

RESEARCH AND INNOVATIONS FOR THE WEAPONS INDUSTRY

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Abstract: *The Romanian defense industry strategy is under public debate and has among its objectives for the next six years: research and innovation in the defense industry; 2% of the annual Defense budget (approximately 200 million euros) will be invested in research. The strategy was published on August 9 for public debate and will be adopted by the Government and assumed by the Supreme Defense Council.*

Compared to the previous year, ROMARM's turnover increased two to three times. Some ROMARM subsidiaries have taken on renowned partners such as „Uzina Mecanică București” and „IAR Ghimbav”.

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The country's defense industry strategy, which is under public debate, foresees that, in the next 6 years, research and innovation in the defense industry will be stimulated, with 2% of the annual Defense budget (200 million euros) to be invested in research. Romania ranks last in the EU in funds allocated to research.

In the defense industry, the average age of employees is 53 years old and the salary of a starting engineer is 600 euros (3,000 lei). The government has promised that, in just 6 years, Romania's arms industry will become an important player on the international stage.

Research and innovation in the arms industry is a key objective of the Strategy for Romania's Defense Industry, a document published on August 9 for public debate by the Ministry of Economy, Entrepreneurship and Tourism.

The strategy is to be adopted by the Government and assumed by the country Supreme Council of Defense.

On its basis, the defense industry, necessary for Romania due to the war launched by Russia against Ukraine, is to be developed.

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Romania currently owns 22 state-owned companies in the defense industry, and their cumulative turnover in 2023 was 1.1 billion euros (5.6 billion lei).

However, most of the factories (which produce ammunition, explosives, weapons, projectiles) have not been modernized for decades, the technology they use is outdated, and most of the production has not been aligned with NATO standards, of which Romania has been a member for over 20 years.

The government claims to invest 150 million euros (750 million lei) per year in its companies until 2030, will re-technologize factories to increase productivity by 10%/employee each year, will allocate hundreds of millions of euros for research and innovation, in order to have factories that play an important role internationally in the arms industry.

The country's Defense Industry Strategy provides for the following objectives:

- construction of new powder factories for missiles, explosives or ammunition;
- production of ammunition according to NATO standards;
- manufacture of Piranha armored personnel carriers;
- manufacturing, modernization or maintenance for different types of combat vehicles, transporters, tanks or howitzers;
- production of Romanian drones;
- creating conditions for the establishment of another 30 companies in the field of defense industry;
- Romarm to become the most important company in Romanian industry - "an active participant and integrator in European projects and developed by the EU/NATO and other strategic partners".

Romania must train its employees working in armament factories, this being one of the problems that the Government must urgently solve.

*"The workforce, especially in state industry, is aging, and the principle of re-technologizing must have a major dimension in state industry, where industrial equipment from the 1970s is used and performance cannot be ensured with this equipment. Re-technologizing is very expensive"*¹, said retired general Virgil Bălăceanu.

Representatives of the industry unions, who had a meeting with Prime Minister Marcel Ciolacu and the Minister of Economy on August 20, believe that the Strategy "is too voluminous".

Romania aims, through this document, to solve an extremely large number of things in too short a time.

¹ Benea Ionuț, „Guvernul promite bani, cercetare și inovații pentru industria de armament. Cu ce și cu cine?”, available at <https://romania.europalibera.org/a/romania-mizeaza-pe-cercetare-inovare-in-industria-de-aparare-dar-cu-cine-si-cu-ce-/33087220.html>, accessed on 22.10.2024.

It is known that Romania ranks last in the European Union in terms of funds allocated to research in general.

In 2023, Romania was, for the sixth consecutive year, last in the EU in the ranking of investments in research and development. Only 0.12% of GDP was invested in this area (around 400 million euros).

Our country invests around 20 euros per capita in research, that is, 25 times less than countries such as Luxembourg, Denmark or Germany.

Under these conditions, the emphasis placed on research in the strategy regarding the Romanian arms industry is understandable.

"Transforming the national defense industry into an industry capable of producing innovative products, through public investments that will ensure an increase in the number of researchers, collaboration with academia and research organizations, the technical research base and the number of patents, innovations, patents"², is Romania's plan for the next six years.

In order for the strategy to become a reality, our country has set out to attract the "interest of Romanian researchers" and companies that innovate in the military field to collaborate with Romanian factories.

Another objective is to conclude protocols between the Ministry of Economy and military-related universities or research institutes that can bring added value to research-development-innovation in the defense industry.

*"Most of our beneficiaries are from the national defense system. There are also already a number of collaborations with private companies and from the national defense industry"*³, wrote Cristian Molder.

The Minister of Economy, Radu Oprea, believes that: *"Investments in research-development-innovation are vital and only through institutional collaboration between line ministries and research institutes and universities will the defense industry be able to meet the need to create competitive products with high added value."*⁴

It was also proposed to establish so-called "Centers of Excellence", as well as an IT platform, through which companies in the industry would "connect" with public authorities responsible for the defense industry.

The emphasis on research is also evident from the figures mentioned in the strategy: Romania will maintain its commitment to allocate 2.5% of GDP to defense. Of this amount, 2% will be "for research-development-innovation in the military field."

Romania allocated, it is true, 2.5% of GDP to defense, including in 2023, but it only managed to spend 1.6%, a NATO analysis showed.

² *Ibidem.*

³ *Ibidem.*

⁴ *Idem.*

In absolute figures, Romania allocated 5.6 billion dollars to defense last year.

In 2024, Romania's defense budget is approximately 8 billion euros, and 2% of this amount allocated to research means 160 million euros.

If our country maintains its commitment to allocate 2.5% of GDP to defense in the coming years, Romania could allocate approximately 200 million euros per year for military research alone in the future.

The Ministry of Economy proposes a "National Political Agreement on Increasing Defense Financing" for the period 2024-2030, which would ensure:

- 2.5% of GDP budget allocations for the Ministry of National Defense;
- over 20% of the amount resulting from the defense budget to be invested in equipping the army;
- 2% of the defense budget to be spent on research-innovation-development in the military field;
- over 20% of the amount for equipping allocated for purchases from Romanian economic operators;
- the allocation of at least 750 million lei for investments in economic operators in the national defense industry.

"The national defense industry is a strategic industry of national interest and must be based on modern technologies, research, development, innovation"⁵.

The 22 Romanian companies in the industry employ an average of 53 years old, and many of them will retire in the coming years. Bucuroiu believes that, currently, in terms of research and development, the Romanian defense industry is "minimal" and "doesn't really matter in Europe: there are no more specialists, institutions, strong research and development departments."⁶.

There is a need to attract specialists to the industry, but it is difficult, given the current working and salary conditions. A starting engineer at a weapons company, for example, has a starting salary of 3,000 lei.

*"For this reason, many young people who are hired as specialists in Romanian factories very quickly leave for companies abroad"*⁷.

*"This percentage of losses can be reduced by a salary level comparable to the private sector or companies abroad."*⁸.

The use of cutting-edge technologies or the increase in scientific research projects are two other reasons that determine young specialists to stay and work in state-owned companies of Romanian industry.

⁵ *Ibidem.*

⁶ *Idem.*

⁷ *Idem.*

⁸ *Idem.*

The war in Ukraine has prompted defense industries everywhere to expand their operations, including the types of specialists they want to attract. Major defense and aerospace companies in the United States and the EU are looking to hire tens of thousands of people this year.

According to a survey by the Financial Times, three of the largest U.S. contractors, Lockheed Martin, Northrop Grumman and General Dynamics, plan to hire nearly 6,000 specialists by 2024.⁹

Most of the available positions are at European companies, however.

The Italian group Leonardo, for example, wants to hire 6,000 specialists in 2024 and up to 10,000 by 2028. The British at BAE Systems, likewise: 5,000 in 2024. Thales Group, from France, plans 9,000 new employees in the next three years¹⁰.

"There should be not a component in the defense industry strategy related to research-development-innovation, but a stand-alone strategy", says retired general Virgil Bălăceanu.

He criticizes the fact that there is no concrete list of research projects that Romania proposes through this strategy.

*"I am not a specialist in the field, but a project lasts for years, or we do not have a list of projects. They talk in general, generic terms, I could say about research and development. I did not see the role of the Research Agency for Military Technique and Technology, which should be the pole that would coagulate research in this field"*¹¹.

Virgil Bălăceanu's conclusion:

"It is good that we have this strategy. The extent to which it will be assumed politically, should also be the extent to which it is materialized in everything that means production, research, development, innovation [...] Otherwise, it will remain a drawer strategy, as many similar projects have remained."

Today, the Russian-Ukrainian war represents a great opportunity for the reopening of closed factories and plants. A positive aspect is that there are currently several beneficial partnerships with renowned companies from abroad. ROMARM is the state company of the Romanian arms industry, which owns a number of 15 subsidiaries; there are also other companies that are either productive or insolvent.

It is time to make major investments in the arms industry to reopen new industrial units such as the factories in Tohani, Sadu, Cugir, Plopeni and others. If investments are made, Romania could become a real hub for supplying arms and ammunition for some NATO and EU member states. In this direction, an important role is played by the Research and Development Center of ROMARM. Compared to the previous year, ROMARM's turnover

⁹ Idem.

¹⁰ Idem.

¹¹ *Ibidem*.

increased two to three times. Some ROMARM subsidiaries have taken on renowned partners; for example, the Bucharest Mechanical Plant concluded a joint-venture agreement with the European division of the American company General Dynamics for the manufacture of 133 Piranha 5 armored personnel carriers. Another successful example is IAR Ghimbay, which concluded (signed) a definitive 15-year collaboration contract with Airbus Helicopters for the manufacture of H215M helicopters.



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