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**Some Proposals on a Unified Maritime Safety  
and Security System**

Key words: maritime safety, maritime security, maritime defense

*This paper defines the basic notions regarding the discussed subject, i.e. "maritime safety", "maritime security" and "maritime defence". Besides, basic maritime systems and their functions have been discussed. An attempt is made to introduce a Unified Maritime Safety and Security System as well as its structure and functions.*

**Propozycje zintegrowanego systemu bezpieczeństwa  
i ochrony na morzu**

Słowa kluczowe: bezpieczeństwo morskie, ochrona morska, obrona morska

*Podjęto próbę zdefiniowania pojęć bezpieczeństwo morskie, ochrona morska i obrona morska oraz podstawowe systemy morskie i ich funkcje. W wyniku ataku terrorystycznego na wieże World Trade Center powstała konieczność udoskonalenia istniejącego systemu bezpieczeństwa, w tym bezpieczeństwa morskiego. W artykule przedstawiono koncepcję jednolitego systemu bezpieczeństwa i ochrony morskiej.*

## Introduction

Terrorist attacks are not a new phenomena. They are rather typical of our times. However, the terrorist attack performed in New York on 11.09.2001 demonstrated the new real threat of modern terrorism. Today's terrorism has become very dangerous because of the following features:

- modern terrorism is the form of war of the “poor South” against the “rich North” which is being combined (and, therefore, strengthened) with the war of the islam-civilization's backward fundamentalist groups against other modern and progressive developing, especially against the West-European civilization,
- modern terrorism has become especially dangerous because terrorist groups and organizations have practically gained the access to all kinds of weapons of mass destruction, including nuclear and biological weapons,
- modern terrorism has become very dangerous because it has created a central, decision-making control system to coordinate the terrorist war against progressive civilizations.

The successful war against world terrorism must include and has already included the following factors:

- creation of the worldwide alliance of all civilized nations under the UNO leadership to organize and control the war against world's terrorism,
- undertaking and performing decisive coordinated, counterterrorist political and military measures against all forms of terrorism and its infrastructure,
- organizing and maintaining the effective security measures and systems against all forms of terrorism and all other illegal activities (against customs, immigration, drug trafficking, smuggling and other illegal activities,
- minimizing the consequences of terrorist attacks.

In this paper, the issues of maritime safety, security and defence system as well as a Unified Maritime Safety and Security System are discussed and presented. In particular, the following issues are discussed:

- definition of maritime safety, maritime security and maritime defence,
- Maritime Safety System,
- Maritime Security System,
- Maritime Defence System,
- Unified Maritime Safety and Security System.

## 1. Definitions: Maritime Safety, Maritime Security and Maritime Defence

Today, three basic kinds of maritime systems are commonly distinguished [4, 5, 7]:

- Maritime Safety System,
- Maritime Security System,
- Maritime Defence System [Fig. 1].

Each system ensures the proper kind of safety or security, or defence.

Basic Maritime Systems		
Maritime Safety System	Maritime Security System	Maritime Defence System

Fig. 1. The basic kinds of maritime systems  
*Rys. 1. Podstawowe rodzaje systemów morskich*

Below are given the definitions of the following terms: maritime safety, maritime security and maritime defence.

By the term “maritime safety” we understand the state of being safe at sea from all kinds of dangers resulting from imperfections and deficiencies of ships and craft; crew and passengers; and processes and procedures of realization of human activities, as well as the safety from unfavorable environmental conditions – all of which may result in different kinds of sea incidents, including environmental disasters.

Maritime security is such a state of affairs which is characterized by the full compliance with the laws and regulations regarding illegal activities concerning customs, immigration, drug trafficking, weapons smuggling, etc. as well as such a state of affairs which prevents all possible terrorist activities and attacks against maritime objects such as ships, ships’ companies, port facilities, off-shore and inshore structures etc.

In the past maritime security was mainly characterized by the full obedience of the laws, rules and regulations regarding customs, immigration, drug trafficking, weapons’ smuggling, etc. in the coastal zone. However, now the notion of the term “maritime security” also comprises the counteracting and preventing all terrorist activities. This part of preventive activities is becoming more and more important in the process of ensuring and maintaining today’s maritime security.

Maritime defence is one of main components of military defence. By the term “maritime defence” we understand the means, resources, and the command and control system, i.e. naval forces, as well as their readiness and ability to perform the following kinds of activities:

- defending the maritime area, sea lines of communications, and State's territory from the sea side,
- responding to a crisis situation and participation in their solving,
- participating in stabilization of the political and social situations in the politically unstable world regions.

## 2. Maritime Safety System

The Maritime Safety System is the system ensuring the “maritime safety” as defined in the above section (cf. Fig. 1).

The Maritime Safety System performs the following functions:

- ensures the safety of life and property at sea,
- prevents the pollution of the marine environment,
- protects and ensures the proper exploitation of sea resources,
- prevents unfavorable changes in beach zone and maintaining the proper bathymetric conditions in the coastal zone.

The above functions are performed by the proper component systems of the Maritime Safety System (Fig. 2), [7, 12].

Beach Safety Systems	Ports and Harbours Safety Systems	Maritime Safety System			
		Safety-of-Life-and-Property System	Marine Environment Protection from Pollution System	Sea-Resources Protection System	Coastal Zone Management System

Fig. 2. The component systems of the Maritime Safety System  
*Rys. 2. Elementy systemu bezpieczeństwa morskiego*

Presented below is just one component system of Maritime Safety System, i.e. the Safety-of-Life-and-Property System being the most characteristic of the whole System.

Figure 3 shows the Safety-of-Life-and-Property System and the systems constituting this System.

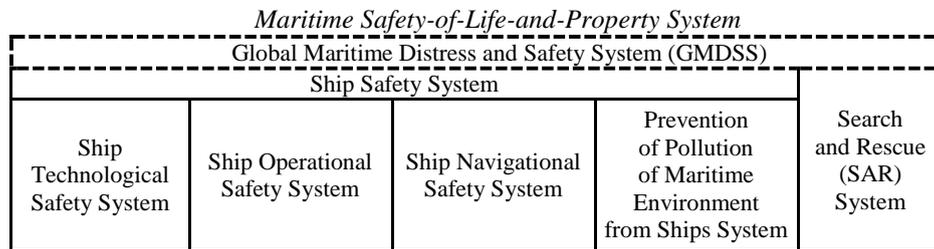


Fig. 3. The component systems constituting the Maritime Safety of Life and Property System  
*Rys. 3. Elementy wchodzące w skład systemu bezpieczeństwa życia i mienia na morzu*

Figure 4, in turn, illustrates a hierarchical structure of the Safety-of-Life-and-Property System [4, 5, 6, 7].

### 3. Maritime Security System

The Maritime Security System is the system ensuring the “maritime security” as defined in section 1 of this paper (cf. Fig. 1).

The Maritime Security System performs the following functions:

- counteracting and preventing the illegal activities regarding customs procedures, immigration procedures, piracy, drug trafficking, smuggling weapons and other illegal material, etc,
- detecting, watching and controlling all sources, groups and organizations preparing the illegal and/or terrorist activities and neutralizing their activities and structures,
- organizing and maintaining permanent security measures and systems of all important maritime objects such as ships, ship’s companies, port facilities, sea structure, etc,
- initiating and participating in combating the consequences of terrorist attacks and activities.

The Maritime Security System usually does not have a formal structure and common management system. The Maritime Security System has been composed of several governmental services which are subordinated to different governmental departments, i.e., to different ministries. The functions of the Maritime Security System are performed by the following services: Customs service, Coast Guard (Maritime Command of Border Guard); State Police, units of Internal Security Service, and others.

The main deficiencies (weak points) of today’s Maritime Security System are:

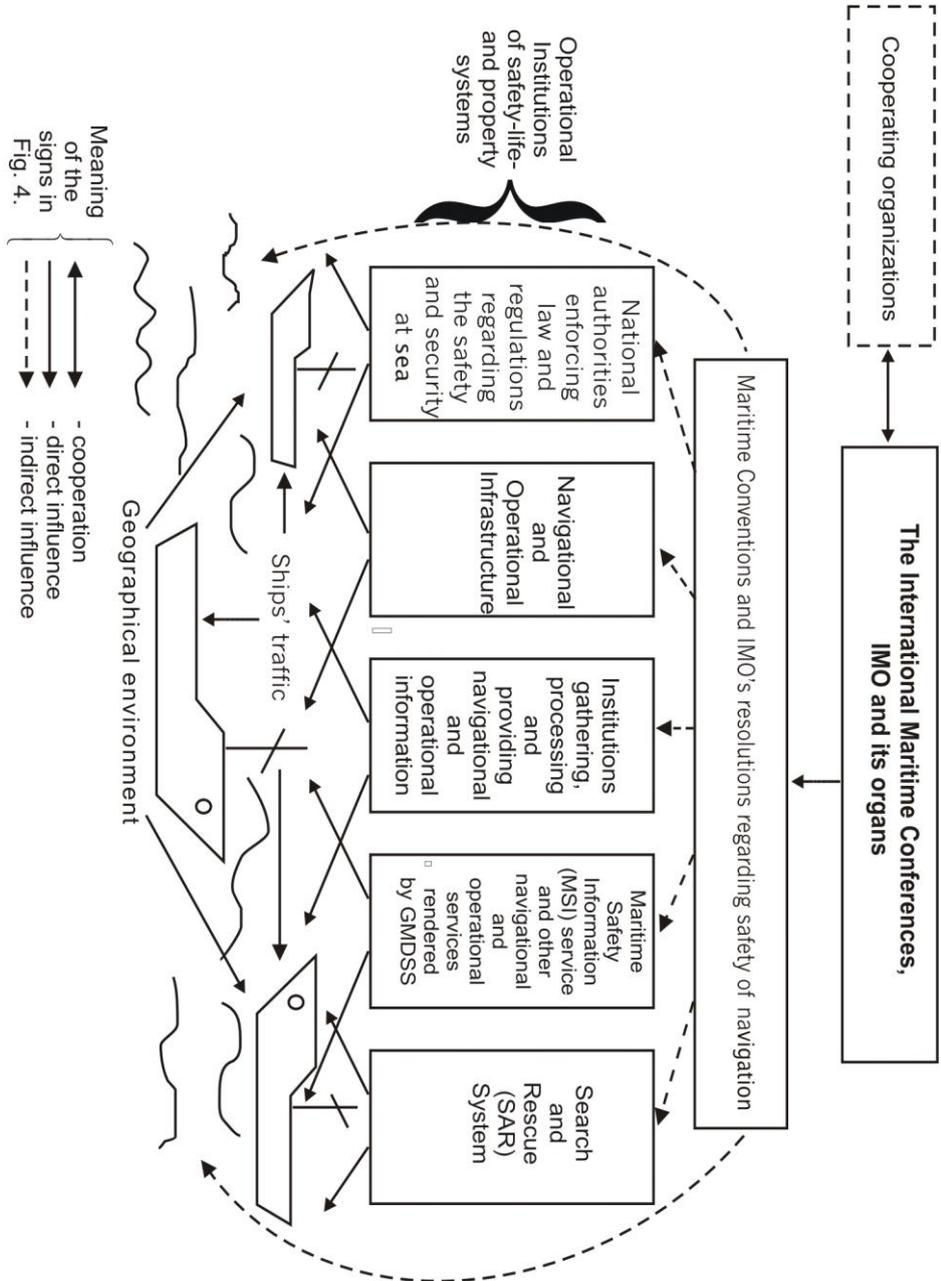


Fig. 4. Hierarchical structure of the safety-of-Life-and-Property System

Rys. 4. Hierarchiczna struktura systemu bezpieczeństwa i ochrony życia i mienia na morzu

lack of the sufficient internal coordination between the services performing different System functions as well as a lack of coordination of implemented security tasks constituting the particular System's functions;

- lack of sufficient coordination of System tasks and activities with tasks and activities of two other basic maritime systems, i.e. with the Maritime Safety System and Maritime Defence System. (cf. Fig. 2).

The lack of sufficient coordination results in diminishing both operational and economical effectiveness of this System.

#### **4. Maritime Defence System**

The Maritime Defence System is the system ensuring the “maritime defence” as defined in section 1 of this paper (cf. Fig. 1).

It should be stressed that the functions (missions) of the national maritime defence system regarded as the component part of the national defence system of the countries being the members of the NATO are much wider than the functions (missions) of naval forces of these countries that are not the members of NATO.

The functions (missions) of naval forces can be realized both in national naval forces system and in Alliance (NATO) naval forces system.

The basic functions (missions) of the Maritime Defence System of NATO country in Europe can be defined as follows:

- ensuring the national defence and defence of the Alliance, i.e. protecting the State territory from the sea; territorial and EEZ waters; lines of communications;
- responding to the military crisis situations in Europe and outside it, and participating in crisis management, i.e. in resolving crisis situations;
- providing for the military, political and social stability by participation in peacekeeping and humanitarian relief operations.

The additional functions of the Maritime Defence System are the following:

- contributing to and supporting the stability and efficiency of the national regional and international Maritime Safety and Maritime Security Systems (prevention of common threats such as ships' accidents, environmental pollution and its combating, supporting and assisting in search and rescue operations, as well as fighting common threats such as piracy, terrorism, drug trafficking, illegal immigration, weapons smuggling, etc.);
- maintaining combat readiness of naval forces (combat training, logistics, materiel procurement, etc.).



Maritime Defence System. The kind, i.e. the subject of this improvement is shown in Fig. 6(2a). What should be improved, or rather, what should be established is the exchange of information between the proposed new (N) “Monitoring, Law Enforcement and Information System” of the Unified System and Maritime Defence System. The cooperation in the field of exchange of information regarding maritime safety and security concerning all the national maritime areas is obvious. This is extremely important not only when the proper degree of “State crisis situation” is announced but also in every day’s situation.

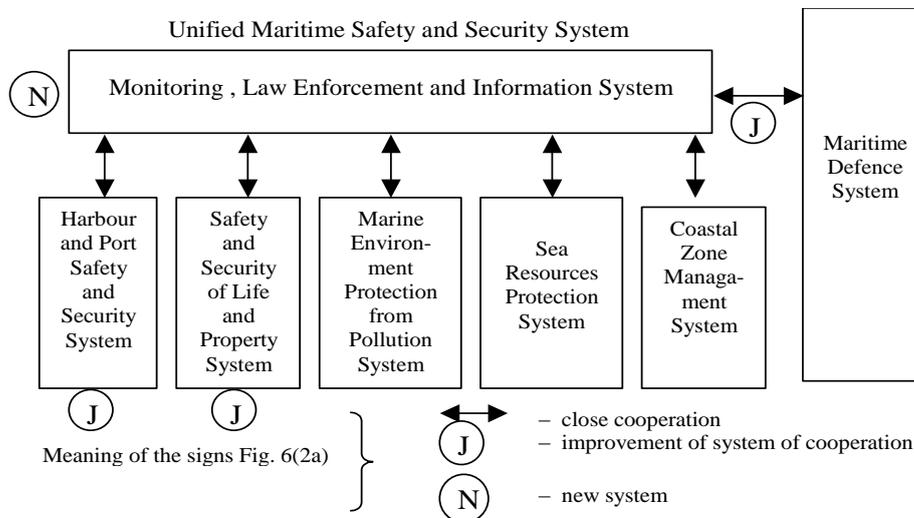


Fig. 6. (2a). The proposed logical structure of the Unified Maritime Safety and Security System  
 Rys. 6. (2a). Proponowana struktura logiczna zunifikowanego morskiego systemu bezpieczeństwa i ochrony

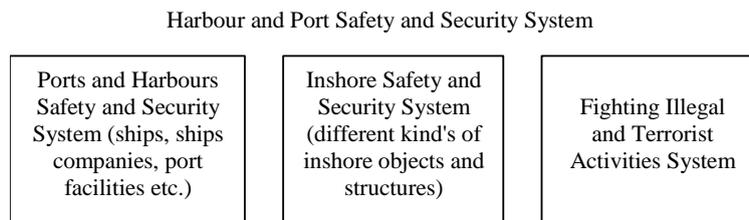


Fig. 7. The proposed logical structure of the Harbour and Port Safety and Security System  
 Rys. 7. Proponowana struktura logiczna systemu bezpieczeństwa i ochrony portów

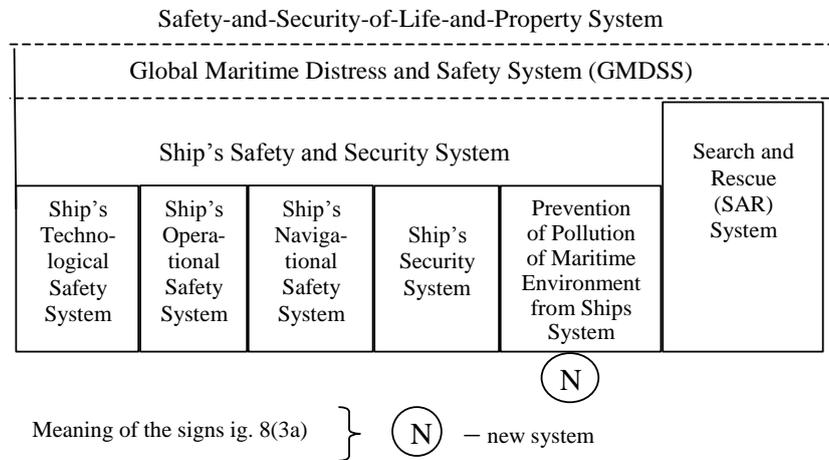


Fig. 8. (3a). The improved Safety – and – Security of – Life – and – Property System  
*Rys. 8. (3a). Udoskonalony system bezpieczeństwa życia i mienia na morzu*

For the Unified Maritime Safety and Security System to be efficient the proposed, i.e. the new (N) “Monitoring, Law Enforcement and Information System” (cf. Fig. 6(2a)) will be very important. Its function is expressed by its name. Such a system allows to centralize and, therefore to eliminate many cases of doubled activities performed by component systems (observation, surveillance, monitoring, checking, etc.). This System should also maintain the updated data bases nerequired by all component systems. This new component System should also enforce the laws and regulations concerning the safety and security by all users and participants of the Unified Maritime Safety and Security System.

The improved (J) Harbours and Port Safety and Security System is shown in Fig. 6(2a) and in Fig. 7. This System must be included to the Unified Maritime Safety and Security System. This proposal seems to be obvious and does not need to be substantiated. This System is especially important for ensuring the maritime security. The proposed component subsystems of Harbour and Port Safety and Security System(s) are shown in Fig. 7.

Fig. 6(2a) shows that the Safety-and-Security-of-Life-and-Property System should be also improved. Fig. 8(3a) explains that the new (N) System is being added. It is the Ship Security System. Such a solution is already widely applied in ships of the United States Navy. The most important part of this System are special teams to fight terrorist attempts and to prevent any terrorist attack against a naval ship. A similar solution, but on smaller scale, may and should be applied by all ships, especially by those carrying dangerous goods. However, the basic security measures, which should be implemented by all ships, are given in the

Resolutions of Conference of Contracting Governments to the International Convention for the "Safety of Life at Sea", 1974, 9-14 December 2002 [13].

The above proposed logical structure of the Unified Maritime Safety and Security System should ensure the efficient realization of all basic System functions, that are as follows:

- ensure the safety and security of life and property at sea and in ports,
- prevent the pollution of marine environment,
- ensure the proper exploitation of sea resources and protect them,
- prevent unfavorable changes of coast line and maintain the proper bathymetric conditions in the coastal zone,
- fight effectively illegal activities such as illegal immigration, piracy drug trafficking, weapons smuggling and many other crimes,
- counteract all the terrorist activities and effectively prevent them.

## **Conclusions**

In this paper, the reasons have been given why the existing basic maritime systems should and must be improved.

The reasons are also given why the Unified Maritime Safety and Security System should be created. Proposals are given regarding the necessary improvements and additional solutions which should be done to transform today's separate maritime safety and security systems into the Unified Maritime Safety and Security System.

The authors are aware that their proposals do not conclude the discussions and work on the creation of an effective and efficient Unified Maritime Safety and Security System. On the contrary, these proposals only begin such discussions and work.

However, the authors are aware that their proposals are logical and reasonable and, therefore, they can be useful in creating such a system. The authors would be very pleased if their expectations were fulfilled.

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