RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

To cite this article: Balcı, Çağatay. "Iran's Exceptional Approach in its Defence Industry Strategy: Armenia in the Context of the Second Karabakh War", *Review of Armenian Studies*, Issue 52 (2025): 93-116.

Received: 06.05.2025

Accepted: 11.08.2025

IRAN'S EXCEPTIONAL APPROACH IN ITS DEFENCE INDUSTRY STRATEGY: ARMENIA IN THE CONTEXT OF THE SECOND KARABAKH WAR

(İRAN'IN SAVUNMA SANAYİİ STRATEJİSİNDE İSTİSNAİ YAKLAŞIMI: İKİNCİ KARABAĞ SAVAŞI BAĞLAMINDA ERMENİSTAN)

Dr. Çağatay BALCI*

Abstract: *Iran's defence industry strategy is based on a synthesis of functions aimed at countering objective threats, projecting a deterrent image and fostering political and military rapprochement with other countries. The defence institutions established under the Shah prior to the Islamic Revolution, with the goal of becoming a 'regional leader,' remained effective after the revolution. The Iran-Iraq War that followed the 1979 Revolution was the most important process shaping Iran's defence strategy. During this period, divisions and purges within the military structure led to institutional weaknesses and technological deficiencies. The narrative of success necessary for post-revolutionary consolidation, geopolitical realities (threats from Iraq, Gulf countries, Saudi Arabia, and Israel), the motivation for 'self-sufficiency' that developed as a result of the arms embargoes imposed on Iran, and the search for new alliances*

* ORCID iD: https://orcid.org/0000-0001-6553-4888
PhD, Indipendent Researcher, E-mail: cagataybalci@iramcenter.org
DOI: 10.54842/ras.1693280

shaped Iran's defence doctrine. Starting in the second half of the 1980s, Iran established defence relations with Russia, North Korea, Libya, Ukraine, Belarus, and China, achieving significant developments in air power and missile technology. With the 2011 Syrian crisis, UAV and UCAV technologies and ballistic missile programmes accelerated. Iran's defence industry strategy is based on the motivation to build its own deterrence capacity and to support and equip its proxy forces, and 2020 has been a transformative year in this context. The Second Karabakh War this year has led Iran to adopt an exceptional approach beyond the aforementioned motivations.

Key Words: *Iran, Defence, Industry, Strategy, Armenia.*

Öz: *İran'ın savunma sanayii stratejisi, objektif tehditlere karşı koyma, caydırıcılık imajı oluşturma ve diğer ülkelerle siyasi-askeri yakınlaşma işlevlerinin sentezi üzerine kuruludur. İslam Devrimi öncesinde Şah'ın "bölgesel lider güç" hedefi doğrultusunda kurulan savunma kurumları, devrim sonrasında da etkili olmuştur. 1979 Devrimi'ni takip eden İran-Irak Savaşı, İran'ın savunma stratejisini şekillendiren en önemli süreç olmuştur. Bu dönemde askeri yapıdaki ayrışmalar ve tasfiyeler, kurumsal zafiyetlerin ve teknolojik eksikliklerin ortaya çıkmasına neden olmuştur. Devrim sonrası konsolidasyon için gerekli başarı anlatısı, jeopolitik gerçeklikler (Irak, Körfez ülkeleri, Suudi Arabistan ve İsrail tehditleri), uygulanan silah ambargoları sonucu gelişen "kendine yeterlilik" motivasyonu ve yeni ittifak arayışları, İran'ın savunma anlayışını şekillendirmiştir. 1980'lerin ikinci yarısından itibaren Rusya, Kuzey Kore, Libya, Ukrayna, Belarus ve Çin ile savunma ilişkileri kurulmuş, özellikle hava gücü ve füze teknolojilerinde gelişmeler sağlanmıştır. 2011 Suriye krizi ile birlikte İHA-SİHA teknolojileri ve balistik füze programları hızlanmıştır. İran'ın savunma sanayii stratejisi, kendi caydırıcılık kapasitesini inşa etmek ve vekil güçlerini desteklemek ve teçhiz etme motivasyonuna dayanırken 2020 yılı bu bağlamda dönüştürücü olmuştur. Bu yıl yaşanan 2. Karabağ Savaşı İran'ı söz konusu motivasyonların dışında istisnai bir yaklaşıma yönlendirmiştir.*

Anahtar Kelimeler: *İran, Savunma, Sanayii, Strateji, Ermenistan.*

Introduction

The defence industry of the Islamic Republic of Iran is a complex structure shaped by the country's geopolitical position, regional threat perceptions and strategic objectives. This structure is evident in the synthesis of three functions: the development of the capacity to counter objective threats, the creation of a deterrent image, and the establishment of political and military rapprochement with other countries. Historically, Iran's defence industry has undergone a transformation from the 'regional power' goal of the Shah era to the principle of 'self-sufficiency' after the Islamic Revolution. Prior to the Islamic Revolution, Iran had maintained cooperative relations with numerous countries, including the United States, West Germany, France, the United Kingdom and Israel. However, in the aftermath of 1979, the country found itself subject to international sanctions and geopolitical challenges. This situation prompted the country to seek alternative strategies to develop its defence capabilities. The Iran-Iraq War exposed significant military vulnerabilities in Iran and precipitated a fundamental re-evaluation of the nation's defence industry strategy. In this context, Iran has developed a unique defence industry strategy based on reverse engineering, technology transfer and dual-use methods. The country has concentrated on air power and missile technology in order to overcome its limitations in conventional capabilities, and has prioritised the development of asymmetric warfare capabilities. This strategic choice has resulted in close cooperation with countries such as Russia, North Korea, and China, thereby establishing the foundation for Iran's regional deterrence capacity. The institutional structure of Iran's defence industry is overseen collectively by the Ministry of Defence and the Khatam al Anbiya Headquarters. This collaborative management approach addresses the nation's defence requirements through the coordinated efforts of various subordinate organisations and industrial complexes. This ecosystem, which is supported by universities and research institutions, plays a critical role in Iran's adaptation to the changing security environment and the development of defence technologies. The present study seeks to elucidate the primary dynamics of Iran's defence industry strategy within the context of its historical background, strategic vision and institutional structure. In this context, the historical stages and transformations of Iran's defence industry have been outlined, as have the main outlines of the new strategic vision adopted after the 1979 Islamic Revolution. Finally, the effects of the 2020 Second Karabakh War, which brought about an exceptional transformation in Iran's industrial strategy, have been highlighted.

1. Historical Background

When analysing the assessments made regarding Iran's defence industry, the post-Islamic Revolution development processes are largely emphasised. This has resulted in assessments that predominantly disregard the pre-Islamic Revolution context, thereby overlooking the concept of historical continuity. However, an analysis of the main characteristics of Iran's defence industry prior to the Islamic Revolution provides a valuable perspective on the post-Islamic Revolution period[1]. In this regard, it is important to examine the Iranian defence industry of the Shah era, which influenced the post-Islamic Revolution period in terms of institutional level, strategic understanding and functions[2].

The strategic understanding that informed Iran's defence industry prior to the Islamic Revolution was predicated on the Shah's objective of establishing the country as a 'leading power' in the region. This understanding was predicated on the existence of a competitive dynamic with Iraq within the regional context, with a view to averting geopolitical threats. In accordance with this objective, the Shah regime, which from the 1960s onwards concentrated on the development of the defence industry due to the rise in oil revenues, accorded particular significance to air power and aviation technology[3]. These would subsequently become a pivotal component of the defence doctrine following the Islamic Revolution. During this process, the Shah's administration cooperated with various countries, primarily the United States, West Germany, France, the United Kingdom, and Israel, in the defence industry[4]. The initial and pivotal concrete measures in this process were the formation of the Iranian Aviation Industry Organisation (IAIO) in 1966 and the Iranian Helicopter Maintenance and Repair Industry Organisation (PANHA) in 1969.

Following these developments, the Shah administration, which was focused on the aviation industry, initiated various production processes in addition to these applications in the early 1970s by collaborating with other countries and companies. Consequently, in 1970, the Iranian Aircraft Industry Corporation (IACI) was established, followed by the Iranian Electronics Industry Corporation (IEI) in 1973[5]. Contracts were subsequently signed with British

1 Hesam Forozan, 2016. The Military in Post-Revolutionary Iran. London: Routledge, 70
2 Sepehr Zabih, 1988. The Iranian Military in Revolution and War. London: Routledge, 96
3 Zabih, 1988, ibid., 100
4 Steven R. Ward, 2009. Immortal: A Military History of Iran and Its Armed Forces. Washington, DC: Georgetown University Press, 78
5 Ward, 2009, ibid., 80

Aerospace in Shiraz for the local production of the Rapier surface-to-air missile system and with Hughes Missile System Company for the local maintenance and joint production of anti-tank missiles and air-to-ground missile systems. Furthermore, the period saw the emergence of activities such as the production of Heckler & Koch G-3 7.52 mm assault rifles, Heckler & Koch MP5 9 mm light machine guns, and Rheinmetall MG 3 7.62 machine guns.

From the early 1970s onwards, the Shah regime initiated an escalation in its investments and international collaborations, with the objective of augmenting the scale and calibre of defence industry initiatives. In 1976, a collaboration was initiated with the US-based corporation Textron (Bell Helicopter Textron), with Northrop acting as a partner, to produce local-purpose helicopters at production facilities in proximity to Shahin Shahr, in the vicinity of Isfahan. The objective of the collaboration was to establish revision lines for Boeing 747 and F-14 aircraft, in addition to the production and assembly of parts for F-16A/B jets.

In 1977, the 'Flower Project' – one of the most significant defence industry projects of the Shah's regime – was initiated. The Flower Project, which sought to develop long- and medium-range missiles capable of carrying nuclear warheads in collaboration with Israel, continued until 1979. During this period, tests and trials were conducted in the Sirjan and Rafsancan regions of Iran. As with numerous other defence industry collaboration initiatives, the Flower Project was terminated and forsaken in the aftermath of the Islamic Revolution of 1979. Following the 1979 Islamic Revolution, there was a proliferation of strategic understanding and institutional transformation processes within Iran's defence industry. However, it is important to note that the geopolitical codes and institutional memory of the Shah era also exerted their influence during this period.

2. The Islamic Revolution and the Changing Strategic Vision

The Iran-Iraq War, which commenced in the aftermath of the 1979 Islamic Revolution, represented the most significant process that shaped Iran's post-revolution defence industry strategy and guided this sector. The Iran-Iraq War, which erupted during the process of division and purges in the military structure due to the revolution, marked the beginning of a period in which institutional weaknesses, as well as deficiencies in military capacity and

technology, became most evident from Iran's perspective[6]. During this period, Iran experienced the repercussions of deficiencies in its land, air, and naval forces throughout the war. In particular, the suspension of defence industry projects with other countries following the revolution, along with issues in procurement and logistics, difficulties in securing spare parts and repairs, and challenges in military consultancy, have been the most significant factors shaping Iran's approach to the defence industry post-revolution[7].

Prior to the revolution, during the Shah period, Iran developed its conventional capabilities to procure military equipment, primarily from the United States, France, the United Kingdom, the Soviet Union/Russia, and China. However, in the post-revolutionary period, there has been a shift towards developing asymmetric capabilities through domestic solutions[8]. In this context, reverse engineering capabilities play a significant role in the development of domestic solutions. It is evident that Iran has successfully employed the expertise it has acquired through reverse engineering and technology transfers to develop military capabilities that are relatively autonomous from foreign sources. This situation has had a particularly significant impact on the development of asymmetric military capabilities. Conversely, technology transfers and dual-use products for both military and civilian purposes have enabled international sanctions to be circumvented to a certain extent, thereby generating significant momentum in the development of the defence industry. In recent years, Russia and China have played a notable role as external suppliers in the development of Iran's defence industry.

Recent years have seen significant advancements in Iran's asymmetric military capabilities, with technology transfers from Russia and China playing a pivotal role in this development. These transfers, particularly in the domains of satellite technology, guidance systems, navigation systems, communications, command and control, and communications and information systems, along with technical support, have been instrumental in shaping the country's military modernisation efforts[9]. In contrast, conventional military assets within Iran's arsenal are both outdated and non-functional. Despite being regarded as a vulnerability, this approach is regarded as a deliberate strategic decision,

6 Hesam Forozan, 2016. The Military in Post-Revolutionary Iran. London: Routledge, 82

7 Behnam Abdi and Alireza Naderi. 2019. " Clarifying the Characteristics of the Iranian Islamic Model of Development in Defense Sector According to Imam Khamenei's Intentions and Policies (His Majesty)." Defense Strategy Quarterly 17 (4): 68, 15

8 Ofira Seliktar and Farhad Rezaei. 2020. Iran, Revolution and Proxy Wars. Cham: Palgrave Macmillan, 49

9 Harris, Kevan. 2013. "The Rise of the Subcontractor State: Politics of Pseudo-Privatization in the Islamic Republic of Iran." International Journal of Middle East Studies 45 (1): 52

inextricably linked to Iran's military doctrine and prevailing circumstances. In other words, due to the impact of sanctions, Iran is unable to procure advanced conventional forces[10]. In order to address this identified weakness, the focus is now being directed towards asymmetric capabilities. The progress made in asymmetric capabilities is based on Iran's regional military doctrine and aims to address existing conventional weaknesses. In this regard, it is evident that these two significant motivations are instrumental in shaping the defence industry strategies adopted for the development of Iran's defence industry.

In addition to these factors, the narrative of success required for the consolidation process following the revolution, geopolitical realities and necessities (Iraq, Gulf countries and Saudi Arabia, threats posed by Israel), arms embargoes imposed on Iran after the revolution, and the resulting 'self-help/self-sufficiency' and, finally, the orientation towards new military-political alliances have shaped the framework of the defence industry approach[11]. Nevertheless, deficiencies in land and sea power, compounded by historical legacy and infrastructure, have led Iran to focus more on developing its air power capabilities[12]. In this manner, Iran seeks to bridge the perceived gap in deterrence within its land and sea forces through the deployment of long-range missiles and advanced aerial capabilities. Conversely, the military equipping of Iran-backed proxy forces through this advanced air capacity has also been perceived as an opportunity for Iran's regional deterrence.

Motivated by these factors, Iran's defence industry is structured to maximise the use of domestic capabilities, effectively utilise dual-use materials, and rely on reverse engineering and technology transfer methods. In the post-revolution period, Iran's defence industry has demonstrated a set of characteristics that merit attention. These include, but are not limited to, the following: agility, speed, mobility, ease of access, and cost-effectiveness. At this juncture, these primary characteristics manifest distinctly in capabilities such as cruise missiles, ballistic missiles, satellites and space rockets, UAVs and military speedboats[13]. It is evident that these products are in direct alignment with Iran's regional 'Axis of Resistance' policy. Indeed, the evolution of Iran's

10 Massoud Karshenas 1990. Oil, State and Industrialization in Iran. Cambridge: Cambridge University Press, 167

11 Farzanegan, Mohammed Reza. 2014. "Military Spending and Economic Growth: The Case of Iran." Defence and Peace Economics 25 (3), 252

12 Gawdat Bahgat and Anoushiravan Ehteshami. 2021. "Iran's Military-Industrial Complex." In Defending Iran from Revolutionary Guards to Ballistic Missiles, 72-97. Cambridge: Cambridge University Press, 74

13 Payman Kharazian and Mohammadi Ardhasir. 2018. "The Role of Air Defense in Strengthening the National Power of the Islamic Republic of Iran." Defense Strategy Quarterly 16 (73), 66

post-revolutionary defence industry has been meticulously tailored to address the tactical military requirements of Iran-backed militia groups.

In this context, the defence industry strategy that took shape in the early years of the Islamic Revolution and during the Iran-Iraq war began to manifest itself in concrete institutional transformations and contacts established with different countries. Within this framework, the duties and areas of activity of the Ministry of Defence and its affiliated units, which were established in the post-revolutionary period, were defined; while the Iranian Aviation Industry Organisation, the Iranian Electronics Industry Organisation and the Iranian Aircraft Industry Organisation, which were established during the reign of the Shah, entered a process of transformation in line with the vision of the revolution.

Concurrent with this transformation process, defence industry relations were established with Russia, North Korea, Libya, Ukraine, Belarus and China, particularly in the second half of the 1980s. These relations were cultivated especially in the domains of air power and missile technologies. In this context, the talks held in Libya, North Korea, Syria, and China in 1985 by a high-level delegation led by then-Speaker of Parliament Akbar Hashemi Rafsanjani on the procurement of missiles and technology transfer played an important role in the establishment of Iran's missile and space programme[14]. Conversely, it has been documented that missile specialists from these countries, notably North Korea and Libya, were involved in missile development tests conducted in Iran. Indeed, it has been documented that North Korean specialists have provided training to Iranian officials on the reproduction of SCUD missiles. During the course of its negotiations with North Korea, Iran proposed to provide financial backing for North Korea's long-range missile programme, in addition to the procurement of 100 Scud-B missiles, contingent upon the transfer of technological expertise. North Korea accepted the offer and delivered the first Scud-B missiles to Iran in July 1987.

In 1990, reports from US intelligence agencies revealed that Iran had procured Scud-C missiles, with a range of 500 kilometres and a warhead capacity of 700 kilograms, from North Korea. During this period, Iran's defence industry, which had been concentrating extensively on missile technology, also directed significant efforts towards supplying weapons and transferring know-how to various non-state armed actors, particularly Hezbollah.

14 A. Bagheri Dolatabad 2022. "Ontological Security and Iran's Missile Program." All Azimuth: A Journal of Foreign Policy and Peace 11 (2), 240

By the 2000s, a shift in focus within Iran's defence industry strategy was evident, with the emphasis shifting towards missile and air power as the primary domains of concern. Concurrently, the modernisation of land and sea vehicles emerged as a pivotal area of investment. However, the Syrian crisis that began in 2011 and the emergence of a climate of regional conflict prompted Iran to focus more on air power[15]. During this period, there was a notable acceleration in the development of both UAV-UCAV technologies and ballistic missile production programmes. Concurrently, the escalating significance of cyber security from the second decade of the 2000s onward prompted the Iranian defence industry to prioritise the development of information systems and information security[16].

Following the Islamic Revolution, the Ministry of Defence and the Khatam al Anbiya Headquarters have been charged with the implementation of Iran's defence industry vision. The latter's mission is defined by the constitution. The Iranian Defence Industry Organisation, an entity affiliated with both the Ministry and the Khatam al Anbiya Headquarters, bears the responsibility of identifying the resources required by the Iranian armed forces, encompassing both the Army and the Revolutionary Guards[17]. The organisation is tasked with the planning and coordination of production activities to meet these needs, in addition to conducting research and development activities. The organisational framework of Iran's defence industry is currently composed of units and sub-units that are affiliated with the Iranian Defence Industry Organisation[18]. Accordingly, the defence industry production activities are carried out through four different affiliated units: the Iranian Aerospace Industry Organisation (AIO), the Iranian Aviation Industry Organisation (IAIO), the Iranian Electronics Industry Organisation (IEI), and the Naval Industry Organisation. These affiliated units are responsible for the planning and production functions in the defence industry, which are executed through their subordinate units, companies, and production facilities[19].

15 Tavakoli, Gholamreza Tavakoliand Mehdi Eliasi, Meysam Shafiei Roudposhti, and Ali Asghar Heydari. 2011. "Pathology of Iran's Defense Products Exports." Improvement and Transformation Management Studies 21 (64): 55-88.

16 Abbas Rezaei. 2018. "Military Expenditures and Its Impact on Development of Defense Economy in I.R. Iran." Journal of Defense Economics and Sustainable Development 3 (8), 61

17 Robert Czulda 2020. "Defence Industry in Iran: Between Needs and Real Capabilities." Defense & Security Analysis 36 (2), 209

18 J. Matthew Mclnnis 2017. Understanding Iran's Defense Industrial Base and Acquisition. Washington, DC: American Enterprise Institute.

19 Kevan Harris. 2013. "The Rise of the Subcontractor State: Politics of Pseudo-Privatization in the Islamic Republic of Iran." International Journal of Middle East Studies 45 (1), 51

It is evident that the Iran Defence Industries Organisation is distinguished from other sub-units and structures within the defence industry. The Iran Defence Industries Organisation is an institution that is responsible for general coordination and planning. The organisation is responsible for the production of ammunition, land vehicles, tanks, rockets and explosives, which is undertaken by numerous sub-units and production facilities under its control. A plethora of companies are engaged in production under the auspices of the organisation, which maintains close ties with Chinese defence industry companies. Of these, the group of arms industry companies is the first to be considered. The products of the arms industry company, which includes subcontractors such as the Hadid Group, the Isfahan Metal Alloy Complex, the Fecr-Shiraz, and the Imam Ali Group, include infantry rifles, heavy machine guns, sniper rifles, anti-tank weapons, rockets, and mortars.

Secondly, the Iran Aviation Industry Corporation, one of the institutions established during the Shah's regime in the Iranian defence industry, is engaged in identifying, planning and meeting the needs of the Revolutionary Guards Air Force[20]. The organisation is also involved in the design and production of training aircraft, unmanned aerial vehicles, and civil aviation-related production activities. Additionally, it is responsible for the maintenance and export planning of aircraft and aerial vehicles. Among the vehicles produced by companies and organisations affiliated with the organisation are the Shahid helicopter, Hamase UAV, Qasef-Ababil-Shahid-Kerrar UAVs, Kowsar jet and training aircraft, Qahir 313 jet and Yasin training aircraft. The subsidiary companies and complexes affiliated with the organisation include Fecr Aviation-Composite Industry, Iran Aircraft Industry, Iran Aircraft Manufacturing Industry, Iran Helicopter Maintenance-Repair Industry, and Quds Aviation Industry.

Conversely, the Iran Aerospace Industries Organisation, established in 1998 and representing one of the most recent developments in the Iranian defence industry, is among the structures with the most affiliated units, institutions and companies. The Iran Aerospace Organisation is a key player in the Iranian defence industry, with a focus on the design and production of air power, missile, UAV-UCAV technologies, satellites, and optical systems. The organisation has gained prominence for the missiles it has produced to date. The range of missiles includes the Shahab ballistic missiles, Sayyed missiles,

20 Ahmad Molabahrami and Iman Moradian. 2022. "Appropriate Financing Methods for Iran's Aviation Industry: A Comparative Study." Journal of Defense Economics and Sustainable Development 7 (24), 79

Misak missiles, and Fateh-Nour-Zelzal rockets. The following organisations and production facilities are affiliated with the organisation: The following facilities have been identified: Shahid Mutaharri Facility, Shahid Shahabadi Facility, Senem Defence Industry, Ya Mehdi Industry and Research Complex, Shahid Bagheri Companies Group, Shahid Himmeti Companies Group, Bagshiyan Facility, Bagheri-1/2/3 Facilities, Sultanabad Missile Production Facility, Mustafa Humeyni Facility, Qadiri Facility, Tabriz Facility, and Vanak Missile Production Facilities.

Thirdly, the Iran Electronics Industries Corporation is responsible for producing the electronic systems required by Iran's air, land and sea forces. In addition to its core functions, the corporation is also involved in the design and production of avionics systems for military and civil aviation, as well as the production of optical devices and information systems. The organisation also provides communication equipment, electro-optical and laser devices, telecommunications security and electronic warfare equipment, radar tubes, missile launchers, military tactical communication systems, night vision systems, laser rangefinders, binoculars and periscopes; components and services related to jamming, tracking and covert listening. The organisation's subsidiaries comprise the following:

- Shiraz Electronics Industry, which specialises in the repair of TOW missile launchers and radar systems, the production of radar, military communication systems, combat systems, control and automation systems, laser systems, consumer electronics, satellites, and sonar and underwater communication equipment;

- Iran Communication Industry, which focuses on the production of cryptographic systems and communication security infrastructure; and

- the Iran Information Systems Organisation, which oversees data automation and processing, network design and installation, LAN development and software activities.

Finally, the Naval Industries Organisation, which is responsible for meeting Iran's naval power and navy needs, operates in areas where Iran's naval field commands are located, through companies and complexes. The organisation's primary function is the production of naval vessels commissioned by the Islamic Revolutionary Guard Corps Navy Command. The organisation's manufacturing operations, conducted through its subsidiaries, are

predominantly situated in the Bender Abbas and Bandar Anzali regions. The production portfolio encompasses radar systems, sonar devices, submarine systems, ships, anti-ship missiles.

Conversely, educational institutions assume a pivotal role within the institutional framework of Iran's defence industry. Collaborations between Iranian defence industry institutions and specific universities encompass various domains, including education, R&D, and professional development. These universities ensure the provision of human resources required by Iran's defence industry through their relevant faculties and institutes, while also playing an active role in institutional planning and R&D activities. Prominent among these institutions are Shahid Beheshti University and Malek Ashtar University, as well as Amir Kabir University of Technology, Iran University of Science and Technology, Shahid Settari Air Force Academy, Imam Hussein University, and Imam Khomeini Naval Academy. These institutions collaborate closely with the Defence Industry Organisation and the Defence Industry R&D Directorate.

In this context, it is evident that Shahid Behesti University is a partner institution of the Iranian Defence Industry R&D Presidency. Furthermore, the university has cultivated close ties with the Iranian Aerospace Organisation. With its academic departments offering education in engineering fields such as the Cyber-Space Institute, the Electronic Systems Institute, and the Laser and Plasma Institute, Shahid Beheshti University contributes to identifying, meeting, and developing projects related to the needs of the Iranian defence industry. Secondly, Malek Ashtar University, which has a close structural relationship with the Iranian Defence Industry R&D Presidency, also has a significant impact in this context[21]. Malik Ashtar University, which houses an Explosives Research Institute, has been found to offer greater support to Iranian defence industry institutions in this field. Within this framework, Malek Ashtar University plays an important role in the development and procurement of explosives, systems and vehicles required by land, air and sea forces. In addition, Amir Kabir University of Technology, also known as Tehran Polytechnic University, and Iran University of Science and Technology contribute to Iranian defence industry projects in the fields of petrochemicals, naval vessels and critical infrastructure. Conversely, the Shahid Settari Air Force Academy, Imam Hussein University, and Imam Khomeini Naval Academy are responsible for the identification of the inventory and capacity

21 Alma Keshavarz. 2023. The Iranian Revolutionary Guard Corps: Defining Iran's Military Doctrine. London: Bloomsbury Academic, 143

requirements of the relevant command units within the Iranian armed forces, and the development of projects to meet these requirements[22].

In the aftermath of the 1979 Islamic Revolution, Iran has undergone a substantial paradigm shift in its defence industry, a development that has been compounded by mounting international pressure and sanctions. This shift has been driven by the country's strategic priorities and long-term security objectives[23]. In this context, Iran's advancement in the domain of defence manufacturing can be attributed to its pursuit of strategic autonomy[24]. The nation's advancements in missile systems and UAV-UCAV technologies are a consequence of this transition. These systems constitute the fundamental components of Iran's asymmetric warfare doctrine.

3. Iran's Exceptional Approach in its Defence Industry Strategy: Armenia in the Context of the Second Karabakh War

One of the two main strands of Iran's defence industry strategy, the approach of providing military capabilities to non-state armed actors, has been implemented in Lebanon and Iraq since the 1980s as part of the Axis of Resistance strategy. Military support was provided to Hezbollah in Lebanon and the Badr Organisation in Iraq. The extent and nature of this military support consisted of light and heavy weapons, rockets and missiles. In subsequent years, however, Iran shifted its focus to exporting knowledge and technology in the field of military industry and production to these groups, with the aim of enabling them to establish units that would allow them to meet their own military needs.

By the 2000s, this process had reached a stage of consolidation in Lebanon and Iraq, with Hezbollah and Iraqi militias significantly improving their military capabilities. The first signs of this were seen during the US intervention in Iraq in 2003. During this process, the resistance of the Iranian-backed groups to the US presence in Iraq was an important reflection of their military capacity. On the other hand, the 2006 war between Hezbollah and Israel clearly demonstrated the level Hezbollah had reached in terms of ground operations

22 Alma Keshavarz, 2023, ibid., 157

23 Gholamreza Tavakoli Mehdi Eliasi, Meysam Shafiei Roudposhti and Ali Asghar Heydari. 2011. "Pathology of Iran's Defense Products Exports." Improvement and Transformation Management Studies 21 (64), 62

24 Mohammad Taghi Khobroo 2021. "Agility of Economic Activities of Defense Industries." Journal of Defense Economics and Sustainable Development 6 (19), 107

and rocket and missile capacities and capabilities[25]. However, the extent of the military capabilities achieved by Iran-backed armed groups and the impact of Iran's strategy at this point were most clearly observed during the Syrian revolution that began in 2011 and the subsequent regional developments.

With the beginning of the Syrian revolution, Iran took the position of supporting and protecting the Assad regime. To this end, it ensured that armed groups it had formed in Iraq, Afghanistan and Pakistan, notably Hezbollah, were sent to Syria. This process was given a much broader framework in 2014 with the formation of the Hashd al-Shaabi in Iraq to fight Daesh. Since 2014, Iran has mobilised numerous militias based in Iraq, as well as Lebanese Hezbollah, to protect the Assad regime and fight ISIS in Syria and Iraq. In the same year, the Ansarullah movement, which seized the Yemeni capital Sana'a, received intensive military support from Iran and continued to gain ground. The picture that emerged after 2014, particularly in the period leading up to 2024, revealed the extent of the militia network that Iran has established in the regional arena, as well as the scale of its defence industrial strategy and military support capabilities.

Iran's approach to arming militias in Lebanon, Syria, Iraq and Yemen has met with a consistent response, while also revealing certain exceptional patterns of behaviour. The factors that make these patterns exceptional are the differences in Iran's defence industry strategy, which is based on supporting non-state armed actors that are ideologically close to or affiliated with it. In contrast to this approach, Iran is also capable of providing military support to non-state armed actors that are not ideologically close to or affiliated with it. Armenia is a concrete example of this exceptional situation. Armenia is exceptional because it does not qualify as a non-state armed actor in Iran's defence industry and military assistance strategy, and it does not demonstrate ideological affinity or allegiance to Iran. These characteristics have become more evident since 2020, especially during and after the Second Karabakh War.

The Republic of Armenia, which gained independence after the collapse of the Soviet Union, has had to address national security concerns since its inception. As a relatively small state within the geopolitical dynamics of the South Caucasus, Armenia has focused on developing and building its military capacity since the early years of its independence[26]. The main reason for

25 Ofira Seliktar and Farhad Rezaei. 2020. Iran, Revolution and Proxy Wars. Cham: Palgrave Macmillan, 87

26 Armine Iskhanian, 2008. Democracy Building and Civil Society in Post-Soviet Armenia. London: Routledge, 58

this focus was the country's perceived external threats and, in particular, its territorial disputes with Azerbaijan. Particularly during the First Karabakh War, which began in 1988 and ended with a ceasefire in 1994, Armenia's primary goal was to develop its military capabilities. During this period, Armenia sought to make strategic use of the military capacity and capabilities it had acquired under Soviet rule[27].

In the post-Soviet era, the equipment and training of the Soviet army formed the basis of Armenia's military capacity. However, Armenia faced significant challenges in maintaining, renewing and upgrading this equipment. In this respect, Armenia has remained militarily dependent on the Russian Federation. Since the renewal of Armenia's military equipment and the acquisition of new equipment can only be achieved through Russia, the country has not been able to achieve full military independence despite its political independence[28]. In particular, due to the perceived threat of Azerbaijan in the region, Armenia has remained militarily dependent on Russia. This situation continued until the early 2000s, as Armenia always needed Russia's protection to ensure its existence and security.

In the early 2000s, Armenia began to adopt a strategic approach aimed at reducing its dependence on Russia in terms of military capacity and capabilities[29]. During this period, the government in Yerevan, which pursued a policy of diversification in its national security strategy, sought to turn to different sources to meet its military needs. As part of this diversification policy, Armenia sought to balance its dependence on Russia while also seeking defence cooperation with other actors in the region.

In this process, contacts between Armenia and Iran on defence cooperation has began. Iran, with its strategic location and claim to regional power, was perceived as an important partner for Armenia in terms of defence and military capacity development. Geographical proximity, shared threat perceptions and overlapping geopolitical interests have played an important role in the rapprochement between Iran and Armenia[30]. During this period, Iran was seen

27 National Academies Press. 2004. Science and Technology in Armenia: Toward a Knowledge-Based Economy. Washington, DC: National Academies Press.

28 Armine Iskhanian, 2008. Democracy Building and Civil Society in Post-Soviet Armenia. London: Routledge, 64

29 Harutyunyan, Gayane. 2023. "The Impact of Military Expenditure on External Debt in Armenia." Journal of International Studies 16 (2), 147

30 Azimov, Aliyar. 2019. "An Overview of the Relations Between the Republic of Armenia and the Islamic Republic of Iran." Review of Armenian Studies, no. 40, 94

as an alternative strategic partner that could reduce Armenia's dependence on Russia[31].

Simultaneously, commencing in the second decade of the 21st century, Azerbaijan's advancement in military capabilities, facilitated by Türkiye's assistance, has attained a stage that will impact regional dynamics. The development of Azerbaijan-Israel relations during this period has also been observed with concern by both Armenia and Iran. Armenia has expressed concerns that the militarily advanced state of Azerbaijan could pose a serious threat to the country's own security, and that the region of Karabakh could be regained by Azerbaijan. Conversely, Iran has anticipated that an Azerbaijan cooperating with Israel could pose a significant geopolitical risk to itself along its northern border. This common perception of threat has been a contributing factor in fostering closer ties between Armenia and Iran in the domains of defence industry and military cooperation[32].

The armed conflict that transpired in April 2016 between Azerbaijan and Armenia, and which is referred to in academic discourse as the 'Four-Day War', represented a significant turning point in the deepening of Armenian-Iranian defence cooperation[33]. This brief military engagement served to underscore two key points. Firstly, it highlighted the growing military capabilities of Azerbaijan, and secondly, it demonstrated the country's determination to effect a change in the status quo with regard to the Nagorno-Karabakh issue. During the clashes, Armenia was able to observe more clearly the shortcomings in its military capabilities.

During this process, high-level negotiations between Iranian and Armenian defence industry delegations culminated in an agreement to provide mutual support in the defence industry. In accordance with the terms of the agreement, the Islamic Republic of Iran has initiated the provision of technology transfer and expertise in the defence industry to the Republic of Armenia[34]. It is evident that Iran's provision of support has been instrumental in facilitating Armenia's

31 Nouraleh Qeysari and Mahnaz Goodarzi. 2009. "Iran-Armenia Relations: Opportunities and Obstacles." Journal: Central Eurasian Studies 3 (2): 121-144.

32 Farzin Nadimi 2020. "The conflict in Nagorno-Karabakh from Iran's perspective." Washington Institute, January 10, 2020. https://www.washingtoninstitute.org/fa/policy-analysis/drgyry-dr-nagwr-nw-qrhbagh-az-mnzr-ayran.

33 Elahe Kolaye and Seyed Mehdi Hosseini Taghi Abad. 2019. "Iran's Scientific Diplomacy in Relations with Armenia." Central Asian and Caucasus Studies 25 (108), 177

34 ANCA. 2016. "Armenia, Iran Agree to Strengthen Defense Ties." April 11, 2016. https://anca.org/armenia-iran-agree-to-strengthen-defense-ties/.

identification of a dependable collaborator within the defence sector, one situated beyond the geographical confines of Russia[35].

The Iran-Armenia defence cooperation, which has intensified since 2016, has manifested itself in various areas. A number of concrete steps have been taken between the two countries in a number of areas, including military personnel training, planning joint exercises, and sharing defence industry technologies. During this period, Iran shared its expertise in missile technology, electronic warfare systems and armoured vehicles with Armenia.

The Second Karabakh War of 2020 represented a critical juncture in the evolution of defence cooperation between Iran and Armenia. The military engagement, which transpired between 27 September and 10 November 2020 and culminated in a decisive victory for Azerbaijan, exerted a profound strategic impact on both Armenia and Iran[36]. During the 44-day war, Armenia suffered significant losses to Azerbaijan's advanced weapon systems, particularly unmanned aerial vehicles (UAVs), which were supplied by Israel and Türkiye.

The second Karabakh war has led to a marked escalation in the threat perception of both Armenia and Iran, with these countries now viewing the situation as the most perilous it has ever been. It is evident that during this process, Armenia has discerned its own military capacity limitations when confronted with Azerbaijan, thereby acquiring a more profound comprehension of the pivotal significance of military modernisation in ensuring national security[37]. It is evident that, consequent to the war, the enhancement of Armenia's military capacity has become imperative for the nation's existential security, particularly in light of the substantial territorial losses experienced in the Nagorno-Karabakh region.

In contrast, Iran has demonstrated a more acute understanding of the significance of providing military and defence industry support to Armenia in opposition to Azerbaijan. This is due to the fact that Iran has concluded that, in order to prevent geopolitical change in the region and, in particular, the strengthening of the Türkiye-Azerbaijan-Israel axis, it is essential that Armenia

35 Sergei Melkonian. 2024. "Iran's Role in Armenia's Foreign Policy Diversification." ArmenPress, March 4, 2024. https://armenpress.am/en/article/1131846.

36 Can Kasapoğlu, 2021. "Hard Fighting in the Caucasus: The Azerbaijani Armed Forces' Combat Performance and Military Strategy in the 2020 Nagorno-Karabakh War." SAM Papers.

37 Nazrin Alizada, 2024. "Iran and the South Caucasus: The 44-Day Karabakh War in the Changing Geopolitical Equation." Review of Armenian Studies, no. 50 (December), 152

remain militarily strong and capable of balancing Azerbaijan[38]. Following a strategic assessment, Iran has commenced the provision of increased military and defence industry-related support to Armenia.

In the period following the Second Karabakh War, Iran has intensified its defence industry support for Armenia in various areas. In particular, Iran has initiated the sharing of its capabilities, capacities, and resources with Armenia in the areas of missile power, air defence systems, and unmanned aerial vehicle technologies[39]. During this process, Iran has initiated the transfer of its expertise in ballistic missile technologies, medium-range air defence systems, and electronic warfare systems to Armenia.

Furthermore, joint military exercises have been initiated between the two nations. The objective of these exercises is twofold: firstly, to cultivate cooperation and coordination between the armed forces of the two countries, and secondly, to transmit a deterrent message to regional rivals[40]. The military exercises conducted by Iran and Armenia demonstrate that the collaboration between these two nations in the domain of defence has transcended mere symbolism and has acquired an operational character[41].

In the aftermath of the Second Karabakh War, the 'Three Brothers' military exercise, conducted by Türkiye, Azerbaijan, and Pakistan in 2021, marked a notable development that gave rise to concerns for Armenia and Iran[42]. This trilateral military exercise has given rise to concerns regarding the formation of a new alliance bloc in the regional power balance. This situation has become a factor bringing Iran and Armenia closer together in the context of defence industry cooperation.

38 Euronews Persian. 2022. "Concerns about the involvement of Iranian military equipment in regional conflicts; is Tehran providing weapons to Armenia?" December 19, 2022. https://parsi.euronews.com/2022/12/19/concern-about-iranian-military-equipment-in-regional-conflicts-is-tehran-giving-weapons-t.

39 BBC Persian. 2022. "Yerevan seeks new allies; will Iran deploy military forces in Armenia?" September 26, 2022. https://www.bbc.com/persian/world-features-63089337.

40 Ebrahimi, Amirhossein. 2024. "Iran-Armenia Relations: Strategic Partnership Amid Regional Transformations." SpecialEurasia, February 11, 2024. https://www.specialeurasia.com/2024/12/10/iran-armenia-relations-caucasus/.

41 JAMNews. 2024. "'Mass production of weapons established': Armenia's defense industry in focus." March 15, 2024. https://jam-news.net/mass-production-of-weapons-established-armenias-defense-industry-in-focus/.

42 Nazrin Alizada and Damla Kocatepe. 2024. "Karşılaştırmalı Analiz Bağlamında İran ve Hindistan'ın Karabağ Meselesine Yönelik Tutumu." Anadolu Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergisi 25 (4), 121

The participation of Pakistan in the 'Three Brothers' exercise has prompted India to adopt a position in the regional dynamics. The military cooperation between Pakistan and Türkiye, as well as between Pakistan and Azerbaijan, has encouraged India to consider indirectly joining the defence cooperation alliance between Iran and Armenia. During this process, India began supplying military equipment to Armenia via Iran[43]. Consequently, Iran assumed the dual roles of both supplier and intermediary country in order to meet Armenia's defence industry needs.

During the 2023-2024 period, there was a notable escalation in the extent to which Iran provided support to the Armenian defence industry. Iran's assistance to Armenia has been documented as including the transfer of missile technologies, air defence systems and unmanned aerial vehicle technologies. As of 2024, this cooperation continues to deepen.

It is anticipated that Iran-Armenia defence cooperation will undergo further development in the future. Azerbaijan's deepening strategic relations with Türkiye and Israel are considered a factor that will strengthen defence cooperation between Iran and Armenia. Furthermore, India's indirect involvement in this cooperation signals the emergence of a new power balance in the region[44].

In conclusion, it can be posited that Armenia's endeavours to develop and strengthen its military capacity since gaining independence have, over time, evolved into a search for alternatives to reduce its reliance on Russia. It is evident that, in the course of this process, Iran has assumed the role of a significant strategic partner for Armenia. The Iran-Armenia defence cooperation, which deepened after the 2016 clashes and the 2020 Second Karabakh War, has emerged as an important factor in regional power balances. The areas in which this cooperation will deepen in the coming period and how it will affect regional security dynamics will play an important role in shaping regional and global power balances.

43 Rufat Ahmadzada 2024. "Armenia-Iran Strategic Agreement & Maximum Pressure Policy." The Geopolitics, February 18, 2024. https://thegeopolitics.com/armenia-iran-strategic-agreement-maximum-pressure-policy/.

44 Sayeh, Janatan. 2024. "Iran reestablishes its presence in the Caucuses with Armenian arms deal." Long War Journal, March 24, 2024. https://www.longwarjournal.org/archives/2024/07/analysis-iran-reestablishes-its-presence-in-the-caucuses-with-armenian-arms-deal.php.

Conclusion

Large-scale disruptions in the regional and global geopolitical order have the potential to engender significant transformations in states' defence industry strategies. These transformations emerge as a result of changes in states' security perceptions and shifts in regional power balances. The geopolitical rupture in the South Caucasus in 2020 provides a salient illustration of such strategic transformations. The Karabakh issue has been characterised as a 'frozen conflict' for decades, resulting in the establishment of a certain status quo in the region. This status quo is characterised by the fact that territories belonging to Azerbaijan are under Armenian control, a situation that has become increasingly accepted in the international arena. The Islamic Republic of Iran has pursued a strategy of regional influence by leveraging the geopolitical advantages afforded by the prevailing circumstances, adopting a position that is favourable to the preservation of the existing order.

However, the Second Karabakh War, which erupted in 2020, has profoundly disrupted the regional balance that had previously appeared stable for many years. The military successes of Azerbaijan and the subsequent recapture of occupied territories have resulted in the establishment of a new geopolitical order in the region. This development has had a significant impact on Iran's traditional regional perceptions and security calculations. This geopolitical rupture has precipitated an exceptional change in Iran's defence industry strategy. It is evident that Iran has assumed a disadvantageous position in the new equation, and as such, it has significantly increased its defence industry support for Armenia. This strategic orientation can be regarded as a defensive response on the part of Iran to the shift in the regional power balance.

The South Caucasus case study exemplifies the direct correlation between geopolitical fractures and the strategic decisions of states in regard to their defence industries. The alteration in the regional status quo has compelled regional actors, such as Iran, to undertake a comprehensive reassessment of their defence plans and strategic priorities. In this context, cooperation and support in the defence industry emerge as efforts to adapt to changing geopolitical realities. In conclusion, the geopolitical transformation in the South Caucasus and Iran's strategic response to it are important indicators of how shifts in regional power balances can shape states' defence industry policies. This state of affairs provides a valuable case study for understanding the mutual interaction between geopolitical dynamics and defence industry strategies in international relations.

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