

## **The Role of Defense Technology in an Effort to Achieve Indonesia as a World Maritime Axis**

**Widia Aprilia**

Universitas Pertahanan Republik Indonesia, Bogor Regency, West Java Province, Indonesia

Email: [widiaaprilia2897@gmail.com](mailto:widiaaprilia2897@gmail.com)

### **Abstract**

Indonesia has a challenge to ensure that the security and defense of the maritime area are well managed, this is related to the reality of Indonesia as the largest archipelagic country that has strategic waterways. One way to achieve this goal is to make Indonesia a World Maritime Axis (PMD). With this reality, Indonesia needs to pay attention to several aspects, especially in the economic, technology, and defense and security sectors. In this study the method used for writing is descriptive qualitative literature study.

**Keywords:** Security, Defense, Technology, World Maritime Axis



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/)

### **INTRODUCTION**

The era of the Industrial Revolution 4.0 has changed the order of people's lives to become more progressive, starting from lifestyle, mindset, communication, to connectivity between one thing and another, including the acceleration of movement in the field of national defense. This course of development has certainly created a more open space for various threats to enter and disrupt state security. In this perspective, Indonesia has challenges to ensure that the security and defense of maritime areas are well managed, this is related to the reality of Indonesia as the largest archipelagic country that has strategic waterways. About 70% of the country's area is water, which means that the total area of Indonesian waters is around 6.4 million km<sup>2</sup>, which is divided into archipelagic waters and deep waters (Modul, 2012). This vast area has great opportunities in the field of natural resources, both in fisheries and marine resources. Thus, Indonesia's strategic position as the main route for ships must prioritize its national interests through various national instruments to achieve maritime security.

In this case, to achieve this goal is to make Indonesia a World Maritime Axis (PMD). PMD is not a new concept, but this idea has become the focus of attention since a number of major world powers have focused momentum on the Indo-Pacific maritime sector (Yani & Montratama, 2018). As for a series of episodes of political competition focused on the Indo-Pacific seas, this can be seen in the events of the Confluence of two seas in 2007, rebalancing toward Asia in 2011, and the Maritime Silk Road in 2013. The motives behind this were, among other things, not due to the struggle for access to and control over shipping lanes, natural resources and trade markets. Indonesia as the meeting point of the Indo-Pacific waters is faced with opportunities and demands to join in this political competition.

In the midst of the enthusiasm of countries with great powers to seize regional hegemony in the region, Indonesia, which geographically has a strategic advantage, must take a stance that can bring maximum profits and benefits by utilizing geopolitical dynamics. This is what underlies the emergence of the idea of realizing Indonesia as an Axis. World Maritime. Even so, this plan is not an easy thing to realize, because the big powers above have the main supporting factors to compete in the regional and global arena, namely: military strength, financial strength, and mastery of technology. With this reality, Indonesia needs to pay attention to several aspects, especially in the economic, technology, and defense and security sectors. In

other words, what is needed to support the realization of PMD is to improve the quality of human resources, modernization, technology and sustainable funding in the APBN.

### **Literature Review**

#### **Defense Technology**

Defense Technology in KBBI is defined as technology which is an applied science; Technology is a means to provide things that are needed by humans as comfort and survival. At the same time, the Webster Dictionary provides a definition of technology as the practical application of knowledge, especially in some fields or capabilities provided by the practical application of knowledge. While several other experts also provide definitions of technology, namely (Hidayatullah, 2015):

1. American sociologist Bain, technology includes various tools, tools, machines, instruments, weapons, communications, production, housing, equipment, and clothing and the use of skills.
2. Bernard Stigler in Technics and Time 1. Technology is a pursuit of life in a way that is different from life.
3. Djoyohadikusumo, technology is something that is closely related to science and engineering.
4. Manuel Castells As a sociologist, technology is a collection of tools, regulations, and a way of applying a scientific knowledge to a particular job with a technique that allows repetition.
5. Mardikanto, technology is information, products and new practices that can change the world in the future.

#### **Defense Science Theory**

One defense science expert tries to provide a definition of defense science. Makmur Supriyatno defines in "On Defense Science" that Defense Science is a science that examines the management of national forces during peacetime, resources, during war and after war in responding to efforts to achieve national security in the context of military and non-military threats to territorial integrity, national sovereignty, and the security of all nations. Meanwhile, another expert, Syarifudin Tippe, tried to define that from a political science point of view, defense is a concept that is inseparable from life. Defense is a need that has the essence of a living entity. Therefore it is very important for him to build a strong defense, if he does not want to be controlled by other parties. Defense also has a meaning as an art of maintaining existence, which is carried out by those who have power or other parties who only want peace and security. So, from the explanation above, a conclusion can be drawn that defense is a joint force, in this case, military and civilian which is organized by a country to guarantee its territorial integrity, protect people and/or safeguard its interests from threats that arise from the state. others, actors and non-state actors.

### **RESEARCH METHODS**

In this study using a descriptive method, in which this method provides an overview through facts and data. For the type of data, namely in the form of secondary data, data obtained from studies, results, literature, and data obtained also from the interpretation of material obtained in journals, articles, and others. Furthermore, for data analysis, namely using qualitative data analysis. Analysis of the qualitative data obtained and then analyzed and for the contents to support the question, studied further. In terms of data collection techniques, namely using library research, by collecting theory, and data, as well as concepts contained in books, presentation materials, journals, as well as learning literature that has relevance (Sugiyono, 2013).

## **RESEARCH RESULTS AND DISCUSSION**

### **Overview of the Indonesian Maritime Sector**

Historically, the Indonesian maritime sector has played a strategic role, in fact, the Indonesian maritime sector has played a role long before the Republic of Indonesia was formed, namely during the time when kingdoms were still spread across the archipelago. The influence of the archipelago kingdoms was not only limited to Southeast Asia but extended to the African peninsula, this is evidence of the maritime glory of the forerunner of the nation (Director General of Culture, 2018). Although this power receded due to conquest by foreign powers, namely Europeans.

Attention to the maritime sector and the waning role of the sea continued until the period when foreign powers could be expelled from the archipelago, the turning point for this was manifested in the Djuanda Declaration moment. This announcement was issued in an effort to form a unified territory of the Republic of Indonesia with appropriate and clear territorial boundaries, as well as a means to ensure the integrity and security of the state. With the presence of this declaration, the international community recognized the birth of the concept of an archipelagic state (Zaki, 2019). However, this moment was short-lived, because the maritime sector experienced another setback. The maritime sector which does not receive serious attention has an impact on the condition of the outermost islands which are left behind and underdeveloped, so that islands located in the border areas become the target of claims by neighboring countries (SCI, 2017). The government's instability in paying attention to the role of the sea and the maritime sector continued until the reign of Joko Widodo.

The important role of Indonesia's maritime sector to the world was conveyed in the President's speech at the opening of the 5th Our Ocean Conference in 2018. In the speech the President emphasized that through Indonesian waters, Indonesia has a potential value of wealth capable of providing life for millions of people (Communication Bureau, 2018). Indonesia's various maritime potentials can make a major contribution to improving people's welfare and prosperity, such as: the maritime industry, marine energy, marine tourism, minerals, etc. Apart from these opportunities, the current maritime potential has not had a significant impact, so that the role of the maritime sector cannot be felt by the public in general. This condition is a reflection for the government to be able to optimize the Indonesian maritime sector. The steps that can be taken are to maintain, maintain and process the wealth of the maritime sector through the establishment of policies that can provide a multiplier effect. The strategic policy referred to in this case is an effort to develop Indonesia as a World Maritime Axis.

### **The Essence of Indonesia's Embodiment as a World Maritime Axis**

The discourse on the Indonesian maritime sector and the idea of realizing Indonesia as a PMD departs from the complexity of the opportunities and threats that Indonesia is currently facing. From a geopolitical and geostrategic point of view, Indonesia's position as a meeting point for the crossing of two continents and two oceans can bring an advantage as the ruler of the international shipping industry. During the last few decades the number of ship arrivals in Indonesian seas has increased, so that the value of trade by sea has also increased drastically. Indonesia's maritime economic growth will also increase in line with the shifting of the global economic center from the Atlantic region to the Asia-Pacific region. As much as 90% of total world trade, 70% of which is carried out by sea, and it is observed that 70% of world trade activity takes place in the Asia - Pacific region. This figure is equivalent to 1,300 trillion US dollars per year (Ministry of Transportation, 2018).

Like a coin with two sides, various problems such as resource exploitation, piracy, overlapping claims on border areas, transnational crimes threaten Indonesia, to environmental issues. This problem is something that is not easy to overcome, so a comprehensive and sustainable concept is needed. In this case, the Indonesian government is slowly but surely continuing to make efforts in terms of making Indonesia's vision the world's maritime axis. Infrastructure development and maritime connectivity are one of the steps to strengthen PMD's vision. Furthermore, maritime management must be in line with policies to prevent external threats. Thus, a momentum was born to initiate change.

### **The Role of Defense Technology in the Indonesian Maritime Sector**

In order to focus attention on the maritime sector, the role of the Indonesian Navy is very important, this is in accordance with Law no. 34 of 2004 concerning the Indonesian National Army which regulates the roles, responsibilities and functions of the Indonesian Navy in supporting the vision of national development. In other words, the Indonesian Navy participates in efforts to uphold law and state sovereignty, strives to develop maritime defense and security, and achieves the mandate in the field of maritime defense by utilizing the potential of existing maritime advantages.

The presence of elements of naval power in the waters is very important because it is a form of maritime control and control of the airspace above it, in addition to preventing the use of the state by foreign countries or parties which can cause harm. The facilities and infrastructure in maritime control are in the form of coastal radars, ports, ships, aircraft, and all their equipment, and what is no less important for Indonesian naval and marine sector agencies is communication. The main factor in determining the success of maritime control is the ability to monitor, detect, direct and take action against ships at sea, especially in areas prone to violations. This resulted in most Indonesian waters not being easy to control, so that there were many violations by foreign powers, both warships and transnational criminals.

To deal with these problems, a development direction is needed that focuses on operational capabilities through the role of defense technology, namely by providing good facilities and infrastructure, so that the defense equipment and other supporting infrastructure can adjust to the direction of government policy. Furthermore, the projection of Indonesian naval power in the form of operations through enabling technology is a sea control activity aimed at securing Indonesian waters. In line with the explanation above, there are several things that must be considered, namely: automation technology, sensors, and information technology (IT). Automation technology includes the development of autonomous weapons systems. Then sensor technology refers to the development of remote sensing systems. While IT technology includes 5G and quantum computing which leads to the development of autonomous weapons to cyber defense (Humas, 2020).

### **CONCLUSION**

Geopolitically and geostrategically Indonesia has an important role in the maritime sector. History proves that since before the arrival of the Europeans, the kingdoms of the archipelago have controlled the archipelago's waters so that they can provide benefits in the economic field. Until now the potential of Indonesia's marine wealth still gives millions of people a life. The potential for realizing people's welfare and prosperity lies in several loci, such as: marine tourism, the shipping industry, marine energy, marine minerals, and so on. Nevertheless, it cannot be denied that the current developments in the industrial revolution era 4.0 have created more space for various threats to enter and disrupt national security, for example: resource exploitation, piracy, overlapping border area claims, and transnational

crimes. Therefore, the government is trying to realize a systematic, comprehensive and sustainable policy approach to address these problems, namely by realizing Indonesia as a World Maritime Axis. The steps taken are to focus attention on the economic, technology, and defense and security sectors.

#### **BIBLIOGRAPHY**

- A. Kadar. (2017). Pengelolaan Kemaritiman Menuju Indonesia sebagai Poros Maritim Dunia. *Jurnal Keamanan Nasional*, 1 (3), hal. 428-429
- Biro Komunikasi. (2018). Our Ocean Conference 2018, Wujudkan Kepemimpinan Indonesia di Sektor Kelautan dan Perikanan.
- Dirjen Kebudayaan. (2018). Warisan Budaya Maritim Nusantara. Jakarta: Direktorat Pelestarian Cagar Budaya dan Permuseuman
- Hidayatullah, Alfian. (2015). Pengertian Apa Itu Teknologi.
- Humas. (2020). Antisipasi Perkembangan Alutsista, Presiden Jokowi: Harus Ada Penguatan Penguasaan Teknologi Pertahanan.
- Kemenhub. (2018). Empat Puluh Persen Jalur Perdagangan Dunia Melewati Indonesia.
- Modul. (2012). Pentingnya Pengelolaan Wilayah Pesisir dan Laut.
- SCI. (2017). Tantangan Indonesia sebagai Negara Maritim.
- Sugiyono. (2013). Metode Penelitian Kuantitatif, Kualitatif. Bandung: Penerbit Alfabeta.
- Supriyatno, Makmur. (2014). Tentang Ilmu Pertahanan Edisi I. Jakarta: Yayasan Pustaka Obor, hal. 7
- Syarifudin Tippe. (2016). Ilmu Pertahanan: Sejarah-Konsep-Teori Dan Implentasi. ed.1. Jakarta: Salemba Humanika, hal. 10
- Yani, Yanyan., M. Montratama, Ian. (2018). Indonesia Sebagai Poros Maritim Dunia: Suatu Tinjauan Geopolitik.
- Zaki, Reza. (2019). Deklarasi Djuanda.