime security and the Law of the Sea*, Elgar Publishing 2020, pp. 48-82

Evans, M., Galani, S., *Maritime security and the law of the sea : help or hindrance?* , Elgar Publishing 2020

Fajardo, T., “To criminalise or not to criminalise IUU fishing: The EU’s choice” (2022) 144 *Marine Policy*, pp.1-9.

Hey, E., The Fisheries Provisions of the LOS Convention’ in Ellen Hey (ed), *Developments in the International Fisheries Law*, Kluwer Law International 1999, pp. 301-321

Klein, N., *Maritime Security and the Law of the Sea*, OUP 2011

Musto, C., Papastavridis E., “Tackling illegal, unreported, and unregulated fishing through port state measures”, (2021) *Melbourne Journal of International Law*, pp.1-49

Oral, N., “Reflections on the Past, Present, and Future of IUU Fishing under International Law” (2020) 22 *International Community Law Review*, pp. 368–376.

Papastavridis, E., Fisheries and State Responsibility: Lessons to be learned from Recent Case-Law in Photini Pazartzis, Panos Merkouris(eds.), *Permutations of responsibility in international law*, Brill Nijhoff 2019, pp. 90-119

Rosello, M., *IUU fishing as a flag state accountability paradigm: between effectiveness and legitimacy* , Brill Nijhoff 2021.

Scovazzi, T., “International cooperation as regards protection of the environment and fisheries in the Mediterranean Sea”, (2018) *Anuario español de derecho internacional*, pp. 301 - 321

Soyer, B., Leloudas G., and Miller, D., “Tackling IUU Fishing: Developing a Holistic Legal Response” (2017) 7 *Transnational Environmental Law*, pp.139-163.

Temple, A.J., Skerritt D. J., E.C., Howarth, P., Pearce, J., Mangi, S.C., “Illegal, unregulated and unreported fishing impacts: A systematic review of evidence and proposed future agenda” (2022) *Marine policy*

Wold,C.,“Combatting IUU Fishing and Improving the LongTerm Conservation of Fish Stocks : Increasing Transparency in Regional Fisheries Management Organizations” , (2021) 44 *Fordham Int'l L.J.*, pp. 967-1027.

V. Security and protection of submarine cables, pipelines and offshore installations

1. Introduction

Submarine infrastructure, i.e. energy and telecommunication cables, pipelines and offshore installations, are important both from an economic and legal standpoint. Numbers speak for themselves: More than 95% of all international communications are currently carried by submarine fiber optic cables,¹⁹⁴ while approximately 450 submarine cables are in operation worldwide ensuring timely and stable communications.¹⁹⁵ United Nations General Assembly refers to submarine cables as “critical communications infrastructure” since they transmit most of the world’s data and communications and therefore, are extremely important to the economy and security of all nations.¹⁹⁶ Likewise, the value of offshore pipelines and platforms is not to be underestimated: they play a unique role in the process of oil and gas production and transportation and indeed, the landscape in the Mediterranean region is progressively changing, with increasing activities related to offshore construction and operation.

There is no definition of the three terms (submarine cables, submarine pipelines, offshore installations) in any international legal instrument. However, the International Law Association (ILA) Committee on Submarine Cables and Pipelines Under International Law distinguishes between submarine communications cables that are used to transmit data communications and submarine power cables that are used to transmit electrical power.¹⁹⁷ Submarine pipelines, on the other hand, are used for the transport of crude oil and natural gas resources. In any case, irrespective of their function and type, all cables are considered equally in international law and in the

¹⁹⁴ D. Burnett, T. Davenport, R. Beckman, *Submarine cables: The Handbook of Law and Policy* (BRILL 2013), p. 3; E. Perez-Alvaro, Unconsidered Threats to Underwater Cultural Heritage: Laying Submarine Cables (2013) 14 *Rosetta*, pp. 54-70, at p. 54, available at: <http://www.rosetta.bham.ac.uk/issue14/perezalvaro.pdf>,

¹⁹⁵ See Submarine Cable Map by TeleGeography, an interactive submarine cables map based on authoritative Global Bandwidth research and updated on a regular basis, available at <http://www.submarinecablemap.com>, last visited 01/09/2020.

¹⁹⁶ GA Resolution A/RES/65/37, Oceans and the law of the sea, adopted 7 of December 2010, paragraph 121.

¹⁹⁷ Proposal for Establishment of a new ILA Committee on Submarine Cables and Pipelines under International Law, available at https://www.ila-hq.org/en_GB/documents/mandate-1

majority of the cases are treated similarly to pipelines. As far as offshore installations are concerned, there is no specific definition either for the term “installation” or “offshore installation”, however the OSPAR Convention defines offshore installations as “any man-made structure, plant or vessel or parts thereof, whether floating or fixed to the seabed, placed within the maritime area for the purpose of offshore activities.”¹⁹⁸

2. Security threats to critical maritime infrastructure/Incidents

By their nature, submarine cables, pipelines and offshore platforms are difficult to protect and thus prone to security threats.¹⁹⁹ A notable example, as early as 1914 and the declaration of war on Germany, the British Royal Navy, as a military tactic, cut all five of the undersea telegraph cables the Germans used for trans-Atlantic communications.²⁰⁰

The Mediterranean Sea is no stranger to similar security incidents. In 2008, a ship damaged with its anchor a submarine cable laid in Egyptian waters, and in a few hours disruptions to regional connectivity had affected 70% of the connectivity in the region including Internet connection.²⁰¹ In 2013, the Egyptian navy arrested three scuba divers off the coast of Alexandria accused of trying to cut the SeaMeWe-4 internet cable, causing substantial disruption.²⁰² More recently, the importance of communications cables became evident during the recent outbreak of the Covid-19

¹⁹⁸ Convention For The Protection Of The Marine Environment Of The North-East Atlantic (OSPAR Convention), 2354 UNTS 67, Article 1(l). Moreover, the EU Directive 2013/30/EU, in its Article 2 par. 19, defines installations as “a stationary, fixed or mobile facility, or a combination of facilities permanently inter-connected by bridges or other structures, used for offshore oil and gas operations or in connection with such operations. Installations include mobile offshore drilling units only when they are stationed in offshore waters for drilling, production or other activities associated with offshore oil and gas operations”, see Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC, OJ L 178/66, 28.6.2013 (Offshore Safety Directive). Moreover, according to Article 2 par. 2 of the Offshore Safety Directive, “offshore” are all installation situated in the territorial sea, the Exclusive Economic Zone or the continental shelf of a Member State within the meaning of the United Nations Convention on the Law of the Sea.

¹⁹⁹ For past incidents regarding the security of submarine cables see Daria Shvets, *The International Legal Regime of Submarine Cables: A Global Public Interest Regime*, Doctoral Thesis, UPF 2020, available at <http://hdl.handle.net/10803/671344>

²⁰⁰ R. Sunak, “Undersea cables: Indispensable, insecure,” Policy Exchange (1 December 2017), p. 23, available online: <<https://policyexchange.org.uk/publication/undersea-cables-indispensable-insecure/>>

²⁰¹ Severed Cables Disrupt Internet”, BBC News, 31 of January, 2008, available at <http://news.bbc.co.uk/2/hi/technology/7218008.stm>,

²⁰² For more information, see G.A. Sgouros & I.Th. Mazis, *Cable and Pipeline Corridors under the Legal Framework of UNLCOS and the Energy Treaty. Geopolitical Considerations at the Eastern Mediterranean Sea* (2017) IX(1) *Regional Science Inquiry*, pp. 63-83.

pandemic when the world turned to online mode, while cables and pipelines have also made recent headlines, with Brexit disputes paving the way for France to threaten to cut off power to Jersey,²⁰³ not to mention the recent sabotage of the Nord Stream pipelines in the Baltic Sea, which constitutes the first major attack on European maritime infrastructure and has re-ignited the interest of the international community regarding the protection of critical infrastructure at sea.

Offshore platforms (and so far only oil platforms) have been the targets of various attacks.²⁰⁴ The 1983 Iraqi attack on Iran's Nowruz oil platform resulted in the spilling of 2 million barrels (approximately 84 million gallons) of oil into the Persian Gulf and led to the loss of marine life, damage to the gulf ecosystem, and atmospheric pollution. In addition, the more recent incident of *Arctic Sunrise* in 2013, when the Russian Federation arrested Greenpeace activists and seized their vessel after a peaceful protest against an oil platform in the Arctic Sea, indicates that oil platforms may be the targets of acts of terrorism, in the form of an environmental attack. Oil platforms can also be the target of attacks in the context of an armed conflict or other international tensions:²⁰⁵ such is the *Oil Platforms case* concerning a dispute arising out of the attack on three offshore oil production complexes.

However, security threats to critical maritime infrastructure may also be caused by non-human induced factors. In 2003, following an earthquake of 6.8 magnitude near to the Algerian coastal city of Bourmerdès, undersea cables were damaged, disrupting the country's connection with Europe: it took six weeks to repair the damage, and an entirely new 120 km section of cable had to be installed, costing the country's economy \$100m.²⁰⁶

²⁰³ Daniel Boffey, 'France threatens to cut off power to Jersey in post-Brexit fishing row' [2021] The Guardian
<https://www.theguardian.com/uk-news/2021/may/04/france-threatens-to-cut-off-power-to-jersey-in-postbrexit-fishing-row?CMP=Share_AndroidApp_Other> accessed 8 May 2021

²⁰⁴ Efthymios D. Papastavridis, Chapter 8 Protecting Offshore Energy Installations under International Law of the Sea, International Law Institute Series on International Law (2017) 2 *Arbitration and Practice*, pp. 197-213.

²⁰⁵ Neither the UNCLOS nor the 1884 Convention prohibit states from treating undersea cables as legitimate military targets during wartime. In fact, the 1884 Convention explicitly states that its provisions do not "in any way restrict the freedom of action of belligerents".

²⁰⁶ R. Sunak, Undersea cables: Indispensable, insecure, *Policy Exchange* (1 December 2017), p. 39, available online: <<https://policyexchange.org.uk/publication/undersea-cables-indispensable-insecure/>>

3. The international legal framework on laying submarine cables and pipelines

In light of the foregoing, it becomes evident that submarine cables, pipelines and offshore installations need to be protected, both from human-induced hazards (e.g. shipping, fishing and other activities, including acts of terrorism), and from natural hazards (e.g. submarine earthquakes, fault lines & related landslides, tsunamis, storms and sea level rise). According to the ICPC, around 70% of the cable faults are caused from human-induced hazards (mainly fishing and anchoring), and around 12% are caused by natural hazards.²⁰⁷ Certain measures of protecting submarine cables, pipelines and offshore installations include the creation of protection areas that entail the limitation of all activities that could potentially endanger the submarine cables, coast guard and naval patrols, and laws and regulations introducing strict penalties for relevant infringements.²⁰⁸ The question is whether the critical maritime infrastructure is adequately protected under international law, or whether there are gaps in said protection.

The basic international legal framework governing the rights and obligations of States in relation to submarine cables and pipelines consists of a) the 1884 Convention for the Protection of Submarine Telegraph Cables;²⁰⁹ b) the 1958 Geneva Convention on the High Seas,²¹⁰ c) the 1958 Convention on the Continental Shelf;²¹¹ d) the 1972 International Regulations for Preventing Collisions at Sea (COLREGS)²¹² and e) 1982 United Nations Convention on the Law of Sea (UNCLOS).²¹³

The 1884 Cable Convention deals exclusively with the protection of submarine telegraph cables. It establishes the freedom to lay, maintain and repair submarine telegraph cables outside of the territorial sea and provides that it is “a punishable

²⁰⁷ ICPC, *Submarine Cables and Biodiversity Beyond National Jurisdiction*, 2016, at p. 11.

²⁰⁸ Miso Mudric, *Rights of States Regarding Underwater Cables and Pipelines* (2010) 29 *Aust. Resources & Energy L.J.*, pp. 235-256.

²⁰⁹ Convention for the Protection of Submarine Telegraph Cables, Mar. 14, 1884, 24 Stat. 989, T.S. No 380 [hereinafter 1884 Cable Convention].

²¹⁰ Convention on the High Seas, art. 2, Apr. 29, 1958, 450 U.N.T.S. 82, 83-84 [hereinafter High Seas Convention].

²¹¹ Convention on the Continental Shelf, Apr. 29, 1958, 499 U.N.T.S. 311 [hereinafter Continental Shelf Convention].

²¹² 1972 Convention on the International Regulations for Preventing Collisions at Sea 1050 UNTS 16, UKTS 77 (1977), 28 UST 3459

²¹³ United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS].

offence to break or injure a submarine cable, willfully or by culpable negligence, in such manner as might interrupt or obstruct telegraphic communication”.²¹⁴

UNCLOS is the most comprehensive convention, placing certain rights and obligations on States depending on the maritime zone in which the cable or pipeline-related activity is taking place. UNCLOS protection of submarine cables extends to all maritime zones regulated by the Convention. To be noted that apart from Israel, Turkey and Syria, other countries in the Mediterranean are parties to UNCLOS.

To begin with, the submarine cables and pipelines laid in internal waters and territorial sea, are subject to jurisdiction and sovereignty of the coastal state (Article 2 UNCLOS), with the limitation of “innocent passage” of Article 17 UNCLOS. The damage, or the threat of damage to submarine cables and pipelines cannot be considered as “innocent passage” but meets the conditions of Article 19(2) UNCLOS as “any act aimed at interfering with any systems of communication or any other facilities or installations of the coastal State”. In practice, this means that the coastal State has to give permission for the laying of submarine cables and pipelines in the area and has the right to enact legislation in relation to maritime security, environmental protection and the protection of cables and pipelines, including to restrict “innocent passage” in order to protect submarine cables (Art 21(1)(c)). By the same token, coastal States may designate sea lanes and traffic separation schemes for the regulation of the passage of ships, taking into account the relevant recommendations of international bodies, such as the IMO (Article 22 UNCLOS). This provision could be applied in the case of underwater cables and pipelines in order to avoid damage.

Moreover, States have the right to lay submarine cables and pipelines both in the Exclusive Economic Zone (Art. 58) and the continental shelf (Article 79). In particular, the Coastal State has in the EEZ sovereign rights (Art 56) regarding the exploration, exploitation, conservation and management of natural and living resources, and the activities adjunct to that zone (eg, wind-farming).²¹⁵ In relation to the freedom

²¹⁴ Cable Convention, Article II.

²¹⁵ Article 56 par. 1: “Rights, jurisdiction and duties of the coastal State in the exclusive economic zone 1. In the exclusive economic zone, the coastal State has: “(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds; (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to: (i) the establishment and use of artificial islands, installations and structures; (ii) marine

of coastal state to lay cables and pipelines, the relevant provisions of UNCLOS in relation to the continental shelf apply *mutatis mutandis* for the EEZ.²¹⁶

Over the continental shelf, the Coastal State has the right to take “reasonable measures” for the exploration and exploitation of the natural resources of the seabed or subsoil, and prevention, reduction and control of pollution from pipelines. Third states also have the right to lay cables, subject to the limitations of Article 79, according to which the coastal State may take measures to secure its right to research and exploitation in the continental shelf, as well as measures to prevent environmental pollution. Moreover, the delineation of the course for the laying of the pipelines is subject to the consent of the coastal state, which also retains its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction. It should be stressed that the coastal state has the right to delineate only the course of third country pipelines that pass through its continental shelf, and not of cables.²¹⁷

All States are entitled to lay submarine cables and pipelines on the bed of the high seas beyond the continental shelf (Articles 112 par. 1 and 87 par. 1(c) UNCLOS). However, the right is not unlimited, but it should be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard to cables or pipelines already in position, and to the rights under UNCLOS with respect to activities in the Area.²¹⁸

4. Obligations of coastal states to protect the integrity of submarine cables and pipelines

The breaking or injury of a submarine cable or pipeline laid on the bed of the high seas is regulated by Article 11 of the 1884 Convention for the Protection of Submarine Telegraph Cables, according to which “it is a punishable offence to break

scientific research; (iii) the protection and preservation of the marine environment; (c) other rights and duties provided for in this Convention.”

²¹⁶ See Articles 88 – 115 UNCLOS.

²¹⁷ Article 79 par. 2 UNCLOS. See also Klein (n 3), at 100-101.

²¹⁸ Article 87 par. 2 UNCLOS.

or injure a submarine cable, willfully or by culpable negligence, in such manner as might interrupt or obstruct telegraphic communication, either wholly or partially, such punishment being without prejudice to any civil action for damages.” This Article was later incorporated in the 1958 Geneva Conventions on the High Seas and Continental Shelf and a similar wording exists under 113 UNCLOS, which provides that

“every State shall adopt national legislation to make it a punishable offense for “the breaking or injury by a ship flying its flag or by a person subject to its jurisdiction of a submarine cable beneath the high seas done willfully or through culpable negligence, in such a manner as to be liable to interrupt or obstruct telegraphic or telephonic communications”.

The same applies for any breaking or injury of submarine cables caused in the EEZ (Article 58 par. 2 UNCLOS). *A contrario*, the unintentional damage to submarine cables, such as damage created during rescue of vessels in distress, does not fall within the ambit of this Article.

It is worth mentioning that there is no similar obligation for coastal States to adopt such national legislation in areas subject to their territorial sovereignty or sovereign rights, although coastal States in general have the right to adopt legislation regulating the damage, either intentional or unintentional, of submarine cables and consequently, to exercise enforcement jurisdiction over such acts.

However, Article 113 does not go so far as to give warships the right to board a vessel suspected of intentionally trying to damage undersea cables in international waters and consequently, it makes it difficult for naval powers to effectively deter hostile vessels. Articles 113 and 58 par.2 only confer on States with prescriptive jurisdiction, but not enforcement jurisdiction. The enforcement jurisdiction rests with the flag State, responsible to prevent any third-State interference. In contrast, Article X of the 1884 Convention allows warships to demand proof of the ship’s origin in cases of damage.

Article 114 UNCLOS also imposes an obligation upon States to adopt laws and regulations in relation to who bears the cost incurred as a result of breaking or injury of a submarine cable or pipeline of another owner caused by the owner of cable or pipeline subject to the State’s jurisdiction.

Additionally, according to Article 115 UNCLOS, every State shall adopt the laws and regulations necessary to ensure that the owners of ships who can prove that they have sacrificed an anchor, a net, or any other fishing gear, in order to avoid injuring a submarine cable or pipeline, shall be indemnified by the owner of the cable or pipeline, provided that the owner of the ship has taken all reasonable precautionary measures beforehand.

5. Offshore installations

Offshore installations can be used for the production of energy from alternative sources (e.g. solar energy, wind energy, wave and tidal energy, ocean thermal energy conversion and salinity gradient energy) or for the research, exploration and exploitation of fossil fuels (e.g. oil, gas). Depending on its use or the characteristics of the drilling, an artificial platform can be either permanently connected to the bottom (fixed platforms) or floating in the sea and moving from place to place (mobile offshore units), so as to allow operation in many areas. Damages to offshore installations may be either accidental (e.g. deriving from blow-outs, pipeline ruptures, tanker spillages and collisions when ships are docking the platform) or operational, as result of their normal operation. The latter may include oil in produced water, contaminated drill cuttings and muds, production chemicals, sewage, garbage, deck drainage, etc.

There is no international convention on offshore structures, but provisions from UNCLOS and other legal instruments may also apply and as a consequence, different rights and obligations arise for coastal States, depending on location of the offshore installations. It is important to note that offshore installations do not possess the status of islands, therefore they are not entitled to maritime zones of their own.²¹⁹

A. Protection of offshore installations in the territorial sea

In the territorial sea, the coastal States have absolute authority to regulate all resource-related activities, such as the construction of platforms for the extraction of

²¹⁹ Article 60(8) UNCLOS.

oil or gas from the seabed.²²⁰ In such instances, coastal states are given by the UNCLOS two ways of protecting offshore installation, taking into consideration the rights of other States.²²¹

First, coastal States may temporarily suspend innocent passage. According to Article 19(2) UNCLOS, a passage is not innocent and is considered to be prejudicial to the peace, good order or security of the coastal State if in the territorial sea it engages in, among others “any act aimed at interfering with any systems of communication or any other facilities or installations of the coastal State.” Moreover, according to Article 25 LOSC the coastal state has the right to take all appropriate measures to prevent this prejudicial vessel that aimed at interfering with the activity of an offshore installation from entering its territorial sea. Therefore, with the view to protecting offshore platforms, the coastal State has the right to temporarily suspend innocent passage of foreign vessels in specified areas of its territorial sea, provided that such suspension is “essential for the protection” of the coastal State’s security.²²² This means that the coastal State may temporarily suspend innocent passage in the vicinity of offshore platforms, or to require from foreign vessels to navigate on designated sea lanes and traffic separation schemes,²²³ especially with regard to the passage of tankers, nuclear – powered ships and ships carrying inherently dangerous or noxious substances or materials”.²²⁴

Second, States may exercise prescriptive and enforcement jurisdiction in the territorial sea, by virtue of Article 21 UNCLOS, through the adoption of laws and regulations, with respect to “the safety of navigation and the regulation of maritime traffic” and “the protection of navigational aids and facilities and other facilities or installations”.²²⁵

It remains unclear whether states have the right to establish safety zones near offshore platforms, in a manner similar to continental shelf/EEZ. Papastavridis argues that “*the obligation of the coastal States under Article 24 of UNCLOS not to hamper*

²²⁰ M. Gavouneli, Energy installations in the marine environment, in Jill Barrett & Richard Barnes (eds), *Law of the Sea: UNCLOS as a living treaty* (BIICL 2016), at p. 187, 189.

²²¹ Articles 24 and 22(3) of UNCLOS.

²²² Article 19 par. 2 UNCLOS.

²²³ Article 22 UNCLOS.

²²⁴ See Assaf Harel, Preventing Terrorist Attacks on Offshore Platforms: Do states Have Sufficient Legal Tools? (2012) 4 *Harv. Nat'l Sec. J* 131-184, at p. 142.

²²⁵ Article 21 par. 1 UNCLOS.

*the right of innocent passage imposes a corollary duty not to establish safety zones unreasonable and disproportionate in size. This does not mean that these safety zones should necessarily be of 500 meters, but rather that States are not absolutely free in this respect.”*²²⁶

B. Protection of offshore installations in the EEZ/Continental Shelf

The first convention to regulate the coastal state’s right to install offshore platforms on its continental shelf and to establish safety zones around those platforms was the 1958 Geneva Convention on the Continental Shelf.²²⁷ UNCLOS, largely based on the 1958 Geneva Convention on the Continental shelf, explicitly regulates the rights and obligations of coastal states over offshore installations in the EEZ in Article 60 UNCLOS, which applies *mutatis mutandis* to the Continental Shelf as per Article 80.²²⁸ In particular, Article 60 of UNCLOS provides that States may construct and/or authorise the construction of artificial islands, installations and structures within their exclusive economic zone (EEZ) and its continental shelf.²²⁹ They also have the obligation to remove installations ‘to ensure safety of navigation’ while taking ‘due regard to fishing, the protection of the marine environment and the rights and duties of other States’ and ‘any generally accepted international standards established in this regard by the competent international organization’.²³⁰

Regarding the protection of offshore installations in the EEZ and the continental shelf, Article 60 par. 4 and 5 allow the creation of the safety zone up to 500 metres around any installation for safe navigation. These safety zones are to be respected by all ships,²³¹ therefore vessels cannot invoke the freedom of navigation to enter a safety

²²⁶ Papastavridis (n 204), p. 202.

²²⁷ See, Convention on the Continental Shelf art. 5.

²²⁸ The IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the EEZ, were adopted in 1989 and stem from Article 80 UNCLOS, see <https://cil.nus.edu.sg/wp-content/uploads/formidable/18/1989-Guidelines-and-Standards-for-the-Removal-of-Offshore-Installations-and-Structures-on-the-Continental-Shelf-and-in-the-Exclusive-Economic-Zone.pdf>

²²⁹ UNCLOS 60 par. 1.

²³⁰ UNCLOS 60 par. 3.

²³¹ UNCLOS 60 par. 6. Also, see IMO Assembly Resolution A.671(16) “Safety Zones and safety of navigation around offshore installations and structures”, of 19 October 1989 (Doc. A 16/Res 671 of 30 November 1989, para 1 (d)), according to which governments have to “take all necessary steps to ensure

zone. Apart from the 500-meter safety zones, UNCLOS does not provide any other legal basis on which coastal States may protect their offshore installations and even so, it is doubtful whether this limited breadth of safety zones is sufficient for protecting terrorist attacks, especially “in areas with higher density of maritime traffic where it would be more difficult to identify a potential terrorist vessel from an innocent one”.²³² Notably, nor IMO provides for larger safety zones.²³³

By virtue of Article 60 par. 2 UNCLOS, the coastal state may exercise prescriptive and enforcement jurisdiction over acts committed against offshore platforms in the EEZ and the continental shelf.²³⁴ It is argued though, that the assertion of both prescriptive and enforcement jurisdiction over acts within such zones must be specifically linked either to the protection of the platform or the safety of navigation.²³⁵ Moreover, in case of terrorist or other acts of violence against offshore installations, the coastal State has the authority to take the necessary law enforcement measures and arrest the suspects within the safety zone. This was confirmed in the *Arctic Sunrise* case:

*“a coastal State is entitled to take law enforcement measures in relation to possible terrorist offences committed within a 500-metre zone around an installation or structure in the same way that it can enforce other coastal State laws applicable in such a zone. This can include measures taken within the zone, including the boarding, seizure, and detention of a vessel, where the coastal State has reasonable grounds to suspect the vessel is engaged in terrorist offences against an installation or structure on the continental shelf”.*²³⁶

More specific protection is provided for in the 1988 Protocol to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (1988

that, unless specifically authorized, ships flying their flags do not enter or pass through duly established safety zones”.

²³² Thus, Assaf Harel (n 211), at p. 157; Papastavridis (n 204), at p. 204.

²³³ IMO, Subcommittee on Safety of Navigation, Report To the Maritime Safety Committee, para. 4.6, IMO Doc. NAV 56/20 (Aug. 31, 2010).

²³⁴ See Klein (n 3), at p. 102.

²³⁵ Thus, Papastavridis (n 204), at p. 206.

²³⁶ *Arctic Sunrise* [Merits], para. 278.

SUA Protocol),²³⁷ and its 2005 Protocol to the Protocol (2005 SUA Protocol).²³⁸ The SUA Protocol applies to “fixed platforms,” including artificial islands, installations, and structures engaged in exploration or exploitation of the seabed or some other economic purpose. In its Article 2 it provides for cooperation and enforcement of a number of offences against fixed platforms, including seizure of a platform, acts of violence against a person on a platform, destruction or damage or threat of safety of the platform, and placement of a device or substance likely to destroy or damage the platform.

Notably, neither Articles 60 and 80 UNCLOS provide for the enforcement measures beyond the safety zones, nor does the SUA Protocol. This may be explained by the other obligations arising from the UNCLOS, especially the obligation to take “due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.”²³⁹ It should be also reminded that, under Articles 92 par. 1 and 58 par. 2 UNCLOS, the flag State has exclusive jurisdiction of flag State in the EEZ. However, coastal States have the right of hot pursuit of Article 111 of UNCLOS. In order for Article 111 UNCLOS to apply, the following conditions must be met: First, the competent authorities of the coastal State must have good reason to believe that the vessel being pursued has violated the coastal State’s laws or regulations on safety zones established around artificial islands, installations, and structures in the EEZ. Second, pursuit may only be commenced “after a visual or auditory signal to stop has been given at a distance which enables it to be seen or heard by the foreign ship” and when the vessels are *within* the safety zone of the offshore platform.²⁴⁰

C. Protection of offshore installations on the high seas

The construction of offshore installations and artificial islands on the high seas is one of the freedoms conferred on States by Article 87 par.1(d) UNCLOS. This provision implies that one of the States with jurisdiction over an individual engaged in unauthorized broadcasting would be "the State of registry of the installation," which

²³⁷ Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf, UNTS 1678, I-29004, 10 March 1988.

²³⁸ Protocol of 2005 to the Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf, LEG/CONF.15/22, 14 October 2005.

²³⁹ UNCLOS art. 56(2).

²⁴⁰ Article 111 par. 4 UNCLOS.

implies that States may Naturally, any such activity and must be carried out with respect to “the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area”.²⁴¹ Safety zones of 500 meter- breadth around installations in the marine environment can be established to the high seas too, as per Article 260 UNCLOS.

The right of hot pursuit, which arises within waters under the jurisdiction or sovereignty of the coastal state,²⁴² continues on to the high seas, as an expression of the right of coastal states to maintain order in the high seas.²⁴³

D. Other legal instruments for offshore installations

The majority of international legal instruments relevant to activities on offshore installations are mainly related to environmental issues. For example, the OSPAR Convention²⁴⁴ regulates international cooperation for the protection of the marine environment of the North-East Atlantic. It addresses all sources of pollution which might affect the maritime area (e.g. pollution from land-based sources, pollution by dumping or incineration, pollution from offshore sources), and all matters relating to the protection of the marine environment. OSPAR Convention prohibits any dumping of wastes or other matter from offshore installations, but this prohibition does not relate to discharges or emissions from offshore sources.²⁴⁵

More relevant to the Mediterranean Sea is the Barcelona Convention and its seven Protocols²⁴⁶ that were adopted in the framework of the Mediterranean Action Plan (MAP) and constitute the principal regional legally binding Multilateral Environmental Agreement (MEA) in the Mediterranean: “*The Contracting Parties to the Barcelona*

²⁴¹ Article 87 par.2 UNCLOS.

²⁴² For more on the flag state, see Zoe Scanlon, Addressing the Pitfalls of Exclusive Flag State Jurisdiction: Improving the Legal Regime for the Protection of Submarine Cables (2017) 48 *J. Mar. L. & Com.*, pp. 295.

²⁴³ Klein (n 3), at p. 109.

²⁴⁴ OSPAR Convention, *supra* 5.

²⁴⁵ *Id.*, Annex III, Article 3 par. 1 and 2.

²⁴⁶ Convention for the protection of the Mediterranean Sea against pollution (with annex and Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft and Protocol concerning co-operation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency, 1102 UNTS 27.

Convention agree to individually or jointly take all appropriate measures in accordance with the provisions of the Convention and the Protocols in force to which they are party to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area and to protect and enhance the marine environment in that Area so as to contribute towards its sustainable development. They cooperate in the formulation and adoption of Protocols, prescribing agreed measures, procedures and standards for the implementation of this Convention.”

In particular, the Offshore Protocol was adopted in 1994 to complement the Barcelona Convention and covers a multitude of offshore oil and gas activities in the Mediterranean, mainly exploration and exploitation activities. It introduces a broad definition of the term “installation” in its Article 1, which covers fixed, mobile and floating drilling and production units. The Protocol also includes measures concerning the control and prevention pollution, as well as measures to respond to offshore pollution incidents.

6. EU legal framework

A. Oil and gas offshore installations

There are more than 1000 offshore oil and gas installations operating in European waters. Currently, 116 structures are operating or awaiting decommissioning in Italy, 16 in Spain and 3 in Greece.²⁴⁷ Admittedly, the accident in the Gulf of Mexico at a drilling operation controlled by an EU-based company in April 2010, as well as other similar incidents, have raised awareness of the risks involved in offshore oil and gas operations and have prompted a review of policies aimed at ensuring the safety of such operations.²⁴⁸ In this direction, the EU took the initiative to strengthen the regulatory framework and to introduce common rules for the effective prevention, response and management of major accidents. With the view to establishing common minimum standards for the safe and environmentally compatible extraction of hydrocarbons, in order prevent any major accidents, Directive 2013/30 for the safety of

²⁴⁷ Study on Decommissioning of offshore oil and gas installations: a technical, legal and political analysis, Final Report, September 2021, at p. 24.

²⁴⁸ Offshore Safety Directive, Preamble, 5.

offshore oil and gas operations was adopted and came into force on 18 July 2013 (Offshore Safety Directive).²⁴⁹

The Offshore Safety Directive lays down minimum requirements for safety, environmental protection and emergency response across the EU, in relation to major hazards up to the point that the safety risk is removed. According to the Offshore Safety Directive, all major hazards through the lifecycle of the asset are identified and managed so that the risk from operations is ‘as low as reasonably practicable’. Moreover, the Directive provides that the operators of a production installation shall take all necessary measures to prevent major accidents and minimize public health implications and further environmental damage, but it does not define such “necessary measures”.

In the absence of a harmonized and specialized EU framework of rules that specifically concern the security and safety of oil and natural gas exploration and exploitation activities, offshore activities are largely governed by a diverse legal framework concerning health, safety and environment. For instance, according to the EU legislation regarding the licensing for offshore oil and gas operations, each Member State shall issue licenses and other approvals required for the exploration and exploitation of hydrocarbon resources on its territory and in the waters under its jurisdiction. The lack of a uniform approach as to the conditions of granting the license is evident from the large number of relevant legal texts, such as Directive 92/91/EEC, Directive 94/22/ EC, Directive 2001/42/EC, Directive 2003/4/EC, Directive 2003/35/EC, Directive 2010/75/EE and Directive 2011/92/EE.

Regarding long-term risks to the environment, or the monitoring of assets left in situ, following decommissioning, the Environmental Liability Directive and the Environmental Impact Assessment Directive are applicable.

B. Offshore renewable energy

Lately, offshore renewable energy has a significant sustainable and inclusive growth potential across the entire EU. To reach the European Green Deal energy and climate targets for 2030 and 2050, and at the same time reduce the need for energy

²⁴⁹ Offshore Safety Directive, *ibid.*, 5.

imports, the EU is speeding up the green transition and investing massively in renewable energy. Apart from wind power, the European Commission sees huge potential in other renewable technologies such as tidal and wave power, floating solar energy, and algae for biofuels.

In this regard, the EU strategy on offshore renewable energy (COM(2020)741) was published on 19 November 2020. The Mediterranean Sea offers a high potential for offshore wind (mostly floating) and localized potential for tidal and wave energy, while the islands can play an important role in the EU's offshore energy development, as testing and demonstration locations for innovative offshore electricity generation technologies.

On 14 July 2021, the Commission adopted a legislative proposal to revise the Renewable Energy Directive.²⁵⁰ The revision includes a provision that would oblige Member States to cooperate on the amount of offshore renewable generation to be deployed within each sea basin by 2050, and increase their cross-border cooperation on renewable energy, *inter alia*, through offshore hubs.²⁵¹

C. Protection of cables and pipelines

Within the EU, the protection of undersea cables is dependent on the regulatory regimes of each Member State. According to the European Electronic Communications Code,²⁵² telecom providers are obliged to report incidents that had a significant impact on the operation of networks or services to their competent national authorities. The recent amendment of the NIS2 Directive makes reference to the cables network, acknowledging that “the national cybersecurity strategy should, where relevant, take into account the cybersecurity of undersea communications cables and include a mapping of potential cybersecurity risks and mitigation measures to secure the highest level of their protection.”²⁵³

²⁵⁰ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast), *OJ L 328*, 21.12.2018, p. 82–209.

²⁵¹ <https://www.europarl.europa.eu/legislative-train/carriage/offshore-wind/report?sid=6801>

²⁵² 8 European Parliament, ‘Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code’, *OJ L 321*, 17.12.2018.

²⁵³ Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union, amending Regulation (EU) No

The protection of European critical infrastructure in the energy and transport sectors was until recently regulated by Council Directive 2008/114/EC,²⁵⁴ while security of network and information systems across the Union focused on cyber-related threats was regulated by Directive (EU) 2016/1148.²⁵⁵ Directive 2008/114/EC defined in its Article I critical infrastructure as “an asset, system or part thereof located in Member States which is essential for the maintenance of vital societal functions, health, safety, security, economic or social well-being of people, and the disruption or destruction of which would have a significant impact in a Member State as a result of the failure to maintain those functions”.

In response to the Nord Stream pipeline leaks in 2022, the European Commission pledged to increase the protection of undersea pipelines and cables. In this regard, the Directive 2022/2557/EU on the resilience of critical entities was adopted in December 2022,²⁵⁶ according to which, Member states shall adopt a national strategy to enhance the resilience of critical entities, carry out a risk assessment at least every four years and identify the critical entities that provide essential services, while critical entities shall identify the relevant risks that may significantly disrupt the provision of essential services, take appropriate measures to ensure their resilience and notify disruptive incidents to the competent authorities.

In addition to the Directive, the Council also adopted a Recommendation for an EU coordinated approach to strengthen the resilience of critical infrastructure.²⁵⁷ The Recommendation encompasses three priority areas: preparedness, response and international cooperation. It invites Member States to accelerate preparatory work and carry out new risk assessment, as well as to conduct stress tests of entities operating critical infrastructure, with the energy sector as a priority.

910/2014 and Directive (EU) 2018/1972, and repealing Directive (EU) 2016/1148 (NIS 2 Directive), OJ L 333, 27.12.2022, at Preamble, 97.

²⁵⁴ Council Directive 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection (OJ L 345, 23.12.2008, p.75).

²⁵⁵ Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union (OJ L 194, 19.7.2016, p. 1).

²⁵⁶ Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC, OJ L 333, 27.12.2022, p. 164-198.

²⁵⁷ Council Recommendation of 8 December 2022 on a Union-wide coordinated approach to strengthen the resilience of critical infrastructure

7. National measures for the protection of critical maritime infrastructure

A. Croatia

In Croatia, the laying of submarine cables is regulated by the Ordinance on conditions for the issuing of approval for laying and maintenance of submarine cables and pipelines on the continental shelf of the Republic of Croatia of 2007 (the “Ordinance”)²⁵⁸ and the Maritime Code.²⁵⁹ The Ordinance prescribes “all necessary conditions and standards for the approval of the activities such as laying of submarine cables and pipelines on the continental shelf of the Republic of Croatia and the conditions for the supervision of their installation and maintenance”. According to Article 6 of the Ordinance, depending on the location of the submarine cable, the Ministry is competent for authorizing the route of cables on the continental shelf, while the competent Harbor Master’s Office is responsible for the cable that enters the territorial sea of the Republic of Croatia. However, this seems to contradict Article 45 par.3 of the Maritime Code, according to which “the Ministry approves and supervises the laying and maintenance of submarine cables and pipelines on the continental shelf of the Republic of Croatia that cross the territorial sea of the Republic of Croatia, and gives consent for submarine pipelines laid on the continental shelf of the Republic that do not cross into the area of the territorial sea of the Republic of Croatia”.²⁶⁰

The production of oil and gas in the Croatian part of the Adriatic Sea is currently through 54 production fields,²⁶¹ and is governed by the Mining Act (Official Gazette 56/13 and 14/14) and the Act on Exploration and Exploitation of hydrocarbons (Official Gazette 94/13 and 14/14), which is *lex specialis* to the former Mining Act. In 2018, a new Act on the Exploration and Exploitation of Hydrocarbons (NN 52/18, 52/19, 30/21) was adopted, as subsequently amended in 2019 and 2021, with the view to regulating every step in the exploration and production of hydrocarbons and geothermal

²⁵⁸ Ordinance on conditions for the issuing of approval for laying and maintenance of submarine cables and pipelines on the continental shelf of the Republic of Croatia, Official Gazette of the Republic of Croatia, No. 126/07.

²⁵⁹ Maritime Code of 8 December 2004 (Text No. 3142).

²⁶⁰ For a critical analysis of the Croatian legal framework pertaining to the laying and protection of submarine cables, see Irena Jurdana, Biserka Rukavina & Sandra Tominac Coslovich, Legal regime regulating the laying and protection of submarine cables in the Republic of Croatia (2021) 35 *Scientific Journal of Maritime Research*, pp. 118-127.

²⁶¹ <https://www.azu.hr/en/exploration-and-production-of-hydrocarbons/>

waters, the storage of natural gas and the permanent storage of carbon dioxide.²⁶² Moreover, Croatia follows the Barcelona Accord and OSPAR Convention, although not a signatory to the latter, regarding decommissioning of offshore oil and gas structures.

B. Malta

The Territorial Waters and Contiguous Zone Act (the Act) affords the Maltese Prime Minister the capacity to enact regulations in order to regulate the laying, maintenance and monitoring of submarine cables and pipelines that pass through the Maltese territorial sea, continental shelf and the high seas, and the liability regime thereto. Consequently, subsidiary Legislation 226.04 (for the territorial sea), Subsidiary Legislation 535.03 (for the continental shelf) and Subsidiary Legislation 234.60 have been adopted.²⁶³

C. Spain

In Spain, Law 34/1998 and Royal Decree 1716/2004 of 23 July 2004 constitute the basic legal framework for the exploration production of hydrocarbons. Moreover, Spain follows SOPAR 98/3 in relation to decommissioning, and is also signatory to the Barcelona Convention.

D. Greece

The prospecting, exploration and production activities related to hydrocarbons in Greece is regulated by Law 2289/1995, transposing Directive 94/22/EC, governing primarily onshore and offshore prospecting, exploration and exploitation activities. The Law was amended by Law 4001/2011, the latter establishing the Hellenic Hydrocarbon Resources Management Company (HEREMA), with the mandate to manage the State's upstream sector and midstream infrastructure interests. HEREMA is also the competent

²⁶² More on the Croatian legislation for hydrocarbons, see <https://www.azu.hr/en/exploration-and-production/>

²⁶³ For more information, see Emma Portelli Bonnici, Protection of Cables and Pipelines Regulations, IMLI 2021.

authority for the for Offshore Safety in Oil and Gas Operations in Greece, by virtue of Law 4409/2016, transposing Directive 2013/30/EU on safety of offshore oil and gas operations. Law 4409/2016 imposes on operators the obligation to ensure that all necessary measures are taken for the prevention of serious accidents in offshore hydrocarbon operations.

Up until recently, the legislation governing offshore wind in Greece has been based mainly on Law 3468/2006 and Law 3851/2010. On 30 July 2022, Law 4964/2022 (GGI A' 50/30.07.2022) was adopted, setting out the framework for the licensing and operation of offshore wind farms. Pursuant to Article 66 of Law 4964/2022, the Greek State has the exclusive competence for the research, exploration and designation of the areas for the organized development of offshore wind farms and areas for the installation of offshore wind farms, which are managed on its behalf by HEREMA. The law further determines the minimum requirements for the prevention of significant accidents from offshore hydrocarbon operations, as well as the limitation of their consequences. Law 4964/2022 was lately amended by Law 5039/2023. It is expected that within 2023, the National Wind Park Development Plan shall be completed, which will delineate the marine areas of development of the offshore wind parks. The determination of the maritime areas shall be made considering the wind potential, the environmental effects, the possible obstruction of maritime transport and national defense and security (Articles 67-70).

On 4 July 2022, Law 4951/2022 entitled "Modernization of the licensing process for Renewable Energy Sources -Phase B', Licensing of electricity production and storage, framework for the development of Pilot Marine Floating Photovoltaic Plants and more specific provisions for energy and the protection of the environment", was adopted. Among others, Law 4951/2022 sets out the legislative framework for the storage of electricity, while regulating the development of up to ten (10) pilot marine floating photovoltaic plants. In Article 96 par.3, the Law stipulates that *"For the safety of pilot marine floating photovoltaic power plants and accompanying projects, suitable moorings are installed, as those are mentioned in the technical description of the installations. For technical reasons, the moorings can also be placed outside the limits of the concession maritime area, at a distance, from its limits, that does not exceed, on the surface of the maritime area, three times its maximum depth."*

Regarding decommissioning of offshore oil and gas structures, Greece conforms to the relevant provisions of the Barcelona Convention.

8. Concluding remarks

Ensuring the integrity of critical maritime infrastructure is an essential component of maritime security. As history has shown, many of the threats to submarine cables, pipelines and offshore installations are of global concern with global effects that generate the interest of the international community. Yet, the international legal regime for the protection of critical infrastructure from both these threats is deficient and has significant gaps. While UNCLOS and the other international conventions are capable of addressing certain aspects of the protection of cables and pipelines, a more comprehensive and holistic legal regime is required, especially in relation to cybercrime and terrorist attacks.²⁶⁴

At the same time, the regulation of the offshore industry remains national, the main reason being that the majority of relevant activities takes place on the continental shelf and/or within the territorial sea of the States. Therefore, the regulation of maritime security in relation to critical maritime infrastructure rests with the coastal state. However, there is a lack of clear legal basis under UNCLOS allowing coastal states to adopt legislation that criminalizes the intentional damage of submarine cables in maritime zones outside the State's jurisdiction. To remedy this, other basis of jurisdiction can be suggested, so that coastal States can apply their legislation and protect the integrity of submarine cables. Beckman supports that coastal States should "adopt national legislation for acts of intentional damage to cables in the EEZ or high seas, provided that such cables land in their territory or service their telecommunications system".²⁶⁵ So far, few coastal states have established cable protection zones within their territory.²⁶⁶ In this regard, it has been argued that "to the

²⁶⁴ Tara Davenport, *Submarine Cables, Cybersecurity and International Law: An Intersectional Analysis* (2015) 24(1) *Cath. U. J. L. & Tech*, pp. 57-109.

²⁶⁵ R. Beckman, "Protecting submarine cables from intentional damage: The security gap," in D.R. Burnett, R.C. Beckman and T.M. Davenport (n 194), pp. 281-297.

²⁶⁶ See Xuexia Liao, *Protection of Submarine Cables against Acts of Terrorism* (2019) 33 *Ocean Yearbook*, pp. 456-486.

extent that cable protection zones prohibit or restrict activities such as fishing, resource exploration and maritime scientific research, [cable protection zones] are arguably consistent with a coastal State's rights in the EEZ or continental shelf".²⁶⁷

Depending on the threat, additional legal tools may need to be adopted. For instance, in the case of damage of submarine cables as a result of a terrorist attack, the 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation could apply, which provides that a State party may establish its jurisdiction when the offense is committed in an attempt to compel that State to do or abstain from doing any act.²⁶⁸ Meanwhile, as new security challenges emerge related to cybersecurity, it is in the interest of the EU and EU member states to adopt a new strategy to tackle these challenges and to detect potential threats.²⁶⁹

ANNEX

Table of Treaties

Convention for the Protection of Submarine Telegraph Cables, Mar. 14, 1884, 24 Stat. 989, T.S. No 380

Convention on the High Seas, art. 2, Apr. 29, 1958, 450 U.N.T.S. 82, 83-84

Convention on the Continental Shelf, Apr. 29, 1958, 499 U.N.T.S. 311

Convention on the International Regulations for Preventing Collisions at Sea 1050 UNTS 16, UKTS 77 (1977), 28 UST 3459

United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS].

Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf, UNTS 1678, I-29004, 10 March 1988

²⁶⁷ R. Wargo and T.M. Davenport, "Protecting submarine cables from competing uses," in D.R. Burnett, R.C. Beckman and T.M. Davenport (n 194).

²⁶⁸ 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, Rome, 10 March 1988 (entered into force 1 March 1992), 1678 UNTS 201, art. 6(2)(c). Similarly, identical wording on the jurisdiction can also be found in Article 9(2)(d) of the 2005 International Convention for the Suppression of Acts of Nuclear Terrorism, New York, 13 April 2005 (entered into force 7 July 2007), 2445 UNTS 89.

²⁶⁹ In February 2022, France announced the new "Seabed Warfare Strategy", with the aim to protect underwater infrastructures such as communication and energy transport cables while increasing submarine surveillance.

Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, Rome, 10 March 1988 (entered into force 1 March 1992), 1678 UNTS 201

Convention For The Protection Of The Marine Environment Of The North-East Atlantic (OSPAR Convention), 2354 UNTS 67.

Protocol of 2005 to the Convention for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf, LEG/CONF.15/22, 14 October 2005.

2005 International Convention for the Suppression of Acts of Nuclear Terrorism, New York, 13 April 2005 (entered into force 7 July 2007), 2445 UNTS 89

Convention for the protection of the Mediterranean Sea against pollution (with annex and Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft and Protocol concerning co-operation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency, 1102 UNTS 27.

Council Directive 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection, OJ L 345, 23.12.2008.

Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC, OJ L 178/66, 28.6.2013.

Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union, OJ L 194, 19.7.2016.

Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code, OJ L 321, 17.12.2018.

Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union, amending Regulation (EU) No 910/2014 and Directive (EU) 2018/1972, and repealing Directive (EU) 2016/1148 (NIS 2 Directive), OJ L 333, 27.12.2022.

Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC, OJ L 333, 27.12.2022.

Table of National Legislation

i. Croatia

Ordinance on conditions for the issuing of approval for laying and maintenance of submarine cables and pipelines on the continental shelf of the Republic of Croatia, Official Gazette of the Republic of Croatia, No. 126/07.

Maritime Code of 8 December 2004 (Text No. 3142).

Mining Act (Official Gazette 56/13 and 14/14)

Act on Exploration and Exploitation of hydrocarbons (Official Gazette 94/13 and 14/14)

Act on the Exploration and Exploitation of Hydrocarbons (NN 52/18, 52/19, 30/21)

ii. Malta

Territorial Waters and Contiguous Zone Act (the Act)

iii. Spain

Law 34/1998

Royal Decree 1716/2004 of 23 July 2004

iv. Greece

Law 2289/1995 on prospecting, exploration and exploitation of hydrocarbons and other provisions", as amended by Law No. 4001/2011 (GG A'27/8.2.1995)

Law 4001/2011 on the Operation of Electricity and Gas Energy Markets, for Exploration, Production and Transmission Networks of Hydrocarbons and other provisions (GG A' 179/22.08.2011)

Law 4409/2016 on safety of offshore oil and gas operations, transposing Directive 2013/30/EU, amending PD 148/2009 and other provisions (GG A' 136/28.07.2016)

Law 4964/2022 “provisions for the simplification of environmental licensing, establishing a framework for the development of Offshore Wind Farms, dealing with the energy crisis, environmental protection and other provisions” (GG A’ 50/30.07.2022)

Law 4951/2022 "Modernization of the licensing process for Renewable Energy Sources -Phase B’, Licensing of electricity production and storage, framework for the development of Pilot Marine Floating Photovoltaic Plants and more specific provisions for energy and the protection of the environment" (GG A’ 129/04.07.2022)

Law 5039/2023 “Measures to support relatives of the victims and those affected by the 28 February 2023 Tempe train accident, pension provisions, provisions to enhance transportation safety, provisions to enhance development, interventions to modernize tourism legislation and other emergency provisions (GG A’83/3.4.2023)

Select Bibliography

Douglas R. Burnett, *Submarine Cable Security and International Law* (2021) 97 *Int’l L. Stud. Ser. US Naval War Col.* 1659.

D. Burnett, T. Davenport, R. Beckman, *Submarine cables: The Handbook of Law and Policy*, (BRILL 2013).

Tara Davenport, *Submarine Cables, Cybersecurity and International Law: An Intersectional Analysis* (2015) 24(1) *Cath. U. J. L. & Tech*, pp. 57-109.

M. Gavouneli, *Energy installations in the marine environment*, in Jill Barrett & Richard Barnes (eds), *Law of the Sea: UNCLOS as a living treaty* (BIICL 2016).

Assaf Harel, *Assaf Harel, Preventing Terrorist Attacks on Offshore Platforms: Do states Have Sufficient Legal Tools?* (2012) 4 *Harv. Nat’l Sec. J* 131-184.

Natalie Klein, *Maritime Security and the Law of the Sea* (Oxford University Press 2011).

Xuexia Liao, *Protection of Submarine Cables against Acts of Terrorism* (2019) 33 *Ocean Yearbook*, pp. 456-486.

Miso Mudric, *Rights of States Regarding Underwater Cables and Pipelines* (2010) 29 *Aust. Resources & Energy L.J.*, pp. 235-256.

Efthymios D. Papastavridis, Chapter 8 Protecting Offshore Energy Installations under International Law of the Sea, International Law Institute Series on International Law (2017) 2 *Arbitration and Practice*, pp. 197-213.

E. Perez-Alvaro, Unconsidered Threats to Underwater Cultural Heritage: Laying Submarine Cables (2013) 4 *Rosetta*, pp. 54-70.

Emma Portelli Bonnici, Protection of Cables and Pipelines Regulations, IMLI 2021.

Zoe Scanlon, Addressing the Pitfalls of Exclusive Flag State Jurisdiction: Improving the Legal Regime for the Protection of Submarine Cables (2017) 48 *J. Mar. L. & Com.*, pp. 295.

G.A. Sgouros & I.Th. Mazis, Cable and Pipeline Corridors under the Legal Framework of UNLCOS and the Energy Treaty. Geopolitical Considerations at the Eastern Mediterranean Sea (2017) IX (1) *Regional Science Inquiry*, pp. 63-83.

Daria Shvets, The International Legal Regime of Submarine Cables: A Global Public Interest Regime, Doctoral Thesis, UPF 2020.

R. Sunak, Undersea cables: Indispensable, insecure, *Policy Exchange* (1 December 2017).

GA Resolution A/RES/65/37, Oceans and the law of the sea, adopted 7 of December 2010.

VI. Cyberthreats in EU Maritime Security

1. Introduction

The oceans and the marine ecosystems, covering more than two thirds of the surface of the planet, enabling major avenues for the facilitation of international trade, and supporting more than 3 billion people, constitute truly a significant factor for the flourishing of modern societies.²⁷⁰ In contemporary times, the benefits provided by the oceans, “remain under threat from a wide range of anthropogenic pressures”²⁷¹, including amongst others, climate change, IUU fishing, pollution, terrorism, organized crime, human trafficking and the smuggling of migrants.²⁷² However, despite the importance of the above risks to maritime security, it can be firmly supported that none observed phenomenon hinders maritime security in such a perplexing manner, such as the evolution of modern cyberthreats.

The recent rapid digital advancements of the technology industry which enabled the intrusion of the worldwide web in almost every social and economic activity, including critically the functionality of shipping and of essential infrastructure, empowered also brand new cyberthreats, even surprisingly, in the vast spaces of the world’s most isolated seas. A plethora of challenges, from the hacking of ships or the malicious usage of autonomous vessels, to the hacking of port systems or state cyber-attacks to offshore platforms, cables, and pipelines, combine for an explosive, almost dystopian scenario, that remains to this day rather obscure but ever-present.

The confrontation of these cyberthreats from a regulatory perspective, consists undoubtedly of key importance to the upkeep of most state related jurisdictional functions in the maritime sector and to the overall promotion of maritime security. The above bears scrutiny especially for the Mediterranean basin, one of the most geopolitically worrisome neighbourhoods of the planet. The present report segment first conducts a mapping exercise of the most significant dangers and forms of maritime

²⁷⁰ See indicatively, the opening comments of the Report of the UN Secretary-General, covering the period from 1 September 2020 to 31 August 2021- Doc. A/76/311.

²⁷¹ Ibid.

²⁷² As underlined in the Council Conclusions on the Revision of the European Union Maritime Security Strategy (EUMSS) Action Plan (26 June 2018).

cyberthreats, with a focus on malware based cyberattacks, especially considering the increasing usage of MAV – MASS (Maritime Autonomous Vessels/Vehicles - Maritime Autonomous Surface Ships). Then, it provides an overview of the current existing regulatory approaches for these novel cyberthreats to EU maritime security in the international and EU level. It strives thus, principally, to answer the following question: Is the present international framework applied in the Mediterranean Sea well suited to address the novel issue of cyberthreats; or perhaps, further adjustments and additions to the present regulatory framework should be necessitated, in order to prevent malfunction in the corresponding state response?

1. Description of Cyberthreats in the EU Seas

A. Malware Based and Denial of Service (DOS) Cyberattacks

Recently, in the connection point of the Mediterranean and the Red Sea, in the Suez Canal, an “impressive” incident in shipping standards, now known as the 2021 Suez Canal obstruction, took place.²⁷³ There, the grounded container ship Ever Given blocked for 6 days one of the world’s most popular maritime routes, creating mass congestion and resulting in massive delays to the shipping of significant trade products all over the globe. Although the obstruction of the Suez Canal does not constitute *stricto sensu* an example of a cyber incident related to maritime security, it was initially speculated to potentially involve one.²⁷⁴ The hacking of ship systems to create a blockade in the narrow corridors of most shipping canals, most likely by “cyber-pirates”, to demand ransoms from the competent port authority, is a now well-known possibility to shipping security experts.

Given the rapid digitalization of the various daily tasks in the marine and offshore energy sector, the vulnerability of software systems to cyber attackers is internationally frequently exploited. In the beginning of 2022, it was reported that multiple oil transport and storage companies across the EU were dealing with cyber-attacks, with their

²⁷³ See for the incident and its cost to international trade, <<https://www.bbc.com/news/business-56559073>>, accessed 28 February 2022.

²⁷⁴ See as indicative about the statement, and for the subsequent fear for cyberattacking the Suez Canal, <<https://www.controlglobal.com/blogs/unfettered/was-the-ever-given-hacked-in-the-suez-canal/>> and <<https://www.bloomberg.com/opinion/articles/2021-03-30/a-cyber-attack-could-be-the-next-big-suez-canal-threat>>, accessed 28 February 2022.

intelligence (IT) systems being severely disrupted, causing an additional burden to the inflation of energy commodity prices.²⁷⁵ Such malicious attacks, which usually target to penetrate port and company information systems can be again associated with ransom demands, but also interestingly for international law, with state oriented cyber-attacks.²⁷⁶

These cyberattacks usually in practice involve the usage of malicious software, or of the “Denial of Service (DoS)” method²⁷⁷, or even a combination of the two, a practice also known as a “Distributed Denial of Service (DDoS)” attacks.²⁷⁸ In essence, first, malicious software infects a computer system - most commonly through phishing e-mails – forcing it to carry out functions different than those originally envisioned.²⁷⁹ Afterwards, the same infected computers co-operate together through “Denial of Service (DoS)” attacks, which aim to overwhelm the cyber attacker’s targeted networks and render them effectively dysfunctional; as a result, the targeted networks effectively become “hijacked”, in accordance with the cyber attacker’s goals.²⁸⁰ In the infamous 2017 A.P. Moller – Maersk incident, cyber attackers managed to disrupt the worldwide company’s operations for a few days, which resulted in massive delays and in losses of approximately \$300 million.²⁸¹

Another absurd incident caused by non-state actors, indicative perhaps of the convenient access of cyber attackers to a variety of the vessel’s digital tools, is the hacking of President’s Putin superyacht after the 2022 military invasion of Ukraine. Reportedly, the world renowned Anonymous hacker group, obtained access to the ship’s Automatic Identification System, altered the call sign of the vessel to "FCKPTN" and changed the craft's destination to "hell", just to “*put a little smile on some faces for a*

²⁷⁵ See accordingly, based on a report by the BBC, <<https://www.bbc.com/news/technology-60250956>>, accessed 28 February 2022.

²⁷⁶ For the discussion about state cyberattacks, see Russell Buchan, 'Cyber Attacks: Unlawful Uses of Force or Prohibited Interventions?' (2012) 17 Journal of Conflict and Security Law 211.

²⁷⁷ I.e., “*A denial-of-service (DoS) attack occurs when legitimate users are unable to access information systems, devices, or other network resources due to the actions of a malicious cyber threat actor*”; see <<https://www.cisa.gov/news-events/news/understanding-denial-service-attacks>>, accessed 28 February 2022 (released 1 February 2021).

²⁷⁸ William M. Stahl, 'The Uncharted Waters of Cyberspace: Applying the Principles of International Maritime Law to the Problem of Cybersecurity' (2011) 40 Ga J Int'l & Comp L 247, 254-257.

²⁷⁹ Ibid.

²⁸⁰ Ibid.

²⁸¹ See indicatively, among others, Oliver Daum, 'Cyber Security in the Maritime Sector' (2019) 50 J Mar L & Com 1, 8.

*short period in these dark times.*²⁸² Present day maritime security officials have been indeed alerted that the hacking of a ships' most digital tools can take various forms depending on the hacker's motives and expertise, comprising perhaps the prime example of a specific cyberthreat to maritime security.²⁸³

The cyber intruder state or private organization may exploit the usually absent from the crew on board IT professional, and make an effort to manipulate the ship's navigation systems, the crew or passenger lists and even the cargo loading lists.²⁸⁴ Furthermore, it can threaten the ship's master with the potential release of a ship's dangerous or toxic cargo at sea and even capitalize on finding the ships sensitive security data by following up with a physical pirate attack.²⁸⁵

From the earlier menaces, it seems that the exploitation of a ships navigation and propulsion systems should be deemed the most threatening one, since it puts on grave danger both the crew and if present, the passengers. The cyber hijackers in the most extreme of scenarios,²⁸⁶ will most likely be attempting to transform the ship to a ramming vessel, to cause significant damage to an offshore installation or alternatively, attack a target ship or port facility of opposite interests.²⁸⁷ In order to give a scale of the frequency of cyberattacks at sea, it has been reported that until very recently, almost a new cyber incident is being identified every day.²⁸⁸

Furthermore, especially thought-provoking in the context of maritime cyber-security are the cyberthreats associated with the future usage of autonomous vessels at

²⁸² As reported by Ryan Gallagher, see <<https://www.insider.com/hackers-change-call-sign-of-putin-linked-superyacht-to-fckptn-2022-3>>, last accessed 2 March 2022.

²⁸³ Xiang-Yu Zhou, Zheng-Jiang Liu, Feng-Wu Wang, Zhao-Lin Wu and Ren-Da Cui, 'Towards applicability evaluation of hazard analysis methods for autonomous ships' (2020) 214 *Ocean Engineering* 107773, p. 9

²⁸⁴ Mohamed Amine Ben Farah, Elochukwu Ukwandu, Hanan Hindy, David Brosset, Miroslav Bures, Ivan Andonovic and Xavier Bellekens, 'Cyber Security in the Maritime Industry: A Systematic Survey of Recent Advances and Future Trends' (2022) 13 *Information Art.* 22, p. 6.

²⁸⁵ Especially when the attacks are considered GPS spoofing attacks, i.e., the GPS showcasing a different current location of the vessel under attack and not the real one, forcing it alter its course. *Ibid*, 6 and 18.

²⁸⁶ Which will most likely involve autonomous ships that depend on a distant vessel – operational controller, rather than the conventional present manned fleets.

²⁸⁷ See Jan Erik Vinnem and Ingrid Bouwer Utne, 'Risk from cyberattacks on autonomous ships' in Stein Haugen, Anne Barros, Coen van Gulijk, Trond Kongsvik and Jan Erik Vinnem (editors), *'Safety and Reliability – Safe Societies in a Changing World'* (CRC Press, 2018) 1489, which concludes that “*It is therefore possible that an unmanned, autonomous ship that has been hacked may be used to ram into infrastructure systems*”.

²⁸⁸ See the statement by Marine cyber risk consultancy CyberOwl chief executive Daniel Ng, reported by Lloyd's List, <<https://lloydslist.maritimeintelligence.informa.com/LL1137457/One-ship-is-hacked-every-day-on-average>>, accessed 1 March 2022.

sea, a novel marine reality which confounds cutting edge technology with an old-fashioned considering the subject matter international framework.²⁸⁹ After discussing underneath the multifaced challenges posed by the employment of MAV in the EU seas, the report will turn its focus on the overview of the current legal landscape and its contemporary related demands.

B. The ever-growing autonomous vessels industry and the intertwined danger of cyberattacks

The rise of the ever-growing autonomous vessels industry should be deemed as inevitable for shipping purposes. The benefits from their usage are plenty; they reduce drastically the possibility for human error, they eliminate most of crewing cost, and even support safety of life at sea.²⁹⁰ Their ever-growing presence, nevertheless, presents an onerous regulatory challenge for the safekeeping of maritime security.

First of all, a significant, much needed for the application of the relevant legal framework distinction has to be made, considering the term autonomous vessels: According to the level of autonomy, based on a recent IMO categorization,²⁹¹ a vessel can be categorized in four generally established groups (degrees). Thus, and primarily, the ship's degrees of autonomy are organized as follows:

“Degree One: Ship with automated processes and decision support: Seafarers are on board to operate and control shipboard systems and functions. Some operations may be automated and at times be unsupervised but with seafarers on board ready to take control.

²⁸⁹ See the conclusions of the Institute of International Shipping and Trade Law (Swansea University) Report, by Professors B. Soyer and A. Tettenborn and Associate Professor G. Leloudas, with the assistance of Haofeng Jin, Christopher Flint and Bernard Twomey, 'Remote Controlled and Autonomous Shipping: UK based Case Study' (2022), p. 4

²⁹⁰ Jiri de Vos, Robert G. Hekkenberg and Osiris A. Valdez Banda, 'The Impact of Autonomous Ships on Safety at Sea – A Statistical Analysis' (2021) 210 Reliability Engineering and System Safety 107558

²⁹¹ IMO Regulatory scoping exercise of 3 June, 2021, MSC.1/Circ.1638, available at [https://wwwcdn.imo.org/localresources/en/MediaCentre/HofTopics/Documents/MSC.1-Circ.1638%20-%20Outcome%20Of%20The%20Regulatory%20Scoping%20ExerciseFor%20The%20Use%20Of%20Maritime%20Autonomous%20Surface%20Ships...%20\(Secretariat\).pdf](https://wwwcdn.imo.org/localresources/en/MediaCentre/HofTopics/Documents/MSC.1-Circ.1638%20-%20Outcome%20Of%20The%20Regulatory%20Scoping%20ExerciseFor%20The%20Use%20Of%20Maritime%20Autonomous%20Surface%20Ships...%20(Secretariat).pdf). Last accessed 20 February 2022.

Degree Two: Remotely controlled ship with seafarers on board: The ship is controlled and operated from another location. Seafarers are available on board to take control and to operate the shipboard systems and functions.

Degree Three: Remotely controlled ship without seafarers on board: The ship is controlled and operated from another location. There are no seafarers on board.

Degree Four: Fully autonomous ship: The operating system of the ship is able to make decisions and determine actions by itself.”²⁹²

One can understand that ships with any of the aforesaid degrees of autonomy are vulnerable to cyber - attacks. It is also evident, that the real (escalating) challenge of confronting a potential cyber adversary in the high seas, lies especially with degrees no. three and four. It seems safe to conclude that the malware needed to hack a fully (degree four) autonomous ship has not been developed yet, since those ships are not currently viable for shipping purposes.²⁹³ In the present commercial reality, the largest existing autonomous cargo vessel as of the time of writing, the *Yara Birkeland*,²⁹⁴ with cargo capacity of 120 TEU (Twenty-foot Equivalent Units) and deadweight 3,200 tons, still operating in crewed test phase, showcases that autonomous vessels are not very far from intruding commercial reality. Nevertheless, it remains unclear how the existing cyberthreats will incentivise the offshore industry in addressing future cyberattacks in MASS. The shipping and offshore industry should predict with the utmost dispatch their potential for accidents of disastrous scales, especially since even more alarmingly, the malicious usage of private owned autonomous vessels similarly to the usage of UAV (Unmanned Aerial Vehicles - commonly referred to as drones), may pose additional challenges to the upkeep of maritime security. This novel threat, which arguably comprises eventually part of the larger cybersecurity theme, could prove detrimental to the safety of the EU seas.

²⁹² Ibid.

²⁹³ According to the autonomous shipping dedicated segment of the IMO website, <<https://www.imo.org/en/MediaCentre/HotTopics/Pages/Autonomous-shipping.aspx>>, accessed 1 March 2022, “Autonomous and remote-controlled ships are being trialled in some sea areas” and “Most predictions are that autonomous or semi-autonomous operation would be limited to short voyages, for example from one specific port to another, across a short distance”. Interestingly, IBM in cooperation with the marine research nonprofit ProMare have already developed an AI based fully autonomous ship, the “Mayflower Autonomous Ship”, which has already completed several sea trials, see <<https://www.ibm.com/cloud/automation/mayflower-autonomous-ship>> , accessed 1 March 2022.

²⁹⁴ For the Yara Birkeland, see “<https://www.yara.com/news-and-media/press-kits/yara-birkeland-press-kit/>”, last accessed 20 of February 2022.

Specifically in the Mediterranean Sea, due to the close proximity of many state and non-state actors, in a region that to this day faces heated threats of war and an unprecedented rise in migrant smuggling,²⁹⁵ the regulation of cyberthreats should be considered the spearhead of the next decade EU policies. For instance, when a medium - sized autonomous vessel is being ‘forced’ to transform into a ramming vessel, with no crew onboard to manually strive to retake physical control, will the appropriate regulation have already provided in the design and construction phase, the option to immobilize the vessel by e.g., shutting down completely its communications / web system?

3. Regulatory challenges concerning maritime cyber-security

A. International Level - State Responsibility and Soft Law Regulation

Considering the novelty of the subject matter of cybersecurity in international law, States have been reluctant to regulate and self - limit their cyber presence capabilities.²⁹⁶ Nevertheless, it has been already reasonably claimed that “*(t)he ubiquity of the technology underlying the Internet, which is not restricted by national borders, renders strictly single-state regulation largely ineffective. International law is needed to ensure cybersecurity legitimately and effectively in the common interest of all states ... Without legitimate and effective protection of cybersecurity under international law, individuals and societies cannot develop to their full potential.*”²⁹⁷

Hence, international law must rightfully regulate and apply to the internet, even if state actions there are usually surrounded by certain attribution peculiarities, that evidently dominate most concerns about the current framework of state

²⁹⁵ Even though the global pandemic had also affected the migrant smuggling “industry”; See the 5th annual report of European Migrant Smuggling Centre (2021), p. 26.

²⁹⁶ Notably, many industrialized states are of the opinion that cyberspace should be left at least partially unregulated. See the interesting analysis in Martha Finnemore and Duncan B. Hollis, 'Constructing Norms for Global Cybersecurity' (2016) 110 *The American Journal of International Law* 425, 437 – 438.

²⁹⁷ Matthias C. Kettmann, 'Ensuring Cybersecurity through International Law' (2017) 69 *REDI* 281, 284.

responsibility.²⁹⁸ Of course, the aforesaid does not indicate that States are not to be bound by international law during their cyber – conduct, but rather that hard binding norms about cybersecurity *per se* are not fully developed in international law, with a few exceptions such as regarding transnational crime, which mainly includes the Budapest Convention and its Protocols.²⁹⁹

B. Cyber Regulation and the 2001 Budapest Convention

The 2001 Budapest Convention is the first and most important multilateral convention addressing transnational cyber-crime. Drafted due to “*the profound changes brought about by the digitalisation, convergence and continuing globalisation of computer networks*”³⁰⁰ and by the belief that it “*is necessary to deter action directed against the confidentiality, integrity and availability of computer systems, networks and computer data as well as the misuse of such systems, networks and data by providing for the criminalisation of such conduct*”,³⁰¹ it has become a critical part of cybersecurity governance. The Convention essentially, besides providing for the criminalization of certain now well-known illicit acts, such as “Illegal access”³⁰², “System interference”³⁰³ and “Misuse of devices”³⁰⁴, establishes additionally an international co-operation framework necessary for the collection of electronical evidence.³⁰⁵

Furthermore, the Convention underlines the need for founding flag state jurisdiction for cybercrimes occurring on board ships,³⁰⁶ showcasing the value of the framework to maritime cybersecurity and indicating the political will of the currently 65 parties to regulate at a future point in time more thoroughly cybercrime at sea. It should be nonetheless stressed that in the context of combating cybercrime at sea, besides the

²⁹⁸ See Constantine Antonopoulos, 'State responsibility in cyberspace' in Nicholas Tsagourias and Russell Buchan (editors), *Research Handbook on International Law and Cyberspace* (Edward Elgar Publishing, 2021) 119 – 123 and for the Tallin 2.0 implications, William Banks, 'State responsibility and attribution of cyber intrusions after Tallinn 2.0' (2017) 95 Texas Law Review 1487

²⁹⁹ See, Convention on cybercrime, Budapest 23 November 2001, entered into force 01 July 2004, 2296 UNTS 167 (referenced as Budapest Convention).

³⁰⁰ Cited from the Preamble of the Budapest Convention.

³⁰¹ Ibid.

³⁰² See, Budapest Convention, Art. 2.

³⁰³ Ibid, Art. 5.

³⁰⁴ Ibid, Art. 6.

³⁰⁵ See Chapter III of the Convention, especially Arts. 24 and 25.

³⁰⁶ Budapest Convention, Art. 22.

arguments for the Budapest Convention's debatable efficiency due to the broader scope of its provisions, the Convention does not govern importantly the cyber presence of states themselves. As a result, state responsibility in cyber space must be formulated on already existing norms of international law.

3. International Law Norms and the influence of the Tallin Manual

Conveniently, states in cyberspace are already bound, as mentioned, by a plethora of existing international law conventions. Primarily, states must abide by the UN Charter and its prohibition on the use of force, meaning state oriented cyber-attacks could well be invoked by the injured state(s) via the law on state responsibility. Moreover, States are bound by major multilateral human rights conventions that regulate the right to privacy, such as the ECHR³⁰⁷, and finally, customary law-based rules such as the Due Diligence and the No - Harm principles.³⁰⁸

From the abovementioned sources of law, one must focus especially on the preventive customary law obligation of the due diligence principle, as formulated by the ICJ in the *Corfu Channel* case.³⁰⁹ The due diligence obligation should be arguably considered the foundational axis around which state responsibility in cybersecurity incidents will be often measured. The Tallin Manual (2.0), the outcome of the work of cyber law experts meant to project the current state of the law,³¹⁰ has become essential to international law litigators for the clarification of cyber due diligence and the arising attribution oriented legal questions. Even if the Tallin Manual has been the target of controversy,³¹¹ and since, given its inevitable non-binding nature, it is doubtful whether it can provide a solid basis for establishing state responsibility, it represents critically the sole soft – law document addressing state responsibility in cyberspace.

³⁰⁷ Convention for the Protection of Human Rights and Fundamental Freedoms, as amended by Protocols Nos. 11 and 14, Rome 4 November 1950, entered into force 3 September 1953, 213 UNTS 221.

³⁰⁸ For the No-Harm Principle in International Law, see Mara Tignino and Christian Bréthaut, 'The role of international case law in implementing the obligation not to cause significant harm' (2020) 20 International Environmental Agreements: Politics, Law and Economics 631.

³⁰⁹ *Corfu Channel, United Kingdom v Albania, Judgment, Merits* [1949], ICJ Rep 4.

³¹⁰ Eric Talbot Jensen, 'The Tallinn Manual 2.0: Highlights and Insights' (2017) 48 *Georgetown Journal of International Law* 735, 739

³¹¹ See, Martha Finnemore and Duncan B. Hollis, 'Constructing Norms for Global Cybersecurity' (2016) 110 *The American Journal of International Law* 425, 438, where the nature of the text is discussed.

According to the Manual, “a State must exercise due diligence in not allowing its territory, or territory or cyber infrastructure under its governmental control, to be used for cyber operations that affect the rights of, and produce serious adverse consequences for, other States.”³¹² As it has been however expressed before,³¹³ it seems that in cyberspace, “the duty of due diligence is applied as a duty of vigilance rather than a duty of prevention”, because difficult questions about the function, the usage, and the capabilities especially of non-state actors should be judged ad hoc, according to available physical and electronical evidence.³¹⁴

i) UNCLOS

It goes without saying that since our focus lies with the regulation of cybersecurity at sea, especially when considering novel technological advancements such as the wide usage of MASS in the future, not all instruments or aspects of the interesting international regime on cybersecurity can be exploited in this maritime focused report. Thus, the Report’s attention must now alter its regulatory focus specifically to the world’s many seas, resorting to the scope of the “constitution” of the oceans, i.e., the United Nations Conventions on the Law of the Sea (UNCLOS). Unsurprisingly, since the goal of the 1982 Convention, according to its Preamble is “to settle ... all issues relating to the law of the sea ...”, UNCLOS remains silent about cybersecurity matters. It does however state that a court or tribunal, established under the Convention, “shall apply this Convention and other rules of international law not incompatible with this Convention”,³¹⁵ creating thus space for the applicability of cybersecurity norms.

Accounting again for the UNCLOS silence on cybersecurity at sea, the Tallin Manual attempts to contemplate on and resolve maritime cybersecurity issues, posing though, some contested points to be resolved by subsequent state practice. Specifically, the Manual proceeds to particularly note the high seas freedoms of navigation,

³¹² Michael N. Schmitt (general editor), 'Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations' (CUP, 2017), Rule 6

³¹³ Constantine Antonopoulos, 'State responsibility in cyberspace' in Nicholas Tsagourias and Russell Buchan (editors), 'Research Handbook on International Law and Cyberspace' (Edward Elgar Publishing, 2021) 127.

³¹⁴ For instance, The UK’s claim that the NotPetya malware cyberattack was coordinated by the military of the Russian Federation were declined by Russia that demanded unequivocal hard proof for its alleged involvement. Ibid, 122 (with notes).

³¹⁵ See Art. 293 para. 1 of the LOSC.

overflight, and the laying of submarine cables, since “(b)ased on, for example, the first two freedoms, both aircraft and vessels are entitled to conduct cyber operations over and in the high seas so long as they do not violate applicable international law”.³¹⁶ Additionally, even if the right to (physically) visit in cybersecurity cases may be established, according to the Manual, “the right to virtually visit” has been the point of ambiguity, given that contemporary state practice has not had the chance to clarify the issue so far.³¹⁷ The same ambiguity can be observed with regard the right of innocent passage in the territorial zone, which must also be discussed on a case-by-case scenario.³¹⁸ These challenging remarks, revealing the inadequacies of the current regime, become even more relevant when considering the deployment of fully autonomous vessels, especially in the context of the almost omnipresent jurisdictional cyber-presence needed to police their usage.

ii) *The 1988 SUA Convention*

In the field of the International Law of the Sea, the 1988 SUA Convention³¹⁹ and its 2005 Protocol³²⁰ could also prove handful in covering the jurisdictional gaps of addressing cyberattacks against vessels at sea (albeit not caused by states themselves). The convention inspired after the *Achille Lauro* incident³²¹ and evidently not by cybersecurity concerns, addresses specifically unlawful acts against a vessel’s safe navigation, providing a multilateral coordination framework to confront maritime

³¹⁶ See Michael N. Schmitt (general editor), 'Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations' (CUP, 2017), 234

³¹⁷ Ibid, 238. Also, see Eric Talbot Jensen, 'The Tallinn Manual 2.0: Highlights and Insights' (2017) 48 Georgetown Journal of International Law 735, 764 – 766.

³¹⁸ The Tallin Manual 2.0 presents however some cases - non-exhaustively - where the passage would be rendered “not innocent”, such as “cyber activities designed to collect information prejudicial to the security of the state”, “propaganda distributed by cyber means bearing on the defense or security of the coastal state” and others. See, Michael N. Schmitt (general editor), 'Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations' (CUP, 2017), 242.

³¹⁹ Convention for the suppression of unlawful acts against the safety of maritime navigation, Rome 10 March 1988, entered into force 1 March 1992, 1678 UNTS 201

³²⁰ 2005 Protocol to the 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, London 14.10.2005, entered into force 28.07.2010, IMO Doc. LEG/CONF.15/21.

³²¹ During which members of the Palestinian Liberation Front hijacked the cruise ship and killed one handicapped passenger of American (USA) nationality. See Helmut Tuerk, 'Combating Terrorism at Sea: the Suppression of Unlawful Acts against the Safety of Maritime Navigation' in Myron H. Nordquist, Rüdiger Wolfrum, and Ronán Long (editors), 'Legal Challenges in Maritime Security' (Martinus Nijhoff Publishers, 2008) 41- 42.

terrorism. Critically for cyberthreats, according to Art. 3 of the Convention, states agree to criminalize deeds, including among else: a) seizure or control over-a ship by force or threat of force, b) violence potentially endangering the safe navigation of the ship, c) destruction of the ship or its cargo in a manner that is likely to endanger the safe navigation of the ship, d) placing a device on a ship which endangers or is likely to endanger the navigation of a ship (although perhaps the wording indicates the physical placement of a device that could be combined or produce the cyber – attack), or e) destruction or serious damage to navigational devices which may endanger the safe navigation of a ship.³²²

Furthermore, the SUA Convention rather proactively provides for another foundational concern related to the regulation of cyberthreats. In view of the difficulties arising out of the law of attribution, since often the evidence and the person committing the crime lies abroad,³²³ the enhanced judicial and administrative cooperation (including during the criminal proceedings) demanded by Articles 12 through 14 of the Convention, are imperative to the convention’s doctrine “*aut dedere aut judicare*”. Bearing in mind that the drafters of the Convention did not intent to include cybercrimes during the IMO negotiations and that neither the 2005 SUA Protocol focuses on the peculiarities of this novel threat to maritime security, it has been proposed that an additional protocol on cybercrime should be negotiated (for instance, establishing an international co-ordination center), for the Convention to constitute a truly effective instrument when combating cyberattacks.³²⁴

iii) Soft law maritime cybersecurity regulation and other binding instruments

³²² See an interesting, US - based analysis on the subject matter in Brendan Sullivan, 'A Tale of Two Treaties: A Maritime Model to Stop the Scourge of Cybercrime' (2021) 39 BU Int'l LJ 143, 154 – 159.

³²³ Ibid, 155.

³²⁴ Ibid, 168, where it is stated that “*A protocol to the SUA Convention will highlight the pragmatism and utility in advancing greater prosecutorial efforts to combat cybercriminals*”. Additionally, the author proposes interestingly the idea of forming an international coordination center, stating (p. 171) that, “*a protocol that establishes an international coordination center to receive, analyze, and act upon cyber-threats in the maritime industry, serves as a prophylactic against vulnerabilities that present a grave concern for global markets while also serving as a model for corporations world-wide to join in the effort to coordinate an offensive against cybercriminals.*”

As perhaps expected, in the absence of an initiative for an all-encompassing cybersecurity at sea convention or protocol, which will regulate both states and individuals' conduct more precisely, a wide variety of esteemed soft law concerning the matter, and other related binding documents have become prominent in addressing cyber law related issues. Other than the Tallin Manual, the role of the IMO specifically has been critical in the production of both the "International Management Code for the Safe Operation of Ships and for Pollution Prevention Code" (in conjunction with Resolution MSC.428(98), concerning "Maritime Cyber Risk Management in Safety Management Systems") and of "The International Ship and Port Facility (ISPS) Code". These codes, which form a stable set of binding guidelines that focus on a risk management approach to shipping assets and facilities, are incorporated as amendments to the widely accepted SOLAS Convention³²⁵ that maritime companies must follow to best protect the safety of the industry.³²⁶ Furthermore, as noted above, plenty of prominent international maritime unions and organizations have addressed the subject matter of soft-law regulation, such as BIMCO with "The Guidelines on Cyber Security Onboard Ships (Version 4)", the U.S. National Institute of Standards and Technology,³²⁷ Lloyd's Register³²⁸ and the International Association for Classification Societies (IACS).³²⁹ These guidelines however, have admittedly more of an operation value rather than a regulatory one, and accordingly, could only influence the interpretation or the creation of future cybersecurity norms.

iv) *Right to Privacy*

Last but not least, one cannot address cybersecurity binding norms without referring to the right to privacy and the multiple international conventions striving for its

³²⁵ International Convention for the Safety of Life at Sea, 1974, London 1 November 1974, entered into force 25 May 1980, 1184, 1185 UNTS 2, as amended.

³²⁶ These guidelines will need to be updated by including additionally the cyber risk management approach. See for instance considering port security, Chalermpong Senarak, 'Cybersecurity knowledge and skills for port facility security officers of international seaports: Perspectives of IT and security personnel' (2021) 37 *The Asian Journal of Shipping and Logistics*, 345–360.

³²⁷ National Institute of Standards and Technology, Framework for Improving Critical Infrastructure Cybersecurity, Version 1.1 of April 16, 2018.

³²⁸ Lloyd's Register, *Cyber-enabled ships: Deploying information and communications technology in shipping - Lloyd's Register's approach to assurance*, First edition, February 2016.

³²⁹ International Association for Classification Societies, *Recommendation on Cyber Resilience - No.166*, April 2020.

protection. It should be noted however, that even if the right to privacy constitutes an important subfield of the larger maritime cybersecurity theme, its regulatory influence concerning the *physical* results of a cyberattack at sea remain evidently rather limited. In any case, the Conventions that regulate data privacy in the international or regional level (for instance - and besides the eminent human rights conventions - The Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data³³⁰ or The African Union Convention on Cyber Security and Personal Data Protection³³¹) also impact cybersecurity at sea in the interesting domain of AI intelligence; the latter may prove especially relevant considering the previous mentioned (degree four) autonomous surface ships, where the vessel will make its own judgements via available sensor and camera data. Conventions on data privacy and the use of artificial intelligence (that is e.g., The Convention 108+ with the added instrument on AI³³²) may determine the software boundaries of those vessels in the processing phase of the data obtained, by demanding for instance their timely deletion or by restricting the obtained data's commercial usefulness.

4. EU Level

It is submitted that the leadership of the EU has treated cyberspace as a matter of absolute priority, with ambitions to take the lead in the respected industry in the years to come, especially regarding autonomy and sufficient protection of the EU users / citizens.³³³ Although cybersecurity in general has been of fundamental regulatory interest to the now 27 EU Member States, the regulation of maritime cybersecurity *per se* at an EU level has been evidently limited. Therefore, even if both the EU and its

³³⁰ Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data, Strasbourg 28 January 1981, entered into force 01 October 1985, 1496 UNTS 65. Also mentioned as (Convention 108+, with the symbol indicating the modernization of the Convention that was also provided with an additional instrument on the use of A.I.).

³³¹ African Union Convention on Cyber Security and Personal Data Protection, Malabo 27 June 2014, available at <<https://au.int/en/treaties/african-union-convention-cyber-security-and-personal-data-protection>>, last accessed 08 March 2022.

³³² Guidelines On Artificial Intelligence and Data Protection of the Consultative Committee of the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, Doc. T-PD(2019)01, Strasbourg, 25 January 2019.

³³³ See, European Commission - Press release, New EU Cybersecurity Strategy and new rules to make physical and digital critical entities more resilient, Brussels, 16 December 2020.

Member States have not yet introduced³³⁴ the aspect of cyberattacks at sea to their legislative bodies, a plethora of EU Regulations and Directives have addressed the issue of cybersecurity, especially for certain domains, such as personal data, with the renowned worldwide General Data Protection Regulation (GDPR).³³⁵

First, the EU has addressed security at cyberspace, with the Directive 2016/1148 concerning measures for a high common level of security of network and information systems across the Union,³³⁶ that targeted the desired enhanced function of the internal market.³³⁷ The directive primarily lays down obligations for all Member States to adopt a national strategy on the security of network and information systems, establishes security and notification requirements for operators of essential services and for digital service providers, and interestingly even establishes a computer security incident response teams' network, in order to promote effective operational cooperation.³³⁸ In relation to the maritime context, even if Directive 2016/1148 seems to constitute a stable step towards the safety of the digital function of the shipping industry, it seems to lack the specific responses needed to confront the *sui generis* issues accompanying the cybersecurity dangers associated with the navigation of ships.

Evidently, the EU has taken steps in the past to ensure the safety of critical maritime infrastructure, with the Regulation 725/2004 on enhancing ship and port facility security.³³⁹ The Regulation however, no doubt because of its timing, fails to address cybersecurity as a main concern for the EU seas, focusing seemingly heavily on the terrorism, piracy and pollution traditional aspects of maritime security.³⁴⁰ It becomes thus apparent (as also noted by the European Commission considering the

³³⁴ See the Proposal for a Directive of The European Parliament and of the Council on the resilience of critical entities, COM/2020/829 final, which would more greatly acknowledge the maritime sector.

³³⁵ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.

³³⁶ Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union.

³³⁷ It should be mentioned that as of the time of writing, the proposal for a Directive on measures for a high common level of cybersecurity across the Union, repealing Directive (EU) 2016/1148 has not yet come into force, which is said to provide an enhanced level of cyber-security for member states.

³³⁸ See Articles 1, 5, 7 and 9 of the Directive (EU) 2016/1148.

³³⁹ Regulation (EC) No 725/2004 of the European Parliament and of the Council of 31 March 2004 on enhancing ship and port facility security.

³⁴⁰ *Ibid*, paras. 2 and 13 of the Preamble. Despite of the aforesaid, the Regulation deliberately, and usefully in the cybercrime context, defines in Art. 2 (13), an intentional unlawful act, "as a deliberate act, which, by its nature or context, could harm the vessels used for international or national maritime traffic, their passengers or their cargoes, or the port facilities connected therewith".

existing legislation on critical infrastructures),³⁴¹ that corresponding changes should be necessitated by the EU principal instruments, to better safeguard the vital interests of the EU maritime industry in the cyber-security sector.

As already hinted at, EU derived regulation greatly affects maritime cybersecurity in the protection of personal data with the GDPR. The GDPR, which replaced Data Protection Directive 95/46/EC follows a dual goal: First, it aims at the improvement of personal data flows by simplifying the regulatory business environment,³⁴² and second; it aims at the extraordinary empowerment of the fundamental right to privacy for individuals in the European Union and the European Economic Area (EEA). Truly, a lot can be said about the values imposed by the GDPR in international trade, and especially concerning the corresponding revision need of data policies by US – tech giants, such as Meta Platforms or Alphabet, after its implementation.³⁴³ Concerning EU maritime cybersecurity however, it is still unclear if and how the GDPR can make an impact on the application of state-of-the-art technologies, including satellite data and imagery for law enforcement operations or general maritime domain awareness, given that its scope excludes “competent authorities for the purposes of the prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, including the safeguarding against and the prevention of threats to public security”.³⁴⁴

Given the above restriction, it is disputed whether related GDPR disputes could arise even when coastal state jurisdictional powers are delegated to private entities for *inter alia*, the policing of the EU seas. The latter phenomenon, contrary to its perceived rarity, is not as uncommon as it may initially seem. The EU has already deployed private vessels for law enforcement at sea, when the European Fisheries Control Agency chartered Lundy Sentinel, a now flagged Malta ship, as a “*fisheries patrol vessel in international, EU and where possible non-member country waters in the*

³⁴¹ See, Council Directive 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection. Namely, the European Commission has noted (in the Proposal for a Directive of The European Parliament and of the Council on the resilience of critical entities), that “existing European and national measures face limitations in helping operators confront the operational challenges that they face today and the vulnerabilities that their interdependent nature entail.”

³⁴² Indicatively, see para. 6 of the Preamble and Art. 51 (1) of the Regulation (EU) 2016/679.

³⁴³ He Li, Lu Yu and Wu He, 'The Impact of GDPR on Global Technology Development', (2019) 22Journal of Global Information Technology Management 1, 2 – 3.

³⁴⁴ See Art. 2 para 2 (d) of the Regulation (EU) 2016/679. See further, the also important restriction for the purposes of the present report, included in Art. 2 para 2 (b) of the Regulation (EU) 2016/679.

different joint operations and other operations from the Mediterranean and Black Sea to the western waters, North Sea and Baltic Sea”. Lundy Sentinel, also according to the EFCA, “can also contribute to multipurpose tasks in the framework of European cooperation on coastguard functions, such as search and rescue, sea border control and detection of pollution, in cooperation with Member State authorities and/or Frontex and EMSA.³⁴⁵”

Nevertheless, it seems safe to assume that the GDPR, by demanding from most maritime related entities to safeguard personal data and ensure their safe transmission and storage,³⁴⁶ currently improves maritime cybersecurity even *in abstracto*, and constitutes a much-needed step for the cyber resilience of the maritime focused EU industries. In any case, one can rationally conclude that supplementary efforts are required in the current rather incomplete framework, for the safekeeping of maritime cybersecurity in the EU level; namely, officials should proceed with specific initiatives that *inter alia*, provide additional plans for further regulating each state’s role and responsibilities in cybersecurity incidents at sea. Regime fragmentation should also be a matter of priority for the EU in the years to come, which is well advised to proceed in adopting a cybersecurity regulation of similar magnitude to the GDPR, specifically for ports, ships (both conventional and autonomous) and government agencies. Said regulation must target cyber protection software inefficiencies, workforce education and member state accountability and cooperation, in order to avoid dangerous scenarios of cybercrime and cyberterrorism in the EU maritime domain.

5. Concluding Remarks

As showcased (evidently, also due to the nature of the rapid technological possess), the current international framework can only be considered as inadequate to address the new challenges posed by cyberthreats in the EU seas, lacking especially in state-oriented responsibility regulation, and of effective response in the jurisdictional and attributional aspects of maritime cyber security incidents (e.g. as noted above, the

³⁴⁵ For the vessel’s information, see <<https://www.sentinel-marine.com/news/sentinel-marine-awarded-contract-by-european-fisheries-control-agency-for-charter-of-patrol-vessel>> , last access 8 March 2022.

³⁴⁶ See Art. 5 of the Regulation (EU) 2016/679, which describes the concept of “storage limitation”.

debated existence of a right “to virtually visit” is highlighted). In an admittedly perplexing policy issue, the EU, to better safeguard the interests of its citizens in the decade to come, must timely advance its corresponding legal proposals and accelerate their implementation. Considering the time-consuming nature of agreeing upon an all-encompassing Regulation, it is suggested that the competent EU bodies may alternatively use the legislative route of a Directive, with the eventual goal of harmonizing the relevant framework in a timely manner. Regulating maritime cybersecurity, especially in the context of novel viable commercial realities such as the usage of MAV, will demand a delicate balancing act between the implementation of traditional well-founded norms and the development of new ones, to avoid regime fragmentation in an international law subfield that remains still in its infancy.

ANNEX

Essential Bibliography

- Anna Petrig, 'Maritime Security in the Age of Autonomous Ships' in Aspasia Pastra, Dimitrios Dalaklis, Jon A. Skinner, Jonatan Echebarria Fernández, and Tafsir Matin Johansson (editors), *'Autonomous Vessels in Maritime Affairs: Law and Governance Implications'* (Springer International Publishing, 2023)
- Brian Wilson, 'Maritime Cyber Security' in James Kraska and Young-Kil Park (editors), *'Emerging Technology and the Law of the Sea'* (CUP, 2022)
- Constantine Antonopoulos, 'State responsibility in cyberspace' in Nicholas Tsagourias and Russell Buchan (editors), *'Research Handbook on International Law and Cyberspace'* (Edward Elgar Publishing, 2021)
- David Wicki-Birchler, 'The Budapest Convention and the General Data Protection Regulation: acting in concert to curb cybercrime?' (2020) 1 International Cybersecurity Law Review 63
- Kriangsak Kittichaisaree, 'Public International Law of Cyberspace' (Springer International Publishing, 2017)

- Mariusz Krzysztofek, 'GDPR: Personal Data Protection in the European Union' (Wolters Kluwer, 2021)
- Martha Finnemore and Duncan B. Hollis, 'Constructing Norms for Global Cybersecurity' (2016) 110 *The American Journal of International Law* 425
- Michael N. Schmitt (general editor), '*Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations*' (CUP, 2017)
- Oliver Daum, 'Cyber Security in the Maritime Sector' (2019) 50 *J Mar L & Com* 1
- Zsolt Bederna, Zoltan Rajnai, 'Analysis of the cybersecurity ecosystem in the European Union' (2022) 3 *International Cybersecurity Law Review* 35