

**AN INSIGHT INTO TODAY'S TURKISH
MILITARY INDUSTRY****BETEKINTÉS A MAI TÖRÖKORSZÁG
HADIIPARÁNAK HELYZETÉBE**PETRŐCZ Jordán¹**Abstract**

Until the 2000's Turkey was really dependent on foreign manufacturers to fulfill its defense and military needs. To import foreign products was essential, and the country's import of arms and military products was really high. But nowadays Turkey is more and more close to the defense autarky, what is more the country is becoming an important manufacturer of military product and exporter. In several places of the world they order and use Turkish-made military vehicles, devices, arms. Turkish military products have already been used in armed conflicts worldwide. Turkey led by Justice and Development Party (AKP) and President Recep Tayyip Erdoğan set itself the objective to reach defense autarky in few years. This would prevent Turkey from being dependent on foreign military manufacturers in any armed conflict, like it was in the fight against Cyprus in 1974. This study would like to give an insight into today's Turkish military industry.

Keywords

Turkey, AKP, military industry, defense industry, military spending, export of arms, defense autarky

Absztrakt

Míg Törökország az ezredfordulón még egyértelműen külföldi beszállítókra kellett, hogy támaszkodjon hadiipari szükségletei betöltésére és nagymértékű volt a hadiipari import, addig mára Törökország egyre közelít az önellátó nemzeti hadiipar eléréséhez. Továbbá Törökország egyre inkább nevezhető komoly hadiipari gyártónak és exportőrnek. A világ számos pontján alkalmaznak már török gyártmányú katonai járműveket, eszközöket, fegyvereket. A török hadieszközök és gépek pedig már több valódi fegyveres konfliktusokban is szerepet kaptak. Recep Tayyip Erdoğan elnök és az Igazság és Fejlődés Párt (AKP) vezette Törökország azt tűzte ki céljául, hogy alig néhány éven belül az ország teljesen önellátó legyen a hadiipar szintjén. Ezzel az is a célja Törökországnak, hogy soha többé ne legyen kiszolgáltatva külső segítségnek fegyveres konfliktusban a hadi eszközök területén, mint például a Ciprussal szembeni konfliktuskor 1974-ben. Ez a tanulmány betekintést szeretne nyújtani a mai török hadiipar helyzetébe.

Kulcsszavak

Törökország, AKP, hadiipar, katonai kiadások, fegyverexport, önellátó hadiipar

¹ jordanpoliver@gmail.com | ORCID: 0000-0001-5471-4939 | Phd Candidat, Óbuda University Doctoral School for Safety and Security Sciences | doktorandusz, Óbudai Egyetem Biztonságtudományi Doktori Iskola

INTRODUCTION - WHY IS IT IMPORTANT TO KNOW THE TURKISH DEFENSE INDUSTRY BETTER

There are several reasons to take the Turkish military industry seriously. First of all because Turkey and its army are strengthening their position in the world. Secondly because of the striking achievements of Turkey's military industry in the last two decades.

Turkey has a larger army than any EU country and the Turkish army is the second largest in the NATO after the US.

Although the Turkish national defense and military was highly dependent on foreign importers in the last decades, the Turkish government has set itself the objective to become self-sufficient in the military industry. And it seems Turkey is more and more close to this goal, officially promised to reach that goal by 2023 for the 100th anniversary of the Turkish Republic. [1]

What is more Turkey used to be only a buyer of military products for decades, but it became also an important manufacturer in the military industry and several countries are buying Turkish military products nowadays.

Another indicator that shows the importance of the Turkish military industry is that while two decades ago the Defense News did not include any Turkish companies in the Top 100 list of defense companies, the latest list (2020) now includes seven Turkish companies. [2] The Defense News list is the most prestigious list of the important companies in the military industry around the world.

A BRIEF REVIEW OF THE HISTORY OF THE TURKISH MILITARY INDUSTRY

Turks have been referred to as the "Army-Nation" throughout history, and in the Ottoman period as the army developed and it triggered the improvements in manufacturing of war materiel. Reaching the Black Sea and the Aegean Sea, building larger battleships was needed for the Ottomans. Manufactories have been also founded to produce different kinds of weapons: 1. for arrows, bows, swords, guns, broadaxes, gunpowder, bullets, armors, and helmets, 2. for casting cannons; 3. for the casting of mortar projectiles, mines and bombs.[3] During the time of the Emperor Mehmet II (15th. Century), the Ottomans advanced in the shipbuilding activity with the foundation of the Gelibolu Shipyard. The Empire's shipbuilding capacity exceeded the European countries, a good example of this that Ottomans could rebuild a naval fleet of 200 ships from scratch within five months following its total destruction in the Battle of Lepanto (1571). [4]

In the 18th century under Selim III. the Turkish military organization and education went through crucial reforms and the "New Order" Army was formed, which is the very seed of the modern Turkish Army. During the 19th century modernization in the technology of the army was needed, therefore the building of battleships started. Some progress of this time: invention of the propeller and application of steam engines to the battleships, construction of battleships of iron, invention of breechloader guns, abandoning of the muzzle-loader guns. [3] But in this time with the decline of the Ottoman Empire the Turkish Defense Industry also weakened. In the beginning of the Republic of Turkey after the War of Independence, the development of the national defense industry became a major goal in Turkey.

But during the 20th century Turkey could not really build a strong, independent national defense industry. What is more between 1939-1974 foreign aid and foreign procurement policy emerged as a preferred model in the Turkish defense industry. [4] In the conflict with Cyprus the allies of Turkey refused to provide arms and equipment to Turkey, which drove the country to put huge emphasis on national defense system and military industry. Turkey established its own Air, Naval and Land Forces Foundations and defense enterprises were started with state fund, and later on national institutes were established to develop a strong domestic and national military industry. [4] Still, for decades Turkey was dependent on foreign military products.

Since 2003, as AKP is leading Turkey, the government makes huge efforts to strengthen its own defense industry. In 2011 Turkey reached 54% local production level according to official data. Since the 1980s one of the country's main goals is defense industrial autarky, and the government of Turkey declared that the country would reach this goal by 2023, for the 100th anniversary of the Republic. [5]

STRUCTURE - IMPORTANT INSTITUTES AND COMPANIES IN THE TURKISH MILITARY INDUSTRY

I would like to review the Turkish defense industry in four groups:

- 1. Government institutes responsible for or operating in the military industry
- 2. Important Associations, Foundations
- 3. Private institutes and companies
- 4. Defense industry clusters

Government Institutes

First, the Ministry of National Defense is the most important government institute for the Turkish defense industry. It is called in Turkish: Millî Savunma Bakanlığı. The Ministry of National Defense coordinates and supervises every Turkish agencies and functions of the government concerned directly with national security and the Turkish Armed Forces (TAF). Apart from being the national army of Turkey, TAF is also the main buyer and user of Turkish military products.

The Presidency of Defense Industries (SSB) was founded in 1985. Originally the name was Defense Industry Development and Support Administration Office (SaGeB) and after 1989 it was restructured and renamed as Undersecretariat for Defense Industries (SMM). Since the Turkish constitutional referendum in 2017 which replaced the parliamentary system of government with an executive presidency and a presidential system, this institution was reconstructed and renamed as Presidency of Defense Industries (SSB). This institute was established as the Ministry of Defense for the task of acquisition of strategic and major defense systems. [6] The SSB's activity are to "*research, develop, and produce prototypes of modern weapons, devices and equipment*" among others and "grant loans from the Defense Industry Support Fund or obtain loans from domestic and overseas sources and establish and participate in domestic and foreign companies where necessary." [7]

Important Associations, Foundations

In the 1960's, after realizing that if crucial defense systems are imported and in case of limitations the country can be cut off from these products, Turkey started programs to strengthen national defense systems. Foundations and association were founded to reform the Turkish defense system acquisitions and defense industry and for the better support of the Turkish defense industry. [6]

A foundation is a nonprofit corporation that supports other organizations with funds collected mostly from charities. In the 1970s in Turkey foundations supporting different branches of armed forces were started. Until the 1990's almost all Turkish defense firms were either supported by government or by foundations. [6] Even today there are foundations and associations that are really successful and important in the Turkish military industry that we want to list here:

- Turkish Armed Forces Foundation - TAFF / TSKGV
- Defense and Aerospace Industry Manufacturers Association - SaSaD
- Turkey's Defense and Aerospace Industry Exporters' Association – SSI

Turkish Armed Forces Foundation (TAFF or TSKGV)

The goal of TAFF is „to enhance the warfare of capability of Turkish Armed Forces through national defense industry, establishing new defense industry areas and procuring warfare armament by providing the financial and spiritual support of Citizens.” [8]

TAFF as Turkish government foundation was born in 1987 by the merger of several similar foundations:

- Turkish Naval Society”
- Turkish Air Force Support Foundation”
- Turkish Land Force Support Foundation”

These three foundations were united under the Law no. 3388 on 17 June 1987. [9]

TAFF monitors and supervises directly and indirectly a total 14 companies, of which 6 of them are subsidiaries, 8 of which are affiliates. [9]

TAFF subsidiaries are:

- Aselsan Electronics Industry and Trade Inc.
- TAI - Turkish Aerospace Industries Inc.
- Roketsan Missiles Industries Inc.
- Havelsan – Air Electronics Industry and Trade Inc.
- ISBIR Electricity Industry Inc.
- Aspilsan Energy Industry and Trade Inc.

In fact, TAFF subsidiaries are important defense companies in Turkey, what is more some of them are highly-respected on the global market too.

The Defense and Aerospace Industry Manufacturers Association (SaSaD)

The SaSaD was established in Ankara with the suggestions and support of the Ministry of National Defense of Turkey in 1990, originally with the name: The Defense Industry Manufacturers Association. In 2012 the Association got its present name as manufacturers in the field of civil aviation and space joined the association. SaSaD want to represent and

be a strong voice of Turkish Defense and Aviation Industry. As the Association states in its webpage, its main goals are:

- “To contribute to the formation of an industry that can compete internationally and minimize the foreign dependency of our country in the field of defense and security,
- To coordinate with the needs and supply of the authorities,
- To provide platforms that will strengthen cooperation and create synergy among the stakeholders of the sector,
- To create solutions to the demands and expectations of its members and to benefit them” [10]

The foundation started with 12 founding member companies and in 2020 has 122 members.

Turkey's Defense and Aerospace Industry Exporters' Association (SSI)

SSI was established for the Turkish defense industry sector in 2011 with coordination and support of the Ministry of Economy. SSI got the task to help to improve exports of Turkish defense and aviation products including defense and security systems, land and naval platforms, aerospace, electronics and information systems, weapon systems and ammunition, support systems and logistic services, research and development (R&D) and engineering activities. [11]

SSI unites the exporting companies in defense and aerospace sector in Turkey under one roof. In this sense, SSI is the representative of the sector, which has made its main objective to help the Turkish Defense and Aerospace Industry sector focus on export-oriented production, increase research and development investments, and make “know-how” its main export item. [12]

SSI participate as much as possible in international fairs to make Turkish product recognized in the international market. [13]

Private companies

Before the 1990's almost all Turkish defense firms were supported by the government or by foundations, but in the 1990's new defense firms were entirely funded by the private sector. [6]

There are some Turkish companies, which are called government-affiliated companies in the Turkish Defense industry. [14]

- MKE or MKEK, a weapon and ammunition manufacturer [15]
- ASFAT, which includes military factories [16]
 - Both of these institutes are affiliated to the state but can carry out commercial activities.
- STM is a company for design and production, which was established by the Presidency of Defense Industries (SSB) [17]

Defense Industry Clusters

According to Michael E. Porter, who defined the term of cluster, „clustering is a geographic concentration of firms from a particular industry with the firms from supporting industries and related public and private institutions” [18]

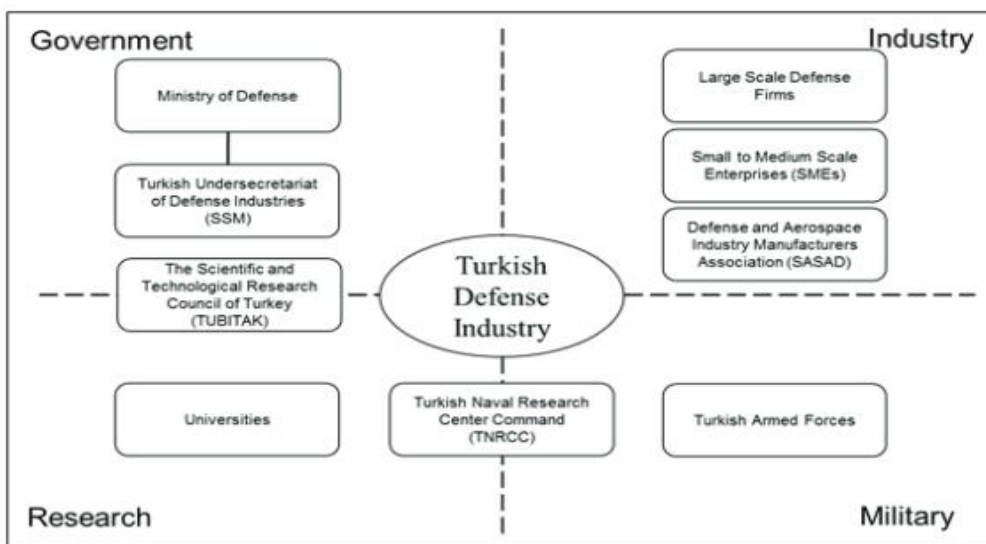
Clustering is a solution for SMEs (Small and medium-sized enterprises) to stay competitive against large companies with more resources. “*In Turkey since 2008 there are clusters related to defense, security, aviation, and space.*” [6]

These are the defense industry cluster in Turkey:

- OSTIM Defence and Aviation Cluster (OSSA) (established in 2008)
- Teknokent (Technology Park) Defense Industry Cluster (TSSK) (established in 2010)
- The Aerospace Clustering Association (ACA) (established in 2010)
- The Eskisehir Aviation Cluster (ESAC) (established in 2011)
- The Defence, Aviation, Space Clustering Association (SAHA) (established in 2015)
- The Space, Aviation, and Defence Cluster (established in 2014) [6]

According to Kadir Alpaslan Demir, Ebru Caymaz, Fahri Erenel the more holistic view of the Turkish Defense Industry includes four main direction:

- 1. government
- 2. military
- 3. industry
- 4. research



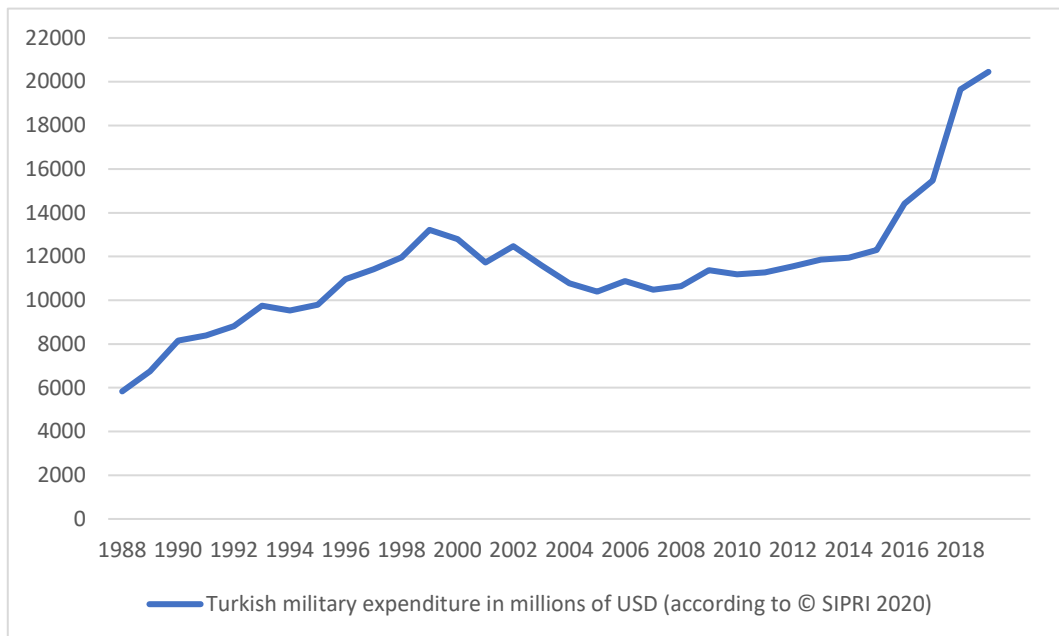
In their study they presented this large-scale structure of the defense industry in the following Figure. [6]

BUDGET OF THE TURKISH MILITARY

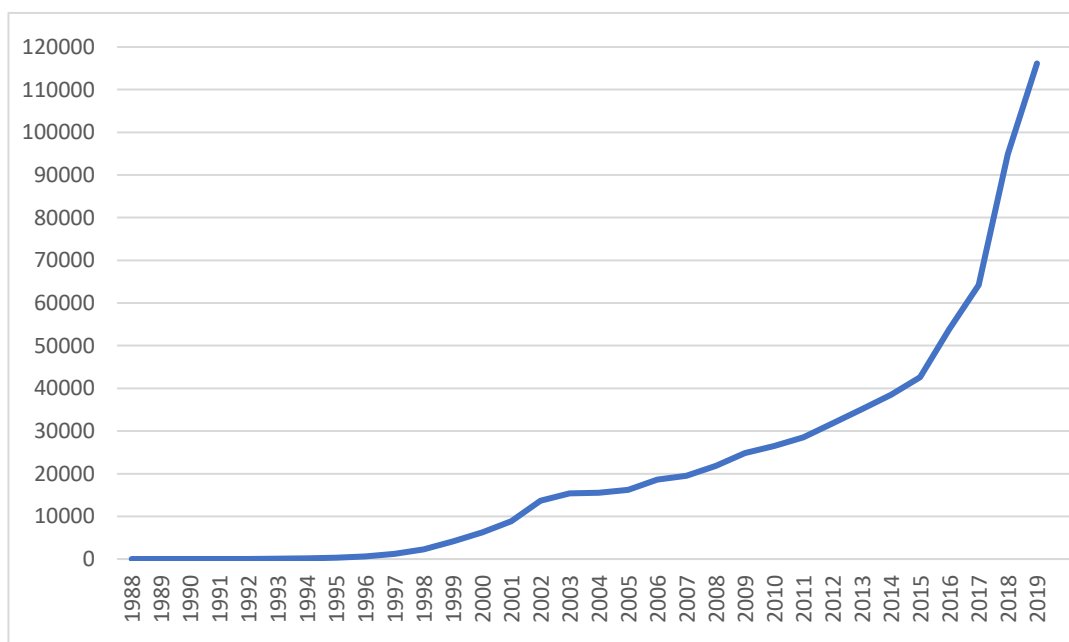
As we can see in the diagram below, the military spending has increased in Turkey in the last 30 years. Between 1988-1998 the amount spent on military doubled. (1988: 5,8 billion USD, 1999: 13,2 billion USD). (See 2. Figure) After that military spending decreased

1. Figure: The Hollistic view of the Turkish military industry, [6]

or stagnated for 10 years. Growth in the Turkish military spending started again around 2009 and slightly went on until 2015, but after 2015 a radical increase started. Concerning this issue it cannot be neglected that there was a military coup in 2016 in Turkey.

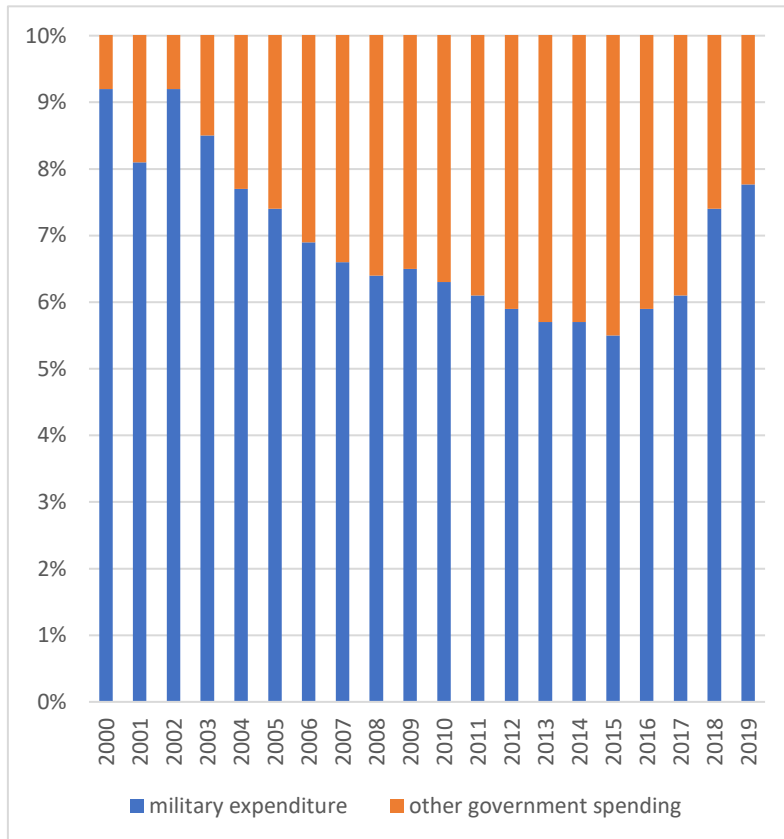


2. Figure: Military expenditure of Turkey, in constant (2018) US\$ m., 1988-2019.
Source: The authors construction according to SIPRI 2020



3. Figure: Military expenditure of Turkey, in local currency, (millions of lira) 1988-2019.
Source: The authors construction according to SIPRI 2020

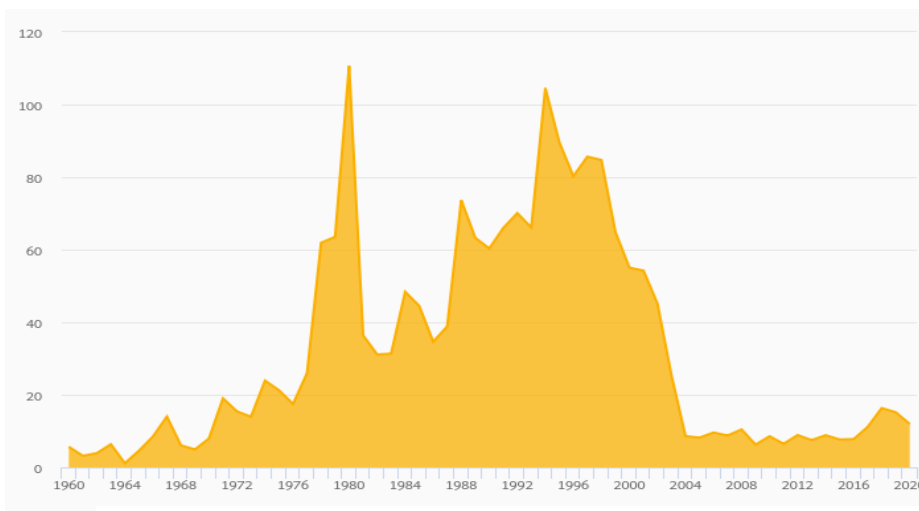
Seeing data on Turkey's military expenditure data in the last 30 years we can state that Turkey is spending billions of liras for the military and military industry. There is a significant growth after 2003, which is the beginning of the Erdogan administration. Since Erdogan is leading Turkey, the country's military spending in Turkish lira (TRY) saw a growth of 750%. (2003: 15,4 billion lira, 2019: 116 billion lira) (See 3. Figure) But on the other hand we need to see that this magnitude of growth is not reflected in spending in USD, so inflation of the Turkish lira must also be taken into consideration. As we can see on the following diagram the inflation of the Turkish lira was also really high in the last decades. (See 5. Figure)



4. Figure: Military expenditure by country as percentage of government spending, 1988-2019, Turkey. Source: Author's own construction according to SIPRI 2020

The Turkish military spending in USD saw such a growth: 5,834 billion of USD (1988), 11,970 billion (1998), 10,640 billion (2008) and 20,448 billion USD in 2019. (See 2. Figure) As it can be noticed the Turkish Military spending grew also in USD in the last decades: between 1988-1999 the spending had a 226% growth, after that it was fifteen years with an average of 11,4 billion USD spent on Turkish military issues. Since 2015 there is a

massive growth also in USD in the Turkish military spending: Turkey spent for military 66% more in 2019 than 4 years before. (See 2. Figure)



5. Figure: Inflation of the Turkish Lira,

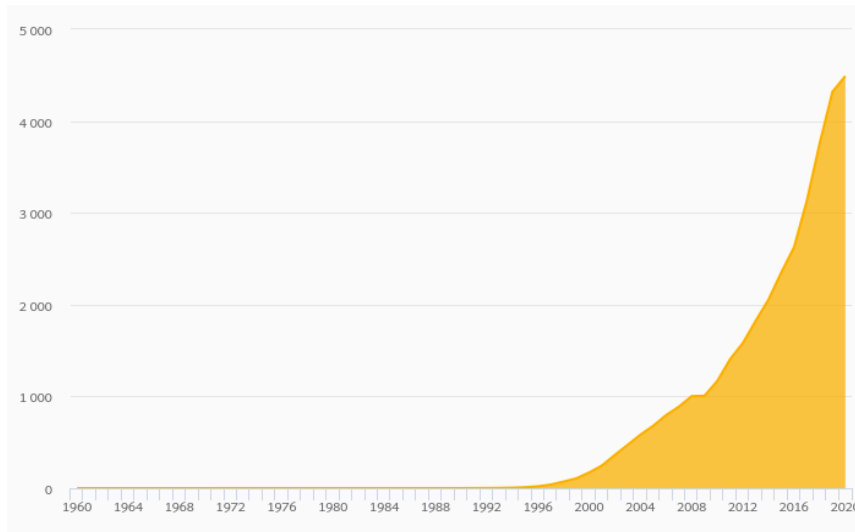
Source: <https://www.helgilibrary.com/charts/inflation-cpi-average-fell-213-to-119-in-turkey-in-2020/>

Otherwise the GDP of Turkey has also increased in a significant way during the period of 2003-2019. Otherwise the GDP of Turkey has also increased in a significant way during the period of 2003-2019 under Erdogan's leadership, so not only the amount spent on military grew, but also the overall budget. But the percentage of the national budget spent on the military sank from 9,2% to 7,8% between 2000 to 2019. So three points assumed that the Turkish economy became stronger, national income become more, but inflation also made the lira less valuable. But it is clear from the percentage of military spending in Turkish GDP and from all other diagrams that Turkish military spending began to rise significantly since 2015 over the last five years. [19]

ECONOMIC SUCCESS OF THE TURKISH MILITARY INDUSTRY IN THE LAST DECADE / DURING THE ERDOGAN ADMINISTRATION

The Turkish military industry is a powerful economic actor in the country. During the last decades the Turkish military has also developed civilian enterprises that are important in their sectors. [20]

Turkey's defense industry has seen a great increase in the last 10 years. An example of the growth of the Turkish military industry is the list of the Top 100 Global Defense



6. Figure: GDP rise of Turkey in local currency.

Source: <https://www.helgilibrary.com/charts/gdp-local-currency-rose-393-to-try-4490-bil-in-turkey-in-2020/>

Companies. This list is made by Defense News and collects the most successful and prestigious defense companies from all over the world. [2]

In 2010 there was only one Turkish company on the list of Top 100 Global Defense Companies, in 2020 there are seven Turkish companies on this list. To understand the magnitude of this growth, we need to realize that Russia, Japan, Sweden and Israel have a total of less than seven companies on this list. [21] According to the list, countries can be ranked based on the numbers of their companies, and in 2020 Turkey ranked 4th with 7 companies after the United States, the United Kingdom and the People's Republic of China. [22]

In 2020 these were the Turkish companies on the Top 100 list, indicating the position and the background of the company:

Company name	Background
1, electronics specialist Aselsan (48th on the list), (https://www.aselsan.com.tr/en/)	member of TAFF, a government foundation
2, Turkish Aerospace Industries TAI / TUSAŞ (53th), (https://www.tusas.com/en/)	member of TAFF, a government foundation
3, armored vehicles maker BMC (89th), a Turkish-Qatari partnership (defensnews.com turkish industry prospers) (https://www.bmc.com.tr/en/)	Private
4, missile maker Roketsan (91st), (https://www.roketsan.com.tr/en/)	member of TAFF, a government foundation

Company name	Background
5, military technologies specialist STM (92nd), (SSB) (https://www.stm.com.tr/en)	Established by the Presidency of Defense Industries - Government affiliated
6, FNSS, an armored vehicle maker company (new this year at 98th) (https://www.fnss.com.tr/en) [23]	Private
7, and military software specialist Havelsan (new this year at 99th) (member of TAFF) (http://www.havelsan.com.tr/en/)	member of TAFF, a government foundation

*1. Table: Turkish companies in the Top 100 Defense Companies list and their background.
Source: author's construction*

Seeing the list we can see that „of the seven, five are government-controlled companies.” It is a great success for the Turkish Armed Force Foundation to have four of its subsidiaries on the list of the Defense News Top 100 Defense Companies, [2] which is the most prestigious list in the defense industry globally. [23]

PRODUCTS OF THE TURKISH MILITARY INDUSTRY

The institutes, companies could only be successful in the global market if they present good quality and successful products.

Today, Turkey has become capable of manufacturing its own satellites, unmanned air vehicles (UAV), training aircrafts, helicopters, service rifles, battle ships, armored vehicles, missile and rocket systems. There are already qualified human resource, research institutes, R&D (research and development) laboratories, SMEs (Small and medium-sized enterprises) and worldwide companies within Turkey, which is now also able to develop simulation and software, it establishes partnerships in worldwide projects, builds satellite production and test centers, initiates the construction of satellite launch facilities as well as combat aircrafts and indigenous helicopter projects. [13]

The most remarkable products of the Turkish Defense Industry are: 8x8 PARS, 6x6 PARS, 6X6 ARMA; 4x4 COBRA, EJDER YALCIN, VURAN; ALTAY MBT and KAPLAN Medium Tanks. These products compete in global markets. [14]

8x8 PARS is an armored vehicle with eight wheels, which has an all-axle steering system, and this gives the vehicle the lowest turning radius in its class. The structure of the vehicle is developed especially to protect personnel, for example there are mine-resistant seats in it. This vehicle can climb 70 cm high obstacles and 2 meter wide trenches and can accelerate up to 100km / h in normal roads. [24]

6x6 PARS is from the same type as PARS 8X8 but with six wheels, which has a first and third axle steering system, which makes it really mobile. Because of it, it has the lowest turning circle of its class. This vehicle moves comfortably on loose and soft terrain. There is also another version of it called 6X6 PARS Scout, which is amphibious. [24]

6X6 ARMA is a six-wheel armored vehicle, which has superior mobility, high mine and ballistic protection and wide range of weapon integration options. This vehicle is capable to functioning in most difficult terrain and climatic conditions. This type is available in various type of configurations like personnel Carrier, Infantry Fighting Carrier, Command Post, Ambulance, CBRN reconnaissance, Driver training. And its also optional to have amphibious version. [24]

4x4 COBRA, is an armored vehicle by Otokar. It is a multipurpose platform, that can be adapted for various roles (personnel carrier, weapon platform, NBC reconnaissance, ground surveillance radar, forward observer, ambulance, command post). It can be build in amphibious version. Cobra 4X4 is combat proven since it is in active duty in armed forces throughout the world. [24]

EJDER YALCIN, is a **4X4** armored combat vehicle, developed to meet the operational requirements of military units and security forces in rural, as well as in urban areas. It can be customized for various requirements: border surveillance and security vehicle, air defence vehicle, reconnaissance vehicle, command and control vehicle, Mine/IED Detection-Clearance vehicle, combat vehicle, personnel carrier, CBRN surveillance vehicle, tactical missile Carriage/Launch System, Armored Ambulance. [24] This Turkish-made vehicle was tested in different countries and also Hungary uses this vehicle and ordered more in recent time from Ejder Yalcin, which seen as one of the most reliable in 4X4 category. The Hungarian defense minister Tibor Benkő stressed that the Turkish armored vehicle's maker, Nurol Makina, will make joint production with Hungary. [25]

VURAN is a 4 wheel armored vehicle, which is standing out for its high crew capacity. Nine person can be carried with it and this car offers high level protection for its personnel against mines and ballistic threats. To offer this kind of protection the cabin and windshields are armored, seats are shock-absorbing, and there are emergency exit hatches. [24]

ALTAY MBT is a third generation of Main Battle Tank of the Republic of Turkey. In 2005 The Turkish National Main Battle Tank Project began, and the Altay first prototype was ready in 2015. Since then Turkey planned the mass production of it and planning to build 1000 Altay tank in 250 units. The Altay MBT incorporates the most modern features of a tank, which has a crew of four, comprising the driver, gunner, loader and commander. The company Otokar won the competition to be the main contractor to build these tanks. [26]

KAPLAN has a series of different medium tanks that has the ability to move together with main battle tanks. There are Kaplan 10, Kaplan 20, Kaplan 30 and Kaplan MT. The first two has the unique feature that they are amphibious. [24]

The Turkish military industry is aiming to produce high-quality products and therefore the government and the companies want to solve not only the manufacturing products on their own, but also the testing. The president of SSI, Naki Polat, stated that „The Turkish Armed Forces demand products and services that have superior capabilities, which require very challenging tests and trials.” [14]

In recent years, the development and verification activities of the new platforms such as the National Combat Ship MILGEM Project, Main Battle Tank Project - ALTAY, Unmanned Air Vehicle Project - ANKA and BAYKAR UAV (unmanned aerial vehicle) / AUAV, Cirit, Anti-Tank, Bora and Kasırga Missiles, Training Jet (HÜRKUŞ), Patrol and

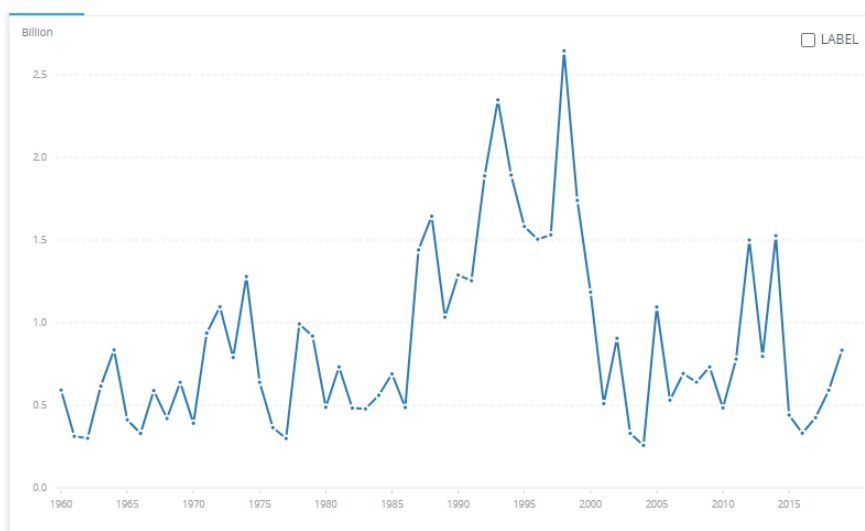
Coast Guard Boats, Light Weapons and various modern ammunition were completed. These are the success of the Turkish defense industry, which increase the Turkish export potential and help Turkey take the place in the world markets. [27]

„The Turkish Defense Industry has been on the rise for the past fifty years. Currently, Turkey is able to support Turkish armed forces with many national defense systems.”[6]

CHANGES OF IMPORT / EXPORT BEFORE ERDOGAN AND SINCE ERDOGAN

Recep Tayyip Erdoğan is leading Turkey since 2003 which is quite a long period historically and also economically. So now there is data that we can compare what it was like before the Erdoğan's administration and what changes took place since then.

There have been changes over the years in arms imports and exports. The attached diagram deals only with the military weapons and exclude any other military equipment. In the 80's and 90's Turkey imported more and more arms during the years. There were high peaks in 1993 and in 1998. In 1993, Turkey imported 2,348 billion USD worth of arms, and after a short period of decrease, Turkey reached a historical highpoint in arms import in



7. Figure: Arms imports of Turkey.

Source:

<https://data.worldbank.org/indicator/MS.MIL.MPRT.KD?end=2019&locations=TR&start=1960&view=chart>

1998, worth 2,645 billion USD. There was a massive change around 2000 when Turkey's arms imports started to sink. (See 6. Figure)

Since Erdoğan is in leadership, Turkey started to import less arms from abroad, as one of his administration's goal is to make Turkey self-sufficient in arms. So the Turkish government stimulated the national military industry to produce arms and military equipment at home. Yet during the last 15 years there was growth in Turkey's arms import, but

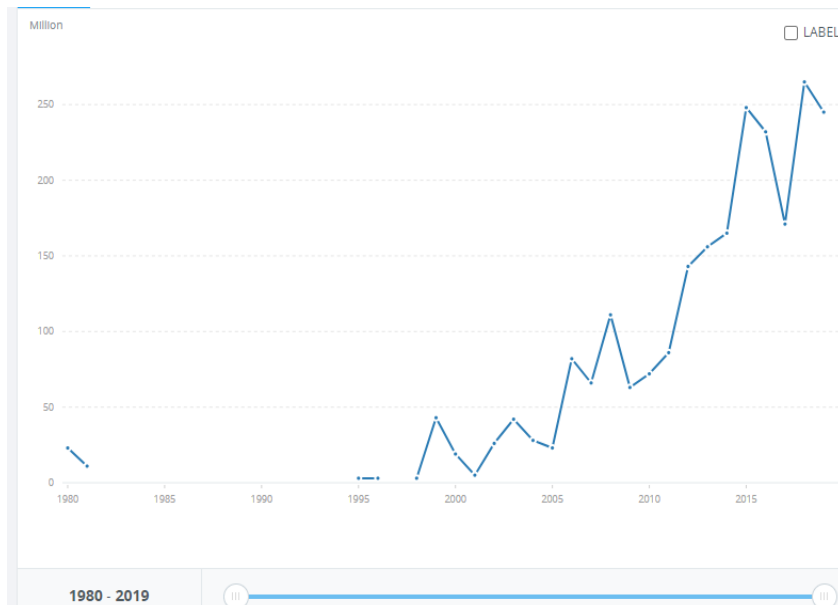
never reached the volume of the 80's and 90's. However, the Turkish arms imports in the 60's, 70's were about at the same level, or even lower than nowadays. And since 2016 Turkey has imported more arms every year. The diagram on 6. Figure deals only with the military weapons and exclude any other military equipment. Since Erdogan leadership Turkey's arms exports rose exponentially. While after the first year of Prime Minister Erdogan in 2004 Turkey exported 28 million USD worth of arms, in 2019 it was 245 million USD. This represents a growth of 875% in 15 years. [19]

BUYER OF THE TURKISH MILITARY PRODUCTS

After Turkey joined the North Atlantic Treaty Alliance (NATO) in 1952, there was a movement in the NATO in the 1980's to modernize the states weapon systems. At the same time, Turkey tried to reduce its dependence on foreign manufacturers by strengthening its own national weapon production. Nowadays Turkey has become a key provider of weapons system around the world. [14]

The products of the Turkish private companies which manufacture military devices are used in two directions:

- 1. the Turkish national security forces (for example the army, the police)
- 2. users worldwide



8. Figure: Arms export of Turkey 1980 – 2019 according to SIPRI.

Source: <https://data.worldbank.org/indicator/MS.MIL.XPRT.KD?end=2019&locations=TR&start=1960&view=chart>

The defense industry of Turkey has also become a technology provider to various countries. Turkey provide military products with joint production and technology transfer efforts to these countries:

- Kazakhstan,

- Kingdom of Saudi Arabia,
- Malaysia,
- United Arab Emirates (UAE),
- Azerbaijan,
- Indonesia [14]

Turkish companies have made exponential progress in producing drones, ships, military electronics and armored vehicles technologies. Due to high technological standards and competitive pricing, there are foreign customers for these Turkish systems. "The combat-proven technologies easily find their place in export markets, especially in countries with which Turkey has friendly political relations." In these countries, there is a good market for Turkish companies for such products listed above:

- Qatar
- some north African countries, (Libya, Tunisia etc.)
- Azerbaijan,
- Pakistan,
- Turkic republics in Central Asia
- Muslim countries in southeast Asia, like Indonesia and Malaysia. [23]

Qatar is Turkey's most important ally country in the Gulf region. The two country has joint-production programs in the military industry and Qatar welcomed the decision of the Turkish parliament to permit the deployment of Turkish troops to Qatar. [28]

Looking to history **North Africa** can be seen as „traditional spheres of influence” for Turkey, since it was part of the Ottoman Empire. But after 1923 Turkey isolated itself from such former spheres of influence, and oriented to the West. Although since 2003 with the leadership of the AKP Turkey put emphasis on North Africa again, where Turkish influence is growing in countries like Morocco, Algeria, Tunisia and Libya. [29] In Libya Turkish-made drones helped to win war. [30]

As a matter of fact Turkey is building connections all over the African continent and in the Sub-Saharan region, and is making business of military products in these countries too. In recent years there were military related business treaties worth hundreds of million USD. [31] What is more, several countries in the African continent are purchasers of Turkish military equipment. In 2018 Turkey made 84.35 million US dollar income from the selling of these products to: South Africa, Tunisia, Ghana, Nigeria, Chad, Libya, Egypt, Burkina Faso, Kenya, the Democratic Republic of the Congo, Cameroon and Senegal. [32]

Azerbaijan is Turkey's important ally in the Caucasus, the two countries has Agreement on Strategic Partnership and Mutual Support since 2010, preceded of Social Security Treaty in 1998. [33] Turkey also helped Azerbaijan in the conflicts against Armenia, and the Azeri army got aid from the Turkish Armed Forces, could use Turkish military equipment. What is more in the latest Nagorno-Karabakh conflict Turkish UAVs (unmanned aerial vehicle), drones took a crucial part in the victories of the Azeri side. [34]

Kazakhstan is one of the most important partners for Turkey in Central Asia, as Turkey's Deputy National Defense Minister, Muhsin Dere stated in February, 2021. [35] The two countries have joint production of military products in the field of optical and radio-

electronics. Turkish made Arma 8x8 wheeled armored combat vehicle and Aselsan Nefer remote-controlled stabilized weapon system were tested in Kazakh soil. [36]

REFERENCES

- [1] Metin Gurcan. “Turkey's defense industry still striving for self-sufficiency” al-monitor.com. <https://www.al-monitor.com/originals/2018/12/turkey-defense-industry-hidden-problem-dependence.html>
- [2] “Top 100 Defense Companies.” defensenews.com. <https://people.defense-news.com/top-100/> [Accessed 24 03 2021]
- [3] “Brief history of the Turkish Armed Forces.” tsk.tr. <https://www.tsk.tr/Say-falar?viewName=History> [Accessed 24 03 2021]
- [4] “Transformation of the Turkish defense industry: The story and rationale of the Great Rise” Insight Turkey Summer 2020 / Volume 22, Number 3. <https://www.insightturkey.com/commentaries/transformation-of-the-turkish-defense-industry-the-story-and-rationale-of-the-great-rise> [Accessed 24 03 2021]
- [5] Kurç, Ç. (2017). Between defence autarky and dependency: the dynamics of Turkish defence industrialization. *Defence Studies*, 17(3), pp. 260-281.
- [6] Demir, Kadir; Caymaz, Ebru; Erenel, Fahri. (2016). Defense Industry Clusters in Turkey. *Journal of Defense Resources Management*. 7. pp. 7-20.
- [7] “About us” ssb.gov.tr. <https://www.ssb.gov.tr/Website/content-List.aspx?PageID=39&LangID=2> [Accessed 24 03 2021]
- [8] Turkish Armed Force Foundation website. “About us”. <https://www.tskgv.org.tr/en/about-us/tskgv-about-us> [Accessed 24 03 2021]
- [9] Turkish Armed Force Foundation website. “History”. <https://www.tskgv.org.tr/en/history> [Accessed 24 03 2021]
- [10] Defense and Aerospace Industry Manufacturers Association. “About us” <https://www.sasad.org.tr/en/about-us> [Accessed 24 03 2021]
- [11] “SSI is Ready to Support Turkish Defence and Aerospace Exporters” *Defence Turkey*, Vol. 6., Issue 35, 2012. <https://www.defenceturkey.com/en/content/ssi-is-ready-to-support-turkish-defence-and-aerospace-exporters-11> [Accessed 24 03 2021]
- [12] “Turkish defence and aerospace industry exporters association at urosatory” https://www.armyrecognition.com/eurosatory_2014_show_daily_news_coverage_report/turkish_defence_and_aerospace_industry_exporters_association_ssi_at_urosatory_2014.html [Accessed 04 02 2021]
- [13] “SSI Keeping up the Spirit of Future”, *Defence Turkey*, Vol. 9, Issue 63, 2015 <https://www.defenceturkey.com/en/content/ssi-keeping-up-the-spirit-of-future-2092>
- [14] “How Turkey became one of the world’s leading manufacturers of weapons systems” *Defensenews.com*. <https://www.defensenews.com/native/turkish-defence-aerospace/2020/07/21/how-turkey-became-one-of-the-worlds-leading-manufacturers-of-weapons-systems/> [Accessed 04 02 2021]
- [15] MKEK website. <https://www.mkek.gov.tr/tr/> [Accessed 04 02 2021]
- [16] ASFAT website. <https://www.asfat.com.tr/en/> [Accessed 04 02 2021]
- [17] STM website. <https://www.stm.com.tr/en> [Accessed 04 02 2021]

- [18] Porter, M. (1998). Clusters and the New Economics of Competition, Harvard Business Review, November-December, 1998, p. 78.
- [19] SIPRI 2020. <https://www.sipri.org/databases/milex> [Accessed 04 02 2021]
- [20] Egypt Zeinab Abul-Magd, İsmet Akça, Shana Marshall: *Two Paths to Dominance: Military Businesses in Turkey and Egypt*, Carnegie Endowment for International Peace, 2020, pp.1
- [21] Ferhat Gurini: "Turkey's Unpromising Defense Industry" October 09, 2020, <https://carnegieendowment.org/sada/82936> [Accessed 24 03 2021]
- [22] "Turkish Defense Companies Defense News Top 100 List 2020 Performance" Defence Turkey, 2020, Vol. 15, Issue 101. <https://www.defenceturkey.com/en/content/turkish-defense-companies-defense-news-top-100-list-2020-performance-4246> [Accessed 24 03 2021]
- [23] Burak Ege Bekdil: „Turkish industry prospers, but foreign relations are limiting its potential” <https://www.defensenews.com/top-100/2020/08/17/turkish-industry-prospers-but-foreign-relations-are-limiting-its-potential/> [Accessed 24 03 2021]
- [24] "Turkish defence industry product catalogue", Presidency of the republic of turkey, Presidency of defence industries, <https://www.ssb.gov.tr/urunkatalog/en/32/#zoom=z> [Accessed 24 03 2021]
- [25] "Hungary gets 1st delivery of Turkish armored vehicle." <https://www.aa.com.tr/en/europe/hungary-gets-1st-delivery-of-turkish-armored-vehicle/2141675> [Accessed 24 03 2021]
- [26] "The Altay Main Battle Tank in Turkey" <https://www.army-technology.com/projects/altaymainbattletank/> [Accessed 24 03 2021]
- [27] "SaSaD – Turkish Defence and Aerospace Manufacturers Association", *Defence Turkey*, vol. 12, issue 83, 2018, <https://www.defenceturkey.com/en/content/sasad-turkish-defence-and-aerospace-manufacturers-association-3092> [Accessed 24 03 2021]
- [28] Antoine Vagneur, Jones, Can Kasapoglu: „Bridging the Gulf: Turkey's forward base in Qatar" *Foundation for Strategic Research*, 11 August 2017 <https://www.frstrategie.org/en/publications/notes/bridging-gulf-turkeys-forward-base-qatar-2017> [Accessed 24 03 2021]
- [29] Said Saddiki, "The New Turkish Presence in North Africa: Ambitions and Challenges" *Konrad Adenauer Stiftung*, Med Dialogie Series, no. 33, December 2020, <https://www.kas.de/documents/282499/282548/The+New+Turkish+Presence+in+North+Africa.pdf/1ef5bc1d-f900-a9b5-6fb0-619c94ec37b1?version=1.0&t=1607419637085> [Accessed 24 03 2021]
- [30] "Turkey bolsters influence across North Africa's Maghreb" Issued on: 24/12/2020, <https://www.france24.com/en/live-news/20201224-turkey-bolsters-influence-across-north-africa-s-maghreb> [Accessed 24 03 2021]
- [31] János Besenyő, Péter Oláh, "One of the new competitors in Africa: Turkey" *AARMS*, Vol. 11, No.1 (2012) pp. 135–148
- [32] János Besenyő, "Turkey's growing interest in the African continent" *JCEEAS – Journal of Central and Eastern European African Studies*, Vol. 1, No. 1-2 (2021)

- [33] Turkish parliament ratifies Turkish-Azerbaijani inter-governmental agreements, 23 February 2011, <https://web.archive.org/web/20140716204556/http://en.trend.az/news/politics/1834283.html> [Accessed 24 03 2021]
- [34] Muzayen Al-Youssef, Manuel Escher, “Kampfdrohnen: der Wettflug der Rüstungsindustrie zur Todesmaschine”, 02.03.2021, <https://www.derstandard.de/story/2000124570606/kampfdrohnen-der-wettflug-der-ruestungsindustrie-zur-todesmaschine>
- [35] Meiramgul Kussainova, “Turkey, Kazakhstan to boost defense industry cooperation”, 05.02.2021, <https://www.aa.com.tr/en/turkey/turkey-kazakhstan-to-boost-defense-industry-cooperation/2134550> [Accessed 24 03 2021]
- [36] “Kazakhstan Evaluates Turkish-Made Combat Vehicle, Weapon System”, 02.03.2021, https://www.defenseworld.net/news/29089/Kazakhstan_Evaluates_Turkish_Made_Combat_Vehicle_Weapon_System#.YFvMT51KiM8 [Accessed 24 03 2021]