

The Historical Development and Strategic Importance of Türkiye's Defence Industry

Türkiye Savunma Sanayisinin Tarihsel Gelişimi ve Stratejik Önemi

*Merve Suna ÖZEL ÖZCAN**

*Ezgi ŞAHİN***

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Abstract

Türkiye is located in the crucial and strategic hub, connecting Western and Eastern civilizations and functioning as a bridge between Asia and Europe. This unique position endows the country with a rich historical and cultural heritage and exposes it to significant security threats. Situated at the crossroads of conflict-prone regions such as the Caucasus, the Middle East, the Balkans, and Türkiye, it is vital to the Western world due to its strategic position on NATO's southern flank. In this context, it is a critical factor in advanced security policies and modern warfare. Türkiye's defence industry strategy is directly shaped by the security sensitivities arising from its geopolitical position. So, the domestic production strategy is developed through a holistic approach that encompasses all stakeholders in the defence industry ecosystem. The process involves proactive engagement, continuous improvement, and accountability principles. The historical evolution of advancements in the defence sector underscores the significance of technological independence and strategic collaborations. This study examines Türkiye's defence industry transformation by analyzing the historical developments from the Ottoman Empire to the present day. The modernized defence industry is highlighted as a strategic imperative for military and economic independence, driving technological progress. In particular, unmanned systems, domestic production projects, and high-tech solutions are critically important in addressing Türkiye's regional security needs and supporting its vision as a global power.

Keywords: Türkiye, Defense Industry, Geopolitics, Turkish Defence Industry.

* Doç. Dr. Kırıkkale Üniversitesi, İİBF, Uluslararası İlişkiler Bölümü, mervesuna@kku.edu.tr, ORCID: 0000-0001-9027-3990

** Yüksek Lisans Öğrencisi, Kırıkkale Üniversitesi, Sosyal Bilimler Enstitüsü, Uluslararası İlişkiler Anabilim Dalı, ezgisahin-ogr@kku.edu.tr, ORCID: 0000-0002-3676-4905

Özet

Türkiye, Batı ve Doğu medeniyetlerini birbirine bağlayan kritik ve stratejik bir merkezde yer almakta olup, Asya ile Avrupa arasında köprü işlevi görmektedir. Bu benzersiz konum, ülkeye zengin bir tarihsel ve kültürel miras kazandırırken, aynı zamanda önemli güvenlik tehditlerine de maruz bırakmaktadır. Kafkasya, Orta Doğu ve Balkanlar gibi çatışma bölgelerinin kesişim noktasında bulunan Türkiye, NATO'nun güney kanadındaki stratejik konumu nedeniyle Batı dünyası açısından büyük bir öneme sahiptir. Bu bağlamda Türkiye, gelişmiş güvenlik politikaları ve modern savaş stratejileri açısından kritik bir aktör olarak öne çıkmaktadır. Türkiye'nin savunma sanayii stratejisi, jeopolitik konumundan kaynaklanan güvenlik hassasiyetleri doğrultusunda şekillenmektedir. Bu doğrultuda, yerli üretim stratejisi, savunma sanayii ekosistemindeki tüm paydaşları kapsayan bütüncül bir yaklaşımla geliştirilmektedir. Süreç; proaktif katılım, sürekli iyileştirme ve hesap verebilirlik ilkelerine dayanmaktadır. Savunma sektöründeki tarihsel gelişim süreci, teknolojik bağımsızlığın ve stratejik iş birliklerinin önemini vurgulamaktadır. Bu çalışma, Osmanlı İmparatorluğu'ndan günümüze Türkiye'nin savunma sanayisinde yaşadığı dönüşümü analiz ederek savunma sanayiinin tarihsel gelişimini incelemektedir. Modernize edilen savunma sanayii, askeri ve ekonomik bağımsızlık açısından stratejik bir gereklilik olarak öne çıkarken, aynı zamanda teknolojik ilerlemeyi de tetiklemektedir. Özellikle insansız sistemler, yerli üretim projeleri ve yüksek teknoloji çözümleri, Türkiye'nin bölgesel güvenlik ihtiyaçlarını karşılamada ve küresel güç vizyonunu desteklemede kritik bir rol oynamaktadır.

Anahtar Kelimeler: Türkiye, Savunma Sanayii, Jeopolitik, Türk Savunma Sanayisi.

Introduction

The geographical location of a country and its proximity to strategic regions and centres of power constitute a fundamental factor in determining its strategic significance and global status. In this context, Türkiye finds importance as it is located on the one of the most strategic regions in the world. The Anatolian Peninsula bridges the continents of Asia and Europe and is recognized as a central hub, connecting Western and Eastern civilizations (Özlü, 2022). This unique position has not only endowed Anatolia with a rich historical and cultural heritage but also subjected it to constant threats. Türkiye plays a critical role geopolitically and geo-strategically, situated at the nexus of conflict-prone regions such as the Caucasus, the Middle East, and the Balkans. Furthermore, Türkiye's position on NATO's southern flank reinforces its strategic significance for the Western world (Seren, 2020).

Advanced or high technology often emerges as a decisive factor in the context of security policies and warfare. The approaches of major global actors—situated at the centre of world politics—toward strategic, defence-oriented research and technology and their methods of allocating resources to various technological fields significantly shape security policies and their relations with other international actors (Hensel, 2015).

Thus, enhancing investments in technological development and achieving self-sufficiency within the defence industry have emerged as key priorities for Türkiye. Türkiye has adopted an assertive foreign policy by exporting domestically manufactured weapons and expanding its military presence abroad, supported by a strong defense industry. Türkiye's diverse security threats, the rising potential for regional conflicts, and the need to reduce dependency on foreign suppliers in the defence industry have significantly heightened the necessity for a robust military and a domestic and national defence sector. The defence industry, also called the military-industrial complex, encompasses a network of enterprises that design, and manufacture

the weapon systems required by a nation's armed forces (Yeşilyurt, 2019). This study associates Türkiye's defence industry strategy with the security sensitivities stemming from its geopolitical position (Akyar, 2023). The defence industry strategy emerges as a multidimensional framework supporting Türkiye's foreign policy and security policies. In this context, the prioritization of domestic production is approached holistically, encompassing all stakeholders within the defence industry ecosystem and grounded in proactive engagement, continuous improvement, and accountability (Presidency of Defense Industries of Türkiye, n.d.). From a constructivist perspective, this aligns with Türkiye's aspiration to position itself as a reliable and responsible regional power. This study will examine the historical development of Türkiye's strength in the defence industry.

1. Security, Defense Industry and National Power Construction

In the age of globalization and technology, a deterrent military power is essential for a nation to maintain its independence. This deterrence capability requires the presence of well-trained armed forces equipped with modern warfare systems and supported by robust supply chains (Clevström & Winnerstig, 2003). Security and safeguarding national interests can only be ensured through advanced defence systems and a strong defence industry. Therefore, having a defence industry capable of facilitating a seamless procurement process is a fundamental condition for a robust national defence. One of the most distinctive characteristics of the defence industry is that the most significant customer is often the state itself, which grants the sector a unique nature. By supporting the defence industry, states can meet their armed forces' needs and encourage technological advancement, enabling them to act with greater independence in their foreign policies (Kurc et al., 2018). In addition to being a critical sector for security, the defence industry is distinguished from other industrial sectors by factors such as the confidentiality of technical details, the use of advanced technologies, and the preservation of the independence of firms operating in this field.

The defence industry broadly represents a comprehensive sector that provides the production, maintenance, and repair of weapons, ammunition, equipment, and vehicles necessary for national defence, encompassing connections with various fields of the manufacturing industry (Yeşilyurt, 2019). The strategic contributions of the defence industry gain further significance in the context of ensuring national security. In this regard, the interaction between actors in the security and defence sector serves as a fundamental mechanism for implementing state policies. This process is reinforced by normative, institutional, and methodological support to enhance stakeholder coordination. Beyond ensuring a nation's security, the defence industry is critical in fostering economic development. A strong and effective defence industry contributes to safeguarding national interests, achieving strategic objectives, and expanding influence on the international stage. In this context, an innovative, sustainable, and robust defence industry is vital for national security and economic growth (Kurc et al., 2018).

Since the end of the Cold War, there has been a growing trend among nations, including Türkiye, to build and invest in domestic defence industries. The growth of Türkiye's defence industry reflects this global trend. The increase in manufacturers and suppliers within the defence sector fosters industrial collaboration among these actors and lays the groundwork for integrating defence industries worldwide (Stergiou & Kollias, 2022). Factors such as rising military Research and Development (R&D) costs, limited primary markets, and insufficient technological resources have driven major arms producers to pursue integrated defence production. In line with these goals, Türkiye has taken significant steps to strengthen its domestic defence industry (Bayraklı, 2024). States' foreign policy strategies and doctrines are shaped by their perceptions of international and domestic developments. These strategies serve

as vital tools in safeguarding national interests and ensuring security (Stergiou & Kollias, 2022). Strengthening the defense industry is a strategic necessity that reinforces a nation's military and economic independence (Clevström and Winnerstig, 2003).

2. Historical Development of Turkish Defense Industry

The foundations of the Turkish defence industry date back to the rise of the Ottoman Empire. During this period, the most important military tools of the time, cannons, and warships, were produced entirely with domestic capabilities, and the "Imperial Arsenal" (Tophane-i Hümayun) was established as the centre of the Empire's weapons industry. Meanwhile, the Ottoman's shipbuilding capacity and technology were significantly advanced compared to Europe. For instance, the reconstruction of the fleet destroyed in the Battle of Lepanto within five months with 200 ships exemplifies the high production capacity of Ottoman shipyards (Presidency of Defence Industries of Türkiye, n.d.). However, from the 18th century onwards, the Ottoman defence industry lagged behind the technological advancements in Europe, resulting in a significant loss of effectiveness by the time of World War I. Despite the limitations of the existing infrastructure during the early years of the Republic, various investments were made in the defence industry in line with industrialization and development goals (Yeşilyurt, 2019).

In this context, the General Directorate of Military Factories was established in 1921; in 1924, arms repair workshops in Ankara and the Gölcük Shipyard were made operational. In the private sector, Şakir Zümre established Türkiye's first defence industry factory in Istanbul's Golden Horn in 1925. Additionally, in 1926, Tayyare ve Motor Türk A.Ş. (TamTAŞ) was founded to serve the aviation sector. Following World War II, Türkiye's accession to NATO and the military assistance provided by the United States and the United Kingdom led to a slowdown in the development of the Turkish defence industry. Aid provided under the Truman Doctrine and the Marshall Plan contributed to the modernization of the Turkish Armed Forces while simultaneously increasing the economic burden of military expenditures. Although the absence of direct payments for military equipment supplied by the U.S. offered a financial advantage, the annual maintenance costs significantly strained the national budget (Presidency of Defense Industries of Türkiye, n.d.).

While this aid enhanced Türkiye's deterrence capability against the Soviet threat, it adversely affected the development of the domestic defence industry. After Türkiye joined NATO in 1952, foreign aid increasingly hindered domestic defence production, causing military factories to lose efficiency and become a financial burden on the national budget. These factories were incorporated under the Machinery and Chemical Industry Corporation (MKE) in 1950, and, for instance, the Turkish Aeronautical Association's aircraft factory was transferred to MKE and repurposed. Restrictions on using U.S. aid, particularly during the Cyprus crisis, posed challenges to Türkiye's defence capabilities. The establishment of the Research and Development Department in 1954, followed by the Technical Services Department, marked renewed steps towards national industrialization in the defence sector. Following Türkiye's 1974 Cyprus Peace Operation, the U.S. arms embargo was a structural turning point in transforming the Turkish defence industry (Özlü, 2022: s. 221, 225). During this period, Türkiye adopted policies to reduce external dependency and meet defence needs through domestic resources, laying the foundation for a new development paradigm in the defence industry (Presidency of Defence Industries of Türkiye, n.d.).

To accelerate the growth of national industry, efforts focused on technology transfers, international collaborations, and investments in education and research and development (R&D) activities, strengthening the defence sector's human resource capacity. After the embargo, state-funded defence industry companies such as ASELSAN, HAVELSAN, and

ASPILSAN were established through the foundations supporting the Land, Air, and Naval Forces (Durmaz, 2014). However, as existing resources proved insufficient to meet the needs of the Turkish Armed Forces (TSK), the General Directorate of Defence Equipment Enterprises was established in 1983, and new companies such as TUSAŞ (Turkish Aerospace Industries) began operations in 1984 (Bayraklı, 2024). In line with the Five-Year Development Plans, priority was given to investments in the defence industry, and the Defence Industry Development and Support Administration (SAGEB) was established in 1985 under 3238 Act to strengthen the Turkish defence industry and modernize the TSK. In 1989, this structure was reorganized as the Undersecretariat for Defence Industries (SSM) (Yeşilyurt, 2019). The act aimed to encourage the domestic production of defence equipment required by the TSK and to support the local industrial infrastructure with foreign technology and capital contributions.

Between 1985 and 2006, several defence industry organizations such as ASELSAN, ROKETSAN, FNSS, and TUSAŞ were established, and production capacity was enhanced through projects like the Armored Combat Vehicle and the Cougar Helicopter (Bayraklı, 2024). During the 1980s, Türkiye's defence industry initiatives were primarily focused on meeting the TSK's needs, driven by the arms embargoes of the 1970s. However, there was an insufficient effort to promote defence products in international markets. Following the economic crisis of 2001, domestic procurement declined, prompting the defence industry to pivot toward foreign markets, though the expected public support was not provided. By 2006, the importance of foreign sales was recognized, and significant steps were taken to ensure public support in this area (Stergiou & Kollias, 2022).

The Ninth Development Plan, published in 2006, aimed to establish a competitive structure in the defence industry that would securely and sustainably meet needs with national capabilities. The 2006 Defence Industry Specialization Commission Report also outlined a vision for meeting national defence requirements with domestic solutions. In the 2010s, greater emphasis was placed on indigenous design programs to address critical technological needs domestically. During this period, the SSM aimed to provide local solutions for strategic defence needs, resulting in significant projects such as the MİLGEM Corvette, Altay Tank, and Atak Attack Helicopter, which reduced dependency on foreign defence systems. The defence and aerospace sector turnover increased from \$1.3 billion in 2002 to \$6 billion, while exports rose from \$247 million to approximately \$2 billion (Stergiou & Kollias, 2022). The Development Plan targeted enhancing the competitiveness of the defence industry, supporting indigenous designs, and increasing domestic production rates. In 2017, legal amendments restructured the Undersecretariat for Defence Industries as the Presidency of Defence Industries under the Presidential Administration. This reorganization updated and strengthened the management and strategic planning of the defence industry (Presidency of Defence Industries of Türkiye, n.d.).

As an inseparable part of security and defence policies, the defence industry advances by prioritizing high performance, quality, cutting-edge technology, and research and development activities. Türkiye's Defence Industry Vision 2023–2053 aims to position the country among the major exporters of military equipment developed and manufactured with indigenous technologies (Presidency of Defence Industries of Türkiye, n.d.). This vision seeks to minimize Türkiye's dependency on foreign resources in its defence industry, fostering a strong economy, peace, stability, and security. The future projections of the TSK is focused on establishing an army with high survival capabilities, technological superiority, and operational readiness under all conditions (Küçüköğlu, 2023). In alignment with these goals, the Turkish General Staff's objectives include maintaining a rapid and effective land force to protect national interests, establishing a navy capable of operating in open seas, and strengthening air defence systems. The TSK also aims to neutralize external security threats pre-emptively and leverage the

deterrence factor effectively (TASAM, n.d.). In the past decade, Türkiye's military activism and defence industry advancements have been linked to structural and technological investments by both state and civilian authorities. The TSK's technological infrastructure consists of three main groups: Systems developed with national resources, those produced through foreign collaborations, and systems procured from abroad (Özgen, 2016).

On the other hand, the defense industry is rapidly transforming across the globe, fueled by cutting-edge advancements in military technology and evolving foreign policy strategies. A nation's security strategy must effectively integrate its national interests, foreign policy objectives, and strategic investments in defense technology to ensure a robust and secure future. Emphasizing this integration is crucial for maintaining national safety and global stability. Türkiye has taken significant steps in its defence industry, achieving tangible outcomes aligned with its foreign policy objectives. The primary goal of Türkiye's defence industry policy is to meet defence needs through domestic resources, reduce external dependency, and leverage these advancements to gain strategic advantages in foreign policy (TASAM, n.d.).

3. Türkiye's Rising Power in Defence Industry

The discipline of international relations argues that states operate in an anarchic system without central authority (Özdemir, 2008). These structural conditions direct states to meet their security needs independently; therefore, the fundamental way to ensure security most effectively is to accumulate power and make it sustainable. In the environment of constant conflicts of interest created by the anarchic structure, states' fundamental foreign policy priority is to protect their presence in the international system. Achieving this goal is based on the capacity to independently provide national security. In this direction, states must establish and develop their national defence industries based on their internal dynamics (Williams, Wright & Evans, 2007). Indeed, Türkiye's defence industry export potential has shown a significant increase in recent years.

The defence industry is a sector consisting of various organizations in the private and public sectors that develop, produce, repair and maintain the offensive and defensive systems and military equipment that the armed forces need at the strategic and tactical levels (Pinar, 2018). The defence sector encompasses a range of industrial organizations that manufacture critical military products, including rifles, aircraft, helicopters, submarines, radars, ships, tanks, cannons, missiles, and bombs. This industry plays a vital role in producing the necessary military materials to ensure national security and enhance a country's foreign policy effectiveness. As a key factor in shaping the success of states' foreign policy strategies within the international arena, the defence industry is essential for maintaining a strong deterrent capability (Pinar, 2018; Öncel, 2021). On the other hand, Military capacity, which feeds the concept of power together with many factors such as economy, technology and natural resources, increases the ability of states to protect their security and ensure their effectiveness in international relations. In this context, the prestige and success of foreign policy in states with strong defence industries, such as the United States, Russia, and China, also increases. For this reason, developed and developing countries attach special importance to the defence industry sector and make intensive efforts towards developing this area (Dombrowski et al., 2023). Military capacity consists of a combination of variable elements such as the manpower in a state's army, the number of weapons it possesses, and its effectiveness. It is considered a critical element for the survival of states in international relations. Military capacity, one of the basic concepts of the realist tradition, provides states with strategic freedom of action in the international arena and determines the nature of their relations with other states (Carr, 2010; Brzezinski, 2016).

Leading and supporting a reorganization process for Türkiye's national industry to reach the capacity to meet defence and security needs in the most effective way has been determined as a critical goal. In line with this goal, it is aimed to build the Turkish defence industry within the framework of Türkiye's global power vision (Presidency of the Republic of Türkiye; Presidency of Defence Industries, 2023). In this context, the fundamental foundations of the strategic approach include, first of all, adopting a proactive attitude; that is, anticipating possible challenges in advance, being prepared to combat these challenges, and developing an approach that encourages change and produces added value by aiming for the better. Secondly, adopting a holistic perspective is important; policies, strategies and processes that consider all stakeholders that constitute the defence industry ecosystem are being developed, and the interaction of all sectors related to the defence and security sectors is evaluated within this scope. Thirdly, strengthening the basis for cooperation and coordination is essential; within the framework of this principle, it is aimed to manage inter-institutional and inter-stakeholder relations in harmony. Fourthly, a structured approach to development is implemented across all areas of responsibility, with a focus on ongoing improvement. Finally, it is accepted as essential to act in accordance with legal and ethical norms and to meticulously observe the principle of accountability in the use of authority and responsibilities (Presidency of the Republic of Türkiye; Presidency of Defence Industries, 2023).

Table 1. *The Top 40 Countries with the Highest Military Expenditure in 2023*

Rank	Country	Spending (\$ b.)	Change in Spending (%)	Spending as % of GDP	World Spending Share (%)
1	United States	916	2.3	3.4	37
2	China	296	6.0	1.7	12
3	Russia	109	24	5.9	4.5
4	India	83.6	4.2	2.4	3.4
5	Saudi Arabia	75.8	4.3	7.1	3.1
...
22	Türkiye	15.8	37	1.5	0.6
...
40	Chile	5.5	4.9	1.6	0.2

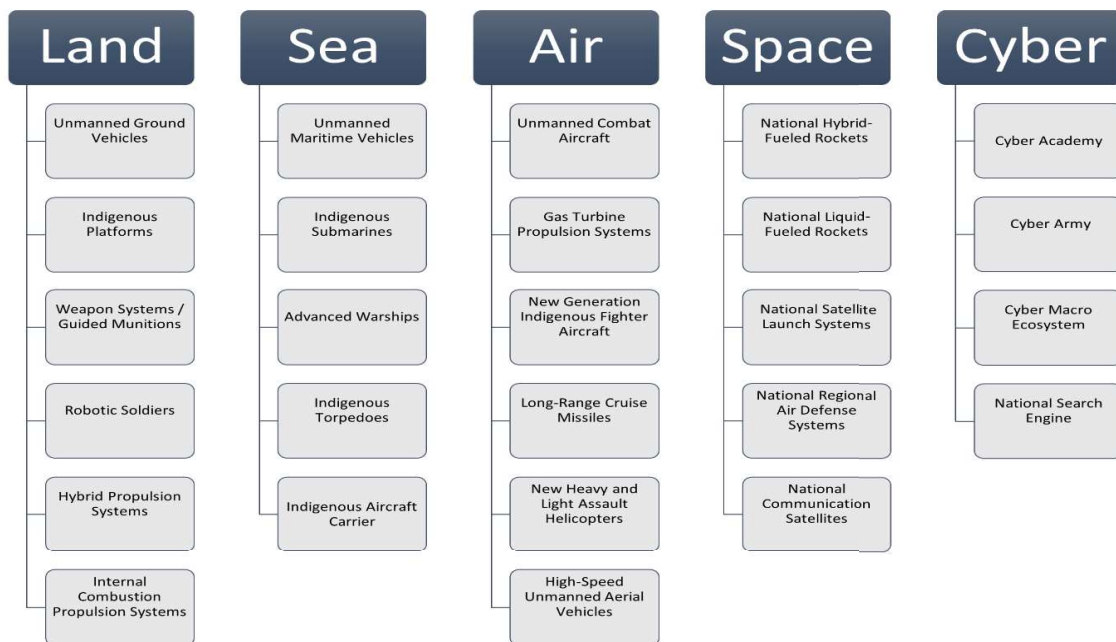
Source: The data is derived from Sheet, S. F. (2024). Trends in World Military Expenditure, 2023.

Due to its geostrategic location, it is imperative for Türkiye to be on the lookout of geopolitical and security issues in the Black Sea, the Middle East, Caucasus, and Mediterranean regions. Therefore, it is important for Türkiye not to remain indifferent to these regions' developments and to prioritise national defence and security policies. The development of the Turkish defence industry and fluctuations in defence expenditures have been mainly shaped by the country's regional security issues, the cross-border operations it conducts, the international military responsibilities it undertakes and the targets for localization in the defence industry (TASAM,

n.d.). As can be seen in the Table 1, Türkiye ranks 22nd in terms of military expenditures as of 2023, with the amount of expenditure recorded as 15.8 billion dollars. This significant increase in Türkiye's military spending reflects a trend shaped by security concerns and broader geopolitical dynamics in its environment. The interaction of these factors has caused Türkiye's defence strategies and spending to evolve in line with changing dynamics. Security threats and conflicts, especially in the region, have led to increased investments in the defence industry and technological independence goals. At the same time, the necessity of having a strong defence infrastructure for Türkiye to fulfil its international military responsibilities has led to the diversification and growth of defence industry spending (Yılmaz & Yorulmaz, 2023). On the other hand, by localisation it has aimed to reduce external dependency and increase the capacity of the domestic defence industry, enabling the reshaping of the defence industry in line with the country's strategic security interests (Özgen, 2016).

The data also demonstrates Türkiye's efforts to strengthen its defence infrastructure in line with its national security policies. The 34.2% share allocated to large-scale equipment and R&D expenditures supports Türkiye's goal of self-sufficiency in the defence industry (NATO Defence Expenditure, 2024). In particular, domestic projects such as SİHA and TİHA provide effectiveness in the field and strengthen Türkiye's position in the global defence market. Advanced technology projects such as the domestic fighter jet KAAN and new generation naval platforms reflect Türkiye's aim to achieve superiority in defence technologies (TASAM, 2023). Türkiye's geopolitical location causes it to face multi-dimensional security threats. Security issues on the Syrian and Iraqi borders, energy competition in the Eastern Mediterranean, NATO-Russia tension in the Black Sea, and strategic balances in the Caucasus necessitate addressing the defence budget from a comprehensive perspective. NATO membership and regional balances of power are also among the fundamental elements of Türkiye's defence policies. This distribution in Türkiye's defence expenditures reveals that it has adopted a balanced approach between manpower and technological capacity, responding to internal security threats and international strategic goals (Akyar, 2023).

Figure 1. Technologies Under Development



Source: Republic of Türkiye, Ministry of Foreign Affairs. (n.d.). *Turkish defence industry products*. Retrieved November 13, 2024.

Türkiye's defence industry focuses on five main categories to respond to modern warfare and security needs: Land, Sea, Air, Space and Cybersystems. In land systems, high-tech solutions such as uncrewed land vehicles, domestic platforms, guided munitions and robotic soldiers are prominent (Republic of Türkiye Presidency of Defence Industries, int.). These systems aim to increase operational efficiency and minimize human loss by focusing on autonomous and hybrid propulsion technologies. Naval systems aim to reinforce Türkiye's strategic superiority at sea with uncrewed marine vehicles, domestic submarines and torpedoes, advanced warships and aircraft carrier projects (Republic of Türkiye Presidency of Defence Industries, int.). These systems strengthen maritime defence and regional deterrence within the framework of the Blue Homeland doctrine (Erkut, 2022).

Türkiye is developing a strong defence infrastructure against conventional and asymmetric threats with its rapidly growing capabilities. It aims to expand its defence capabilities on a global scale with advanced technology projects such as space systems, national hybrid and liquid-fueled rockets, satellite launch systems, national air defence systems and communication satellites. Space technologies contribute to national security by strengthening Türkiye's strategic intelligence and early warning systems (Bayraklı, 2024). Finally, cyber security systems aim to protect digital infrastructure and increase resistance to cyber attacks through projects such as the Cyber Army, Cyber Academy, and National Search Engine. Türkiye is securing national security against new-generation threats by creating a cyber defence ecosystem in this category (Koç, 2024). Investments and developments in all these areas align with Türkiye's strategy to increase its national defence capacity by reducing external dependency. Türkiye's defence industry strategy aims to increase the production of defence products and reach higher levels in this field. This strategy reflects a rational approach in many economic and technological aspects. Domestic production in the defence industry saves foreign exchange and increases export potential (Özgün, 2019).

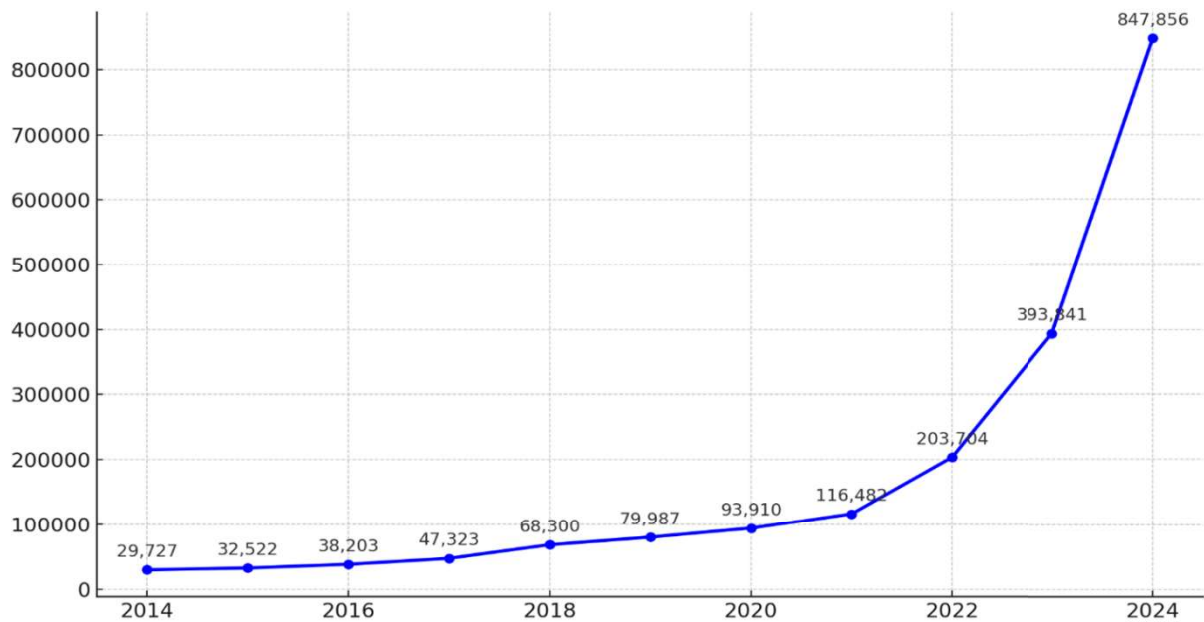
ASELSAN was founded in 1975 to address the communication needs of the Turkish Armed Forces using domestic resources. Which offering a wide range of products in the field of defence electronics, ASELSAN allocates 7% of its annual income to R&D activities and has an important place in the international market (Statista, 2023). Turkish Aerospace Industries (TUSAŞ) was established in 1973 to reduce Türkiye's external dependency and has become a centre for Türkiye's aviation and space technologies by expanding its activities with the production of the F-16. The company is among the global actors with its unmanned aerial vehicles, helicopters and national combat aircraft projects (Koç, 2024).

4. Current Trends and Global Positioning in the Defense Industry

Turkey's defence strategies and defence expenditures have undergone a significant transformation in line with the changing security environment and regional dynamics over time. In particular, security threats, conflicts, and instability in neighbouring regions have led Turkey to invest more in the defence industry and develop policies that prioritize technological independence in this area. However, it has become an inevitable necessity for Turkey to have a strong and sustainable defence infrastructure in order to effectively fulfil its international military obligations (Yılmaz & Yorulmaz, 2023). This necessity has led not only to a quantitative increase in defence industry expenditures but also to a diversification of these expenditures in a direction that will increase domestic production capacity. The localization goals developed within this framework aim to create an industrial structure that is fully compatible with Turkey's strategic security interests by reducing external dependency and increasing the institutional and technological capacity of the domestic defence industry (Özgen,

2016). To understand Turkey's defence investments in this area, spending trends over the years provide an important indicator.

Figure 2. Annual Trends in Türkiye's Defense Expenditures (in Turkish Lira)

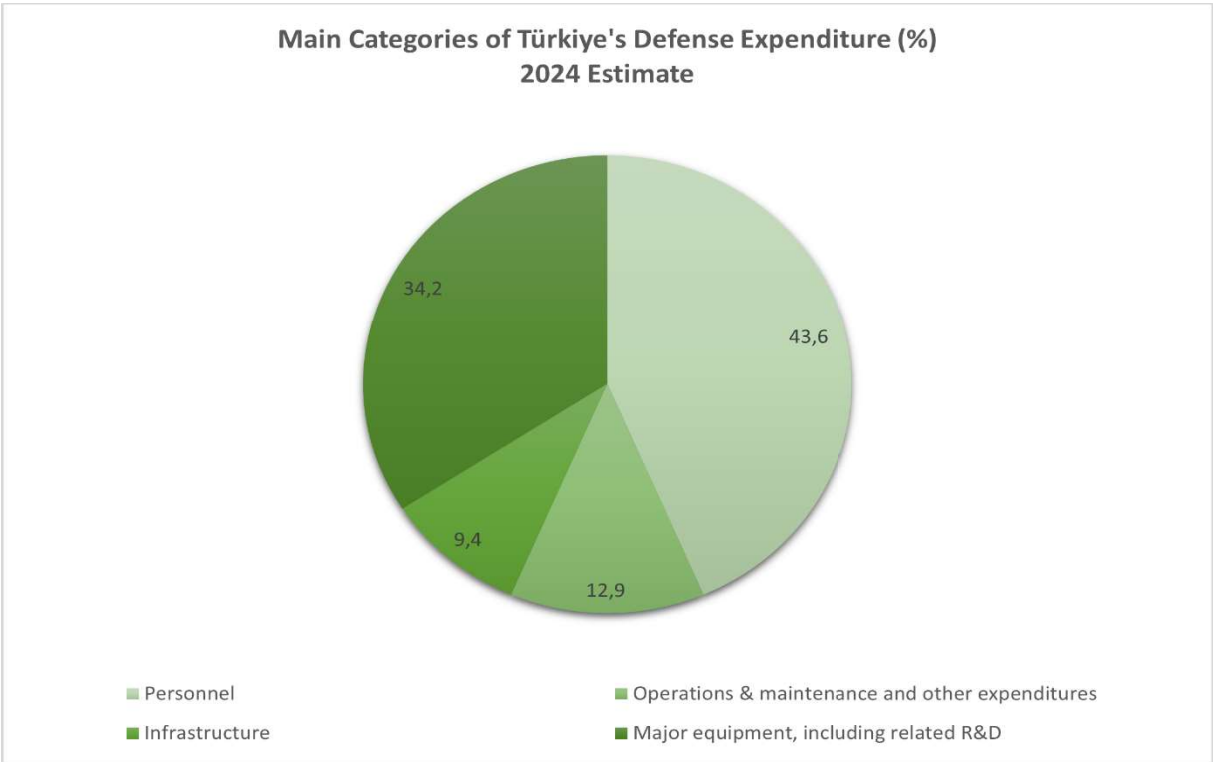


Source: The data is derived from the authors' reference to the NATO Defence Expenditure of NATO Countries.

As shown in Figure 2, Turkey's defence expenditures fluctuated between 2014 and 2024 due to various periodic developments. Between 2014 and 2015, Turkey's defence expenditures remained relatively low. Expenditures, which amounted to 29,727 lira in 2014, saw a modest increase to 32,522 lira in 2015. Despite some measures being implemented to enhance border security in response to the security threats posed by the civil war in Syria, the budget increase remained modest. In 2016, expenditures rose further to 38,203 lira. During this period, Turkey faced the July 15 coup attempt, which fundamentally changed the country's security policies (Bölükbaşı, 2023). After the coup, the restructuring and modernisation of the Turkish Armed Forces came to the forefront, but this process of increase progressed slowly. By 2018, defence spending had risen to 68,300 lire. Turkey has focused on cross-border operations and started investing in domestic defence industry projects. Operations such as Euphrates Shield (2016) and Olive Branch Operation (2018) necessitated Turkey's active military intervention against terrorist threats in Syria and led to an increase in expenditures (Demir, 2019). By 2020, defence spending had reached 93,910 lire. Despite the COVID-19 pandemic, Turkey continued its investments in the defence industry; in particular, crewless aerial vehicle (UAV) and armed crewless aerial vehicle (UCAV) projects gained momentum (Koç, 2024). Developments in Libya and the Eastern Mediterranean have increased Turkey's security concerns and necessitated an expansion of the defence budget. In the 2021-2022 period, expenditures rose to 116,482 and 203,704 lira, respectively. During this period, the effectiveness of Turkish UAVs in the Karabakh War supported the country's decision to increase defence industry investments. The ongoing security issues in Syria and the military responsibilities assumed within the NATO framework were among the other key factors that led to an increase in Turkey's defence spending (Dombrowski et al., 2023). In 2023, spending reached 393,841 lire, and in 2024, it jumped to 847,856 lire. This sharp increase is closely related to Turkey's strategy of strengthening its independence in the defence industry and changes in the global security environment. The Ukraine-Russia war, which began in 2022, led to a significant shift in the regional security balance and prompted Turkey to increase its defence spending rapidly. On the

other hand, the increase in exports of Turkish defence industry products has encouraged domestic production and supported the financing of defence projects.

Figure 3. *Main Categories of Türkiye’s Defense Expenditure (%)*



Source: The data is derived from the authors’ reference to the NATO Defence Expenditure of NATO Countries (2014-2024).

The percentage distribution of Turkey's defence expenditures for 2024, as illustrated in Figure 3, offers valuable insights into strategic priorities amid current geopolitical and economic developments. The expenditures are categorized into four main segments: personnel costs, which represent the largest share at 43.6%; operations and maintenance, accounting for 12.9%; infrastructure at 9.4%; and major equipment and R&D expenditures, constituting 34.2%. The high proportion of personnel expenditures (43.6%) indicates that Turkey is pursuing a defence strategy based on human resources in the areas of counterterrorism and border security (NATO Defence Expenditure, 2024). In addition to the fight against terrorist organizations such as the PKK and ISIS, joint exercises and international operations conducted within the framework of NATO membership are the reasons for the high proportion of personnel expenditures in the budget. The 12.9% share of operations and maintenance expenditures can be considered a strategic necessity for the sustainability of Turkey's military capacity (NATO Defence Expenditure, 2024). Cross-border operations conducted along the Syrian and Iraqi borders, as well as tensions over maritime jurisdiction in the Eastern Mediterranean, have increased the importance of these expenditures (Saygılı, 2022). Additionally, the continuous maintenance and modernization of military systems play a crucial role in maintaining operational effectiveness.

The 9.4% share allocated to infrastructure reflects investments made to support the sustainability of long-term defence capabilities. Strategic investments such as new military bases, border security facilities, and command and control centres are gaining importance, particularly in line with security priorities on the southern borders and in the Eastern Mediterranean. These investments demonstrate Turkey's efforts to strengthen its defence infrastructure in line with its national security policies. The 34.2% share allocated to major

equipment and R&D expenditures supports Turkey's goal of self-sufficiency in the defence industry (NATO Defense Expenditure, 2024). Domestic projects such as UAVs and TİHA are both practical in the field and strengthen Turkey's position in the global defence market. Advanced technology projects such as the domestic fighter jet KAAN and new-generation naval platforms reflect Turkey's goal of achieving superiority in defence technologies (TASAM, 2023). Turkey's geopolitical position exposes it to a range of multidimensional security threats. Security issues on the Syrian and Iraqi borders, energy competition in the Eastern Mediterranean, NATO-Russia tensions in the Black Sea, and strategic balances in the Caucasus necessitate a comprehensive approach to the defence budget. NATO membership and regional power balances are also key elements of Turkey's defence policies. In this context, the distribution of Turkey's defence expenditures reveals that it has adopted a balanced approach between human resources and technological capacity, responding to both internal security threats and international objectives (Akyar, 2023). The volume of defence and aviation exports, which was only US\$248 million in 2002, grew more than 22-fold to reach US\$5.545 billion in 2023 (Presidency of Defense Industries, Republic of Turkey, 2024). In this context, the rise in defence spending has significantly contributed to addressing internal security needs while also positioning Turkey as a formidable player in the global defence industry. A notable indicator of this growing prominence is the inclusion of Turkish defence companies in the Defense News Top 100 list.

Table 1. Defense Companies Top 100 for 2024

Rank	Company Name	Country	2023 Defense Revenue (in millions)	2022 Defense Revenue (in millions)	Defense Revenue Change	2023 Total Revenue (in millions)	Revenue From Defense
1.	Lockheed Martin	U.S.	\$64,650.00	\$63,334.00	2%	\$67,571.00	96%
...
42.	Aselsan A.S.	Türkiye	\$2,986.77	\$2,307.08	29%	\$3,186.12	94%
50.	Turkish Aerospace Industries (TAI)	Türkiye	\$2,205.74	\$1,483.70	49%	\$2,673.76	82%
71.	Roketsan	Türkiye	\$1,256.26	\$1,591.47	-21%	\$1,256.26	100%
84.	Makine ve Kimya Endüstrisi	Türkiye	\$905.75	\$553.88	64%	\$905.75	100%
94.	Askeri Fabrika ve Tersane İşletme A.Ş.	Türkiye	\$656.88	\$885.92	-26%	\$656.88	100%
...
100.	Hexcel Corporation	U.S.	\$544.80	\$465.20	17%	\$1,789.00	30%

Source: Prepared by the authors with reference to the Defense News Top 100 for 2024.

Finally, in 2024, five defence companies from Turkey made it onto the Defense News Top 100 list, one of the leading global defence industry rankings. The highest-ranked Turkish defence company on the list is ASELSAN, which entered 42nd place, with revenues increasing by 29% compared to the previous year. Turkish Aerospace Industries (TUSAŞ) ranked 50th on the list, while Roketsan ranked 71st. Mechanical and Chemical Industry (MKE) entered the list for the first time at 84th place, and Military Factory and Shipyard Operations Inc. (ASFAT) ranked 94th, up from 100th last year (Defense News Top, 2024). The ascent of these companies in global rankings highlights the significant strides Turkey has made in technological innovation and its commitment to an export-oriented growth strategy. This advancement is closely aligned with the nation's overarching aim of achieving self-sufficiency in the defence industry. The Turkish government has implemented various initiatives and made significant investments to foster research and development, encouraging the development of homegrown technologies that can compete on an international scale. As a result, these companies are not only enhancing their competitiveness in defence exports but also contributing to Turkey's economic resilience and strategic autonomy. Leading companies, such as ASELSAN and TUSAŞ, have enhanced their international competitiveness by developing high-tech products, including uncrewed aerial vehicles and fighter jets (Seren, 2020). These developments contribute to Turkey's position as a key player in the global market, aligning with its independence goals in the defence industry.

Conclusion

Türkiye's strategic geographical location stands out as one of the main motivations for efforts to develop independence and capacity in the defence industry. Its location in geopolitically sensitive regions offers Türkiye significant opportunities and security threats. In this context, developing the defence industry with a local and nationally focused approach is critical in ensuring national security and positioning itself as a compelling actor in the international arena. Technological breakthroughs in the defence industry support Türkiye's security policies and increase its capacity to act more independently in international relations. Historically, the legacy inherited from the Ottoman Empire, the reconstruction efforts during the Republican era and the embargoes implemented after the 1974 Cyprus Peace Operation have revealed the necessity for Türkiye to develop its capacity in this area. These initiatives have developed under the leadership of key organizations like ASELSAN, TUSAŞ, and ROKETSAN since the 1980s, with additional support from R&D investments and original design projects that gained momentum in the 2000s.

The defence industry is an area of intense competition in today's global system, where actors with their capabilities are making significant strides to maintain their positions of power. From this perspective, it is clear that Turkey's strengthening of its defence industry will be a deterrent factor with important consequences not only for itself but also for regional policies. In this context, it is essential to note that the policies Turkey has pursued from the past to the present have created an area of stability and deterrence in its foreign policy. Turkey has made significant progress in the defence industry and continues to do so. This situation contributes to regional stability and, with the impact of branding in the defence industry, has become an important element of Turkish foreign policy. In conclusion, while the domestic production rate in the defence industry is increasing, the export capacity in this area is also expanding to adapt to global competitive conditions. Türkiye's defence industry strategy has a multi-dimensional impact, enhancing military capacity, stimulating economic growth, and fostering international cooperation. In particular, advances in areas requiring high technology, such as uncrewed aerial vehicles, cybersecurity systems, and space technologies, strengthen Türkiye's role on both a regional and global scale. These developments ensure that Türkiye is positioned as a reliable

regional power, aligning with its security and foreign policy objectives. In this context, Türkiye's strategic approaches in the defence industry have become a fundamental element in achieving its national security and economic independence goals. The development of the defence industry stands out as a tool that supports Türkiye's national interests and its vision of contributing to the regional security architecture.

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