

## DEVELOPING SELF-RELIANCE IN THE DEFENSE INDUSTRY

*Mengembangkan Kemandirian Dalam Industri Pertahanan*

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**Abstrak.** Sektor pertahanan merupakan landasan yang sangat penting, yang tidak hanya mencerminkan kekuatan militer tetapi juga kapasitas teknologi dan industri suatu negara. Di kawasan ASEAN, pentingnya industri pertahanan yang mandiri menjadi hal yang terpenting mengingat beragamnya sifat negara-negara anggota dan tujuan bersama dalam menjaga stabilitas regional. Artikel ini berupaya memahami jalan menuju otonomi di sektor pertahanan bagi negara-negara ASEAN. Dengan mengadopsi metodologi penelitian kualitatif, studi ini menyelidiki faktor-faktor mendasar yang mempengaruhi kemandirian dalam industri pertahanan. Tujuan inti dari penelitian ini adalah untuk memahami pendorong mendasar yang mendorong negara-negara untuk mencapai kemandirian dalam industri pertahanan. Laporan ini mengungkap tantangan-tantangan seperti ketergantungan teknologi, kendala keuangan, dan hambatan kebijakan. Namun, muncul strategi-strategi potensial yang mendorong inovasi, kolaborasi intra-ASEAN, dan peran pendidikan dalam mendorong kemandirian. Rekomendasi-rekomendasi diberikan, yang menggarisbawahi pentingnya visi dan strategi pertahanan terpadu untuk meningkatkan kemampuan pertahanan kolektif ASEAN. Upaya mencapai otonomi pertahanan bukan sekadar unjuk kehebatan militer, melainkan cerminan aspirasi ASEAN untuk kemandirian regional, inovasi teknologi, dan kemajuan ekonomi. Jalan menuju kemandirian dalam industri pertahanan sangatlah rumit dan menantang, investasi strategis, kolaborasi, dan berbagi pengetahuan dapat memfasilitasi realisasi tujuan penting ini. Menerapkan strategi-strategi ini tidak hanya menjamin otonomi militer tetapi juga mendorong persatuan regional, kemajuan teknis, dan pertumbuhan ekonomi.

**Kata Kunci:** ASEAN, Pertahanan, Industri, Kemandirian, Teknologi

**Abstract.** The defense sector stands as a pivotal cornerstone, reflecting not just military might but a nation's technological and industrial capacities. Within the ASEAN region, the significance of a self-reliant defense industry becomes paramount given the diverse nature of member countries and the shared objective of regional stability. This article seeks to understand the path toward autonomy in the defense sector for ASEAN nations. By adopting a qualitative research methodology, the study delves into the underlying factors that influence self-reliance in the defense industry. The core objectives of this research are

to understand the fundamental drivers pushing nations to seek self-reliance in the defense industry. It uncovers challenges such as technological dependence, financial constraints, and policy barriers. However, potential strategies emerge, promoting innovation, intra-ASEAN collaboration, and the role of education in fostering self-sufficiency. Recommendations are provided, underscoring the importance of unified defense visions and strategies to bolster the collective defense capabilities of ASEAN. The pursuit of defense autonomy is not just a display of military prowess but a reflection of ASEAN's aspirations for regional independence, technological innovation, and economic progression. The path to self-reliance in the defense industry is intricate and challenging, strategic investments, collaboration, and knowledge-sharing can facilitate the realization of this vital goal. Embracing these strategies ensures not only military autonomy but also fosters regional unity, technical advancement, and economic growth.

Keywords: ASEAN, Defense, Industry, Self-Reliance, Technological

## 1. Introduction

The defense industry is a crucial sector for any country since it showcases not only its military strength but also its technological and industrial capabilities. Within the framework of ASEAN, characterized by its varied member nations and a common goal of regional security, the establishment of an independent military sector has become progressively more important. The establishment history of the ASEAN military Industry Collaboration (ADIC) highlights the progressive dedication and aspiration towards achieving enhanced self-reliance in military capabilities (Smith, 2016; 92). This trend is reinforced by analyzing the primary defense exporters to Southeast Asia, where nations such as Indonesia are becoming key focal points. Indonesian state-owned firms, namely PT Pindad, PT Pal, and PT DI, have expanded their presence in many defense sectors, including ground equipment, maritime defense, and aerospace. This demonstrates Indonesia's ambitious goals in the defense industry (Hariyadi, 2019; 47-50).

Nevertheless, the journey towards achieving a completely independent military sector in ASEAN is fraught with complex obstacles encompassing technological, financial, and policy barriers. These issues require thorough tactics, promoting a culture of innovation and collaboration to enhance the defense industry's ability to rely on itself. An encouraging possibility in this regard is the opportunity for inter-ASEAN military industry collaboration, utilizing combined capabilities and knowledge (Tan, 2017; 130). Moreover, universities, as strongholds of knowledge and research, have a crucial responsibility to serve the military sector by undertaking research and development activities and fostering the development of qualified individuals. ASEAN's pursuit of self-sufficiency in its defense sector encompasses not only military prowess, but also reflects its desire for regional independence, technical innovation, and economic development.

The defense industry plays a vital role in any nation as it not only demonstrates its military power but also highlights its scientific and industrial prowess. Within the context of ASEAN, which is distinguished by its diverse member countries and a shared objective of

regional security, the creation of an autonomous military sector has increasingly gained significance. The inception of the ASEAN Defense Industry Collaboration (ADIC) underscores the continuous commitment and ambition to attain improved self-sufficiency in military capabilities (Smith, 2016; 92). This tendency is strengthened by examining the main defense exporters to Southeast Asia, where countries like Indonesia are emerging as crucial focal points. Indonesian state-owned companies, specifically PT Pindad, PT Pal, and PT DI, have broadened their involvement in several defense industries, encompassing land-based equipment, naval defense, and aerospace. This exemplifies Indonesia's ambitious objectives in the defense sector (Hariyadi, 2019; 47-50).

However, the process of attaining a fully autonomous military sector in ASEAN is hindered by intricate challenges that involve technological, financial, and policy constraints. To address these challenges, it is necessary to employ comprehensive strategies that foster a culture of innovation and collaboration, thereby strengthening the defense industry's self-reliance. A promising prospect in this context is the chance for inter-ASEAN cooperation in the defense industry, leveraging collective strengths and expertise (Tan, 2017; 130). In addition, universities, as centers of information and research, have a vital obligation to support the military sector through conducting research and development projects and nurturing the growth of skilled persons. ASEAN's quest for self-sufficiency in the defense sector covers not only military strength, but also signifies its aspiration for regional autonomy, technological advancement, and economic progress.

The ASEAN area, despite its collective endeavors to establish a strong defense industry collaboration, continues to heavily depend on major world powers for its defense capabilities. The reliance on external suppliers, particularly the seven leading nations - Russia, the United States, France, Germany, China, South Korea, and England - arises from an intricate combination of historical connections, technological dominance of the suppliers, and geopolitical necessities.

In the past, some ASEAN countries established defense procurement connections after gaining independence from their colonizers. For example, Russia has played a major role in supplying countries like as Vietnam, mostly because of historical alliances and geopolitical factors (Nguyen, 2018; 53). In contrast, the United States has established itself as a significant defense ally for the Philippines and Thailand due to longstanding treaties and mutual defense agreements.

The undeniable technological advantage provided by these nations is evident. France and Germany offer advanced naval and aviation equipment that surpass the current production capability of ASEAN countries. Their sophisticated armaments and defensive mechanisms are not only seen as mere tools, but also as a demonstration of a nation's strategic prowess on the international stage.

China's emergence as a defense exporter in the region has been relatively recent, motivated by its geopolitical concerns in the South China Sea and its broader Belt and Road Initiative. South Korea has become a major participant in the military markets of nations such as

Indonesia and the Philippines, thanks to its excellent technology and reasonable prices. The United Kingdom, renowned for its illustrious naval heritage, has played a crucial role in providing marine resources, particularly to countries with vast coasts and significant maritime concerns.

However, the dependence on external sources poses difficulties. It hinders the growth of an independent defense industry inside ASEAN. Conversely, it links the strategic interests of ASEAN members to the geopolitical ambitions and disputes of the countries that provide the resources. As the ASEAN region becomes a battleground for struggle among major countries, the acquisition of defense assets from these powers could have significant consequences for regional stability and independence (Lee, 2019; 102).

## **2. Research Methodology**

For the research titled "Developing Self-Reliance in the Defense Industry," we adopted a qualitative research methodology, aiming to delve deep into the intricacies and underlying factors that contribute to self-reliance in the defense sector.

Our main data sources consist of in-depth interviews with defense industry experts, policymakers, and representatives of ASEAN countries participating in NADI activities in Melacca that have made significant progress in self-reliance. Supplementary data was sourced from defense journals, industry reports, and academic publications that discuss the trajectories, strategies, and challenges of nations striving for defense autonomy.

The core objectives of this research are to understand the fundamental drivers pushing nations to seek self-reliance in the defense industry. Identify successful strategies and best practices that have enabled certain nations to achieve notable self-reliance in their defense sectors. Ascertain the challenges and barriers faced in the journey towards defense autonomy. Extrapolate lessons and insights that can guide nations aiming to bolster their indigenous defense capabilities.

Once the data was collected, a thematic analysis approach was employed. Transcripts from the interviews were meticulously read and re-read to identify patterns, themes, and recurring motifs. These themes were then cross-referenced with secondary data sources to validate and contextualize the findings. NVivo, a qualitative data analysis software, was used to assist in coding and categorizing the data. Through this method, we aimed to uncover deep insights into the journey towards self-reliance in the defense industry, painting a comprehensive picture of the challenges, successes, strategies, and prospects of defense autonomy.

## **3. Discussion**

### **a. The Pillars of Indonesian Defense: PT Pindad, PT Pal, and PT DI**

The Indonesian defense industry's rise as a significant regional player can be traced back to its strategic decision to cultivate and nurture state-owned enterprises that specialize in defense production. These companies, namely PT Pindad, PT Pal, and PT DI serve as the

backbone of Indonesia's defense capabilities, and their contributions have been paramount in ensuring that Indonesia remains both resilient and self-reliant in its defense endeavors.

Starting with PT Pindad, established in the mid-20th century, this enterprise quickly became Indonesia's primary producer of land-based defense equipment (Siswanto, 2008; 142). Its array of products ranges from small arms and ammunition to armored vehicles and other essential equipment. The company's aim has always been to reduce Indonesia's dependence on foreign arms and to develop a robust local defense manufacturing capability.

PT Pal, on the other hand, has been instrumental in advancing Indonesia's maritime defense capabilities. Being an archipelagic nation, it's of paramount importance for Indonesia to have a strong naval presence. PT Pal's shipyards have produced a myriad of vessels, from patrol boats to sophisticated frigates, thereby ensuring that the Indonesian Navy remains a formidable force in the region (Rahman, 2010; 189).

Lastly, the PT DI stands as a testament to Indonesia's ambitions in the aerospace sector. Aircraft like the CN-235 have not only been used domestically but have also been exported, showcasing the quality and capability of Indonesian aerospace engineering (Putra, 2012; 76).

The overarching narrative around these state-owned enterprises is their role in fulfilling Indonesia's twin objectives: ensuring national security and boosting economic growth. By fostering local defense production, these companies not only provide the military with the required equipment but also generate employment, drive technological innovation, and stimulate various ancillary industries, thereby making significant contributions to Indonesia's economic growth.

#### **b. Defense Industry Development Challenges**

The path to achieving self-reliance in the defense industry is fraught with a multitude of challenges, each requiring astute strategies and commitment to surmount. Foremost among these challenges is the lack of sufficient investment and strategic planning, which often impedes long-term growth and sustainability in the sector. Furthermore, many research and development endeavors in the industry remain confined to prototype designs or purely experimental stages, lacking scalability and practical application. Another significant obstacle is the enduring dependence on foreign technology, which diminishes the autonomy of national defense capabilities. Similarly, the reliance on foreign components further exacerbates this vulnerability, making defense systems susceptible to supply chain disruptions. Coupled with this is the stagnation of budgetary allocations, which restricts modernization efforts and innovation. The industry also grapples with an underdeveloped ecosystem that fails to seamlessly integrate the government, private sectors, and research institutions. Lastly, the challenges tied to economies of scale, where limited production often results in higher costs and inefficiencies, further strain the pursuit of a self-sufficient defense industry.



**c. Strengthening the Independence of the Defense Industry**

Establishing self-sufficiency in the military industry requires a comprehensive approach that is based on policies and strategies aimed at enhancing domestic capabilities, promoting innovation, and expanding knowledge resources. A key strategy is to strengthen domestic industry, supported by governmental adjustments that increase military exports. This approach provides a twin boost to the sector. It is important to require the transfer of technology in defense procurement agreements so that each purchase improves the country's domestic technological capabilities. Financial incentives, such as tax reductions, play a crucial role in attracting investments into the defense sector. Simultaneously, government-supported investment in innovative research can serve as the foundation for revolutionary progress. Enhancing industrial partnerships can promote the exchange of knowledge and skills, bridging gaps and promoting collective growth. Having complete control over technology, supported by continuous internal knowledge sharing, is essential for achieving full independence. However, in addition to the current efforts, proactive measures such as substantial funding in education, particularly in several technical disciplines, guarantee a consistent influx of proficient experts. This strategy not only strengthens the current situation but also guarantees that future generations are adequately prepared to continue the legacy of self-sufficiency.

**d. The Path to a Unified Defense Vision: Collaborative Strategies for ASEAN's Defense Industry**

The ASEAN bloc, having navigated through decades of geopolitical, economic, and socio-cultural evolution, stands at a juncture where strategic collaboration can significantly enhance its collective defense autonomy. Recognizing this, seven pivotal recommendations emerge, framing a roadmap to fortify the ASEAN defense landscape. Firstly, by mapping strategic schemes and plans, ASEAN nations can harmonize their defense visions, ensuring concerted efforts and unified goals (Diaz, 2008; 23). Next, to leapfrog into the vanguard of defense technologies, facilitating the exchange of technology and knowledge in the defense domain is indispensable, acting as the fulcrum for innovation and adaptation (Phan, 2010; 135).

Moreover, by strengthening collaboration in addressing common security challenges, ASEAN can harness collective intelligence, thereby formulating robust and comprehensive responses (Wijaya, 2012; 48). This is further buttressed by a commitment to self-reliance in the defense industry within the ASEAN region, underscoring the ethos of 'By ASEAN, For ASEAN' (Ng, 2015; 102). Bilateral dynamics also play a pivotal role. By actively conducting various bilateral agreements centered on defense industry collaboration, nations can pool resources, expertise, and strategic capabilities, amplifying the bloc's collective defense prowess (Kumar, 2017; 89). Lastly, the ASEAN Confident Building Measure emerges as a quintessential tool, ensuring that all defense collaborations are rooted in trust, transparency, and mutual respect, fortifying the foundations for sustainable collaboration (Tan, 2014; 77).

### **1) Strategic Visioning for a Resilient ASEAN Defense Industry: The Imperative of Mapping Strategic Schemes and Plans**

The historical tapestry of the ASEAN region is rich with diverse cultures, socio-economic matrices, and most notably, distinct strategic defense postures that have evolved over the decades. Against this backdrop, the call for a unified and robust ASEAN defense industry necessitates the intricate task of mapping out strategic schemes and plans. At its core, this process is about synchronizing the defense objectives of ten sovereign nations, each with its unique security concerns and geopolitical challenges (Suharto, 1995; 34), fully realizing the potential of ASEAN's defense industry collaboration requires anticipation, deliberate planning, and a sincere commitment to partnership.

First and foremost, it is essential to have a thorough comprehension of the defense capabilities, requirements, and strategic perspectives of each member state. This will establish the fundamental basis on which collaborative schemes can be formulated. It is recommended to establish regular military dialogues and symposia to create an atmosphere where ASEAN defense officials and policymakers can convene and discuss their collective security objectives and goals (Lim, 2004; 102).

In addition, the establishment of a centralized ASEAN defense database, which is regularly updated every two years, can offer a current overview of the defense capabilities, resources, and ongoing initiatives among the member countries. A platform of this nature would streamline the process of identifying areas where collaborative projects might achieve the best possible outcomes, in terms of both resource allocation and strategic goals (Nguyen, 2015; 156).

An effective strategic mapping would also include the identification of potential risks and challenges, both traditional and non-traditional, that the region may encounter. By embracing a proactive strategy, ASEAN can guarantee that its defense sector is not merely responding to current issues but is also preparing for future circumstances (Rahman, 2018; 189).

The foundation of this partnership should revolve around a collective vision that is aligned with the distinct military and security requirements of every ASEAN member state. Before embarking on particular joint ventures, it is crucial to build a well-defined ASEAN Defense Industry Collaboration Blueprint. This blueprint should not only identify areas of potential synergy but also establish standardized methods for the transfer of technology, collaborative research, and production.

An essential initial step would involve the formation of an ASEAN Defense Industry Council, which would unite prominent industry participants, officials, and defense specialists. The primary responsibilities of this council would include supervising the development of strategic roadmaps, determining the priority of collaborative initiatives according to regional security challenges, and facilitating the interchange of knowledge and technology.

Subsequently, the focus should be on utilizing the current military-industrial capacities of each particular ASEAN country. Through the identification and consolidation of mutually advantageous capabilities, the area can reap the advantages of a unified defense supply chain. For example, if Singapore demonstrates exceptional expertise in naval technological innovation and Indonesia has rapid growth in the aerospace industry, these respective capabilities can be combined to collaborate on joint projects. This collaboration would minimize duplication and optimize efficiency.

Moreover, it is crucial to cultivate a culture that encourages open communication and fosters trust. Regular symposiums and workshops within the ASEAN military sector might enhance this process, fostering a more profound comprehension of shared capabilities and requirements. For this collaboration to be enduring, it is imperative to establish a comprehensive structure that guarantees fair allocation of advantages. This encompasses explicit directives for the distribution of profits, ownership of intellectual property, and collaborative output.

## **2) Leveraging Technology and Knowledge Exchange for a Resilient ASEAN Defense Industry**

Fundamentally, the crux of establishing a robust ASEAN defense sector is wholeheartedly embracing the ethos of partnership. Through the utilization of technology and the exchange of information, the area can effectively tackle its distinct difficulties and establish a specialized position in the global security arena. By fostering a sense of one purpose and cultivating a climate of mutual regard, the ASEAN defense sector has the potential to reach unparalleled levels of success. Facilitating the interchange of technology and knowledge related to defense capabilities is crucial for establishing a strong and interconnected ASEAN defense industry.

Traditionally, ASEAN member nations have possessed different degrees of technological expertise and defense infrastructure (Tan, 1998; 57). While several countries possess sophisticated defense research institutions, others possess highly qualified workforce and industrial capabilities. The presence of intrinsic variation highlights the significance of technology and the exchange of information. Through the dissemination of technological innovations, member states may enhance not only their military industries but also guarantee the collective resilience of the area against future threats.

Nevertheless, the process of technology exchange encompasses more than simply physical devices and computer programs; it also involves the transmission of expertise and optimal methods. Conducting regular workshops, symposiums, and joint training exercises can facilitate the exchange of knowledge and skills among defense personnel from other nations, leading to a positive cycle of ongoing learning and improvement (Aditya, 2010; 78).

Utilizing technology and facilitating the flow of knowledge is essential for establishing a strong and resilient military sector in ASEAN. By harnessing the varied qualities and advantages present in each member state, cooperative efforts can result in an outcome that surpasses individual contributions.



Creating an ASEAN Defense Technology and Knowledge Exchange Forum would have a significant impact. This forum would act as a conduit for member governments to demonstrate advancements, share insights, and cooperatively handle technological challenges. An establishment of such a forum will not only cultivate a sense of mutual trust and friendship but also guarantee that the region maintains a leading position in the development of defense technology.

Moreover, it is advisable to promote collaborative research and development (R&D) endeavors. Collaborating and combining resources can result in substantial financial savings, minimize unnecessary repetition, and stimulate the development of innovative solutions specifically designed to address the distinctive difficulties of the region. Collaborative research and development (R&D) in cyber defense can utilize Singapore's sophisticated cyber capabilities and Indonesia's extensive digital user base to create solutions that are strong and capable of expansion.

Another crucial approach is the establishment of Defense Innovation Hubs throughout ASEAN. These hubs, which might be situated in member states like Vietnam and the Philippines have rapidly growing technology industries, and can function as centers for fostering defense companies and innovation units. In addition, these centers can serve as training facilities, providing courses on cutting-edge technologies such as artificial intelligence in combat, drone technology, and electronic warfare. This ensures that ASEAN defense personnel stay informed about the most recent advancements.

Furthermore, to strengthen the transfer of information, it is essential to establish a consistent practice of people exchanges and collaborative training initiatives. By exposing defense professionals to various ASEAN defense ecosystems, their skill set is not only enhanced but also promotes a more profound feeling of regional camaraderie and comprehension.

### **3) Deepening Defense Ties through Enhanced Industry Cooperation in ASEAN**

The ASEAN defense landscape, while replete with individual capabilities, has witnessed periods of disjointedness due to a lack of structured industry cooperation. However, given the region's geopolitical intricacies and the burgeoning demand for cohesive security measures, facilitating cooperation in the defense industry stands paramount.

Addressing this requires a multi-faceted approach. At its core lies the need for an ASEAN Defense Industry Council, a proposal often debated in regional dialogues. Such a council would oversee joint defense procurement, standardization of equipment, and collaborative defense research and development projects (Sukma, 2010; 158). By pooling resources and expertise, member states could leverage economies of scale, reduce redundancy, and ensure a coherent defense acquisition strategy.

Another avenue to explore is the creation of a regional defense industry consortium. This would allow member states to collaboratively bid for international defense contracts, fostering a sense of unity and ensuring that the benefits of such contracts are equitably

distributed (Chang, 2015; 92). Moreover, such consortiums can also stimulate technological innovation by fusing the expertise of different countries.

Strengthening industrial cooperation is a crucial approach to enhance defense ties and establish a robust and resilient ASEAN military industry on the global platform. Due to the strategically important location of the ASEAN region and the diverse capabilities of its member nations, a cooperative approach has the potential to bring about significant changes that would improve both regional security and economic development.

Firstly, it is imperative to establish the "ASEAN Defense Industrial Council" (ADIC) without delay. This entity would be responsible for supervising and harmonizing the defense industry capacities across the member nations. The ADIC would frequently gather to discuss topics of shared interest, explore opportunities for collaboration, and facilitate cooperative business endeavors, guaranteeing that the entire region benefits from the specialized knowledge and capabilities of each member country.

Regular ASEAN Defense Expositions can function as platforms for displaying regional capabilities, hence promoting commerce in defense equipment within the ASEAN region. By giving greater importance to regional partners rather than entities from outside the region, ASEAN can guarantee that monies stay within the community, thus strengthening regional economic stability even more.

In addition, regular defense industry exhibitions and meetings held within ASEAN might function as platforms for member nations to display their progress, pursue collaborations, and get insight into the defense requirements of their neighboring countries. This not only encourages the use of local products but also emphasizes the notion of "ASEAN for ASEAN" about defense solutions.

Moreover, the implementation of uniform standards throughout the ASEAN defense sector is of utmost importance. Establishing a standardized set of rules and benchmarks will streamline collaboration, save unnecessary repetition, and guarantee the compatibility of defense systems and platforms among member states. The implementation of standardized processes can yield significant advantages, especially in domains such as cybersecurity, naval vessel construction, and aerospace innovation.

Furthermore, to guarantee the long-term viability of these cooperative initiatives, it is crucial to build mutually beneficial training and education programs. These programs can encompass a wide range of topics, from courses on defense production to seminars on strategic defense management. These activities have a twofold objective: to improve the expertise of staff members and to cultivate a feeling of camaraderie and common goals among the participating nations.

An "ASEAN Defense Investment Fund" might be established to guarantee the economic sustainability of these initiatives. The fund, which is supported by all member states, would provide funding for collaborative initiatives, preventing any individual nation from shouldering an excessive financial responsibility.

#### **4) Addressing Security Challenges through Strengthened Collaboration in ASEAN**

Essentially, the ASEAN defense sector must enhance coordination to effectively tackle its complex security concerns. By implementing collaborative efforts, exchanging expertise, and adopting a unified vision, ASEAN may strengthen its overall security, guaranteeing a tranquil and steady future for its populace

A robust defense industry collaboration among ASEAN member states can serve as a keystone in overcoming these challenges, fostering regional stability, and demonstrating a united front on the global stage.

To begin with, a unified intelligence-sharing platform can prove to be transformational. Given the myriad security challenges, including those posed by non-state actors, transnational crime, and maritime threats, establishing an "ASEAN Intelligence Sharing Center" could facilitate the rapid exchange of information among member states. Such a center would help preempt threats, coordinate responses, and bolster collective security.

Strengthening defense collaboration can take many shapes. One of the foremost steps is the institutionalization of intelligence sharing. By creating a centralized intelligence platform, member states can access real-time data on threats, be it piracy in the Malacca Straits or terrorist activities in the archipelagos (Wah, 2018; 65).

Enhancing joint military exercises is another avenue to solidify defense collaboration. By simulating real-world scenarios that reflect the unique challenges of the region—whether maritime disputes, counterterrorism operations, or disaster response—these exercises foster interoperability, promote knowledge transfer, and ensure a coordinated and agile response to emergent situations.

ASEAN possesses a distinctive edge due to its varied physical and strategic locations, ranging from the dense forests of Laos and Cambodia to the vibrant straits of Singapore. Utilizing these diverse terrains for specialized training might help refine abilities that are relevant to specific security challenges.

Additionally, to tackle the cyber threat scenario, it is possible to build an "ASEAN Cybersecurity Coalition". This institution would not only exchange information on cyber risks but also collaborate in doing joint research and development for cyber protection tools, implementing best practices, and providing training. Given the digital age's intricacies, teamwork in cybersecurity guarantees that ASEAN's digital infrastructure and essential systems remain resistant to assaults.

In addition, the establishment of an "ASEAN Defense Industrial Base" can enhance the efficiency of defense manufacturing in the region. Through the combination of resources, specialized knowledge, and capabilities, this unified foundation could prioritize research and development, manufacturing, and acquisition of military equipment customized to meet the specific requirements of the region. This would guarantee self-sufficiency and decrease reliance on external organizations.

Additionally, promoting interpersonal connections through defense academic exchanges, training programs, and seminars can create a collective comprehension and reciprocal confidence among defense experts within ASEAN. Promoting such interactions guarantees that the upcoming cohort of defense officials possesses a comprehensive understanding of the region and appreciates the intricacies of cooperative defense tactics.

Formalizing ASEAN's defense coordination through treaties or agreements, such as a prospective "ASEAN Defense Pact," can legally establish the member states' mutual commitments to one another. An explicit structure would establish distinct roles, responsibilities, and collaboration methods, guaranteeing that the collective defense stance is both reactive and proactive.

### **5) Fostering Self-reliance in the ASEAN Defense Industry**

The quest for self-reliance in the defense industry has long been a strategic imperative for many nations. For ASEAN, a bloc characterized by diverse economies, varying technological capacities, and unique security concerns, this journey towards self-reliance assumes multifaceted dimensions. Given the historical context, the ASEAN nations, post their colonial eras, have largely depended on external sources for their defense equipment and capabilities (Sukma, 2011; 142). The 21st century, however, with its technological advancements and shifting geopolitical landscape, offers the region a distinct opportunity to forge a path of self-sustainability in defense.

Self-reliance for ASEAN does not merely translate to manufacturing weaponry or defense equipment indigenously but encompasses a broader spectrum. It's about establishing a sustainable ecosystem — from research and development, and skilled human capital, to local production capabilities. Such a holistic approach ensures not just the manufacturing of equipment but also the continuous innovation and adaptation of technology according to regional security needs (Than, 2018; 67).

The defense landscape in the ASEAN region is a dynamic one, punctuated by a diverse array of threats and challenges. Fostering independence in the ASEAN defense industry isn't just a matter of regional pride, but a strategic imperative that can bolster security, generate economic benefits, and position ASEAN as a key player in global defense dynamics.

First and foremost, promoting indigenous defense capabilities means developing a robust research and development (R&D) infrastructure. ASEAN nations should invest in specialized defense R&D facilities, while also fostering partnerships with universities and private sector entities. Collaboration between academia, industry, and military institutions can catalyze breakthroughs in defense technology, tailored to the specific security challenges faced by the region.

Secondly, joint procurement strategies can be a game-changer. While individual ASEAN nations might not have the demand to justify the development of certain high-tech defense platforms, a collective order can change the equation. Joint procurement not only ensures

economies of scale but can also lead to shared maintenance and training infrastructures, further reducing costs and enhancing interoperability among ASEAN armed forces.

Furthermore, to truly foster independence, ASEAN nations should focus on building a skilled workforce tailored to the defense sector's needs. This can be achieved through specialized defense-oriented academic programs, training modules, and internships in defense industries. Such initiatives will ensure a steady stream of talent, adept at innovating and adapting to the rapidly evolving defense landscape.

Financial independence is equally crucial. Establishing a dedicated ASEAN Defense Investment Fund can drive the development of indigenous capabilities. With pooled resources and collective decision-making, such a fund can channel investments into promising defense startups, R&D projects, and infrastructural developments that benefit the entire region.

In addition, the ASEAN defense industry can benefit immensely from an internal market prioritization strategy. Before looking for export opportunities, member states should prioritize supplying to fellow ASEAN countries. This approach not only strengthens the regional defense ecosystem but also builds trust and enhances interoperability among member states.

Lastly, platforms for regular dialogue and collaboration, such as annual ASEAN Defense Industry Collaboration Meetings, can be institutionalized. Such platforms can facilitate the sharing of best practices, identify areas for collaboration, and chalk out the future road map for the ASEAN defense industry.

Furthermore, there's an essential need for increased intraregional defense trade. Instead of competing, ASEAN nations should identify and leverage each member's strengths. For instance, while Singapore might excel in defense electronics due to its advanced technological base, Indonesia, with its vast industrial capacity, could focus on naval shipbuilding (Wong, 2020; 113).

Additionally, to negate the risks associated with over-reliance on external suppliers, particularly during geopolitical crises or global supply chain disruptions, ASEAN must invest in creating regional stockpiles and reserves of critical defense equipment and raw materials.

Fostering independence in the ASEAN defense industry is a multifaceted endeavor. Through collective investment in R&D, joint procurement strategies, workforce development, financial initiatives, and regular collaborative platforms, ASEAN can pave the way for a defense industry that's not just self-reliant but also a significant player on the global stage.

## **6) Bilateral Agreements as Catalysts for ASEAN Defense Industry Collaboration**

Essentially, bilateral agreements within the ASEAN defense sector offer exceptional potential, despite the particular advantages of multilateral accords. They facilitate concentrated and customized cooperation, functioning as experimental platforms for wider



efforts, establishing confidence among participating countries, promoting uniformity, and generating economic advantages through collaborative enterprises. As ASEAN focuses on a future of increased defense cooperation, these one-on-one interactions will have a crucial impact. An essential approach to strengthening the defense sector inside the ASEAN framework is to actively seek and promote bilateral agreements among its member nations (Jones, 2013; 159).

Defense sector bilateral agreements have several objectives. Firstly, they facilitate the direct transfer of technology, industrial practices, and R&D findings, enabling countries to leverage the advantages of their neighboring nations. These exchanges can also accelerate the process of technological adaptation, as technology obtained from other ASEAN countries can be more easily customized to meet the specific requirements of the acquiring country, due to the shared regional issues they encounter (Lim, 2017; 72).

Bilateral agreements in the defense industry typically focus on particular domains of proficiency or mutual concerns between two nations. For example, if two countries have conflicts over their maritime borders with states outside of ASEAN, they may decide to make a bilateral agreement to collaboratively create naval surveillance systems. These agreements bring together resources, technological expertise, and strategic knowledge from both nations, resulting in cost-effective and customized defense solutions.

Moreover, these bilateral agreements might function as experimental undertakings for broader, ASEAN-wide initiatives. Productive bilateral partnerships can be expanded and adjusted to encompass wider regional implementations, with the participating nations frequently assuming prominent positions in providing guidance and support to other ASEAN members in similar initiatives. When two nations effectively cooperate on a defense endeavor, it not only produces concrete outcomes or resolutions but also establishes a basis of confidence, establishing a model for other member states to emulate.

Additionally, these agreements can lead to standardized processes across the defense sector in ASEAN. For example, when two ASEAN countries reach a consensus on a shared communication system for their naval forces, it establishes a potential benchmark for other member states to follow, thereby fostering interoperability across the armed forces of ASEAN.

Within the field of economics, bilateral defense agreements have the potential to foster collaborative endeavors between defense companies from the participating nations. These collaborative partnerships have the potential to access broader markets by utilizing the collective brand power, distribution networks, and technological expertise of companies from both nations. Moreover, prosperous joint ventures have the potential to motivate other military enterprises in ASEAN to pursue comparable collaborations, thereby promoting a cooperative economic ecosystem in the region.

Moreover, bilateral agreements possess significant economic worth. These agreements can result in the creation of partnerships, where companies collaborate on projects such as joint ventures, shared manufacturing facilities, and integrated research and development

centers. This ensures that the economic advantages are fairly distributed and contribute to the growth of all parties involved (Santoso, 2019; 55).

#### **7) ASEAN Confidence Building Measures: Strengthening Regional Defense Collaboration**

ASEAN's strategic stability and security depend heavily on the trust and collaboration among its member states. CBMs, through the myriad of initiatives mentioned, can serve as the bedrock upon which a cohesive, responsive, and formidable ASEAN defense collaboration can be built, ensuring that the region remains peaceful, prosperous, and secure in an increasingly uncertain world. The ASEAN Confidence Building Measure (CBM) is a testament to this understanding, aiming to fortify defense ties and instill mutual trust within the ASEAN community (Sukma, 2003; 104).

The premise of the ASEAN CBM revolves around a series of structured, transparent actions and initiatives that diminish uncertainties, reduce suspicions, and alleviate potential security threats among member states. By offering a fine glimpse into each nation's defense strategies, objectives, and capabilities, CBMs ensure that nations operate on a foundation of clarity, avoiding miscalculations that can escalate into conflicts (Huxley, 1996; 77).

One of the notable achievements of ASEAN CBMs has played an instrumental role in promoting arms control dialogues, disarmament discussions, and sharing of intelligence on non-traditional security threats. Such cooperative ventures ensure that the ASEAN region is better equipped to counter modern challenges, ranging from cyber warfare to terrorism, collectively.

Confidence Building Measures (CBMs) are foundational for fostering trust and promoting collaboration among nations, particularly in the realm of defense. For ASEAN, a region characterized by a diverse tapestry of geopolitics, histories, and defense concerns, CBMs are essential in solidifying the foundation upon which robust defense collaboration can be built. In the ASEAN context, defense collaboration through CBMs can be approached in several strategic layers.

First, transparency and Communication. ASEAN member states can prioritize routine and transparent sharing of military activities, exercises, and procurements. This ensures that no single activity is misinterpreted as aggressive or threatening. Regular defense dialogues, where member nations update one another on their defense strategies and potential changes to their defense postures, can significantly reduce the risk of misunderstandings. Second, collaborative military exercises are practical embodiments of CBMs. These exercises, which can range from naval drills to counter-terrorism operations, allow member states to understand each other's military protocols, strengths, and limitations. Beyond fostering trust, such exercises enhance interoperability, ensuring that ASEAN forces can operate seamlessly should a collective response to a threat be required.

Third, investing in joint defense education initiatives where rising military officers from ASEAN nations study together can foster personal bonds and shared understandings. Such

initiatives range from short-term courses on specific defense topics to full-fledged scholarships for long-term programs at prestigious defense institutions. Fourth, Arms Control Initiatives. Such initiatives can include agreements on limiting the procurement of certain categories of weapons or ensuring that arms races, which can be both economically draining and geopolitically destabilizing, are avoided.

Fifth, a mechanism to share intelligence, especially concerning non-traditional security threats like terrorism, piracy, and cyber-attacks, can be instrumental. By pooling resources and intelligence, member states can benefit from a more holistic understanding of threats, enabling more effective, collective countermeasures. Sixth, ASEAN nations, given their shared geographies and threat perceptions, can collaboratively invest in defense R&D. Such collaboration not only spreads the R&D costs but also ensures that the resulting technologies are tailored for regional needs.

#### **4. Conclusions**

While the path to self-reliance in the defense industry is intricate and challenging, strategic investments, collaboration, and knowledge-sharing can facilitate the realization of this vital goal. Embracing these strategies ensures not only military autonomy but also fosters regional unity, technical advancement, and economic growth.

The defense industry holds paramount importance for any nation. For ASEAN, with its diverse member countries united by a common security goal, the development of a self-reliant defense sector has risen as a strategic imperative. This aspiration mirrors not only a desire for military self-sufficiency but also a broader objective of regional independence, technical innovation, and economic development.

For genuine self-sufficiency, ASEAN nations must adopt comprehensive policies promoting domestic capability enhancement, knowledge expansion, and innovation. Mechanisms include incentivizing the defense sector through financial aid, facilitating technological transfer in procurement agreements, strengthening industry partnerships, and investing heavily in education to cultivate the next generation of defense technology experts.

For the ASEAN bloc, achieving a shared vision for defense requires a multi-pronged approach: harmonizing defense strategies, sharing technological and knowledge resources, collaborating to address shared security challenges, and building trust through transparency and mutual respect. Such a unified approach, underlined by the philosophy of 'By ASEAN, For ASEAN', can potentially elevate the region's collective defense capabilities, ensuring long-term regional stability and prosperity.

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