

# COMMERCIAL TRANSPORT AND ENERGY CORRIDORS IN THE BLACK SEA REGION IN THE CURRENT MARITIME SECURITY ENVIRONMENT

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**Abstract:** The high degree of military intensity in the Black Sea region, caused by the Russian aggression towards Ukraine results in strong defragmentation and interests' divergence of the states. The paper examines the current risks in the maritime security environment, their wide impact on the commercial and energy transport corridors in the context of some conventional and non-conventional emerging threats in the region. The reduction of the volume of the commercial transport and merchant fleet and the risks towards security and safety of commercial ports, the maritime lines of communication and the maritime critical infrastructure increase the defragmentation of the Black sea states in their operational and strategic long-term goals. The current war makes predictions of possible scenarios very difficult resulting in financial and economic insecurities. Besides the conventional physical security issues some key threats like hybrid and information warfare, lawfare of the Russian Federation, non-compliance with the international maritime law, seizure and control of national Ukrainian maritime spaces are considered, examined and analyzed. Another important aspect refers to the general advantage of NATO's conventional combat fleet and the limited financial framework for the acquisition of new conventional combat capabilities of Russia that may result in the deployment of medium-range tactical systems for the purpose of deterrence as most adequate response. The role of the Black Sea in this scenario should not be underestimated with very bad economic consequences.

**Keywords:** Black Sea region; maritime security; Ukrainian war; maritime transport

## The strategic framework

The aggression of the Russian Federation against the independence, sovereignty and territorial integrity of Ukraine brought the debate on defense and collective security into qualitatively changed conceptual categories based on a 360-degree approach and building sustainable and resilient societies.

The growing asymmetry in political-military and socio-economic development of the Black Sea region states resulted in fragmentation of policies in two directions: decline of implementation of some political theories (democratic peace theory, globalization with shared effects etc.) and the decline of the relevance of the global security regimes (termination of INF-treaty etc.).

NATO deployed a Rapid Response Force based in Eastern Europe, countries in the region increased their military budgets, increased patrols over land and sea in the Black and Baltic Sea. Russia annexed Crimea, modernized and enlarged the Black Sea Fleet based in Sevastopol, established control over the Crimean maritime spaces, deployed Iskander-M missile system followed by an unprecedented invasion in Ukraine [24 Feb, 2022].

NATO conventional military capabilities are exclusively stronger and larger. Dominance of Russian naval capabilities compared to US is very unlikely. In this sense, given the nature of the use of tactical nuclear weapons in regional (local) conflicts and at close range, in this part, the Revised Russian Naval Doctrine 2030 reveals a completely new perspective on the capabilities of the Russian Navy, which should not be neglected.

The possession of ultra-modern (nuclear) weapons means that the competition between the major powers is capable of causing global and/or regional disaster. It is difficult to predict the future of the INF-Treaty.

**Table 1.** Arms control regimes status

<i>Name</i>	<i>Parties</i>	<i>From – To</i>	<i>Description</i>
1.Strategic Nuclear Arms Control			
SALT-I	Bilateral US-Russia	26.05.1972 (1997 expired)	Negotiating limits for strategic ballistic missiles and missile defense systems.
SALT-II	Bilateral US-Russia	03.07.1974 (expired)	Reducing the number of missile defense installations from two to one

INF	Bilateral US-Russia	1987 – 2019 (US withdrawal)	Ban on medium-range nuclear missiles; Prohibition of land-based atomic bombs with a range of 500-5500 km
START-Negotiations	Bilateral US-Russia	1982 – 1989	An attempt to reduce the number of strategic ballistic arsenals of the United States and the Soviet Union
START-I	Bilateral US-Russia	1991 – 2009 (expired)	reduction of strategic warheads total 25 - 35%
START-II	Bilateral US-Russia	1993 – long ratification without entering into force	reduction of the total number of strategic nuclear weapons located in both countries by two-thirds in two stages
START-III (New START)	Bilateral US-Russia	2011 – 2026 (suspended by Russia)	further reducing and limiting strategic offensive weapons
2. Nuclear Non-Proliferation			
Limited Test Ban Treaty	Bilateral US-Russia	28.05.1974	Limitation of the territory for conducting nuclear tests to 150 km
Non-Proliferation Treaty	International 163 states	14.02.1967	Prohibition of the proliferation and acquisition of nuclear weapons. Prohibition of any kind of assistance to illegal nuclear programs
3. Non-Nuclear (conventional) arms control treaties			
Anti-Ballistic Missile Treaty	Bilateral US-Russia	1972 – 2002 (US denunciation)	Limitation of the anti-ballistic missile (ABM) systems used in defending areas against ballistic missile-delivered nuclear weapons.
Open Skies Treaty	International	1992 – pending (2019 Russian violation; 2020 US withdrawal)	Permits each state-party to conduct short-notice, unarmed, reconnaissance flights over the others' entire territories to collect data on military forces and activities.

Conventional Forces in Europe	International	1990 – 2007 (Russian suspension)	Provisions aimed at establishing a military balance between the NATO and the Warsaw Treaty Organization, at a lower level of armaments.
Vienna Document	OSCE states	1994 – updated 1999	Encourages OSCE states ‘to undertake, including on the basis of separate agreements, in a bilateral, multilateral or regional context, measures to increase transparency and confidence’

The consequences are the failure of all security regimes initiatives resulted in strong defragmented regional dynamics, the Black Sea region and the war in Ukraine included.

Several strategic documents have been adopted since February, 2022. The NATO Strategic Concept, the EU Strategic Compass and the EU Maritime Security Strategy are over-thinking, revising and updating a completely new security environment based on turning back to traditional views on territorial defense, on armed conflicts using traditional military conventional power combined with hybrid instruments and strategies, lawfare tactics disregarding international law etc. The Black Sea region as Eastern flank is considered in all the above mentioned strategic documents.

The military build-up in the Black Sea disrupted the balances of power and the freedom of navigation<sup>1</sup>. Cyberspace is contested as state and non-state actors challenge the security of the critical infrastructure, including the maritime critical infrastructure, the maritime trade routes and the maritime lines of communication. Emerging and disruptive technologies are changing the conflict character and are becoming key areas of competition<sup>2</sup>. The so called under covered operations combined with hybrid tactics challenge the security and the predictability of the risks. So, strengthening situational awareness at sea for deterrence and defense remains key priority. At this place the question of resilience of societies and their armed forces should be considered very important as 80 – 90% of the global trade is conducted by sea.

The EU Strategic Compass underlines the return of power politics in the current security environment<sup>3</sup>. The presence of Russian troops in protracted

conflicts, the military aggression against sovereign countries aim to establish “spheres of influence”, including the Black Sea after the annexation of Crimea, after contesting Ukrainian maritime zones absolutely and undermining the provisions of UNCLOS. The maritime security of the Black Sea region is viewed in the EU’s strategy as part of the extended Mediterranean geographic and political context because of the trade lines and the connected critical lines of sea communications. This is an important point because Black Sea security is embedded in the context of the European transport and energy corridors, economic zones and the freedom of navigation under the provisions of UNCLOS is a key security point<sup>4</sup>. The effective implementation of the EU Integrated approach, the EU Rapid Deployment capacity and the Coordinated Maritime Presence (on the example of Gulf of Guinea and its expansion in the North-West of the Indian Ocean) are critical for the security and safety of the Black Sea. Very important is the time factor. The experience shows that concerning maritime security issues the on time prompt preventive actions are required. Advanced planning, intelligence, interoperability, military mobility, strategic foresight and common strategic culture are key priorities. To ensure EU’s presence at sea and to project power at sea high-end naval platforms including unmanned platforms for surface and underwater control are required<sup>5</sup>. For force protection these platforms will replace coastal and offshore patrol vessels<sup>6</sup>. A strategic dialogue with Turkey is essential especially in the Black Sea as an area of common interest<sup>7</sup>.

The updated EU Maritime Security Strategy points out the same main threats including hybrid and cyber-attacks targeting maritime infrastructure (2022 attacks on the Nord Stream pipelines in Baltic Sea). The vulnerabilities after the massive digitalization of the maritime industry increased<sup>8</sup>. The main EU concepts: Coordinated Maritime Presences, Integrated Border Management etc. do not mention Black Sea maritime zones in specific but refer them as “strategically important maritime areas” in light of Russia’s military aggression against Ukraine and in the context of intensifying EU-NATO maritime cooperation<sup>9</sup>. The maritime domain awareness includes the Common Information Sharing Environment (CISE), the maritime surveillance project (MARSUR) supported by EDA, inter-agency cooperation to support national coast guard authorities and the Union Civil Protection Mechanism. The Capability Development Plan will be revised drawing lessons learnt from Russia’s aggression against Ukraine<sup>10</sup>.

In the Annex to the above mentioned document (Action Plan) under Strategic Objective 1 Step up activities at sea, 1.1. Expand the role and actions of the EU in the sea basins around the EU and overseas, 1.1.18 to 1.1.20 concerning Black Sea for the year 2023 and as of 2023 three main goals are planned: en-

hancing capacities for coordinated response to marine pollution related to armed conflicts, analyzing the impact of the war in Ukraine on cetaceans and boosting current capabilities for sea mine detection including those deployed in the context of the Russian war of aggression against Ukraine posing risk for navigation and shipping<sup>11</sup>.

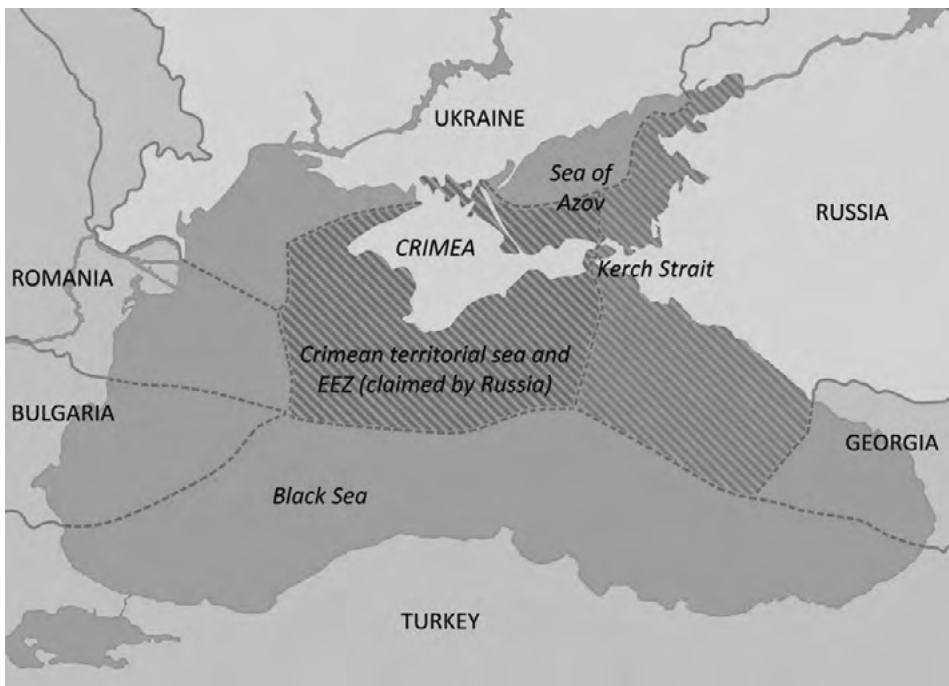
According to the Annual Threat Assessment of the U.S. Intelligence Community Russia will continue to use energy as a foreign policy tool to try to coerce cooperation and weaken Western unity on Ukraine. Likewise, Russia has used food as a weapon by blocking or seizing Ukrainian ports, destroying grain infrastructure, occupying large agricultural lands, stealing grain etc.<sup>12</sup> Russia is focused on improving abilities to target critical infrastructure, underwater cables and industrial control systems in the US and allied countries to demonstrate damaging capabilities during a crisis<sup>13</sup>. There are definitely global consequences of the Russia-Ukraine war, some of the them related to transport and energy security issues. The reinforcement of fragilities in low-income countries but in European economies as well, will continue to cause market instability, food insecurity, currencies uncertainties. Russia and Ukraine are among the most important producers of agricultural products and fertilizers, with over 25 countries dependent on wheat import from them before the war<sup>14</sup>.

### **Transport and energy corridors in the Black Sea**

Energy, transport and environmental security in Black Sea is becoming more and more developed since the NATO and EU accession of Bulgaria and Romania. Though the Black Sea has its geological specifics the advanced technologies in energy exploration have boosted the processes. In recent years, the Black Sea has again been the object of increased interest in terms of exploration, production and transportation of oil and gas. The exploration and construction activities of the future offshore oil and gas production facilities, together with the existing offshore installations, increase the risk in terms of environmental security in the Black Sea. The environmental security is additionally threatened by pollutions as a result of the active military operations in the northwestern sea water area. Pollution of the environment with biological, chemical, physical and other agents is detrimental and often leaves adverse impact on the health. The military conflict between Russia and Ukraine has a significant impact on the energy and transport security of a number of European NATO countries through supply interruptions and highly fluctuating and unpredictable prices of energy resources. In parallel, the offshore oriented energy production technologies of the

so-called renewable sources (sun, wind, sea currents) have become more available and at the same time facing the war more vulnerable.

Russia's interest in the Black Sea is to guarantee its access to the Mediterranean, both from military point of view as well as from economic and energy one, incl. export of hydrocarbons. Although Crimea and the southern Russian port Novorossiysk provide access to warm water ports all ships entering or leaving the Black Sea must past through Turkish controlled straits of Bosphorus and Dardanelles (1936 Montreaux Convention). So, here a complex geopolitical maneuvering is required (Stroński 2021). The main goal of Russia is to avoid Ukraine in gas exports through Blue and Turkish stream pipelines. Both pipelines are in the Turkish exclusive economic zone. Another one is to gain control over the Ukrainian maritime areas and over the deep shelf gas and oil deposits.



**Figure 1.** Territorial claims after the annexation of Crimea (Schatz, Koval 2018)

Without going into legal details, the suspension of commercial navigation in the Sea of Azov on 24 Feb 2022 shows that blockades are still relevant today. Practically, it was a naval blockade cutting off the Ukrainian cities Berdyansk and Mariupol located on the coast of Sea of Azov.



Figure 2. Suspension of shipping in Sea of Azov in February 2022 (Lott 2022)

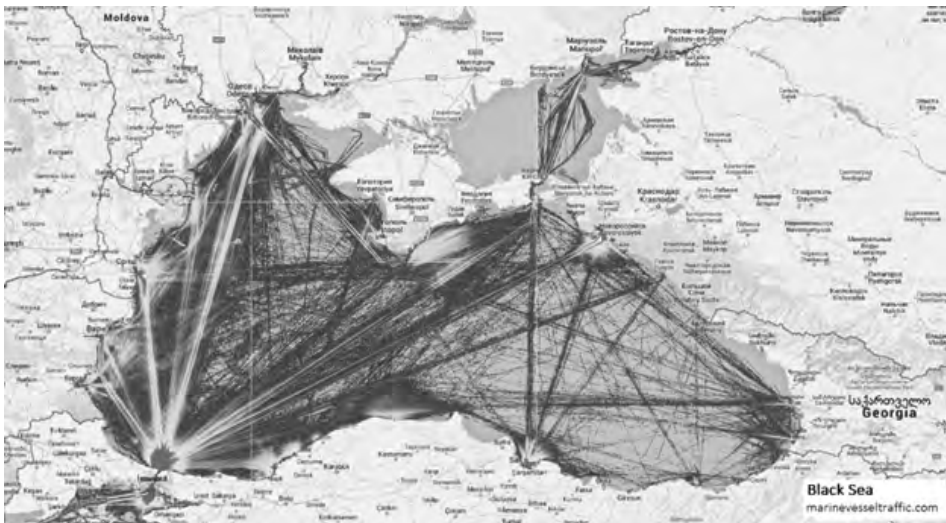
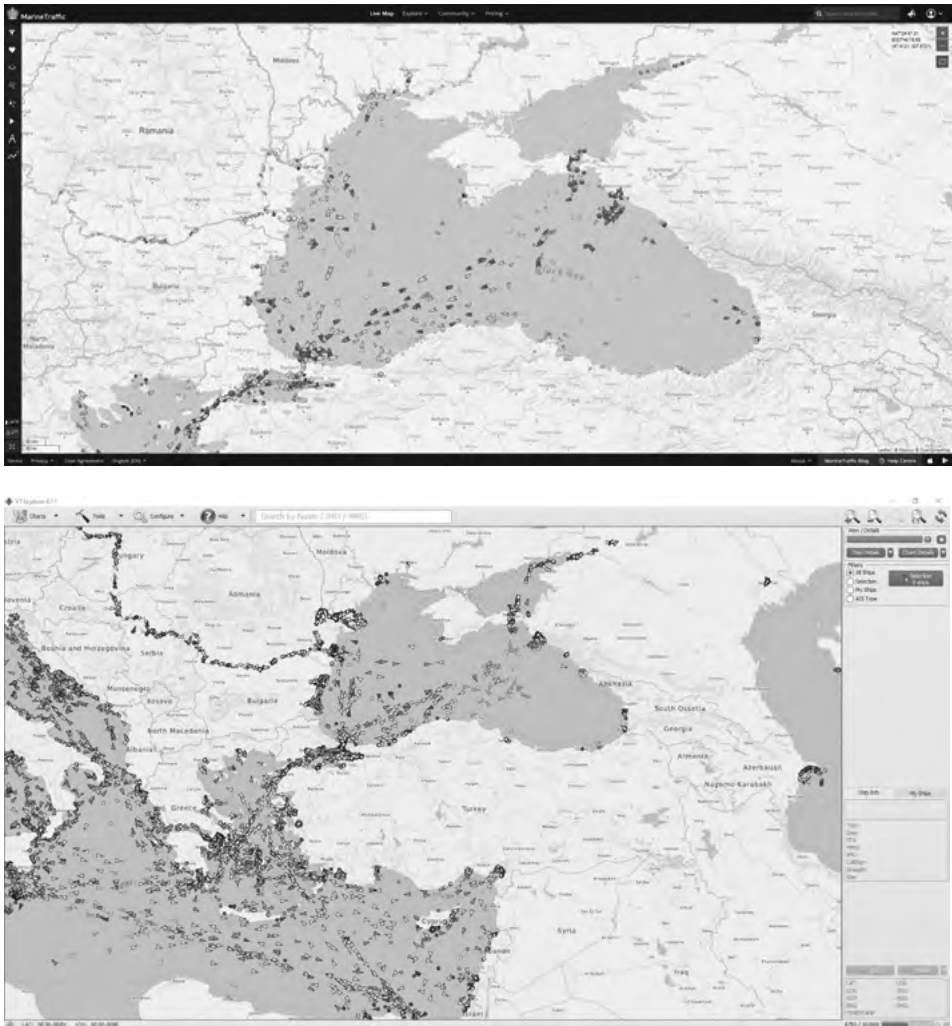


Figure 3. Black Sea Traffic Density Map

Source: *shiptraffic.net*<sup>15</sup>





**Figure 4.** Screenshots of ship traffic after the beginning of the Russian aggression (February 2022) and now (as of 1 June 2023)

Source: [www.marinetraffic.com](http://www.marinetraffic.com)<sup>16</sup>

At the start of the war, around 2000 seafarers were stranded aboard 94 vessels in Ukrainian ports. Russian naval ships have hit at least 10 commercial ships since Russia's assault (as of July 2022). About 80 commercial ships have been blocked in the Black Sea and the Sea of Azov for months (Jacobs 2022). According to the Jacobs report for the EU Parliament with the Sea of Azov fully blocked by Russia – and Black Sea ports, including Odessa, not being operational

for an indefinite period – Ukraine, the EU and UN are taking action to redirect trade flows and goods away from Ukrainian ports. Increasing the capacity of the Sulina channel connecting the Danube River with the Black Sea, alternative transit through Danube Maritime Cluster ports could cover a part of global transport needs. Connections need to be made with ports Constanta (Romania) and Varna (Bulgaria). Bunker fuel prices have risen. According to the UN Conference on Trade and Development (UNCTAD) Report: Maritime Trade Disrupted: The war in Ukraine and its effects on maritime trade logistics the war in Ukraine is hindering trade and maritime logistics, leading to more global vessel demand and higher costs of shipping globally (see Figure 5)<sup>17</sup>. The war have caused increase in global shipping costs, disruptions in logistics and port operations, damage of infrastructure, trade restrictions, increase in marine insurances and fuel prices. Shipping distances have increased, along with transit times and therefore costs.

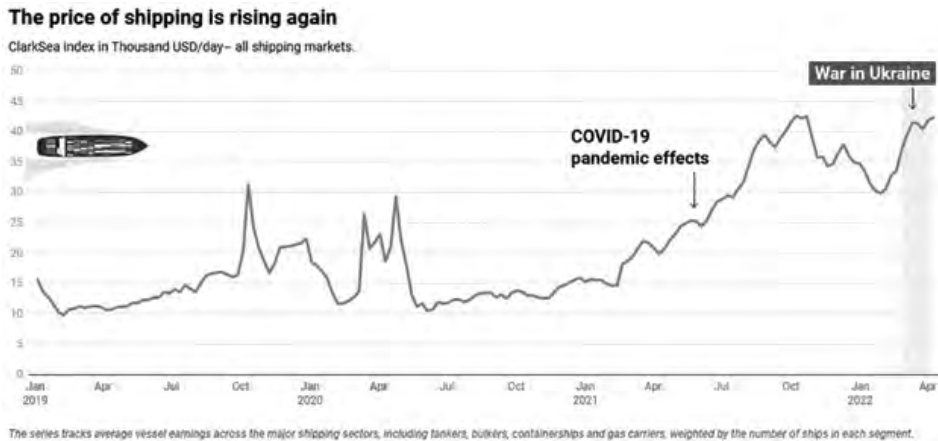


Figure 5. Source: UNCTAD<sup>17</sup>

## Risks and Threats

### *Militarization of Black Sea*

As stated in the strategic framework overview the growing asymmetry in the Black Sea Region increases the risks for militarization and disrupting balances of power. It started a decade ago as a premise for Russian policy to gain strategic control over the Black Sea and re-gain the region in its “sphere of influence”. NATO conventional military capabilities are dominant and exclusively larger than Russian one, the naval ones included. The Revised Russian Naval Doctrine 2030 reveals new perspectives for the Russian naval forces that should be considered<sup>18</sup>.

The development of modern dual use systems, new nuclear tactical weapons in the context of denounced INF-Treaty security regime means the competition between the powers will increase. Examples are Iskander-M systems, the land-based Novator 9M729 dual use cruise missile with a range of around 2000 – 2350 km depending on the weight and type of the warhead. The Kalibr missile is the sea-based variant carrying a warhead up to 500 kg of explosive or a thermonuclear warhead (second generation, more compact, lower mass). For the Black Sea, one of the worst-case scenarios concerns the so called “escalate-to-deescalate” tactic. This would be catastrophic in the sense of opening “a pandora box” with unpredictable consequences.

The Revolution of Military Affairs (RMA) going on for decades has made major shifts in the military technology. On one hand it has positive effects on automatization, digitalization, safer and more secure use for humans, but on the other this equipment is becoming more expensive and does not necessary coincide with the allocated resources.

Drifting mines pose huge threat in Black Sea waters, NATO-members navies being on high alert for eliminating such if and when they occur in territorial waters.

### *Negative environmental effects<sup>19</sup>*

An ongoing militarization will have negative environmental effects and major negative effects on economic and transport areas. Here, we propose the development of a state-of-the-art “ready-to-use” expert system for decision making support based on modelling and simulations using data fusion and processing of data from different sources such as the services of the European Union Earth Observation Programme “Copernicus” (Copernicus Climate Change Service, Copernicus Marine Service, Copernicus Atmosphere Monitoring Service, Copernicus Land Monitoring Service, Copernicus Emergency Management Service), high resolution Sentinel (SAR, Multispectral, Hyperspectral) and Landsat data, free of charge and easy accessible through Google and Amazon Clouds. In addition, a very high-resolution satellite data from commercial systems can be used.

The first objective will be to develop the environmental security awareness component, which will be used for interactive simulations of environmental security threats and consequences preliminary assessment. This includes three major research tasks. The first is mapping the Black Sea shore, coastal, offshore and marine anthropogenic infrastructure, which can be a source of threat to environmental security (for example gas pipelines, oil refineries, oil terminals, oil and gas platforms, mine fields, sunken warships, etc.). The second one will be the

development of a set of databases and spatio-temporal informational layers for the Black sea currents on different horizons/depths (from sea surface to depths of 2000 m), in accordance of Copernicus Marine Service products for Black sea, set of databases and spatio-temporal informational layers for the winds direction and speed for different altitudes (from 10 to approx. 3000 m) in accordance of Copernicus Climate Change Service and Copernicus Atmosphere Monitoring Service. The third major task will be the development of algorithms for: calculating of the movement and spreading of sea floating/drifted objects (mines, oil spills, etc.) based on Black Sea currents spatio-temporal databases; calculating of the movement and spreading of harmful agent's clouds based on winds direction and speed spatio-temporal databases; visualization and data analysis by georeferenced maps and animations of the modelling and simulations outputs.

The second major objective will be development of the energy security support component, which will be used for research activities for data analysis and mapping of Black Sea renewable energy production infrastructure best places.

### ***Hybrid and asymmetric threats***

Most of the world's goods, services, communications, cash flow chains are private. Over 80% of the critical infrastructure of the western countries is owned or operated by the private sector. Diversified energy supplies, offshore communications are potential targets of a hybrid attack. 90% of intercontinental underwater communication lines are private. Energy pipelines are private as well, nevertheless considered as critical infrastructure objects. In case of damage, there is a kind of legal grey zone situation because there is no sufficient legal evidence for the affected country to escalate the case in an armed conflict.

In the same category falls the so called "coercive military deterrence" as well. Large-scale exercises, military presence, testing of new military systems, maneuvers near bordering countries etc. aiming to disorientate, mark or show regional power status or other unclear intentions. Offensive intelligence actions and other covered missions on foreign soil could be used to contribute such tactics. Their existence straight under the threshold of potential violent or armed escalation requires very strict attention. Russia uses such coercive tactics regularly especially in Eastern Europe and Black Sea.

There is a secret Russian military unit called Main Directorate of Deep-Sea Research (Glavnoe Upravlenie Glubokovodnikh Izsledovaniyi). In underwater domain maybe this is one of Russian instruments to control and operate. Equipped hydronauts can be delivered by submarines and ships to different areas to execute different tasks in deep waters up to 6000 metres.

The political, military and economic effects from such activities should not be neglected. They exist since the Cold war, deploying deep-sea apparatuses in different areas of interest. Intelligent vessel “Yantar” is one type such vessels spotted several times since 2015 near US Naval Base Kings Bay (Georgia), then off the Coast to Cuba near the American naval station in Guantanamo Bay. There were some concerns about the capability to impact submarine cables miles deep in the sea. One year later, in 2016 the vessel was spotted in the area of submarine cables between Cyprus and Syria. In 2021 it was detected off the Atlantic coast of Ireland (Sutton 2021). Some of the tasks may include interference or preparing sabotage of submarine internet and communication cables, interference with critical infrastructure, reach shipwrecks and plane crash sites on sea floor and inspect them for intelligence purposes, or placing sensor networks on sea floor.

In 2021 sensors of Lofoten-Veseralen (LoVe) Ocean Observatory located on the Norwegian Continental Shelf belonging to the state-operated Institute of Marine Research were deactivated (Newdick 2021). More than 2,5 miles of fibre optic and electrical cables were removed and disappeared. In 2022 an undersea fiberoptic cable located between Norway and the Svalbard archipelago in the Arctic Ocean has been put out of action. Another case is that of the Nord Stream pipelines which cross some of the Baltic Sea’s submarine cables. So, deep sea intelligence and actions should be considered as potential threatening maritime sea lines of communication and infrastructure.

Lawfare and disinformation campaigns have extensive negative effects on the security environment in the Black Sea region.

## **Conclusion**

The economic importance of the sea is indisputable. The Black Sea makes no exclusion with its connectivity to the Caspian and Mediterranean areas, with the strategic importance as a crossroad between Europe and the Middle East and with its transport and energy potential as an Eastern border and flank of the EU and NATO. In regard to this aspect, no one has given a better description than Admiral Mahan, who noted more than a century ago that: „sea power depends above all on commerce following the most profitable course, and military control follows commerce to assist it and protect it. Except as a system of transport corridors connecting country to country, the sea is a barren possession. The sea or water is the great medium of circulation established by nature, just as money has been evolved by man for the exchange of products. Change the flow, the di-

rection, or the quantity, and you will change the political and industrial relations of mankind” (Mahan 1911). Clear and continuous policy in national, regional and international Euro-Atlantic community is essential and vital towards preserving and securing Black Sea maritime economic areas combining military and non-military advanced technologies in order to maintain situational awareness, deterrence and high capacity of action readiness.

#### NOTES

1. NATO 2022. Strategic Concept. [Online]. [www.nato.int/strategic-concept/](http://www.nato.int/strategic-concept/).
2. Ibid.
3. EU Strategic Compass. [Online]. [www.strategic-compass-european-union.com/](http://www.strategic-compass-european-union.com/).
4. Ibid.
5. Ibid.
6. Ibid.
7. Ibid.
8. European Commission. Maritime security strategy. [Online]. [https://oceans-and-fisheries.ec.europa.eu/ocean/blue-economy/other-sectors/maritime-security-strategy\\_en](https://oceans-and-fisheries.ec.europa.eu/ocean/blue-economy/other-sectors/maritime-security-strategy_en).
9. Ibid.
10. Ibid.
11. Annex to the Joint Communication to the European Parliament and to the Council on the update of the EU Maritime Strategy and its Action Plan “An enhanced EU Maritime Security Strategy for evolving maritime threats”.
12. OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE, 2023. *Annual Threat Assessment of the U.S. Intelligence Community*, February 6.
13. Ibid.
14. Ibid.
15. BLACK SEA SHIP TRAFFIC. *shiptraffic.net*. [Online]. <http://www.shiptraffic.net/2001/04/black-sea-ship-traffic.html>.
16. Marinetraffic. [www.marinetraffic.com](http://www.marinetraffic.com).
17. Maritime Trade Disrupted: The war in Ukraine and its effects on maritime trade logistics. – UN Conference on Trade and Development (UNCTAD). 28 June 2022, [https://unctad.org/system/files/official-document/osginf2022d2\\_en.pdf](https://unctad.org/system/files/official-document/osginf2022d2_en.pdf).
18. U.S. NAVAL WAR COLLEGE. Fundamentals of the State Policy of the Russian Federation in the Field of Naval Operations for the Period Until 2030 (2017). Available at: <https://usnwc.edu/Research-and-Wargaming/Research-Centers/Russia-Maritime-Studies-Institute>.
19. The Nikola Vaptsarov Naval Academy has the competence to use and develop tools for modelling and simulation of environmental issues on sea. The described project idea is developed by Captain (N) Prof. Dr. Miroslav Tzvetkov, Chief of the Scientific Section at NVNA.

20. EJIL: Talk! Blog of the European Journal of International Law. [Online]. <https://www.ejiltalk.org/russias-blockade-in-the-sea-of-azov-a-call-for-relief-shipments-for-mariupol/>.

## REFERENCES

JACOBS, K., 2022. Russia's war on Ukraine: Maritime logistics and connectivity. *European Parliamentary Research Service (EPRS)*, July. [Online]. [https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/733603/EPRS\\_ATA\(2022\)733603\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/733603/EPRS_ATA(2022)733603_EN.pdf).

LOTT, A., 2022. *Russia's Blockade in the Sea of Azov: A Call for Relief Shipments for Mariupol*.

MAHAN, A. T., 1911. *Naval Strategy*. [ed.] Brown Little. Boston: Brown & Co.

NEWDICK, T., 2021. Norwegian Undersea Surveillance Network Had Its Cables Mysteriously Cut. *The Warzone. The Drive*. [Online]. <https://www.thedrive.com/the-warzone/43094/norwegian-undersea-surveillance-network-had-its-cables-mysteriously-cut>.

SCHATZ, V. J.; KOVAL, D., 2018. Ukraine v. Russia: Passage through Kerch Strait and the Sea of Azov. *Völkerrechtsblog.org* [Online]. <https://voelkerrechtsblog.org/ukraine-v-russia-passage-through-kerch-strait-and-the-sea-of-azov/>.

STRONSKI, P., 2021. What is Russia doing in the Black Sea? *Carnegie Endowment for International Peace* [Online]. <https://carnegieendowment.org/2021/05/20/what-is-russia-doing-in-black-sea-pub-84549>.

SUTTON, H. I., 2021. Russian Spy Ship Yantar Loitering Near Trans-Atlantic Internet Cables. *navalnews.com*. [Online]. <https://www.navalnews.com/naval-news/2021/08/russian-spy-ship-yantar-loitering-near-trans-atlantic-internet-cables/>.

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