PREDICTIVE ANALYSIS OF ROMANIAN EXPORTS OF WEAPONS

Lucian, Ivan[1]

Abstract

Before the year 1989, Romania was in the top 10 global arms exporters, with an annual volume of approximately 800 million USD. Currently, the volume of arms exports is about 200 million USD, about 25% of what is exported before 1990, but this area can be recovered, given Romania's quality of NATO and EU membership.

While exports are on a slightly ascending trend, the Romanian defence industry fails to provide modern military equipment on the world market, the main cause is the low technological level of the industry. However, the Romanian defence industry can recover in the light of certain objective factors, namely: the geostrategic position on the Black Sea, the status of NATO and the EU and strategic partnerships with strong states (Strategic partnership with the US).

Also, the development of EU-level financial instruments aimed at modernising the European defence industry can be a strategic advantage for companies within the indigenous defence industry. A major advantage is the partnerships that will be concluded with large companies in the Euro-Atlantic area, which will allow the transfer of know-how for the local defence industry.

Keywords: weapons, technology, research, exports, cooperation.

JEL Classification: F17, F21.

1. Introduction

The defence industry is an important element of the world industry, with a total turnover of the order of billions of USD and a very high profitability rate, exceeded only by the pharmaceutical industry. In addition to aspects of a financial-economic nature, an essential element is the strategic nature of this industrial branch, given the need to ensure national, regional and global security.

In this context, it is essential for a state that its army has the best military technique to cope with a possible attack by another state or to discourage the adversary from resorting to direct military action, with direct effects at the National security level.

A relevant indicator for the characterization of the level of defence market in a state is both the value of exports, as the structure of exports according to the typology of equipment subject to foreign trade activities. The more balanced evolution in all the categories of weapons that are exported, the more technologically developed the defence industry in the state and can cope with the current geopolitical challenges.

2. Global defence market features

The international defence market is characterized by a very stressed dynamism, through fierce competition between large arms-producing companies, amid the very high rate of operational profits obtained by these companies.

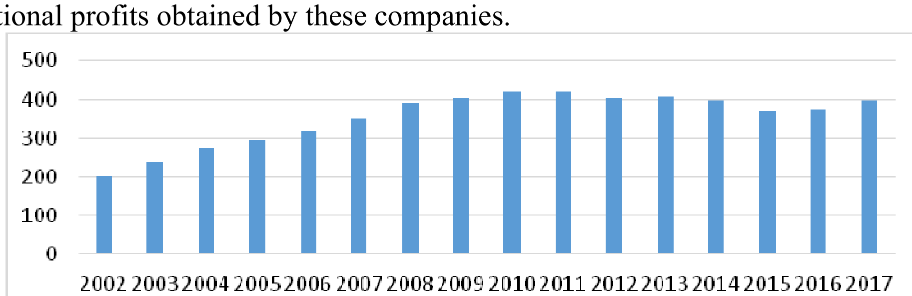

Figure 1: Total arms sales worldwide

[1] PhD, associate professor of "Alexandru Ioan Cuza" Police Academy, e-mail: ivan.lucian2@gmail.com.

As is observed, the total worldwide arms sales are about 400 billion USD, with the trend of the profile market being of slight growth. The trend in the period 2002 – 2010 was of sharp growth, followed by a period of relative recession (2010 – 2014), now the trend being ascending (2015 – 2017).

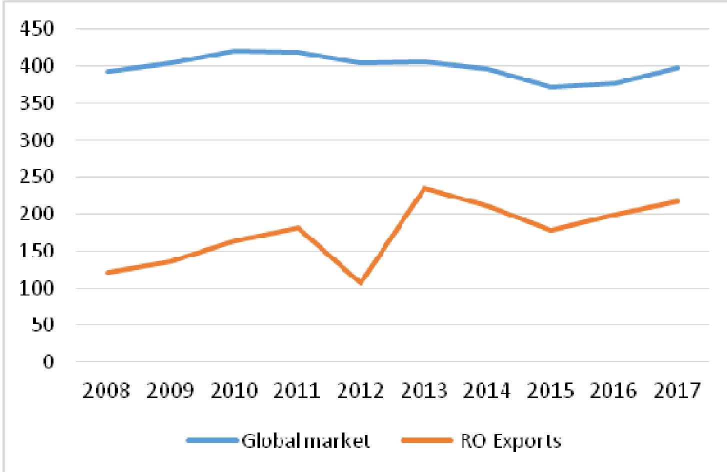

Figure 2: Corelation between global market & Romanian exports

From the analysis of global arms market trends, compared to the evolution of exports of Romanian military products, there is a direct correlation between the two factors, the only major discrepancy being recorded in the year 2012, amid the emergence of some factors of a subjective nature, generated by the characteristics of the market and the lack of government support to the Romanian defence economy. Carefully analysing the previous graph, it can be noted that the correlation factor between the two components is very correct, reflecting the fact that the national defence industry is becoming increasingly connected to the profile economy at the global level.

3. Characteristics of the Internal Defence Market

Prior to 1989, the Romanian defence industry exported military products totalling about 800 million USD/year, which were from over 100 companies, in which approximately 130,000 people were employed. Currently, after successive reorganisations, at the level of the indigenous defence industry, it activates 22 economic operators with full state capital and 17 companies with mixed or private capital, the level of exports of military equipment being approximately 200 million USD (25% of the exports level prior to 1989).

Currently, the Ministry of National Defence acquires military equipment from the internal market by 15%, in the context of which the European average is around 70%, and France acquires 100% of the products made by the defence industry Domestic. The main cause of the low level of retention of Romanian military products by domestic beneficiaries consists of the low technological level of military equipment produced at the level of the industry, which are not tailored to the policies of Acquisition prepared at the level of the Ministry of National Defence and are not able to contribute to the modernisation process of the Romanian Army.

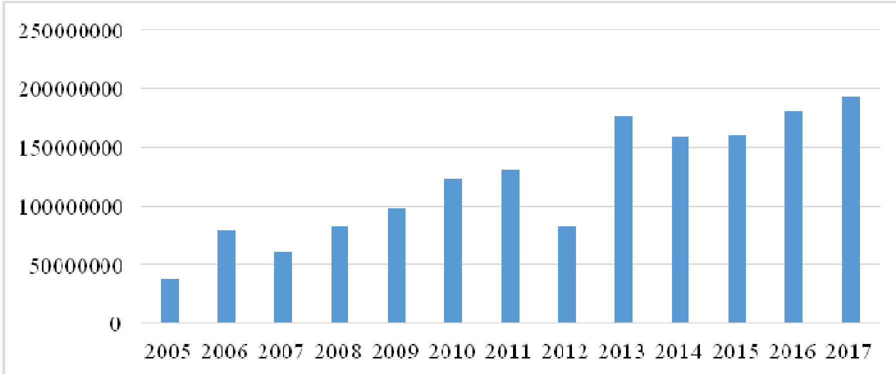

Figure 3: Evolution of romanian military exports (euro)

In this context, in order to continue to pursue defence affairs, Romania's profile companies mainly focused on exporting military equipment and ammunition. From the statistics made based on the national authority in the field (the ANCEX Control Department of the Ministry of Foreign Affairs) resulted in the above figure which reveals the increasing trend of arms exports.

Although it is on an upward trend, the analysis of the categories of military equipment exported by Romania reveals the disproportionate nature of the range of military products, in the sense that our country carries out most of the export operations with light weapons and combat ammunition. Romania also does not export military technology or military equipment that incorporates cutting-edge technologies, which confirms the low technological level of the indigenous industry of the profile. In fact, most of the Romanian military equipment is produced with technologies from the years 60-80, which is negative both in the technological level of the resulting products and in their quality.

Another issue directly facing the domestic defence industry consists in the lack of specialised personnel operating the industrial equipment to produce armaments, which leads to a decrease in their quality and, implicitly, to increase in production costs.

The low technological level of Romanian military equipment is mainly due to reduced investment in the research and development sector. For example, in the year 2015, the budget allocated by the Ministry of National Defence for this area of strategic interest was 2.67 million lei (approximately 670,000 USD), in 2016 of 1.15 million lei, and in 2017 of approximately 1.2 million lei, while Serbia Invested in the field of research and development, in the year 2017, about 3 million USD.

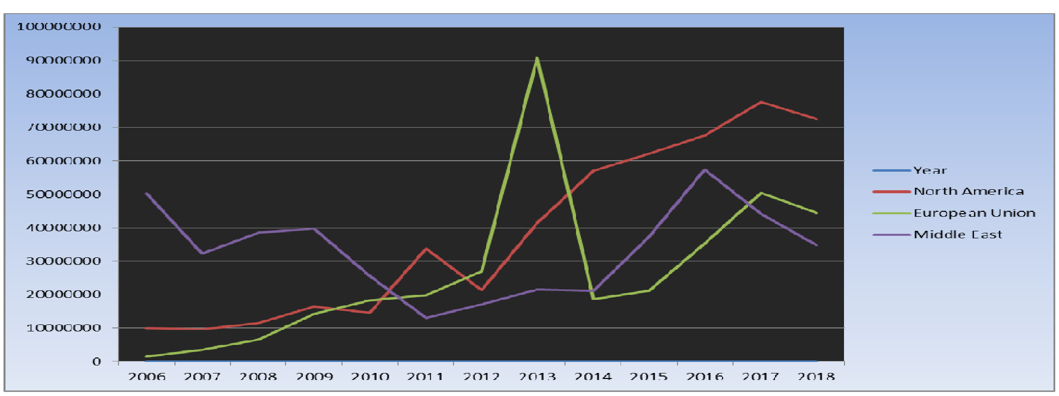

Figure 4: Main Exports of Romanian Military Equipment

From the analysis of the said graph, the trend of the Romanian arms exports is changing. Thus, in the period 2006 – 2011, the main beneficiaries of military products produced by the domestic arms industry were the states of the Middle East. This has changed in the period 2011 – 2018, so that currently the areas of export of Romanian military products are North America (especially the United States of America) and the Member States of the European Union.

This trend constitutes an evolution in the plan of Romanian exports to mature and consolidated markets for military products, but the loss of ”traditional” Romanian markets is a negative aspect. The history of exports of military products to the profile markets in the Middle East and Africa area, prior to 1990, was a consistent competitive advantage over other states that failed to penetrate these relatively hermetic markets very easily.

The loss of these markets affects the business figures of companies in Romania, but by harnessing previously established relationships can be rectified trade operations with weaponry, especially to states in the Middle East which, in the last period, allocate consistent resources for the endowment of the armed forces. Another cause that led to the loss of these emerging markets consisted of the low technological level of products produced by the Romanian industry.

At the same time, the North American area and the Member States of the European Union are exported equipment with a relatively low technological level entering these markets, especially because of the attractive price offered to these companies.

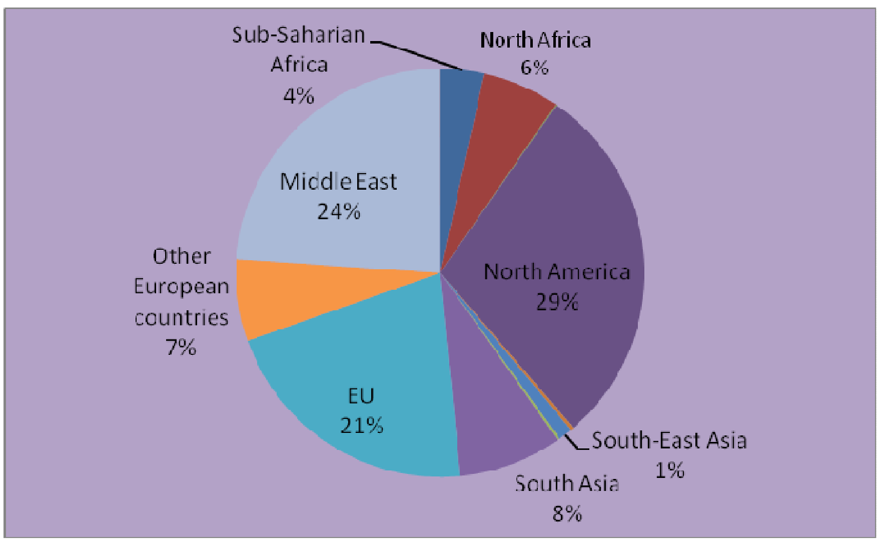

Figure 5: Distribution of Exports of Romanian Military Equipment

The distribution of exports, made in the year 2018, reported to the pre-dilated areas of exports of domestic military products reveals what we previously mentioned, namely the following destinations: North America – 29%, Middle East – 24%, European Union – 21%, Africa – 10%, Asia – 9%, other European countries – 7%.

This graph relies the marginal role of exports of military products to the area of Africa, which reveals the loss of markets that were traditionally present in Romanian profile companies. The loss of these markets is also due to factors of an objective nature, namely embargoes and restrictive measures imposed by international profile bodies (UN, OSCE, European Union, etc.) against some states in the African area. Romania rigorously applies the international regime of embargoes and restrictive measures on arms exports, the export control system, coordinated by the ANCEX Control Department of the Ministry of Foreign Affairs, being the most performant within the Central and Eastern Europe area. In fact, the

Romanian authorities are constantly and frequently providing advice to the countries of the region in order to strengthen international export control regimes.

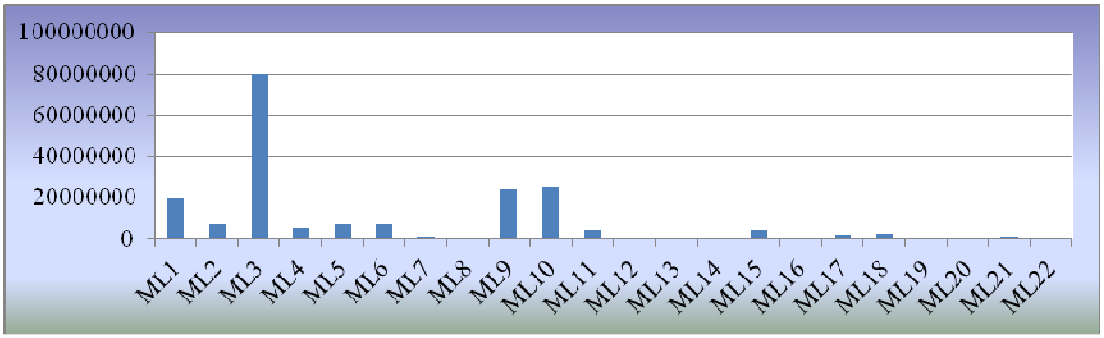

Figure 6: Distribution of Exports on Type of Military Items

At the level of the European Union, including Romania, a single list of military products subject to export control, imports and other operations (nationally approved by Government Decision No. 924 of 2007, published in the Official Gazette of Romania, part I, Nr. 579 of 23 August 2007). According to this list, military products fall into 22 categories, as follows:

- ML 1 – arms with a barrel of less than 20 mm, other firearms and automatic weapons with a calibre of less than or equal to 12.7 mm (0.5 inches) and accessories, as well as components specially designed for them;
- ML 2 – Arms with a barrel of 20 mm or more, other weapons or weaponry with a calibre greater than 12.7 mm (0.5 inch calibre), launchers and accessories, and specially designed components thereof;
- ML 3 – Ammunition and fire-regulating devices, as well as components specially designed for them;
- ML 4 – Bombs, torpedoes, unguided missiles, guided missiles, other explosive devices and charges and related equipment and accessories specially designed for military use, as well as specially designed components;
- ML 5 – Fire management systems and related alerting and warning equipment and systems, test equipment, adjustment and counteraction specially designed for military use, as well as components and accessories specially designed for them;
- ML 6 – Terrestrial vehicles and components thereof;
- ML 7 – Chemical or biological toxic agents, agents for the control of public disorders, radioactive materials, equipment, components and related materials;
- ML 8 – Energy materials and related substances;
- ML 9 – Warships, auxiliary equipment and devices, special vessels, and components thereof, specially designed for military use;
- ML 10 – aircraft, lighter than air, non-piloted aerial vehicles, aviation engines and aircraft equipment, related equipment and components, specially designed or modified for military use;
- ML 11 – Electronic equipment for military use, as well as components specially designed for them;
- ML 12 – High-speed kinetic energy weapons systems and related equipment, as well as components specially designed for them;
- ML 13 – Armoured or protective equipment and structures and components thereof;

- ML 14 – Specialised equipment for military training or simulation of military scenarios, simulators specially designed for the training of the use of weapons and armaments controlled by ML 1 or ML 2, as well as components and accessories specially designed for them;
- ML 15 – Imaging or counteraction equipment, specially designed for military use, as well as components and accessories specially designed for them;
- ML 16 – Forged, moulded and other semi-manufactured products whose use in a product subject to control is identifiable by material composition, geometry or operation and which are specially designed for any of the products subject to control;
- ML 17 – Other equipment, materials and libraries, as well as specially designed components;
- ML 18 – Equipment designed to produce products subject to control, in accordance with the list of military products;
- ML 19 – Directed energy weapons systems, related or counteracting equipment and test models as well as components specially designed for them;
- ML 20 – Cryogenic and superconducting equipment, as well as components and accessories specially designed for them;
- ML 21 – Software for military applications;
- ML 22 – Military technology.

As seen from the figure shown above, Romania exports only military products from 14 categories, from the total of 22, the main products consisting of ammunition (category ML1), components for aircraft (ML10), military vessels (ML9) and small arms and light weapons - SALW (ML1). This confirms the assertion that the technological level of the defence industry is relatively low, lacking the components that encompass modern technologies, namely software for military applications (ML21) and military Technologies (ML22).

The aeronautical component industry has developed amid investments made by investors in Israel (e.g. SC Aerostar SA Bacau) that carry out components for aircraft, which are exported to that state. Foreign investors from the aeronautical industry has brought modern know-how for the development of reliable electronic equipment, which proves its technological and economic viability. Romania also has companies specializing in the production, modernisation or repair of military vessels, this area constituting a positive example that can be developed in the next period.

4. Systemic dysfunctions of the romanian defense industry

At the level of the Romanian defence industry has been identified systemic dysfunctions who affect profitability of this strategical domain, respectively:

- Technological gaps between Romanian companies and occidental companies;
- Old human and technological resources;
- Dependency of the Romanian defence industry of ”traditional” military items produced with old technologies;
- No formal agreement between state owned companies and private military industry [1];
- Lack of predictability in financing by the state of multi-annual programs coherent and integrated, which affect state owned companies, as well as private defence industry;
- Very ambitious or lack of realism operational requests, not considering available resources, fact that conduced to acquired expensive military products who do not allow interoperability of military systems;
- Chronic underfinancing of military research & development domain and quasi-inexistence of cooperation between states owned companies and private defence sector.

In order to ensure endowments of the Romanian Arms Forces at NATO's standards is necessary to adopt a set of coherent measures in order to contribute at the modernization of the Romanian Defence Industry, in accordance with risks and threats to Romanian security.

After a carefully analysis of data available at the Romanian defence industry level, has resulted the following measures that will contribute at the efficiency of acquisition policy of arms and military products:

- Establishing a decision of the Supreme Council for Country Defence (SCCD), under supervision of the President of Romania – president of the SCCD, in order to prioritize the acquisition of military capabilities on medium and long run, considering analysis of threats and risks at national security;
- Encouraging technological cooperation with member states of NATO and EU, in order to establish joint companies for producing in Romania military products with high technology, as well as integration into our production and performing maintenance in Romania;
- Coordination of acquisition between institutions represented in the National Security System in order to ensure interoperability and to obtain low prices of acquisition of military products;
- Establishing on medium and long period of time of a minimum quota from the budget of the Ministry of National Defence (minimum 20%) dedicated for military expensive, in order to obtain a high degree of predictability for the companies who activate within the National Defence Industry;
- Major projects who involves companies from the National Defence Industry in order to contribute substantially at improving national production of modern armaments;

This desiderate could be obtained through cooperation with important international companies. In this context, is to be mentioned association between Rheinmetall Defence in order to produce a transporter 8x8, as well as intention of producing corvettes in cooperation between Damen Schelde Naval Shipbuilding BV, Damen Shipyard Galati and eventually Constanta Shipyard [2].

Acquisition program will have to concentrate on modern military equipment who ensure complete interoperability, as well as ensuring maintenance and with long cycle of life. In this context, is necessary that technical specifications of acquisition which contains operational requests to avoid ambiguously formulations or requests impossible to be comply with.

5. International cooperation in defence

In order to ensure sustainability on long period of time and modernization of the Romanian defence industry is needed to increase cooperation with companies from Euro-Atlantic region.

In this context, is needed to consider the following set of measures:

- Participation of programs with other member states from NATO and EU, including integration within a multinational project which involves development of defensive capabilities, in accordance with needs and requirements necessary for defending national territory;
- Promotion of the Smart Defence concept at regional level, including through developments of capabilities necessary for clients from regional defence market. In an area characterized by increasing nationalism this initiative will conduce at consolidation of the Romanian as a credible and sustainable partner [3];
- Development of strategic partnerships with neighbouring states (e.g. Western Balkans, Ukraine, Republic of Moldova), in order to produce and export military products for this emergence defence market;
- Establish/consolidate partnerships with states from Middle East, Asia and Africa, which have important resources for acquisition of modern military products;

- Participation of companies from the Romanian defence industry at international fairs and exhibitions organized at international levels for diversification of clients and to access at international markets that are in economic expansion.

European Defence Fund will promote defence capabilities from EU countries and the European Commission published 9 calls for proposals for 2019 and 12 calls for 2020, covering priority areas in all domains (air, land, sea, cyber and space).

For instance, 80 million EURO are dedicated in order to enable operations, protection and mobility of military forces (e.g. developing CBRN threat detection capabilities and counter drone systems).

Another 182 million EURO will be allocated to analyse cyber situational awareness and defence, 71 million EURO to support the upgrade or the development of the next generation on ground-based strike capabilities, 27 million EURO to support solutions in Artificial Intelligence, Virtual Reality and Cyber technologies, 100 million EURO in order to develop of the Eurodrone – a crucial capability for Europe's strategic autonomy and 37 million EURO to support ESSOR interoperable and secure military communications.

In order to obtain relevant funds from this European financial mechanism, the Romanian Defence Industry must adapt very fast in order to cover all relevant domains above mentioned. Analysing the structure of the Romanian Defence Industry is critical to conclude partnerships with relevant actors from international market, considering lack of expertise in some advanced fields of activity [4].

European Defence Fund concentrate its financial efforts in order to develop instruments and comprehensive mechanisms for „wars of future", characterized as non-kinetic, hybrid, involving mostly high-tech military products and technologies.

6. Proposal for development of the romanian defense industry

In order to contribute at the development of the Romanian defense industry is necessary to take pro-active measures at national level, respectively:

- Comprehensive analysis of national defence industry, in order to allow privatization of state-owned companies from security industry, including from merging some companies with the same object of activity (e.g. merging companies from Fagaras and Victoria into one company specialized in production of military powder and explosives);

- Analysis of opportunity that the Ministry of National Defence to take into coordination some companies from the National Defence Industry, taking into account that this institution is main beneficiary of the Romanian defence industry;

- Elimination of duplication of military exports, taking into account that in many situations, ROMARM and ROMTEHNICA became opponents in winning some external contracts, and the winner was a third company from another country;

In this context, ROMTEHNICA could be designated solely agent of Romania on military exports, considering their affiliation under the Ministry of National Defence.

The Ministry of National Defence is beneficiary of a powerful network of military attaches that are familiarized with military market and they have in job description the obligation to maintain permanent contact with representatives of Ministry of Defence within the state they perform his duty.

In order to sustain Romanian exports of military products, the Ministry of National Defence must consider expansion of the network of military attaches, especially in Africa and Asia, in countries with high potential for export of Romanian military products.

- Developing some investment programs in the field of military research, including through cooperation between institutions from the National System of Security and companies who activate in this domain;

- Setting up a National Program of development & research in the field of defence, concomitantly with upgrading legislation, in order to allow private investments in the field of development & research;

- Developing public-private partnerships with partners of the National defence industry companies with entities from NATO and EU member states, as well as setting up some offset contracts;

- Substantial investment in dual-use capabilities – civilian and military;

For instance, unmanned aerial vehicles (UAV) could be used in military purposes, as well as in civil purposes: gathering information in rescue missions, monitoring national border in order to prevent illegal migration, monitoring areas used for poaching, monitoring vehicles traffic. In this regard is possible to set up an integrated system of surveillance, that can share information, as well as costs, between some institutions with competency (e.g. the Ministry of National Defence, The Ministry of Internal Affairs, the Ministry of Environment), contributing of development of UAV industry in Romania.

- Adopting of a policy for imposing common technological standards in activities of production, research & development and acquisition of military products;

Adoption of these standards will facilitate systems interoperability, facilitation of using dual-use items and technologies (military/civilian) and will contribute in order to reduce considerably the costs.

Set up an entity responsible to cyber-defence, in order to act coherently and integrate and to be capable to response efficiently of a cyber-aggression on critical military infrastructure.

7. Conclusions

The Romanian Industry of Defence has an extraordinary potential of development in near future, considering our geostrategic position in South-Eastern flank of NATO. In the same time, our national defence industry is well known at some emergence international market, being possible to increase exports in some countries with financial potential.

Considering some restriction on export of military products and technologies is necessary to take appropriate measures in order to comply with all international treaties in the field of export controls of military items and technologies, including embargoes regime. Romania is member of Wassenaar Arrangement and complies with all the EU regulations in the field of export controls of military products and technologies, being the regional leader in this domain.

The Romanian Arms Industry is confronting with systemic problems that have impact in development of this important sector of activity in order to perform at its real potential. In this context, it is necessary to have important investments in research & development domain, as well as extension of strategic partnerships with relevant companies from Euro-Atlantic space, which will contribute to assimilation of modern technologies by the Romanian Arms Industry.

In this context, an important factor is represented by acquisition of arms and military equipment by the Romanian Arms Forces. In present, the absorption percent is around 10% more under the medium of member states of the European Union (70%). The Romanian Arms Forces acquisition process must consider the threats coming from East, including hybrid threats.

Acknowledgement:

This work is supported by project POCU 125040, entitled "Development of the tertiary university education to support the economic growth – PROGRESSIO", co-financed by the European Social Fund under the Human Capital Operational Program 2014-2020.

8. References:

[1]. ”Se urmărește realizarea unui centru de cercetare al industriei de apărare, inclusiv prin accesarea de fonduri europene!” Internet Source: https://www.fonduri-structurale.ro/stiri/21714/se-urmareste-realizarea-unui-centru-de-cercetari-al-industriei-de-aparare-inclusiv-prin-accesare-de-fonduri-europene;

[2]. Gherasi, N., Tilica, O., ”Badalau: Industria de apărare are de 10 ori bugetul de execuție de anul trecut” Internet Source: https://www.investingromania.com/ro/stiri/stiri-agerpres/b-d-l-u-industria-de-ap-rare-are-de-10-ori-bugetul-de-execu-ie-de-anul-trecut;

[3]. ”Sindicaliştii din industria de apărare au mers la Cotroceni. Cer președintelui acordarea statutului de industrie strategică de interes national” https://www.libertatea.ro/stiri/sindicalistii-din-industria-de-aparare-au-mers-la-cotroceni-2559266;

[4]. New Strategy Center, ”Apărare și industrie.România nu poate fi un actor regional relevant fără o armată modernă și o industrie de securitate puternică”, https://newstrategycenter.ro/wp-content/uploads/2016/04/2017-Martie-Ap%C4%83rare-%C8%99i-Industrie-studiu-New-Strategy-Center.pdf.