

Challenges of Public Administration of Production of Short-Range Ballistic Missiles in Ukraine in the Context of Full-Scale Invasion of Ukraine by Russian-Terrorist Forces after February 24, 2022

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The article identifies challenges of public administration of the production of short-range ballistic missiles under current conditions. It is emphasized that Ukraine has created good legislative conditions for the start of design, testing and acceptance of weapons. The authors propose that the Government of Ukraine should provide state guarantees to rocket and space industry entities for loans from banks and for attracted investments that will be used for the development and testing of short-range ballistic missiles. The authors reveal a positive role of private entities in the rocket and space industry, which brings a positive competition to this area and reduces the cost of developing and producing of Ukrainian short-range ballistic missiles for the Armed Forces of Ukraine.

Keywords: competition, deterrent weapons, financial guarantees, financing, public administration, short-range ballistic missiles, russian terrorists.

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Introduction

After the start of the full-scale invasion of Ukraine by the russian-terrorist forces on February 24, 2023, the issue of establishing the production of short-range ballistic missiles has become a priority. This is not to say that this problem is new and Ukrainian missile builders had to start from scratch. For many decades, Ukraine was one of the leading space powers in the past, designing and producing large numbers of medium-range military ballistic missiles and intercontinental missiles. In the first decades of Ukraine's independence, Ukrainian designers and engineers made a significant contribution to launching dozens of satellites for various purposes into Earth's orbits using their own missile boosters, which were taken off combat duty. However, Ukrainian rocket scientists did not produce their own short-range missiles. And Ukraine's voluntary international commitments do not allow it to continue developing medium- and long-range missiles.

At the same time, the aggressor state of Russia has a line of modern short-range ballistic missiles such as Iskander and Kinzhal. And several types of cruise missiles with a range of up to 5500 km. These are successfully being used on the territory of Ukraine. And in most cases, they are used against civilian objects, killing and injuring thousands of Ukrainian civilians. Russia's advantage in ballistic and cruise missiles is absolute. At the beginning of the war Ukraine's armed forces were limited to the range of the old Soviet Tochka-U systems (up to 120 km).

From the beginning of the full-scale invasion up to April 5, 2023 Russia has used up about 4,750 missiles of various ranges to strike upon Ukraine (Datsenko, 2023). According to the UN, the number of civilian casualties from February 24, 2022, after Russia launched a full-scale war against Ukraine, up to May 1, 2023, has amounted to 23,375 people, including 8,709 deaths (The war, 2023). There is no data on direct deaths caused by the Russian ballistic missiles. However, this is a significant part of the mentioned above statistics. To give just one example, on July 9, 2022, the Russian terrorists fired Iskander ballistic missiles at high-rise buildings in the town of Chasovyi Yar, Bakhmut district, Donetsk region. The missiles struck residential buildings. Forty-eight bodies were recovered from debris, including a 9-year-old boy who had died with his mother (Berezhnyi, 2022). Unfortunately, this is just one of dozens of cases of the Russian terrorists killing civilians in Ukraine with ballistic missiles. Despite the international sanctions, Russia retains its potential to produce modern ballistic and cruise missiles.

As of July 1, 2023. Ukraine has not yet begun production of its own ballistic missiles in order to deter Russian terrorists. The authors are not aware of any information gathered from open sources whether some development of a Ukrainian short-range ballistic missile is being successfully carried out.

In response to Russian missile terror, the Ukrainian government and volunteer organizations took the easiest way out. They began purchasing foreign weapons and setting up the production of Ukrainian drones. In the short term, this was quite a prudent step. However, if we look at this problem in the medium term, especially from a more strategic perspective, there are significant shortcomings within public administration of public production of short-range ballistic missiles in Ukraine in the context of the full-scale invasion of Ukraine by the Russian-terrorist forces on February 24, 2023.

As the guarantor of the Constitution of Ukraine, the President proposed the five main guidelines for the national discussion of the Ukrainian Doctrine. These guidelines include the philosophy of our victory; the global nature of Ukrainian security; transformation in 10 years, including education and science, culture, and a level of security and freedom in Ukraine. These, according to the President of Ukraine, may be disclosed by certain specific items that the nation determines to be important (Zelenskyy, 2023). In our opinion, the above-mentioned guidelines should be disclosed for the subject of our analysis, i.e., the creation of effective and reliable ballistic missile deterrence against the aggressor based on Ukrainian developments.

Thus, in accordance with its international obligations, Ukraine is able to design and produce only short-range missiles up to 500 km for domestic use and up to 300 km for export. For this purpose, Ukraine has design and a certain production potential. In our opinion, this is not being done in the context of the full-scale invasion of Ukraine by the Russian-terrorist forces, solely because of the short-sightedness of the officials (possibly done on purpose by the Russian agents in the ranks of the Ukrainian bureaucracy) who are responsible for public administration over development and production of ballistic missiles to deter the Russian aggressor.

Why does Ukraine need its own short-range ballistic missiles?

Today, the Armed Forces of Ukraine have significantly more weapons, both in quantity and quality, than before February 24, 2022. The combat missiles are no exception either. A number of various types of military missiles in missile systems are being delivered to Ukraine. They are on combat duty and are successfully being used. HIMARS (High-Mobility Artillery Rocket System) is a multiple-launch rocket system. It was developed in the 80s of the last century. The cost of one system is \$2.3 million. The US Army used it in Iraq in 2003 and during the Gulf War. HIMARS missiles are very diverse. Those supplied to Ukraine hit the aggressor with an accuracy of 3 meters with a warhead weighing 90 kg (Makalyuk, 2022).

A year ago, HIMARS significantly improved the effectiveness of military operations by the Armed Forces of Ukraine. Now they remain a leading artillery force of the Armed Forces of Ukraine for destruction of manpower and of the lightly armored moving and non-moving objects of the aggressor. The disadvantages of HIMARS include its low power of the warhead and a short range of the missiles supplied to Ukraine. In addition, there is information that the enemy sometimes manages to interfere with the radio guidance system, which deflects the HIMARS missiles from their targets (The Missiles, 2023).

The authors express their deep gratitude to the American people and the US government for supplying HIMARS missile systems to the Ukrainian Armed Forces. They have greatly

enhanced the firepower of the Armed Forces of Ukraine and made our path to our victory less sacrificial.

In early May 2023, Ukraine received long-range Storm Shadow/SCALP missiles from the UK. These are Storm Shadow air-to-ground cruise missiles, a clever modern development of Britain and France. They are considered particularly effective in destroying enemy's logistics. The warhead is a container with a sub-caliber warhead of about 450 kg with a killing radius of 200-300 km, which makes it possible to destroy stationary targets reliably protected by air defense systems (Storm, 2023).

The authors express their deep gratitude to the people of Great Britain and France and their governments for supplying the Armed Forces of Ukraine with Storm Shadow missiles. We are convinced that they will significantly enhance the combat capabilities of the Ukrainian army. However, it should be noted that these missiles are air-launched. The Ukrainian carriers (boosters) of such missiles are of Soviet origin. Without the Western F16 aircraft, the effectiveness of Storm Shadow missiles is rather reduced.

HIMARS and Storm Shadow missile systems have some common drawbacks. There is something to it because the governments of the countries of their manufacture do not allow the Ukrainian Armed Forces to use them on the territory of Russia. This is despite the fact that virtually all missiles striking Ukrainian citizens (noncombatants) and civilian infrastructure are launched from the territory of Russia, which is recognized by the international community. Thus, the missiles provided by our partners and allies today and in the future will not become a deterrent to the aggressor. The Armed Forces of Ukraine need Ukrainian missiles to deter the Russian aggressor on its territory.

Legislative regulation of public administration of production of short-range ballistic missiles in Ukraine in the context of the full-scale invasion of Ukraine by the russian-terrorist forces on February 24, 2023

After the start of the full-scale invasion of Ukraine by the russian-terrorist forces on February 24, 2023, the legislation regulating the subject of our analysis has been significantly and, in our opinion, positively updated.

The first thing to note is that the special Law of Ukraine "On Licensing of Economic Activities" lists only the production and repair of non-military firearms and ammunition as types of economic activities that are subject to licensing (On licensing, 2015). As it is well known, the list of the types of economic activity that are subject to licensing is exhaustive in the analyzed special law.

Thus, the production of domestic weapons, including ballistic missiles, is not a subject to licensing in Ukraine.

This economic activity is regulated by another specialized law, namely the Law of Ukraine "On Defense Procurement," which defines a general legal framework for planning, the procedure for determining a scope and specifics of procurement of defense goods, works and services to meet the needs of the security and defense sector, as well as other goods, works and services to ensure a guaranteed provision of security and defense needs, as well as the procedure for exercising state and democratic civilian control in the field of defense procurement. The Law stipulates that the procedure for development, mastering and production of the new types of defense products, as well as the termination of the production of existing types of such products, shall be approved by the Cabinet of Ministers of Ukraine (On defense, 2020).

Thus, the design, testing, and production of ballistic military missiles in Ukraine is carried out on the basis of a bylaw.

This act was approved by the Resolution of the Cabinet of Ministers of Ukraine dated as of March 3, 2021, No. 234 “Procedure for design, development and production of new types of the defense related products, as well as termination of production of existing types of such products.” According to this act, a decision on the development of a sample, which is being developed in the interests of two or more state contractors, shall be agreed upon by all the interested state contractors on the basis of an advanced design.

In order to make a decision on the development or modernization of a prototype, scientific and technical expertise of the tactical and technical (technical) task for research and development work may be carried out at the initiative of the state customer in accordance with the Law of Ukraine “On Scientific and Scientific and Technical Expertise.” If a decision is made to develop a prototype, a state customer submits proposals to the Ministry of Strategic Industry for development of such prototype to the three-year procurement plan for the defense-related goods, works and services and/or a consolidated three-year procurement plan for defense related goods, works and services under a closed procurement. A decision to initiate research and development work shall be made by a state customer, taking into account some conclusions of the scientific and technical expertise of the tactical and technical (technical) task for the research and development work conducted by the main research institution of a state customer. In the absence of such an institution, the said decision shall be made taking into account the results of consideration of a tactical and technical (technical) task by a scientific and technical council or conclusions of the main research institution of another state customer (The Procedure, 2021).

In addition, it should be emphasized that the development, commissioning and production of samples during a special period, a state of emergency and during a period of anti-terrorist operation is carried out in accordance with the Procedure for the supply of weapons, military and special equipment and ammunition during a special period, the state of emergency, measures to ensure national security and defense, repulsion and deterrence of armed aggression and during the period of the anti-terrorist operation, approved by the Resolution of the Cabinet of Ministers of Ukraine No. 345 of February 2015.

In general, the last mentioned Procedure should be characterized as a positive loosening of the state bureaucracy regarding a design, testing, fielding and production of weapons for the Armed Forces of Ukraine under the martial law (The Procedure, 2015).

Thus, martial law in Ukraine was introduced in connection with the opening of the full-scale invasion of the Russian terrorist troops, which began on February 24, 2022. A good liberal legislation was approved for designing, testing, arming and producing of the short-range ballistic missiles for the Armed Forces of Ukraine (up to 500 km).

Financial and legal challenges of ensuring design for production of short-range ballistic missiles in Ukraine in context of full-scale invasion of Ukraine by the russian-terrorist forces on February 24, 2023

Ukrainian ballistic missile designers and manufacturers need funding. The Ukrainian government is consciously losing to Russia in the technological militarization of weapons production. The Ukrainian government is counting on Western weapons. This is reasonable in the short term, but it is dangerous from a strategic point of view. After all, the political

environment is volatile. Lack of funding is a major problem for the design and production of Ukrainian ballistic missiles. After all, Ukrainian rocket scientists do have technologies for the production of ballistic missiles.

However, they are really significant for ballistic missile producers, regardless of their form of ownership. In this case, there is no need to count on state funding. All the funds allocated to the Ministry of Defense of Ukraine are used for the current financing of the Armed Forces of Ukraine and the purchase of weapons already in service and which have been tested during the war. At the same time, it should be noted that Ukrainian business entities developing the Ukrainian short-range ballistic missiles cannot attract domestic, let alone foreign investors to these projects without some appropriate government guarantees. The Ukrainian arms manufacturers also cannot have sufficient working capital in the absence of the ability to export technologies or their products (Krol, 2023).

Accordingly, in order to solve the challenge of securing financing for the Ukrainian business entities engaged in the design and production of short-range ballistic missiles for the Armed Forces of Ukraine, guarantees from the Government of Ukraine are required to obtain loans from commercial banks or attract investors against the state guarantees.

The positive factors in this area include introduction of scientists from a number of private institutions and private-owned business entities into the economic arena of designing and testing of the short-range ballistic missiles for the Armed Forces of Ukraine. This may significantly reduce the estimate of funds raised until a system with a short-range missile is adopted by the Ministry of Defense of Ukraine. For example, the Defense Express Information and Consulting Company highlights the point that the State Design Bureau still needs \$500 million to complete the development, testing, and fielding of the Sapsan tactical missile system (Krol, 2023). In turn, the designers and management of the private design bureau “Science & Space” propose an estimate of \$25 million for a similar product that will serve the same purpose (The Operational, 2023).

Conclusions

The Russian-Ukrainian war, in general, and the full-scale Russian-terrorist invasion that began on February 24, 2022, have clearly shown that political miscalculations in the space and missile industry lead to some severe outcomes. Thousands of civilians were killed and injured, and hundreds of critical infrastructure facilities were destroyed by the Russian terrorists, whose crimes were committed with Russian ballistic and cruise missiles.

The Ukrainian Armed Forces did not have and practically did not have ballistic and cruise missiles to deter the aggressor. Our Western partners are gradually and very reluctantly supplying new types of weapons to Ukraine. However, the Armed Forces of Ukraine are not authorized by the international community to use them on the territory of Russia. And the missiles of Russian terror are launched from there. Consequently, Ukrainian society cannot do without its own production of missiles to deter the Russian aggressor. To this end, the Verkhovna Rada and the Government of Ukraine have created good conditions for the start of design, testing, and adoption.

The situation with funding for development and testing of the Ukrainian short-range missile systems for the Armed Forces of Ukraine has become critical. The Ukrainian government has no budgetary funds available, investors are not coming to a war-torn Ukraine, and the Ukrainian volunteers are covering only the immediate needs of the Ukrainian army.

The authors propose to solve this challenge by providing guarantees by the Government of Ukraine to the Ukrainian business entities engaged in the design and production of short-range ballistic missiles for the Armed Forces of Ukraine under loans from commercial banks, or by attracting investors under the state guarantees in this way.

The article emphasizes a positive role of specialized scientific institutions and private entities engaged in design and testing of short-range missile systems for the Armed Forces of Ukraine. This brings a positive competition to this area and reduces the cost of developing and producing of the Ukrainian short-range ballistic missiles for the Armed Forces of Ukraine by an order of magnitude.

References

- Berezhnyi, Ihor (2022) Russia's biggest strikes: how the Russian world is methodically destroying Ukraine. *TSN*. Available online: <https://tsn.ua/ato/naymashtabnishi-udarirosiyi-yak-ruskiy-mir-metodichno-znischuye-ukrayinu-2169730.html>
- Datsenko, Volodymyr (2023) Russia has fired almost 5000 missiles at Ukraine worth \$16 billion. Will they be enough for the next winter and how many more can Russia produce? *FORBES*. Available online: <https://forbes.ua/war-in-ukraine/rosiya-vipustilapo-ukraini-mayzhe-5000-raket-na-16-mlrd-skilki-ikh-shche-zalishilosya-i-skilki-rf-mozhe-virobiti-rozrakhunki-forbes-05042023-12863>
- Krol, Igor (2023) *Ukrainian Sapsan TV channel: the real state of development, which will eliminate all possible illusions*. Available online: https://defence.ua.com/weapon_and_tech/ukrajinskij_otrk_sapsan_nazvano_realnij_stan_rozrobki_jakij_likviduje_vsi_mozhlivi_iljuziji-11926.html
- Makalyuk, Bohdana (2023) Additional HIMARS MLRS arrived in Ukraine – what kind of weapon it is and how it works. *Vikna*. Available online: <https://vikna.tv/video/ukrayina/himars-harakterystyky-ta-naochno-yak-praczyuye-u-zaporizkij-oblasti/>
- On licensing of economic activities (2015) The Law of Ukraine as of March 2, No. 222-VIII. *Governmental Courier*, No. 64.
- On defense procurement (2020) The Law of Ukraine as of July 17, No. 808-IX. *Government Courier*, No 174.
- Storm Shadow missiles in Ukraine: how long-range weapons will help the Armed Forces of Ukraine (2023) *ND*. Available online: <https://novosti.dn.ua/article/8532-rakety-storm-shadow-v-ukrayini-yak-dalekobijna-zbroya-dopomozhe-zsu>
- The missiles are not hitting their targets. HIMARS have become less effective on the frontline in Ukraine (2023) *NV*. Available online: <https://nv.ua/ukr/world/geopolitics/orban-prokomentuvav-kontrnastup-zsu-ostanni-novini-50322517.html>
- The Procedure for the Supply of Arms, Military and Special Equipment and Ammunition during the Special Period, the Introduction of State of Emergency, Measures to Ensure National Security and Defense, Repelling and Deterring Armed Aggression and during the Anti-Terrorist Operation (2015) Approved by the Resolution of the Cabinet of Ministers of Ukraine of February 25, 2015, No. 345. *The Official Bulletin of Ukraine*. No. 44.
- The procedure for development, mastering and production of new types of defense equipment, as well as the termination of production of existing types of such equipment (2021) Approved by the Resolution of the Cabinet of Ministers of Ukraine of March 3, 2021, No. 234. *Government Courier*, No. 58.

The Operational and tactical short-range missile system “Typhoon-South” RKK.500 (2023) *Science&Space*. Available online: <http://www.sciencespace.com.ua/new.html>

The war in Ukraine has claimed the lives of at least 8709 civilians, 14666 were wounded (2023) *Interfax*. Available online: <https://interfax.com.ua/news/general/907658.html>

Zelenskyy, Volodymyr (2023) On the 27th anniversary of the Constitution of Ukraine, the President proposed guidelines for the future Ukrainian doctrine and handed out state awards. *Office of the President of Ukraine*. Available online: <https://www.president.gov.ua/news/u-27-mu-richnicyu-konstituciyi-ukrayini-prezident-zaproponuv-83865>