

## Strategy for Development of the Domestic Defense Industry to Maintain National Sovereignty and the Integrity of the Unitary State of the Republic of Indonesia in the Era of Revolution 4.0 with the Perspective of National Defense and Defense Science

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### ABSTRACT

The development of the domestic defense industry plays a key role in maintaining national sovereignty and the integrity of the Unitary State of the Republic of Indonesia in the era of Industrial Revolution 4.0. In this context, complex and dynamic challenges require an integrated approach to strengthen independence in the defense sector. This study highlights the importance of integration between the concept of national defense, defense science and technology in the development of the defense industry. Collaboration between the government, private sector, academic institutions and the military is the key to creating an ecosystem that supports the growth of the domestic defense industry. Greater investment in research and development is needed to produce innovative technologies that can compete globally. Apart from that, regional cooperation is also important in building joint defense capacity and strengthening regional stability. Indonesia needs to establish strategic partnerships with neighboring countries and international partners to support each other in developing the defense industry and maintaining security and peace in the region. By facing challenges with the right solutions, Indonesia has great potential to build an independent and strong domestic defense industry.

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## **INTRODUCTION**

In relation to the security and preservation of a country, the concept of National Defense and Defense Science includes the principles and strategies used to protect and defend the existence of a country from internal and external threats. National Defense is the enthusiasm and awareness of every citizen to protect, defend and fight for the integrity of the country, homeland and all its components. The concept of National Defense includes things like Military but also things like Politics, Economics, Social, Culture and Security. This concept emphasizes that every citizen has a responsibility and role in maintaining the integrity and security of the country. Defending the country is one of the Indonesian citizens' efforts to defend the country's independence.

Defense Science which studies all aspects related to the Security and Defense of a country. Defense Science includes analysis of threats that a country may face, effective defense strategies and the development of military and non-military capabilities to deal with various conflict or crisis situations. In the current era of globalization and geopolitical complexity, National Defense and Defense Science are becoming increasingly important. Countries around the world face a variety of threats, including armed conflict, terrorism, cyber warfare, and non-traditional threats such as pandemics and natural disasters. Therefore, understanding the concepts of National Defense and Defense Science is very important to maintain world security and stability.

National Defense and Defense Science also has a role that cannot be ignored in developing a country's national resilience. Thus, National Defense and Defense Science does not only focus on the physical defense of a country from enemy attacks, but also on efforts to build strong and solid foundations to maintain the country's independence and sustainability. The importance of understanding and applying the concepts of National Defense and Defense Science is also reflected in various national policies and strategies implemented by a country's government. Investment in defense and security is a top priority for many countries, both in developing military infrastructure and in efforts to increase human resource capacity in the defense sector.

## **LITERATURE REVIEW**

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Defense Science are becoming increasingly important. Countries around the world face a variety of threats, including armed conflict, terrorism, cyber warfare, and non-traditional threats such as pandemics and natural disasters. Therefore, understanding the concepts of National Defense and Defense Science is very important to maintain world security and stability.

National Defense and Defense Science also has a role that cannot be ignored in developing a country's national resilience. Thus, National Defense and Defense Science does not only focus on the physical defense of a country from enemy attacks, but also on efforts to build strong and solid foundations to maintain the country's independence and sustainability. The importance of understanding and applying the concepts of National Defense and Defense Science is also reflected in various national policies and strategies implemented by a country's government. Investment in defense and security is a top priority for many countries, both in developing military infrastructure and in efforts to increase human resource capacity in the defense sector.

The development of the domestic defense industry is an important strategy to maintain national sovereignty and the integrity of the Unitary State of the Republic of Indonesia. The Defense Industry is one of the strategic sectors that plays an important role in implementing national security and is responsible for providing Alpalhan (Defence Equipment) used by the Indonesian National Army. In the era of industrial revolution 4.0, challenges and threats to national sovereignty and the integrity of the Unitary State of the Republic of Indonesia (NKRI) are increasingly complex and dynamic. These threats and challenges do not only come from military threats, they also come from non-military threats such as terrorism, radicalism and transnational crime. Therefore, it is becoming increasingly important to build industrial areas in the country. This industry can increase the country's defense capabilities to face various threats and obstacles.

Development of the domestic defense industry, which can strengthen the country's defense capabilities and provide a sense of security and comfort for all citizens. The defense industry plays a strategic role in ensuring a country's independence in meeting its defense and security needs. In the Indonesian context, building a domestic defense industry is very important to reduce dependence on imported defense equipment and increase the ability to create and develop our own defense technology. Building a domestic defense industry, apart from increasing economic resilience, is a strategic step to defend State Sovereignty. By having a strong defense industry, Indonesia can ensure the availability of military equipment needed to maintain domestic security and protect its territorial sovereignty from various threats.

In the era of Industrial Revolution 4.0, digital transformation plays an important role in the development of the defense industry. Technologies such as artificial intelligence (AI), Internet of Things (IoT), robotics and cryptography technology are becoming an integral part of modern defense systems. Therefore, the domestic defense industry development strategy does not only include aspects of the production of conventional military equipment, but also the application of digital technology and innovation to increase the effectiveness of national defense. Increasing the defense budget, human

resources and international cooperation are some of the ways the domestic defense industry can be strengthened with modern technology to make high-quality armor that can be used by the TNI. The lack of development of the domestic defense industry can affect the country's protection capabilities. The undeveloped defense industry causes a shortage of Alpalhan needed to carry out national defense duties. This also has the potential to increase the country's defense capabilities against various dangers and difficulties. Limited technology and human resources, lack of government budget support, and increasingly fierce global competition have made it impossible to close down domestic industries.

### **Research Purposes**

This research focuses on the development of domestic industry from the perspective of National Defense and Defense Science and how the domestic defense industry can develop to defend the sovereignty of the nation and the integrity of the Unitary State of the Republic of Indonesia.

### **Identification Of Problems**

Based on the introduction that has been explained, there are several problems related to the growth of the domestic defense industry, namely:

- A. Challenges and threats to national sovereignty and the integrity of the Unitary State of the Republic of Indonesia are increasingly complex and dynamic.
- B. The development of the domestic Defense Industry in the Revolution 4.0 era is still unable to meet the needs of the Indonesian National Army independently.

### **Problem Analysis**

Challenges to national sovereignty and the integrity of the unitary state of the Republic of Indonesia are increasingly complex and dynamic. This can be caused by various factors such as global geopolitical developments, regional conflicts, terrorism, and changes in military technology. Indonesia is still dependent on imports of military equipment and defense technology from abroad. This is an obstacle in maintaining the independence of the domestic Defense Industry and can affect the capability of National Defense. Limitations in the development of the domestic Defense Industry in the industrial revolution 4.0 era are still not able to meet the needs of the National Army, there are obstacles such as limited resources, technology and infrastructure which can hinder the progress of the domestic Defense Industry.

### **Problem Solving Approach**

To solve the above problems, the right approach is needed to develop the domestic defense industry. This approach must consider elements of National Defense and Defense Science. Strengthening international cooperation in the defense sector to obtain technology, training and investment that can support the development of the domestic Defense Industry.

The government can provide incentives and support to the domestic Defense Industry to increase investment and research in the development of

innovative and competitive military technology. Increased collaboration between Government, Academics and industry to develop high-quality human resources and accelerate technology transfer and innovation in the Defense Industry. Development of a long-term strategic plan for comprehensive and sustainable development of the domestic Defense Industry taking into account the dynamics of the global environment, technology and security.

## **METHODOLOGY**

This research is qualitative research with a descriptive approach by conducting a literature study to collect information related to the development of the domestic Defense Industry, national defense, defense science as well as challenges and threats to national sovereignty and the integrity of the Unitary State of the Republic of Indonesia in the era of the industrial revolution 4.0, this literature study covers national and international journals and analyzes policies related to the domestic Defense Industry that have been implemented by the Indonesian government, as well as policies adopted by other countries in developing their defense industry. This analysis will help in understanding the regulatory framework and relevant strategies.

## **RESEARCH RESULT**

The results and discussion of this research must provide a comprehensive understanding of the challenges and solutions in developing the domestic defense industry from the perspective of National Defense and Defense Science as well as its relevance in maintaining national sovereignty and the integrity of the Unitary State of the Republic of Indonesia in the era of Industrial Revolution 4.0. This research found that in the era of the Industrial Revolution 4.0, challenges to national sovereignty and the integrity of the Unitary State of the Republic of Indonesia are increasingly complex and dynamic. The rapid development of military technology, global geopolitical changes, and non-traditional threats such as terrorism and cyber warfare are the main factors causing this phenomenon. In addition, research finds that the domestic Defense Industry still faces a number of significant obstacles in the progress process.

Dependence on imports of military equipment and defense technology from abroad, which has resulted in Indonesia not being able to meet the needs of the Indonesian National Army independently. Other obstacles include limited resources, technology, infrastructure and management in the defense industry. However, this research also provides a comprehensive understanding of ways to overcome this problem. Strengthening international cooperation in the defense sector, both through technology transfer and research and development cooperation. Stimulating investment and research in the domestic defense industry is the key to reducing dependence on imports and increasing independence.

Collaboration between government, academia and industry is essential. To ensure optimal and efficient use of resources, increasing efficiency and transparency in defense budget management is also an important step. The results of this research show that the development of the domestic defense industry has enormous relevance in maintaining national sovereignty and the

integrity of the Unitary State of the Republic of Indonesia in the era of the Industrial Revolution 4.0. By facing challenges with the right solutions, Indonesia can build a strong and independent defense industry, and be able to maintain the sovereignty and integrity of the country amidst continuously developing global dynamics.

By looking at it from the perspective of National Defense and Defense Science, the importance of developing the domestic Defense Industry can be expanded. The concept of National Defense emphasizes the importance of awareness and participation of the entire community in maintaining the integrity of the state and protecting the sovereignty of the nation. In the context of Defense Industry development, this concept underlines that every citizen, either directly or indirectly, has a responsibility to support efforts for independence in the defense sector. Defense Science provides an important theoretical and methodological foundation in developing strategies for the growth of the domestic defense sector. Indonesia can direct investment and development in the most strategic and relevant areas by understanding threats and effective defense strategies.

In the context of Industrial Revolution 4.0, it is clear that digital technology plays an important role in changing the Defense Industry. In increasing the independence of the Defense Industry there are solutions that can consider the use of new technologies such as artificial intelligence, robotics and cloud computing. In addition to increasing the efficiency and effectiveness of the defense industry, these steps will open up new opportunities for innovation and development of more sophisticated and responsive products.

Indonesia can strengthen the foundation of its national defense as a whole by combining the perspectives of national defense, defense science and technology. In this way, the country will be better prepared to face complex challenges and threats in the era of the Industrial Revolution 4.0, as well as safeguard the sovereignty of the nation and the integrity of the Unitary State of the Republic of Indonesia more effectively.

The research results also highlight how important it is to implement an integrated strategy to develop the domestic defense industry. This method requires governments, the private sector, academic institutions, and the military to work together to create an environment that supports progress and innovation in the defense sector. Indonesia can increase the capacity of the defense industry with strong collaboration to optimize human resources, technology and infrastructure.

In addition, the results of this research also show the need to increase investment in research and development (R&D) in the defense industry. By allocating more resources to R&D, Indonesia can produce innovative technologies that are able to compete in the global market and support national defense needs. Additionally, it is important to remember that increasing domestic defense capacity is an important part of efforts to maintain security and stability throughout the region. Therefore, Indonesia must work together with neighboring countries and strategic partners to increase joint defense capacity and strengthen the regional defense system.

This research provides a better understanding of the importance of building a domestic Defense Industry in the era of Industrial Revolution 4.0. An

independent and strong defense industry is not only a strategic asset for state security, but also an important pillar in maintaining national sovereignty and the integrity of the Unitary State of the Republic of Indonesia amidst rapid global change. It is hoped that the government and all relevant stakeholders can take concrete steps to strengthen the domestic defense industry, so that Indonesia can become a more independent, strong and safe country in this increasingly complex era.

## CONCLUSIONS AND RECOMMENDATIONS

From the discussion above, it can be concluded that the development of the domestic defense industry has a very important role in maintaining national sovereignty and the integrity of the Unitary State of the Republic of Indonesia in the era of the Industrial Revolution 4.0. The complex challenges and dynamics faced by Indonesia require strategic steps to increase independence in the defense sector. The importance of integration between the concept of national defense, defense science and technology in the development of the defense industry is the main focus for formulating effective solutions.

In this context, collaboration between the government, private sector, academic institutions and the military is key in creating an ecosystem that supports the growth of the domestic defense industry. Strong collaboration will enable resource optimization and innovative technological development to meet national defense needs. Greater investment in research and development is also needed to produce advanced technologies that can compete globally.

Furthermore, it is important to strengthen regional cooperation in the defense sector in order to build joint defense capacity and strengthen regional stability. Indonesia needs to establish strategic partnerships with neighboring countries and international partners to support each other in developing the defense industry and maintaining security and peace in the region.

Indonesia has great potential to develop an independent and strong domestic defense industry. By facing challenges with the right solutions, and integrating national defense perspectives, defense science and technology, Indonesia can build a strong national defense foundation and ensure the sovereignty and integrity of the Unitary State of the Republic of Indonesia in this increasingly complex and dynamic era.

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