

Supporting Industrial Cooperation in Independence of PT. Dirgantara Indonesia and Its Contribution to Indonesian Air Power

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Abstract:

In the development of the defense industry, Indonesia focuses on creating a defense industry that has high competitiveness, has strong capabilities and can support national defense and security as well as realizing independence by not depending on foreign-made defense equipment as the main goal in meeting the needs of its own defense equipment. This study aims to analyze the cooperation of the Supporting Industry, especially PT Dirgantara Indonesia and the role of the government as a policy maker in realizing the independence of the Defense Industry. This study uses qualitative methods and uses descriptive analysis using data obtained through observations and interviews with relevant officials and management staff of Supporting Industry companies. The results of the study explain that there has been cooperation between the Supporting Industries and Government policies that support the independence of the Defense Industry, but its implementation has not been maximized.

Keywords : Defense, Defense Industry, Support Industry

INTRODUCTION

Indonesia is located between two continents, namely Asia and Australia and two oceans, namely the Pacific and Indian Oceans, based on the details, it has an area of inland waters and Indonesian archipelagic waters of 3,110,000 Km², the total area of Indonesian waters and lands is 8,300,000 Km², the length of Indonesia's coastline is 108,000 Km and the number of islands that have been standardized and submitted to the United Nations is 16,056 islands (Sari, 2019). In terms of area size and looking at the current data, Indonesia must think about the existence of a strategic Defense Industry in order to face various potential threats in defending the country's sovereignty.

In the development of the Defense Industry, Indonesia focuses on creating a Defense Industry that is highly competitive, has strong capabilities and can support national defense and security. In realizing independence by not depending on foreign-made defense equipment, the main goal is to meet the needs of own defense equipment. Empowering and utilizing the domestic Defense Industry is one of the efforts to create a Defense Industry that is strong and has the ability to produce and maintain the defense equipment needed due to the demands of operational needs as well as in following the development of science and technology.

Indonesia's strategic Defense Industries include PT. Dirgantara Indonesia as an industry in the manufacture and maintenance of aerospace. There are also several Supporting Industries, but they have not been used in real terms in the implementation towards the independence of the national Defense Industry. The Supporting Industries are still operating independently and have not been accommodated in a bond that can advance the national Defense Industry, such as in the manufacture of components and in the maintenance of the Indonesian National Army's defense equipment. Looking at these problems, the synergy between the government as a regulator, the Indonesian National Army as a user and the domestic Defense Industry as a producer is still not solid.

In the complete independence of the Defense Industry of a country, it is actually a difficult thing to achieve. The difficulty of developing countries in achieving full independence of the Defense Industry is even greater due to limited resources, including finance, technology and infrastructure. In this case, the independence of defense equipment should not only be interpreted as independence in producing defense equipment but also as independence in buying, using and maintaining defense and security equipment. There is a gap in resources and technological mastery between producing countries and countries that need defense equipment, making producing countries, especially World Power Countries, have control over the products they sell. (Karim, 2014).

In accordance with Law No. 16 of 2012 concerning the Defense Industry in article 50 paragraph 1, it is stated that independence in the manufacture of defense equipment is the main goal to be achieved by Indonesia. The law must be implemented properly and in accordance with commitments. Basically now PT. Dirgantara Indonesia has the ability to produce fixed-wing aircraft, aircraft components from manufacturers Boeing, Airbus, Sukhoi, Helicopters, Helicopter Simulators, Drones and Hovercraft.

Likewise, the independence of defense equipment maintenance is a form of independence which is also considered important. In several contracts to purchase defense equipment from abroad, Transfer of Technology is not always carried out in full under maintenance. During the embargo of aircraft spare parts in 1999-2005 by the United States and Britain, Indonesia was very difficult to maintain defense equipment so that defense equipment could not be maintained routinely. In view of this, the need for independent defense equipment maintenance coupled with the availability of spare parts and maintenance assistance.

Meanwhile, there are several supporting industries, in this case PT Infoglobal is a private defense industry engaged in avionics technology, radar data processing, and defense mission systems. Ability to manufacture components such as MPD (Multi Purpose Display), RDU (Radar Display Unit), Hudmon (Head Up Display Monitor), CDU (Control Display Unit) and PDU (Pilot Display Unit) used for fighter aircraft and transport aircraft. Other Supporting Industries such as PT. Sari Bahari is a domestic company engaged in the manufacture of bombs, warheads, rocket launchers, drone targets and missiles. In other supporting industries such as PT. Sari Bahari is a domestic company engaged in the manufacture of bombs, warheads, rocket launchers, drone targets and missiles. Next PT. FIN Komodo is a national private company engaged in engineering and technology with experience in the design and analysis of aircraft, automotive, simulators, and automation system integration. Meanwhile PT. Nexus Tama Semesta is a national private company engaged in the development and construction of system integration, system simulators, military communication tools, personal intelligence tools, wargaming systems, and monitoring system integration on Indonesian Air Force Boeing aircraft.

There are many other supporting industries that have the ability to support and support the independence of the Defense Industry, especially PT. Dirgantara Indonesia.

Weaknesses that have existed at PT. Dirgantara Indonesia such as Transfer of Technology, human resources and research can be met by Supporting Industries. The existence of supporting industries capable of collaborating with PT. Dirgantara Indonesia is very necessary in achieving independence in the manufacture and maintenance of defense equipment currently owned by the Indonesian Army. It has been proven that many supporting industries can do this, so it is hoped that there will be collaboration or cooperation between PT. Dirgantara Indonesia with Supporting Industries can be implemented.

In the 21st century, there has been a global increase in the strengthening of the Defense Industry since the 1970-1980s. This can be seen by the very prominent trend in the form of cooperation and investment from countries in the world in building the independence of the Defense Industry. There are many examples in developed countries that choose to build their Defense Industry with cooperation between other countries and can reduce costs significantly. This is due to many trends regarding the policy of tightening the budget, increasing research and development costs, as well as increasing the intensity of competition in the Defense Industry market. Thus it becomes a contradiction because on the one hand the Defense Industry is known to have a closed nature and contains high secret elements and is dangerous if it falls into the hands of the enemy. Defense Industry interactions between countries in this case are becoming increasingly complex (Witarti & Armandha, 2015). In collaborative defense projects that have become the hallmark of the European Defense Industry policy, it can be seen from the collaboration between two or more countries that it can become more efficient in terms of financing the Defense Industry. (Hartley & Braddon, 2014).

Other researchers write about human resources, policies, strategies and cooperation, including Djarwono, 2017; Grahadi et al., 2018; Hidayat, 2018; Indrawan et al., 2016; Indrawan, 2018; Karim, 2014; Luerdi et al., 2019; Muradi, 2018; Prasetyo et al., 2015; Setia, 2018; Sugawara et al., 2014; Susdarwono et al., 2020; Tuwanto, 2015; Witarti & Armandha, 2015; Yanuarti et al., 2020. These studies state that the strategic defense industry is all potential national industries, both government and private, whose existence is very important and their products are in the form of equipment for the benefit of national defense and security so as not to depend on foreign products as much as possible.

Other researchers who wrote about the military industrial complex, such as Ansell et al., 2019; Cox, 2014a; Dunlap & Dunlap, 2011; Light, 2019. These studies state that for the independence of a strategic Defense Industry it is necessary to "merge" between supporting industries, so as to strengthen the strategic industry that has been built so that it can function as a supporter in the national strategic industry.

Based on the above phenomenon, the researcher tries to identify the problems that arise, namely there is a gap between supporting industries in the country and abroad. The gap in question is that the domestic industry has not yet received full attention from the government while supporting industries abroad have received full attention. Actually, government regulations in the Defense Industry are clear, but in practice they have not been widely implemented. Domestic supporting industries that have been able to make components, produce and maintain defense equipment but have not been utilized by PT. Dirgantara Indonesia. Until now, PT. Dirgantara Indonesia has not been able to be independent in the manufacture and maintenance of defense equipment. This has become the interest of researchers in making a research, later with cooperation or

collaboration with supporting industries at least in terms of transfer of technology, human resources, research and implementation of government policies can help in the framework of the independence of PT. Dirgantara Indonesia, so that it can contribute to Indonesian Air Power. So this research tries to raise the issue of domestic Supporting Industries so that they can be used in a real way by strategic industries so that their independence can be achieved immediately.

The remainder of the present paper is structured in the following manner. Section 2 contains the Literature Review used in this research. This is followed by Section 3, which explain the Research Method. In Chapter 4, the results of the Research and further discussed. Finally, Section 5 concludes the paper.

LITERATURE REVIEW

Defense Industry

The definition of the Defense Industry according to the United States Office of Technology Assessment (OTA) is a combination of human capabilities, institutions, technology, and production capacities that are used comprehensively for the development and manufacture of weapons in support of the procurement and manufacture of military weapons to achieve national interest goals. This shows two strategic meanings; first, in the aspect of technology development originating from the laboratory, it is considered part of the Defense Industry because of its relationship to the development of military technology. Second, in the aspects of production and maintenance in the Defense Industry through government supervision related to weapons manufacturing and trading activities. Thus, the Defense Industry in relation to the fields of national security, state secrets, and the independence of the Defense Industry relies on the technology it has and the nature of the market which is different from other industries (Amrullah, 2016).

In terms of independence in the manufacture, development and maintenance of defense equipment, the world of the Defense Industry has experienced a significant increase in cooperation between countries in the world in building the Defense Industry, even developed countries prefer to build their industry by collaborating with other countries rather than doing it independently. This happens because it cannot be separated from the policy of tightening the budget, enormous research and development costs and increasing competition in the Defense Industry (Armandha et al., 2017). For example, countries in Europe and America have collaborated in the field of Defense Industry, including Indonesia, which is trying to build defense system independence by increasing regional and international cooperation. Ideally, countries involved in international cooperation are cost-motivated (Hartley & Braddon, 2014). In addition, transfer of technology, spin off or military technology can be used as civilian technology, multiplier effects on the economy, and projections for the development of the Defense Industry are benefits that can be obtained by a country in Defense Industry cooperation.

Air Power

According to John C. Cooper (1948), Air Power is the total ability of a nation to fly, do something in the air or through the air and use an aircraft that can be controlled according to its interests. Air Power requires support, namely the availability of equipment and facilities including airports, aircraft, flight crew, aircraft mechanics, operators, aircraft designers and aircraft manufacturers and aircraft spare parts needed. The vast territory of Indonesia requires careful thought in realizing an effective defense and security system to maintain the integrity and safety of the nation.

According to William Mitchell (1920) Air Power is the ability to do something in the air, including air transportation from one place to another. According to him, there is no point in the world that can escape the influence of aircraft capabilities. Destruction missions against enemy targets have shown a greater degree of destruction than similar missions carried out by the army and navy. The development of Air Power is influenced by

a. Moral.

The development of Air Power requires the support of human resources who are patriotic and love the homeland. This has something to do with the procurement of pilot personnel where the person concerned must be aware that the assigned task always carries a high risk.

b. Industry.

The development of Air Power requires industrial capabilities that are supported by the availability of the required raw materials so that the industry concerned can guarantee the continuity of its production. These industries are expected to be a source of raw material suppliers for the aviation industry.

With the independence of the Defense Industry, it is indirectly very influential and contributes to Indonesian Air Power.

Iron Triangle



The Iron Triangle is a political relationship that combines three main actors in policy making, namely the government, congress and the Defense Industry (Adams, 2020). The Iron triangle concept shows that the eight selected companies employed 1,672 staff from the Department of Defense and the National Space Agency (NASA) between 1970 and 1979 and 270 company employees were employed by the Department of Defense and NASA (Adams, 2020).

The actor's role is very dominant in determining the US defense budget policy due to the large amount of money. From the correlational relationship between government, congress and the Defense Industry are mutually beneficial and interdependent with each other.

In the era of globalization there has been a new trend, namely the form of cooperation between countries in building a defense industry. This is related to capital or production costs, high research costs and competition in the marketing of defense equipment (Armandha et al., 2017). In relation to the globalization of the Defense Industry, which started from countries in Europe and is now happening in Indonesia, where as a developing country, Indonesia is trying to realize the independence of the Defense Industry by collaborating with countries that have the ability to produce defense equipment. And as an example is the cooperation between Indonesia and South Korea in terms of the manufacture of the 5th generation aircraft, namely KFX/IFX.

Support Industry

There are two concepts in an effort to realize the independence of the Defense Industry, namely the Concept of the Three Pillars of Defense Industry Actors and the Concept of the Defense Industry Cluster. The concept of the Three Pillars of Defense Industry Actors is guided by the relationship between universities and the research and

development (R&D) community as developers of defense science and technology; the industrial/private sector as the utilization of the results of defense science and technology, production and distribution; as well as the National Army as users. The concept of the Defense Industry Cluster can be interpreted as the existence of interdependence and mutual support between the upstream industry; downstream industry; supporting industry; and related industries in creating competitiveness to improve the national industry. The success of efforts to realize the independence of the Defense Industry is very dependent on the synergy of the 3 Pillars of the Defense Industry and the implementation of the Cluster Concept in industrial sectors that support each other. (Wibowo, 2016).

It is important for all countries to achieve the goal of having an independent Defense Industry. The grouping of defense companies and supporting industries is an important tool in enhancing the capability of the national Defense Industry. The formation of clusters supported by networks between government agencies, public institutions and universities is very important. In this case, the importance of defense clusters to achieve a strong independent Defense Industry is highly emphasized by practitioners and academics. In developed countries, many have been formed, while in developing countries this cluster is still in the process of developing.

RESEARCH METHOD

This study was designed with a qualitative method and used descriptive analysis. Qualitative methods that use descriptive analysis techniques are applied with the consideration that the problem under study requires an understanding approach to a phenomenon that occurs in an effort to be independent of PT. Dirgantara Indonesia through cooperation with Supporting Industries. By looking at how the behavior, perceptions, motivations, actions and others lead to efforts in realizing a cooperative model for the independence of PT. Dirgantara Indonesia comprehensively.

Research data obtained from the search and collection of primary data and secondary data. Primary data obtained from observations and interviews. Observations were made by observing all activities and conditions at PT. Dirgantara Indonesia. Interviews were conducted to informants who were determined by purposive sampling, which means sampling deliberately with the duties and responsibilities it carries and has complete data according to its capacity according to the needs of research on cooperation carried out by PT. Dirgantara Indonesia. In addition, secondary data is obtained by studying laws, media, journals and writings as well as various literatures from books, scientific manuscripts and related research reports.

Informants in this study that have been determined through purposive sampling technique are:

1. KKIP officials
2. Ministry of Defense officials,
3. Indonesian National Armed Forces Headquarters official
4. Indonesian Air Force Headquarters official
5. Supporting Industries that can become partners in supporting the independence of PT Dirgantara Indonesia.

RESULTS AND DISCUSSIONS

The Role of Supporting Industries in the Defense Industry Through Research, Development, and Engineering

The Defense Industry Law (UU Inhan) which was passed on October 2, 2012 by the Plenary Session of the House of Representatives is a strategic step that can advance the Defense Industry. Making Indonesia more able to work effectively and produce defense and security tools. The Defense Industry Law will provide a clear basis for encouraging the government to develop an independent and sustainable Defense Industry. The Defense Industry Law is believed to be able to accelerate the growth of the national defence industry in the future.

A number of people are of the opinion that the ratification of the Law on Defense Industry, apart from being a milestone in the rise of Indonesia's domestic Defense Industry, will also become a legal reference that will make Indonesia more independent, superior, and highly competitive in the Indonesian Defense Industry sector, especially in the readiness of Defense Equipment production to be of higher quality.

With the spirit of independence in building the Defense Industry, several supporting industries have carried out various research collaborations and development of defense equipment. Based on the results of interviews with Dittekinhan of Ministry of Defense, Lt. Col Supriyadi, and KKIP officials, the cooperation between the Defense Industry and abroad is in the form of joint production, for example with Turkey in the manufacture of Anoa Tanks between PT. Pindad with FNSS Turkey and joint production on the Submarine program between PT. PAL with Korean. Meanwhile for PT. DI has conducted joint development of the KFX/IFX development program with KAI, in addition PT. DI as Lead Integrator in the National Missile Consortium which involves several domestic partners, and is involved in the National Radar Program.

Empowerment of supporting industries has also been carried out by the Indonesian National Armed Forces Headquarters with the aim of becoming self-reliant for the Defense Industry. According to Lt. Col. Totok, Procurement Service (Disada TNI AU), as an effort to empower the Defense Industry and Support Industry, the Indonesian Air Force is committed to maximizing the involvement of the Defense Industry and Supporting Industry in the process of Procurement and Maintenance of Indonesian Air Force Defense Equipment, currently, of the 24 Defense and Supporting Industries, 11 of them or 45% have implemented cooperation with the Indonesian Air Force.

Major Melta, Department of Communications and Electronics (Diskomlek TNI AU), in an interview said that the empowerment of local industries that support the Indonesian Air Force simulators has been carried out routine verification from the Air Force's Flight and Work Safety Feasibility Center (Puslaiklambangjaau) by prioritizing the procurement and maintenance of simulators to local industries. In research & development activities, the Indonesian Air Force in this case the Diskomleka, Dislitbangau and Koharmatau always cooperate in overcoming the needs and solving problems of the Indonesian Air Force Defense Equipment. Meanwhile, in empowering the Supporting Industry specifically PT. DI, Assistant for Planning and Budgeting (Asrena TNI AU), Air Vice Marshal Dr. Purwoko Adji, said that in the fulfillment and maintenance of Defense Equipment, the Indonesian Air Force through the Ministry of Defense prioritizes the production of the Defense Industry with PT. DI. Several procurements of Indonesian Air Force Defense Equipment that have been carried out through the Defense Industry of PT. DI, Procurement of NC-212i Light Transport Aircraft, Procurement of NAS-332 Helicopters, and Procurement of VIP Helicopters. In addition, the Indonesian Air Force

also carries out cooperation in the maintenance of Defense Equipment, such as CN-235, CN-295 and Caracal helicopters with PT. DI.

PT. DI itself as a Supporting Industry in the Defense Industry, continues to strive to contribute to Indonesian Air Power. This is proven by PT. DI by continuing the National Strategic Program. There are three National Strategic Programs, namely the PUNA Elang Hitam (Medium Altitude Long Endurance Drone) with a target to fly for the first time at the end of 2021, the N219 Amphibious Aircraft (N219A) and the National Missile are planned to get certification in 2024. Starting from PUNA Elang Hitam which was developed by a consortium consisting of PT. DI as lead integrator, with PT. Len Industri, LAPAN, Balitbang Kemhan, Dislitbang TNI AU, Pothan Kemhan, BPPT, and ITB. PUNA Elang Hitam is designed to be able to fly for 24 hours and will continue to be developed so that it can be used for combat, as well as to meet the needs of the Indonesian Air Force Defense Equipment. The National Missile or Missile was also developed by a consortium consisting of PT DI as the lead integrator, PT Len Industri, PT Pindad, and PT Mulatama. The missile developed is a surface-to-ground missile to meet the needs of the Indonesian National Army Defense Equipment. The missile certification target is 2024.

Furthermore, according to the Defense Industry Policy Committee (KKIP), with the enactment of the Job Creation Act, in the procurement of defense equipment, the Ministry of Defense can provide opportunities for state and private companies to become Leads in the development of Defense Equipment including its components. For example, a state company that supports the Defense Equipment component is PT. LEN became the Lead Integrator in the National Radar Program. In addition, private companies that also support the Defense Industry are PT. Global Info. In the results of the interview, PT. Info Global has established cooperation in manufacturing, research and development with national strategic industries, especially PT. Dirgantara Indonesia, one of which is in the Missile Reverse Engineering System program.

As a Supporting Industry, PT. Info Global has conducted several research and development in the Defense Industry and research on strategic market needs. More or less since 1997, PT. Info Global has conducted research on radar data protocols, both operated by the Indonesian Air Force and civilians. From this research, PT. Info global succeeded in developing a TDAS product that is still used today. Since 2006 until now, PT. Info Global conducted research on Avionic devices operated on Indonesian Army aircraft and succeeded in developing Avionic products for various aircraft platforms to support market needs. As well as the development of the Control & Guidance system that can be applied to control systems for aircraft, missiles, FFAR, etc. that use remote control.

PT. Info Global has also made several innovations in helping and collaborating with the national strategic industry, namely PT. Dirgantara Indonesia. PT. Info Global has mastered several key technologies from research and development programs that have been carried out such as Avionics, Control & Guidance systems for missile development and Smart Bombs, Mission Systems and Data Links. The derivative of the technology that has been developed can be applied to other products. For example, the Control & Guidance technology innovation can be applied to the development of FFAR. Another example, the current mastery of Avionic system technology, can be innovated to be developed on other aircraft platforms, for example applications in the KFX program.

Next PT. Info Global in supporting the independence of the Defense Industry, expects the formation of a long-term project collaboration in the manufacture of platforms and joint operations that can utilize as much as possible for the common interest in terms of facilities and human resources with PT Dirgantara Indonesia.

The Role of Government Through Regulation

The development of the domestic defense industry is an effort for a country to develop a defense system independently. This is related to the fulfillment of needs both in the context of providing quality and quantity of Defense Equipment in accordance with regional characteristics and eliminating dependence on other countries. The Indonesian government has accelerated the program to meet the minimum requirement for its military strength by issuing a legal basis for the development of the domestic Defense Industry through Law Number 16 of 2012 concerning the Defense Industry.

The Indonesian National Army, especially the Indonesian Air Force as the user of Defense Equipment, also responds to various government policies, especially regarding the domestic Defense Industry. The Head of Procurement Service (Kadisada TNI AU) First Marshal Agus Sudarmanto, welcomed the Government's policy in the context of revitalizing Defense Equipment as a deterrent to the state against threats from other countries, namely by increasing the budget for modernization and maintenance of the Indonesian Air Force Defense Equipment to reach Rp. 8.19 trillion in 2021, the Indonesian Air Force continues to improve the quality of the planning stage from the start of the implementation stage to the evaluation of the procurement of goods/services.

First Marshal Teguh Purwo, The Head of Department of Communications and Electronics (Kadiskomlek TNI AU) said, in every procurement to meet the needs of the Indonesian Air Force, it is always prioritized to use products that involve the domestic defense industry, both state and private companies. First Admiral Sriyono, the Directorate of Defense Industrial Technology (Dittekinhan) also said the same thing, that the policy for the procurement of Defense Equipment was reviewed from Law no. 16 of 2012 concerning the Defense Industry in article 43 it is stated that the procurement of Defense Equipment is prioritized from within the country, and in the event that it cannot be fulfilled, the user and the Defense Industry can propose to KKIP for purchases from abroad.

Furthermore, Air Vice Marshal Dr. Purwoko Adji, Assistant for Planning and Budgeting (Asrena TNI AU), in an interview said that according to government policy in terms of procurement of Defense Equipment, the Indonesian Air Force submitted the need for procurement of Defense Equipment to the Government through the Ministry of Defense with a procurement scheme through foreign loans and domestic loans. The proposed needs plan will become the basis for Bappenas to determine the types of Defense Equipment within the Indonesian Air Force and the sources of funding. Furthermore, the Indonesian Air Force will carry out considerations of Operational Requirements and Technical Specifications. If the Defense Equipment can be produced by the domestic Defense Industry, the Indonesian Air Force will coordinate with the Ministry of Defense so that the procurement can use domestic products. If it cannot be produced domestically, then the procurement will be met from foreign products. However, the Indonesian Air Force always encourages the domestic Defense Industry to be able to actively participate and take part in Offset contracts from the procurement of related Defense Equipment. Thus, the domestic Defense Industry can still benefit through the Transfer of Technology, training or other activities that lead to the maximum empowerment of the Defense Industry.

Regarding the Defense Equipment procurement policy, Let. Col. Supriyadi, Head of Sub-Directorate of IDKLO, Directorate of Defense Industrial Technology (Dittekinhan), explained clearly that the President's policy of "Love Domestic Products" is the goal of the development of the Defense Industry. The President's statement is also that "Purchase of Defense Equipment is an Investment", is in line with the objectives of Law

no. 16 yrs 2012 towards independence. The application is with an Offset, one of which is in the form of Transfer of Technology, which is an investment so that in the future it can be independent in the production and maintenance of Defense Equipment.

The same thing was conveyed by Sena, Official of the Defense Industry Policy Committee (KKIP), in an interview saying with the "Independence Principle" the implementation of the domestic Defense Industry must be able to meet the needs of the country's Defense Equipment with existing domestic resources. The meaning of the President's emphasis on "Love Domestic Products", emphasizes that it is mandatory to use Defense Equipment that can be produced in the domestic Defense Industry so that it is expected to encourage the realization of the independence of the Defense Industry. Likewise, the Defense Industry must have investment value, meaning that it can create a national ecosystem that can provide national economic value.

The Directorate of Defense Industrial Technology (Dittekinhan), Col. Dedy Laksmono, explained that the Defense Industry development process by the Ministry of Defense is to lead to self-sufficiency in the production and maintenance of Defense Equipment with the mechanism of registration, replenishment and capacity building of the Defense Industry by encouraging R&D, utilizing foreign purchases with the Offset program and encourage the Defense Industry to cooperate with domestic and foreign industries, as well as promote Defense Industry products in the global market. However, the grouping based on ecosystem has not been implemented, so it cannot be identified the role of each Defense Industry in the function of making Defense Equipment. In fact, the listed industries have not been grouped based on the main component products, supporting components and raw materials.

Furthermore, the Government has passed Law no. 11 of 2020 concerning Job Creation Act on October 5, 2020. The law regulates several sectors including the Defense and Security Industry. One of these regulatory changes allows the involvement of the private sector in the development of Defense Equipment. According to the government, the involvement of these parties aims to make the Defense Industry sector more dynamic and progressive in terms of investment. The government also added that the national Defense Industry from upstream to downstream remains fully controlled by the Ministry of Defense. The ratification of the Job Creation Act opens a new chapter in the effort to develop the independence of the national strategic industry.

Presence of the Supervisory Committee

The government has established an organization that functions to formulate and evaluate policies regarding the development and utilization of the Defense Industry named KKIP (Committee on Defense Industry Policy) through Presidential Decree No. 59 of 2013. KKIP is a government organization, particularly at the Ministry of Defense whose task is to coordinate national policies in planning, formulation, implementation, control, synchronization and evaluation related to the Defense Industry. KKIP is expected to be able to realize the independence of the Defense Industry in Indonesia, especially to supply the internal needs of the Indonesian National Armed Forces, including seizing other regional and foreign markets, so that KKIP as the planner of the Defense Industry organizer is strategic by accommodating the interests of users and the Defense Industry.

In realizing the independence of the Defense Industry and the use of Supporting Industries, KKIP said that the development of technology and the Defense Industry is carried out by the Directorate General of Defense Potential of the Ministry of Defense who is in charge of formulating and implementing policies in the field of defense potential. Then in accordance with Law no. 16 of 2012 concerning the Defense Industry, Article 13

of the use of Supporting Industries, has actually been regulated, Supporting Industries (suppliers) are producing spare parts for Defense Equipment, spare parts for main components, and/or producing supply products.

Therefore, the idea about the use of supporting industries is that KKIP makes Defense Industry policies, production to produce defense and security tools, and maintenance services to fulfill strategic interests in the defense and security sector as outlined in the Road Map policy for the development of the Defense Industry. It contains, among other things, that state and private companies also build a supply chain ecosystem to support the independence of the Defense Industry.

KKIP as the supervisory committee stipulates the standardization of Defense Industry products, namely Technical Specifications, Operational Requirements & Design and Construction. Based on the Job Creation Act, private companies can become the lead integrators of the Defense Industry, but certain requirements are needed in order to have Production Standardization and Defense Industry MRO, especially in Management, including:

- a. HR; Skill; expertise; competence & organizing; intellectual property, expertise certification & professional code of ethics.
- b. Mastery of Key Technologies.
- c. Capacity, production capability of the Defense Industry, namely
 - Use of domestic raw materials and components.
 - Produce optimal products and are oriented towards new products and improving the quality of existing products.
 - Business expansion and production capacity increase of the Defense Industry.
- d. Capital Ownership,
- e. Infrastructure, Production Facilities and Maintenance Services;
- f. Research and Development of Defense Industry.

In addition, in the selection of Defense Equipment for procurement, KKIP involves Defense Strategy (Strahan), Defense Force (Kuathan), Defense Planning (Renhan) and Defense Facilities Agency (Baranahan) where Operational Requirements and Technical Specifications are submitted by the user. According to KKIP, the things that become the basis for the selection of Defense Equipment are, among others:

- a. Faced with user needs with the essence of threats according to the Force Dimensions as outlined in the Defense Equipment Needs Plan.
- b. Faced with the production capabilities of the Defense Industry,
- c. Faced with the political capacity of the budget set by the government.

Furthermore, in every procurement/purchase of Defense Equipment, it must still refer to the Defense Posture development plan as outlined in 3 Strategic Plans until 2024 in order to achieve MEF strength. However, according to KKIP, there are obstacles faced in achieving the MEF, including:

- a. There is a budget refocusing that affects the plan for the Defense Equipment purchase contract;
- b. User commitment in purchasing domestic Defense Industry products;
- c. Service to users (Delivery Time, Product Quality, etc.)

Meanwhile, Lt. Col. Supriyadi, Head of Sub-Directorate of IDKLO, Directorate of Defense Industrial Technology (Dittekinhan), in an interview said that KKIP has not played its proper role in accordance with the applicable law, namely planning for the implementation of a strategic Defense Industry by accommodating the interests of Users and the Defense Industry. Furthermore, Lt. Col. Supriyadi was of the opinion that the duties and functions of KKIP were to carry out the function of formulating and evaluating

policies regarding the development and utilization of the Defense Industry, but the duties and authorities of KKIP in accordance with Article 21 of Law 16 of 2012 have not been carried out properly, such as:

- a. formulate strategic national policies in the field of Defense Industry; (there is not any yet)
- b. prepare and form a master plan for the Defense Industry for the medium and long term; (there is not any yet)
- c. coordinate the implementation and control of the national policy of the Defense Industry; (there is not any yet)
- d. stipulate a policy to fulfill the need for Defense and Security Equipment Tools; (annulled by Law No. 11 of 2020 concerning Job Creation Act)
- e. coordinate foreign cooperation in the context of advancing and developing the Defense Industry; (there is not any yet)
- f. establish Defense Industry standards; (there is not any yet)
- g. formulate a funding and/or financing policy for the Defense Industry; (there is not any yet)
- h. carry out monitoring and evaluation of the implementation of Defense Industry policies on a regular basis. (there is not any yet)

So it is clear that KKIP as an organization representing the wishes of the people and the Indonesian nation as a whole, has not played a role or functioned as it should, in other words, the KKIP organization has not implemented the orders of the law.

CONCLUDING REMARKS

In general, although Indonesia already has a Defense Industry with a long history, it should be acknowledged that its existence is not yet optimal. The desire to empower the National Defense Industry will be faced with the reality of limited national resources. To be able to compete with other developed countries, the domestic defense industry needs to involve a number of stakeholders and related components involved, such as government and non-government elements, state and private companies, manufacturers of materials, components, sub-components and system integrators, foreign and domestic actors. Therefore, the development of the Defense Industry requires efforts with a dual approach that is carried out simultaneously and in rhythm in an integrated manner.

PT. Dirgantara Indonesia continues to strive to support the independence of the Defense Industry by continuing to carry out the National Strategic Program and collaborating with several other Supporting Industries. The government as the regulator has also issued policies, such as establishing a KKIP tasked with coordinating national policies related to the Defense Industry and ratifying Law Number 16 of 2012 concerning the Defense Industry and Law no. 11 of 2020 concerning Job Creation Act to support the independence of the Defense Industry.

The development of the self-reliance of the Defense Industry is an agenda launched by the government since 2010. However, it must be acknowledged that so far there are still challenges in aligning the capacity of the national Defense Industry with the needs of the military. Although the Offset and Transfer of Technology policies have been implemented in Indonesia, their implementation has not been maximized in supporting the mastery of national defense technology, thus hampering the achievement of the independence of the Defense Industry, especially at PT. Dirgantara Indonesia.

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