

ANALYSIS OF THE DEFENCE INDUSTRY OF THE RUSSIAN FEDERATION – IMPACT ON THE NATIONAL SECURITY OF ROMANIA –

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The Russian Federation allocates significant government funds for the development of the defence industry in order to successfully support the military conflict in Ukraine. In order to support the war effort, the Moscow authorities have ordered measures to strengthen the domestic defence industry, while at the same time purchasing certain military and dual-use products from strategic partners such as China, the Islamic Republic of Iran, North Korea, in order to cope with the sanctions imposed by the Euro-Atlantic states.

The Russian Federation's main strategic partner in Asia is China, which has given the necessary military aid to the Moscow authorities to support the military conflict in Ukraine, although the Beijing authorities are declaring that they support neutrality and a balanced approach to this war illegally waged by the Russian Federation in Ukraine.

The defence industry of the Russian Federation is capable of sustaining the military conflict in Ukraine in the long term, benefiting from research and development capabilities of military products and technologies, including on the basis of technological support received from China. In this context, it is necessary to take measures at the level of the Euro-Atlantic states to reduce the resilience of the Russian Federation's defence industry, including by adopting additional sanctions against the Russian Federation and its allies, which would have a direct impact in reducing the production of military equipment and munitions.

Keywords: defence industry; national security; analysis; Russian military complex; resilience;

INTRODUCTION

The military conflict launched by the Russian Federation in Ukraine on 24 February 2022 requires both sides to allocate substantial additional resources dedicated to the acquisition of high-performance military equipment and ammunition. In this context, in order to be able to anticipate the actions of the Russian Federation on the Ukrainian front, as well as the future actions of the Kremlin authorities, it is necessary to conduct a comprehensive analysis of the potential of the Russian defence industry and the resilience of this industrial branch. While Ukraine is highly dependent on modern weaponry and ammunition supplied by Western states, the Russian military complex is capable of providing the Russian armed forces with much of the military equipment and ammunition necessary for the continuation of the war over a long period of time.

In fact, the tactic of the Russian Federation in the war in Ukraine is to prolong the military conflict for a long period of time, relying on the fact that the population in the Western states supporting Ukraine with arms and ammunition will react negatively to the steps taken by their own governments, as well as on the constant support for the Russian military from Russia's strategic partners, mainly China, the Islamic Republic of Iran and North Korea.

The analysis of the Russian Federation's 2024 budget allocations for national defence reveals the interest of the Kremlin military authorities to continue the war in Ukraine by allocating 7.1% of GDP or about 21% of government spending to this strategic objective. At the same time, estimates for the period 2025-2026 reveal the allocation of substantial funds for the continuation of the military conflict, with military spending in 2025 estimated at 25% of total government spending (8,534 billion rubles) and 21% (7,409 billion rubles) in 2026.

On the other hand, NATO member states still do not allocate sufficient resources for defence, as there are ongoing negotiations at the alliance level for the allocation of at least 2% of GDP to defence by all member states. In this context, it is necessary to understand the real danger posed by the expansionist policy of the Russian Federation and to raise awareness among policy makers and the population of NATO member states of the importance of cooperation between companies

in Western countries for the rapid development of new military technologies that will deter Russia from attacking a NATO member state in the medium and long term. From this point of view, Romania has understood the importance of allocating additional resources for equipping the Romanian armed forces, with 2.5% of GDP being adopted, by legal regulations, for the defence sector. It is important for Romania that a consistent part of these budgetary allocations in the field of defence should be allocated to modernizing the armed forces, through the acquisition of modern military equipment that will deter Russian armed forces from attacking the national territory. Also, important resources have been allocated at the governmental level for the recovery of the Romanian defence industry, including through the drafting of a new strategy for this area of strategic interest. It is essential for Romania to rely on its own defence industry, which needs to be modernized by establishing profitable public-private partnerships by attracting powerful investors from the Euro-Atlantic area to our country. In this way, Romania will benefit from the transfer of the know-how needed to modernize its armament and ammunition production sections and to develop specialized facilities for the maintenance of imported equipment (e.g. the F-16 multirole aircraft, which Romania has acquired from the USA, and the preparation of facilities for the repair of the F-35 multirole aircraft that Romania is to acquire in the coming period).

Another important aspect that needs to be analysed is the level of response of the Russian Federation's strategic, but above all tactical, nuclear forces. Although the probability of a nuclear-weapon attack against Ukraine, and NATO and EU member states is low, it cannot be neglected, taking into account the regulations contained in the Russian Federation's defence strategy, which stipulates that a nuclear-weapon attack is possible in a situation where Russia's national security is endangered. The recent attacks by Ukrainian armed forces on the territory of the Russian Federation are regarded by the Moscow authorities as an attack on Russia's national security, which creates favourable conditions for a nuclear attack with tactical nuclear weapons. If the Russian Federation decides to launch a nuclear attack with tactical nuclear weapons, the main target will be the Ukrainian capital Kiev. This hypothesis is based on the assumption that a nuclear attack must induce a particular impact that would tip the balance of war in favour of the Russian Federation.

ANALYSIS OF THE DEFENCE INDUSTRY OF THE RUSSIAN FEDERATION

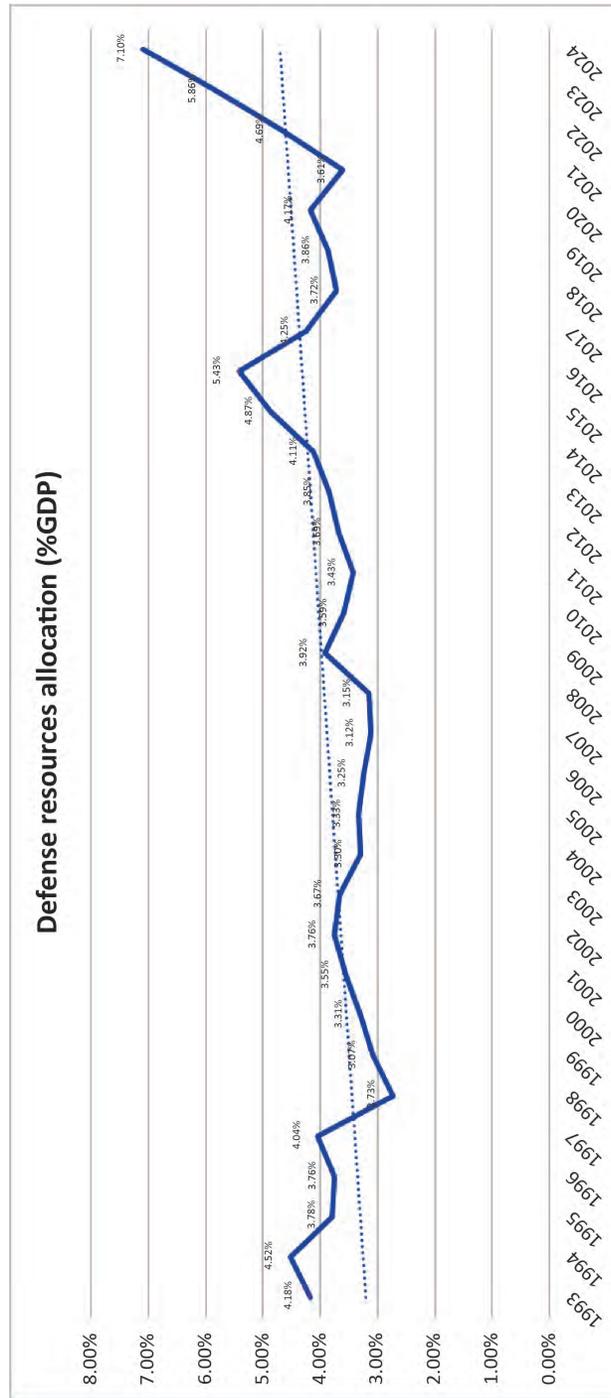
In order to make a comprehensive analysis of the Russian Federation's defence industry, a quantitative approach is necessary in order to correctly identify the risks to the EU, NATO and, implicitly, to Romania's national security.

The data used in this quantitative analysis are collected from the website of the Stockholm Institute for Peace Research Institute (SIPRI), a Swedish non-governmental organization specialized in the analysis of defence industry data, with over 50 years of experience in the field.

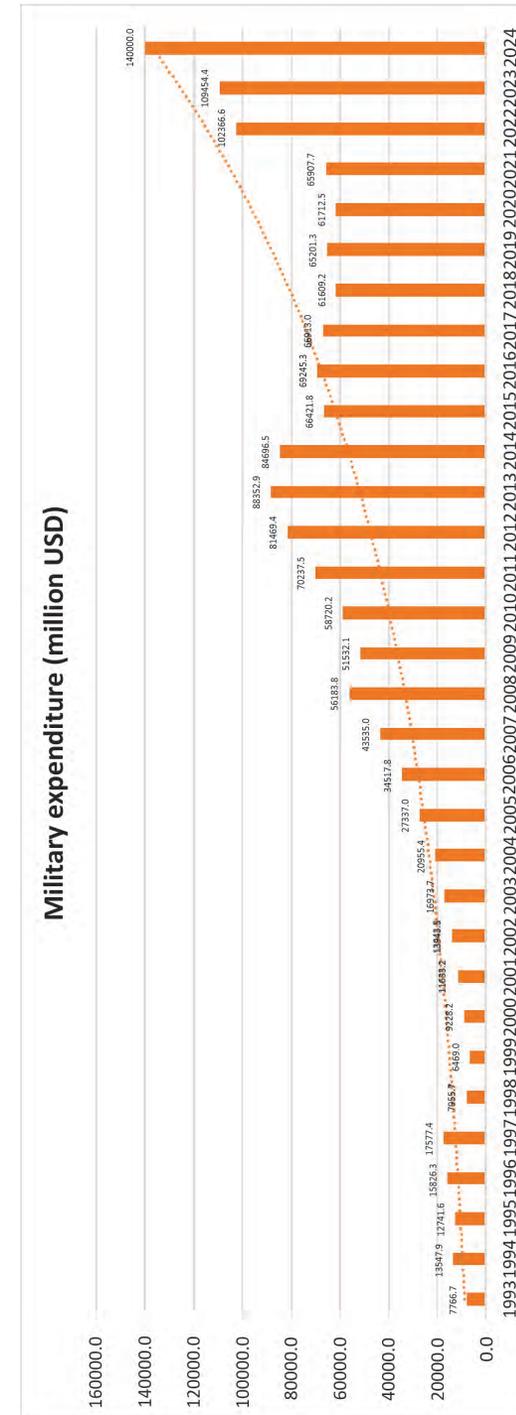
According to the data provided by SIPRI, the analysis of the last four years in terms of the percentage of GDP allocated to defence by the Russian Federation shows a sharp increase from 3.61% (2021) to 4.59% (2022), 5.86% (2023) and an estimated 7.1% in 2024. These data confirm the Russian Federation's interest in investing considerable sums in the defence sector, i.e. in the Russian military complex, which has recently shifted to war production, becoming a priority area for the Moscow authorities. In this context, the capacity of the Russian defence industry to produce large quantities of modern military equipment and ammunition needed to supply the military forces in Ukraine should by no means be underestimated.

There is a superficial tendency among some Western experts to underestimate the Russian military complex's ability to produce high-performance military equipment, despite the fact that the Russian defence industry has significant research and development capabilities. This tendency, based on certain tactical errors of the Russian armed forces in the first part of the war in Ukraine, is dangerous because it leads the population in Western countries to believe that Russia is not capable of dealing with a confrontation with NATO. In this context, it is necessary to correctly estimate the resilience of the Russian Federation's defence industry in order to take strategic measures to effectively counter a possible attack on a NATO or EU member state.

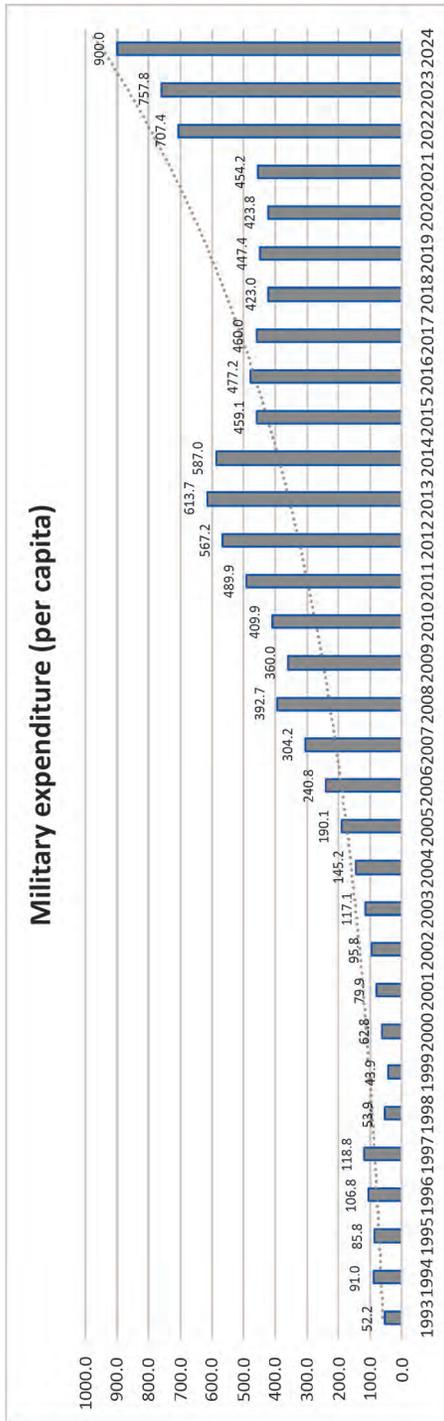
Similarly, if we look at the data on the nominal value of defence investments, we can see that they peak in 2024, a figure estimated by SIPRI specialists at USD 140 billion. An analysis of the data provided by SIPRI reveals that military spending in 2024 will have increased by more than USD 30,000 million compared to 2023, which once again reveals the Russian Federation's intention to continue the military conflict in Ukraine by providing its armed forces with modern weaponry and sufficient ammunition.



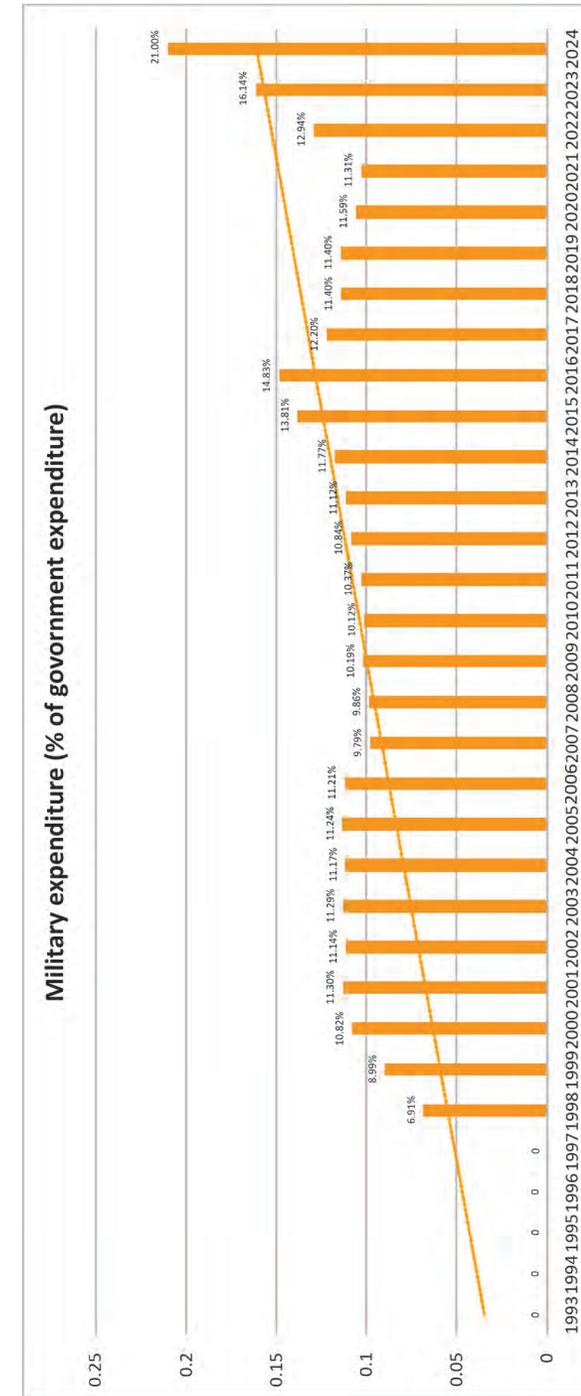
Graph 1: Evolution of the Russian Federation's defence resources allocation from GDP (adapted from www.sipri.org)



Graph 2: Evolution of the Russian Federation's military expenditure (million USD) (ib.)



Graph 3: Evolution of the Russian Federation's military expenditure (per capita) (lb.)



Graph 4: Allocation of military expenditure of the Russian Federation (% of government expenditure) (lb.)

The analysis of military expenditure per capita reveals a sharp upward trend from 2022 (the beginning of the military conflict in Ukraine) to 2024. Thus, it was recorded 707.4 USD/inhabitant in 2022, 757.8 USD/inhabitant in 2023, and an estimated 900 USD/inhabitant in 2024.

The analysis of military expenditures in relation to public expenditures of the Government of the Russian Federation reveals a higher allocation of funds in the period 2022-2024, with an estimated 21% in 2024, at the expense of other areas essential for the development of a given state (e.g. public health, education, social spending).

The Russian ground forces are still artillery-dominated forces, and the quantitative advantage in terms of ammunition and the number of artillery pieces available remains a critical factor on the battlefield. The Russian armed forces began the war with too few unmanned aerial vehicles (UAVs) and precision-guided munitions, meaning that it faced difficulties in accurately hitting certain military targets. This situation has changed, with the Russian Federation acquiring larger quantities of Orlan, Zala and Supercam series UAVs that provide persistent cover behind Ukrainian lines, while the widespread adoption of commercial UAVs (mainly DJI Mavics) has greatly improved frontline surveillance.

Krasnopol laser-guided artillery projectiles are also being used in larger quantities, along with Orlan-30 UAVs that can laser designate targets for artillery held by the Russian armed forces.

In conclusion, all the data presented above reveal the importance that the Russian Federation attaches to strengthening the Russian defence sector, i.e. the Russian military complex, with the aim of providing the Russian armed forces with the most modern military equipment at their disposal in order to gain a strategic advantage on the battlefield. Although Ukraine, through a sustained military effort, has entered the territory of the Russian Federation, the ability of the Russian Federation to regenerate certain armed forces and carry out counter-attacks with direct effects on the dynamics of the military conflict in Ukraine should not be underestimated.

SUPPLY OF MODERN MILITARY COMPONENTS TO THE MILITARY COMPLEX OF THE RUSSIAN FEDERATION

Lately, in order to avoid international sanctions imposed by Western states as well as the European Union and NATO, the Russian Federation has set up a mechanism that allows it to obtain the military and dual-use products and technologies necessary for the development of its own defence industry from states with which it has special economic and military relations (e.g. China, Islamic Republic of Iran, North Korea), especially China, a state that has advanced military technologies, given its willingness to invest large sums in military research. At the same time, the Islamic Republic of Iran has recently transferred short-range ballistic missiles to the Russian Federation for use in the war against Ukraine, finalizing a delivery that US and Western officials warned had been in the pipeline for almost a year (Petrescu, 2024). North Korea has exported to Russia the ammunition needed to support the war in Ukraine in return for the food supplied by the Russian Federation.

Russia is also smuggling military and dual-use components through illicit networks, mainly through the Eurasian Economic Union (EAEU), targeting mainly the Balkans, China, Turkey and the Islamic Republic of Iran. This situation creates a form of parallel black-market economy for the supply of certain military and dual-use components, a market that helps sustain the Russian Federation's war economy (Miroshnychenko, 2023).

Despite the international sanctions imposed by NATO and the EU, the Russian Federation has demonstrated a continued ability to access sufficient quantities of Western military components by utilizing methods to circumvent international and national export control regimes. Adaptation to the current sanctions regime has been one of the strengths of the Russian military complex, constituting a serious warning to the effectiveness of the international export control system for military and dual-use goods and technologies (Ezhov, 2024). In this context, the Moscow authorities benefit from insufficient and inconsistent external enforcement of international sanctions, as well as from loopholes in the control of exports to third countries. Thus, the Russian Federation circumvents sanctions mainly through imports from third countries that are not part of the group of internationally sanctioned states (Bryne, Sommerville, 2023), namely China, the Islamic Republic of Iran, North Korea (through the notorious "Orient Express" ammunition supply routes), Turkey, Kazakhstan, Belarus etc.

The above-presented aspects allow the Russian military complex to directly import certain commercially available systems (e.g. Iranian attack drones) and military components essential for the development of its own military equipment. The Russian defence industry also utilizes well-established networks of intermediaries that are not included on the international sanctions list, shell companies, entities disguised under other names in “neutral” states, the purpose of which is to import products and technologies for use by the Russian military complex (Corera, 2024).

In this context, it is necessary to consider the advisability of extending international sanctions also to those entities that support the acquisition of military and dual-use equipment necessary for the Russian military complex. At the same time, it is necessary to negotiate with the states which actively support the Russian military complex with equipment and ammunition in support of the military conflict in Ukraine, in order to reduce or even stop the aid granted to the Russian Federation.

In this regard, China, Turkey and Kazakhstan are the main states that can agree to possible proposals to ban exports of military and dual-use products and technologies to the Russian Federation, given that certain commercial levers can be used in negotiations with these states. The other states, such as the Islamic Republic of Iran and North Korea, will not agree to exit their military relationship with the Russian Federation, given that the international community has imposed sanctions for violations of the non-proliferation regime for weapons of mass destruction and target-carrying missiles.

Currently, according to SIPRI, the Russian Federation has 5,889 nuclear warheads, of which 1,710 are ready for use and 2,670 are in storage (SIPRI, 2024).

In recent times, Russian officials have hinted at making changes to the Russian Federation’s official stance on the use of nuclear weapons amid Ukraine’s incursion into its border region of Kursk. These threats to use nuclear weapons are not unique, with Moscow officials continually threatening Ukraine and the West with the use of this type of unconventional weaponry.

Recently, Deputy Foreign Minister Sergei Ryabkov has said that Russia is in the process of amending its nuclear doctrine, which sets out the conditions under which nuclear weapons can be used, because of what the Russian Federation sees as a Western-backed “escalation” of the war with Ukraine.

The Russian Federation has accused the West of encouraging Ukraine’s cross-border raid, which has seen Ukrainian armed forces seize almost 800 square kilometres of Russian territory since it began on 6 August 2024. Ukraine’s NATO

allies deny any prior knowledge of the operation or direct or indirect participation in the offensive. All these considered, it is possible that NATO member states were not aware that Ukraine had used Western weaponry in the attacks on Russian territory.

In this context, the Deputy Foreign Minister of the Russian Federation has said that work is “at an advanced stage” on amending the nuclear doctrine governing the use of nuclear weapons. Currently, the nuclear doctrine states that the Russian Federation “reserves the right to use nuclear weapons in response to the use of nuclear weapons and other types of weapons of mass destruction against itself and/or its allies, as well as in case of aggression against the Russian Federation with conventional weapons, when the very existence of the state is threatened”. Other conditions that could trigger the use of nuclear weapons by the Russian Federation include “receipt of reliable intelligence on the launch of ballistic missiles attacking the territory of the Russian Federation and/or its allies”, as well as “enemy impact on state or military facilities of critical importance” (Ib.).

While Russia’s threats to use nuclear weapons are nothing new, Ryabkov’s comments, which follow recent statements by high-ranking officials, including at the level of the Presidential Administration, indicate that the Russian Federation is preparing the ground for changes in state policy on the conditions under which the use of nuclear weapons would be acceptable.

Ukraine’s incursion into Russian territory and its targeting of military facilities and infrastructure with Western-supplied weaponry, particularly long-range missiles, has also raised the stakes as to whether Moscow might consider using nuclear weapons to defend its own territory.

In this context, the possibility of a tactical nuclear weapons attack by the Russian Federation against Ukraine should not be ignored, with the capital Kiev as a potential target. The choice of the capital lies in the fact that a tactical nuclear strike must have a major psychological impact and lead to the urgent start of peace negotiations on terms favourable to the Russian Federation. So far, the Moscow authorities, although they have repeatedly threatened the use of nuclear weapons, have refrained from using them in view of the potential military and strategic repercussions, through the imposition of drastic political and economic sanctions by Western states and international organizations (e.g. the UN).

A nuclear-weapon attack by the Russian Federation against a NATO or EU member state is highly unlikely, given the immediate military consequences and the possibility of similar attacks by NATO, with uncontrollable security effects.

POSSIBLE IMPLICATIONS FOR ROMANIA OF THE MILITARY ACTIONS CARRIED OUT BY THE RUSSIAN FEDERATION

The military conflict in Ukraine is located at the state border of Romania, our state being affected by an important influx of refugees from the start of the war until now. The Romanian authorities have ordered effective measures for the proper management of this flow of refugees, the efforts made by the state institutions being appreciated by the leading factors of the European Union and NATO.

A major risk is represented by the military actions of the Russian Federation which at one point aimed to conquer the city of Odesa and its surroundings. There is a risk that in the situation where the Russian armed forces succeed in conquering this area, we will have a common border with Russia. A risky situation was represented by the conquest of Snake Island by the Russian armed forces at the beginning of the war, an aspect that generated a strategic position of the Russian Federation in the proximity of the territory of Romania. Snake Island constitutes a strategic position in view of the fact that the Russian armed forces could more easily monitor the movements of national and NATO troops positioned in the Dobrogea region.

Another risk factor is represented by Russian drones that fly over the territory on the border between Ukraine and Romania, and there have been incidents when fragments from Russian drones have been identified on the national territory. Also, another risk factor is represented by the bombings of the Russian armed forces in the Ukrainian ports located in the immediate vicinity of the state border of Romania, as there is a risk that certain shells accidentally reach the national territory.

The nuclear danger must not be excluded, as it is represented, mainly, by the danger generated by incidents generated deliberately or accidentally at the level of the Zaporozhe Nuclear Power Plant (NPP), which is currently under the control of the Russian Federation. In the event of a radiological incident at the Zaporozhe NPP, there is a risk of radiological pollution of the national territory, similar to the period after the nuclear accident occurred in 1986 at the Chernobyl NPP, affecting the health of the Romanian population and the national economy.

Also, although the probability is very low, there is a risk of an attack by Russia with tactical nuclear weapons against Ukraine. In this context, there are consequences regarding radiological damage to the population of Romania. A nuclear attack by the Russian Federation affecting a NATO member state is extremely unlikely, given

the effects on Russia that will be immediately implemented by the North Atlantic Alliance.

Considering these aspects, it is necessary to speed up the modernization process of the Romanian armed forces at the national level, including by increasing the budget allocations dedicated to the modernization of the defence industry and for the purchase of modern military equipment from the foreign market. At the same time, it is necessary to act for the recruitment of properly trained military personnel to face a possible modern war, including the training of reservists who can support the professional armed forces in the event of a military conflict triggered by the Russian Federation.

At the same time, the hybrid actions carried out by entities directly or indirectly coordinated by the Moscow authorities should not be neglected, such as disinformation campaigns and cyber attacks against the websites of the Romanian authorities or those related to critical infrastructure. In this context, it is necessary to combat disinformation to carry out an effective strategic communication by the institutions of the National Security System. In the case of cyber attacks, the level of training of specialized institutions that are able to prevent such attacks or limit their effects to a minimum at the level of the essential institutions of the Romanian state must be increased.

CONCLUSIONS

The analysis shows that the Russian Federation armed forces are capable of facing opponents of the same level. The fact that the authorities in Moscow do not take into account the human and material losses on the front makes the Russian Federation a dangerous adversary, even for more technologically advanced adversaries (e.g. the USA). Also, another advantage of the Russian Federation is given by the nuclear arsenal at its disposal, the authorities in Moscow being willing, under certain conditions, to use this arsenal by assuming any security consequences.

In this context, it is necessary that not only at the level of NATO and the EU, but also at the level of the member states, individually, to continuously monitor the defence industry of the Russian Federation, with an emphasis on the development of capabilities that can be used for a possible attack of the member states of NATO and/ or the EU. In this regard, it is necessary to anticipate future trends in the field of the defence industry, with an emphasis on the ability of the Russian Federation

to regenerate the armed forces, the structure of the forces, their command and control. Another very important aspect of the research is the analysis of the challenges and opportunities facing the Russian Federation in terms of production/procurement of state-of-the-art military equipment and technologies.

This analysis can also be used to correctly assess the effects of the sanctions imposed at the level of the Euro-Atlantic organizations against the Russian Federation, as well as the effectiveness of these measures. After carrying out a relevant assessment, other sanctions can be adopted or the existing ones can be updated, including by taking sanction measures against states that support the military complex of the Russian Federation, even through the delivery of military equipment or strategic materials from Western states that reach Russia through intermediate companies specialized in circumventing the export control regime of military and dual-use products and technologies.

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