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CONTENTS

EDITORIAL	7
<i>Colonel (ret) Professor Costel DUMITRESCU, PhD</i>	
REFLECTIONS	
ON COMMON EUROPEAN DEFENCE	14
<i>Brigadier General (ret) Petru ȚĂGOREAN, PhD</i>	
<i>Maior General (ret) Florin-Gabriel Moisesescu, PhD</i>	
ARMORED VEHICLES: WHERE TO?	25
<i>Brigadier General (ret) Gheorghe TOMA, PhD</i>	
THE IMPACT OF THE RUSSIAN-UKRAINIAN	
WAR ON THE ENVIRONMENT	42
<i>Brigadier General (ret) Viorel BUȚA</i>	
<i>Răzvan Nicolae MANOLIU, PhD</i>	
AUTONOMOUS WEAPONS IN THE WAR OF THE FUTURE	48
<i>Colonel (ret) Gheorghe BOARU, PhD</i>	
ENERGY IS NOT PRODUCED FOR THE SAKE OF ENERGY	
Lessons from an Expert on Industry, Security, And Policy Decisions	61
<i>Major Sînziana IANCU, PhD</i>	
CRISES PROPAGATED IN THE MEDIA	
AND THE PUBLIC OPINION	87
<i>Colonel (ret) Professor Costel DUMITRESCU, PhD</i>	



**PARTNERSHIPS WITH CIVIL SOCIETY TO BUILD TRUST IN LAW
ENFORCEMENT AND PUBLIC SAFETY AUTHORITIES106**

Colonel (ret) Professor Cristian Florin POPESCU, PhD

**GREENLAND -
SECURITY CHALLENGE OR ECONOMIC STAKES?116**

Brigadier General (ret) Petru ȚĂGOREAN, PhD



EDITORIAL

CRISES IN SOCIAL DEVELOPMENT WITH A MAJOR IMPACT UPON PUBLIC OPINION

We will examine, from a conceptual perspective, the causes, dynamics, and typology of social crises. We need to emphasize the fact that various types of crises (political, economic, social, demographic, and others) are closely interconnected and reinforce one another. They carry both negative and positive potential simultaneously, containing, on the one hand, the danger of regression and system collapse and, on the other hand, the opportunity for the system to advance to a new, higher level of development.

Contemporary realities show that even the most developed society remains vulnerable to crises. In every society, creative and destructive processes occur simultaneously, so that the overall development of society is a unique combination of several processes. If destructive and dead-end processes prevail in the society at any stage, then sooner or later that society will experience a crisis.

The traditional Chinese character for the word “crisis” consists of two main components, one signifying danger and the other opportunity. In this context, a crisis can be figuratively represented as a passageway, which is difficult and frightening to go through, but at the same time offers the hope of a dramatic qualitative change for the better.¹

Crises have accompanied humanity along its historical development and have always served as a factor that tests its viability. Crises reveal the presence of imbalances, vulnerabilities, and acute contradictions in the functioning of the system.

¹ Iakovlev D.A. Despre conceptul de „criză” // Criză ca fenomen irațional: Culegere de materiale dintr-o conferință științifică / Ed. de A.M. Arzamastsev. - Magnitogorsk: MSTU, 2002, p. 115.



This issue has been addressed by many prominent scholars, including Karl Marx, Gerhard Simmel, Otto Spengler, Alfred Toynbee, Peter Sorokin, and others. Some have identified the cause of the crisis in the loss of cultural creativity and the spiritual underpinnings of human existence. Others have associated the onset of the crisis and the prospects for recovery with the ability of society and its creative elite to come up with an adequate response to the challenges of the historical situation.

Thus, according to the concept developed by the British historian A. Toynbee (1889-1975), who worked within the framework of comparative cultural studies, the fundamental law of civilizational progress is the “challenge-response” mechanism. Every civilization is faced with historical challenges (natural disasters, prolonged droughts, floods, foreign invasions). Civilization must adapt to these newly emerging circumstances and find a suitable way to respond. If a creative minority – a group of gifted, highly intellectual individuals with strong ethical standards – finds a successful solution, then civilization will continue to exist. However, if imperfect or outright incorrect solutions accumulate, civilization shifts from development to decline.

According to Marxism, the social crisis is an inherent part of historical development and precedes the transformation of socio-economic entities. K. Marx’s (1818-1883) theory of cyclical crises can be summed up in the following provisions.

1. Society develops on the grounds of inner contradictions.
2. Society enters a crisis as a result of its inability to resolve and settle the inner conflicts within the existing structures. The crisis signals the need for serious structural changes.
3. No social system lasts indefinitely and eventually gives way to a new societal order.
4. No social system will perish before the seeds of the transition to a new system have taken root within it. A crisis emerges when a new system is established within the old one.
5. A crisis is a clash between large social groups – primarily social classes – that are unable to come to an understanding within the existing system of relations.



6. A crisis represents the collapse of a ruling class or the failure of its dominance. A crisis in society allows for the transfer of economic and political power from one class to another.

The concept of structural-functional analysis (T. Parsons, S. Johnson) views social crisis as an anomaly, a dysfunctional disruption of the social system resulting from poor decisions and mismanagement. A social crisis is an imbalance in the system, a power imbalance in society.

In modern scientific and philosophical thinking, a crisis is commonly understood as a short-term turning point in the natural process of development, capable of providing a spontaneous resolution to a difficult situation, a favorable change, the solving of some serious problems, and to become the starting point for a fundamentally new stage in the existence and development of the system within which the crisis occurred. Such systems can range in type and complexity: the consciousness of an individual or a group, economic, political, and technological systems, and the like.

The causes of the crisis may be:

- objective, related to the cyclical development of the system, modernization and restructuring needs, the influence of external factors, and
- subjective, reflecting management errors, shortcomings in the organisation of production, and flaws in innovation and investment policies.

Crises can either be obvious and easy to detect or subtle and hidden. The most dangerous crises are those that affect the system in its entirety. In such a situation, a series of complex problems arise whose resolution depends on how quickly they are identified and on the professionalism of government institutions.

The dynamics of the crisis can range from the government's inability to resolve the problems faced by society through political means to the collapse of existing political structures. The following stages can be identified:

National crises

1. Growing social discontent among large segments of the population, due to unresolved social problems and a decline in living standards. Certain social classes and layers are attempting to change their status in society. On a day-to-day basis, the societal crisis is reflected in reduced consumption. The inability to meet socially typical consumption standards leads to a sense of dissatisfaction with life.



2. A rift within the ruling circles (government, parliament), stemming from the fact that different factions within the government are proposing different ways out of the crisis.

3. The authority of the ruling institutions is drastically declining, as they are becoming unable to remedy the situation and fulfill their obligations and promises to society. Public support for them is becoming fragile and unstable.

4. The political activity among the general public is on the rise; realizing the deadlock of the current situation, people are searching for their own ways out of the crisis and putting forward political demands.

5. The end of the crisis is the transition to a new social system or a fundamental restructuring of the existing social system.

Various types of crises (economic, political, social, demographic, psychological, organizational, environmental) can be represented as a chain in which the breaking of a link—that is, the emergence of a factor associated with a particular type of crisis—triggers the emergence of factors associated with other types.

Economic crises reflect acute contradictions in the national economy or in the economic condition of an individual organization. These include crises of overproduction, declining sales, and contradictions in the relationships between market economic agents, payment crises, the loss of competitive advantages, and corporate bankruptcies.

An economic crisis is characterized by a decline in overall industrial output and production capacity, rising inflation, hyperinflation, a drop in GDP and foreign trade turnover, falling stock prices, a collapse in agriculture, and a decline in innovation.

Political crises are characterized by sharp contradictions within the political structure of society, which affect the interests of various social groups, ruling elites, and opposition parties. Among the factors that lead to political crises there may be:

- a decline in the legitimacy of the government, its loss of credibility in the eyes of citizens, and the authorities' inability to govern;



- processes taking place in society, a change in the ruling elite, the resignation of the government, a “cabinet reshuffle,” and a sharp escalation of social conflicts that take on a clearly political character.²

An acute political crisis can take the form of: a constitutional and legal crisis, associated with the suspension or restriction of the country’s fundamental law³; a crisis of the party system, caused by a rift between political parties and the leading social forces; a governmental crisis, associated with the limitation or impossibility of the state’s administrative authority; a foreign policy crisis, caused by an increase in external threats, wars, and the decline of the country’s international standing.

In “Crises and Sequences in Political Development”, scholars from the U.S. Social Research Council (J. Coleman, L. Pye, M. Weiner, J. Lapalombara, and others) identified a general model of crises in political development:

1. the identity crisis (it is necessary for citizens to perceive themselves as a single political community during the integration process, which is complicated by the existence of diverse ethnic/nationality, class, and other attitudes, as well as political and psychological grievances);

2. the legitimacy crisis (a conflict among social groups regarding the consensus on the legitimacy of the supreme power and the government’s accountability);

3. the participation crisis (a consequence of the influx of new players on the political scene and the growing polarization of interest groups and political parties);

4. the governance crisis (difficulties in establishing a framework of official institutions to bridge the gap between the government and the governed, with the aim of guaranteeing government policy achievement and public consensus);

5. the distribution crisis (the system’s failure to meet the ever-increasing needs of various segments of the population).

Social crises occur when contradictions and clashes of interests among various social groups become more intense; they often follow economic crises, as the latter are accompanied by negative social

² Glukhova A.V. Procese politice și proceduri politice. Cursul 4. Stabilitate politică și schimbări politice. Manual de științe politice. - Voronej: Editura Universității din Voronej, 2000, pp. 72-73.

³ Medushevsky A.N. Crize constituționale în societățile de tranziție // Întrebări de filosofie. - 1999. - Nr. 2. pp. 3-21.



consequences, such as a decline in employment, rising consumer prices, a decline in living standards, and cutbacks in government funding for education and health. The main factors leading to social crises involve a significant decline in citizens' quality of life, unemployment, poverty, an increase in serious illness and deterioration of health, high crime rates, brain drain, widespread corruption, and the complete breakdown of the system of values, including spiritual and moral ones.

Another type of social crisis is the **demographic crisis**. Its negative manifestations include an excess in mortality rates as compared to birth rates, negative migration trends that lead to an exodus of skilled professionals, a shortage of productive labor in the economy, and unfavorable changes in the age and gender structure of the population.

Social and demographic crises are often linked to psychological crises, which are most noticeable during times of major social upheaval, against a backdrop of instability and declining living standards. According to the theory of anomie (literally, the absence of norms), developed by the prominent French sociologist Émile Durkheim, "the rise in deviance, including suicide, is caused by times of social change characterized by the breakdown of the value system and the weakening or absence of generally accepted norms." At the same time, the individual is left without a clear sense of belonging and stability in choosing a normative pattern of behavior. Thus, when societies are going through periods and states of transition and crisis, when values are replaced by a normative void, the individual's conscience also faces a crisis".

Psychological crises refer to the emergence of widespread neuroses, increasing dissatisfaction among citizens with their own social status, emotional devastation among individuals, fatigue caused by change, heightened feelings of insecurity and fear, a massive increase in the number of cardiovascular and other diseases due to high stress, and a deterioration in the socio-psychological state and social climate.

Within the organizational structure of a social system, relationships associated with structural design, the division and integration of activities, and the distribution of duties can become strained. **Organizational crises** arise. Key factors include: the stagnation and bureaucratization of structures, increased conflicts across departments and among managers at various levels, confusion, irresponsibility, chaos, and a loss of control over a number of structural units. These crises also lead to a depletion of resources



and serious problems in the financial and economic activities of organizations, as a result of deliberate or erroneous actions by some of the administrators, an imbalance in the overall management system, and a decline in the level of coordination and integration of the activities of various departments.

Environmental crises are caused by natural disasters such as earthquakes, hurricanes, fires, climate change, and floods, and are often the result of human activity.

In conclusion, it should be noted that, despite the inevitable nature of crises, society is not powerless against them. Based on the theory of cyclical development, it can predict the nature and timing of future crisis-related shocks and may choose the most effective ways to overcome them and mitigate their negative consequences, both through accumulated experience and by gaining new insights. The upside of a crisis is the opportunity it provides for renewal, stimulating the emergence of new ways to solve problems and adapt to changing conditions. A crisis erodes the stereotypes of social consciousness, and a new social order emerges, replacing the old, weakened norms.

It should be emphasized that crisis situations carry both positive potential and risks. One possible outcome of a crisis is regression, that is, the system's return to a lower level of development. In this regard, timely diagnosis of the crisis and its proper assessment are crucial. These steps enable the development of the most constructive approach to harnessing the crisis's positive potential and providing adequate support for the recovery of the crisis-stricken system.

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REFLECTIONS ON COMMON EUROPEAN DEFENCE

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Abstract: *Within the European Union, member states have retained their prerogatives and obligations to ensure their national security.*

The concept of "common defense" introduced by the Treaty of Amsterdam in 1997 does not entail the creation of the Union's own "armed forces."

The 2009 Treaty of Lisbon took a step forward in the direction of collective defense.

However, each European state pursues and applies its own defense policy in accordance with its objectives.

For a proper common European defense, concrete steps should be taken in this direction by:

- establishing command and control capabilities at the EU level;*
- ensuring the military and civilian personnel needed to operate command centers;*
- developing real and applied defense planning at the EU level;*
- better cooperation in the field of planning, development, and investment in the military sector;*
- joint spending of allocated resources;*
- a certain level of political integration;*

European "common defense" must be based on complete economic integration, as military power goes hand in hand with economic power.

Keywords: military capabilities; common European defense; Coalition of the Willing for Ukraine.

The Establishment of a Common European Defense

As it is well known, the European Union does not follow the classical models of state or administrative organization; rather, it is a hybrid between a federation and a confederation, borrowing certain characteristics from both of them. Thus, the member states of the Union retain their sovereignty (as in the case of a confederation), but transfer some powers to the Union's institutions (in the manner of a federation).



As independent and sovereign states, the member states of the Union have thus retained their powers, as well as their obligations, to ensure their national security. However, as early as the Treaty of Amsterdam in 1997, the concept of “common defense” emerged at the European Union level. It should be noted, though, that this concept did not refer to the creation of a Union “armed force” of its own, intended to defend the member states as well as the Union as a whole, but rather aimed at the Community’s efforts to coordinate actions designed to strengthen national defense and security capabilities, so that member states could – if necessary – respond jointly to any threats that might have targeted any of them. Even though the document’s stated objective was “the gradual development of a common defense policy within the CFSP¹”, its actual purpose was rather to ensure that EU member states had a certain degree of autonomy in defense matters, in order to reduce their dependence on the military organizations to which they belonged.

What has been achieved in the area of European collective defense

However, the true starting point of modern European security and defense policy is generally considered to be the meeting in Saint-Malo on December 3-4, 1998, between the French president and the British prime minister, resulting in a declaration that called for the establishment of “autonomous and credible military capabilities” for the European Union. At the same time, the declaration clarified the relationship with NATO, stating that, based on its own capabilities, the European Union would act only if the North Atlantic Alliance were not involved and “without unnecessary duplication”. The “European Security and Defense Policy” was formally established at the European Council meeting in Cologne in 1999.

The establishment of the European Defence Agency in 2004 did not fundamentally change the situation; even though – in accordance with its mandate – the Agency assists European defence ministries in addressing shortcomings related to capabilities and training², This was by no means

¹ CFSP - Common Foreign and Security Policy.

² <https://european-union.europa.eu/institutions-law-budget/institutions-and-bodies/search-all-eu-institutions-and-bodies/european-defence-agency-eda.ro>.



intended to be a European defense ministry, but rather to serve as a catalyst designed to enhance defense capabilities through cooperation among member states.

More than 10 years later, in 2009 in Lisbon, a step forward was taken toward ensuring a common defense for member states through the “Common Security and Defense Policy”, as set forth in Articles 42-46 of the Treaty on European Union. The Treaty expressly states, in paragraph 7 of Article 42, that “if a Member State is the victim of armed aggression on its territory, the other Member States shall have towards it an obligation of aid and assistance by all the means in their power.”

Nevertheless, this provision alone is not sufficient to ensure the establishment of a “European Union army”, either. The text quoted from the Treaty goes on to state that “This shall not prejudice the specific character of the security and defence policy of certain Member States”. In other words, EU member states may continue, in the exercise of their national sovereignty, to adopt specific approaches to security and defense, for example by setting up regional military alliances or by joining certain military or security organizations. That is precisely why the second sentence of the same paragraph cited above provides that, for EU member states that are members of NATO, that organization remains “the foundation of their collective defence and the forum for its implementation.” In other words, it can be understood that for these EU member states (which are also NATO members), the priority in defense matters is the Transatlantic organization, rather than a Union structure or armed force.

This approach has worked smoothly for more than ten years, but in light of the new geopolitical challenges – particularly those highlighted by the war in Ukraine – as well as the new U.S. policies being promoted within NATO, the situation appears to be changing radically. Thus, in December 2017, the “permanent structured cooperation” among 26 EU member states was launched³, an instrument aiming to ensure better cooperation in the areas of planning, development, and investment in the military sector and other related fields, through the implementation of joint projects, including a European medical command, a maritime surveillance system, mutual

³ Malta is not part of this instrument.



assistance for cybersecurity and rapid response teams, as well as a Community-level intelligence training entity, at the EU level.

That same year, the European Parliament approved a budget of €7.9 billion (for the period 2021-2027) for the European Defense Fund, to co-finance defense cooperation among EU member states⁴. The report on this initiative noted that „this programme is an historic step forward for European defence industrial projects and responds to three challenges: budgetary efficiency, competitiveness and strategic autonomy”.

In the new geopolitical context brought about by the war in Ukraine, in May 2023, the European Parliament urgently adopted legislation aimed at boosting the production of ammunition and missiles in EU member states, and the following month, it approved €500 million in funding to increase defense manufacturing capacity and adopted plans to boost EU production of ammunition and missiles to make up for the existing shortfall⁵.

At the same time, the national defense budgets of EU member states have risen steadily and significantly since 2014, from just 147 billion euros to over 320 billion euros in 2024 – approximately 2% of the EU’s GDP, a percentage similar to that required of NATO member countries⁶.

What are the issues and what remains to be done?

Considering the amounts allocated to defense, as well as the willingness demonstrated in this regard, it seems that money is not necessarily a problem in the defense sector of European countries. A first significant challenge, however, appears to be the insufficient integration of existing military capabilities and the coordination of their actions based on an effective, sustainable, and legitimate politico-military chain of command. Currently, at the EU level, the system of command and coordination in this area is too fragmented, both in terms of operations and capabilities, within an intergovernmental framework in which each government acts as it

⁴ <https://www.europarl.europa.eu/news/ro/press-room/20180628IPR06812/first-ever-eu-defence-industry-fund-to-finance-joint-development-of-capabilities>.

⁵ <https://www.consilium.europa.eu/ro/press/press-releases/2023/07/07/asap-council-and-european-parliament-strike-a-deal-on-boosting-the-production-of-ammunition-and-missiles-in-the-eu/>.

⁶ <https://www.europarl.europa.eu/topics/ro/article/20190612STO54310/apararea-cum-isi-intareste-ue-securitatea>.



pleases – however, whenever, and whomever it chooses with – and, above all, if it chooses to do so.

The consequence of this approach is that, nearly 30 years after the signing of the Amsterdam Treaty and more than 15 years after the Lisbon Treaty, none of the visions or promises to establish a “common European defense” have materialized, and ensuring the national security and defense of member states remains, in essence, exclusively within their individual jurisdiction.

At present, it appears that should the war in Ukraine spread to Europe, the 27 EU member states – with a combined population of approximately 525 million – would be unable to quickly assemble a coordinated, credible military force capable of deterring a potential enemy. It is reassuring, however, that we can observe that at the EU level, a dozen member states are in the process of forming a small coalition of those willing to integrate these capabilities, even in the absence of binding EU legislation on this matter. Such an initiative would involve establishing a headquarters and operational commands, which would mark an extremely important milestone towards achieving a genuine “European defense” – that is, a defense of Europe, by Europe, and for Europe.

Conversely, the “common European defense” – based on national armed forces – implies that no European state is in a position to initiate or even plan military actions or operations outside its national borders on behalf of the European Union to defend its interests. That is why the time may have come for policymakers to start thinking beyond territorial boundaries and to embark on the construction of a genuine, integrated, and powerful common defense capability, commensurate with the might of any potential enemy.

However, in order to do this, we must be able to move beyond the mindset rooted in the protectorate that has been successfully secured – perhaps for too long – by our “big brother.” The latter may at some point face problems, or have other priorities, or simply no longer wish to fulfill this role for free, as, in fact, has been suggested on many occasions and for some time now. Furthermore, we must likely recognize that this represents a radical shift in U.S. foreign policy, and the current administration should not be viewed as a temporary blip on a linear, unchanging trajectory that will soon be reversed. The disincentive effect of American involvement – which



was the very essence of the North Atlantic Alliance – has faded and even seems to have disappeared in Europe. Without the deterrent power of the United States, we cannot be sure that a potential enemy of Europe can be deterred today.

For a genuine common European defense, decision-makers in this domain within the member states should probably talk less and start planning concrete actions in this direction. And perhaps even more important is the achievement of the planned objectives.

In the wake of the war in Ukraine, European countries have done what they could – some more, others less. At times, efforts to assist Ukraine have given the impression of a competition among EU member states, as they publicly touted the value of the military aid “packages” intended for that country. In any case, in this context, little progress seems to have been made toward establishing a genuine common European defense policy – whether due to budgetary constraints or specific domestic policies.

As for the European institutions, they have done everything in their power since 2014 to promote and adopt a common industrial policy in the field of defense. Among other initiatives, efforts in defense research could be highlighted in this regard (the 2015 Defense Research Pilot Project, the 2016 Preparatory Action for Defense Research, the 2016 European Defense Industrial Development Program, and the 2017 European Defense Fund), while in the field of defence industry, mention should be made of the programmes designed to support the joint procurement of ammunition (Act in Support of Ammunition Production 2023 – ASAP) and military equipment (EU Defence Industry Reinforcement Through Common Procurement Act 2023 – EDIRPA), the proposed defence industrial strategy (EDIS – 2024), as well as the European Defense Industry Program (EDIP – 2024).

Certainly, the most significant contribution in this regard came from the European Commission through the REARM Europe initiative, which consists of two phases with a total value of approximately 800 billion euros. The first component is a joint EU loan of 150 billion euros, which the Commission could redistribute to member states that wish to receive it (the SAFE instrument, Security Action for Europe), and, on the other hand, what is known as the “derogation clause,” that is, the possibility of temporarily (for a period of 4 years) not complying with the Maastricht Treaty’s



budgetary criteria, provided that the budget deficit of up to 1.5% of GDP is used for defense, which could lead to additional contributions from member states amounting to 650 billion euros.

It can therefore be said that the European institutions have been far from passive. Their actions are not only fully justified from a legal standpoint, based on the Treaty on the Functioning of the European Union (TFEU), but are also politically legitimate. This was also emphasized by the President of the European Central Bank in a speech delivered on October 6, 2025, in Strasbourg before the Committee on Economic and Monetary Affairs (ECON) of the European Parliament⁷, describing European defense as a “common good” and demonstrating that, as such, its financing can be carried out jointly, contributing to the attractiveness of the euro, the prosperity of the European economy, and the expansion of Community finances.

A problem that is becoming apparent, however, seems to be that all these efforts are poorly aligned with actual, practical defense planning at the European level, which must provide very precise guidance to the defense industry in response to the threats we are facing and, above all, to defense research, whose results can only be put into practice after some time (following testing). Naturally, defense planning functions effectively at the level of each EU member state, and in a satisfactory manner at NATO level (NATO Defense Planning Process); however, it is currently in a phase that requires significant adjustments and recalibrations, particularly between the European Union’s military staff (Headline Goal Process) and the European Defense Agency (Capability Development Plan).

On the other hand, it is the EU member states that decide on the European budget, and we have seen instances in which they have halved the European Commission’s ambitions regarding defense funding. In fact, strictly speaking, the European institutions have no jurisdiction over the armed forces, an area that remains the responsibility of the member states. Even the European institutions’ competence in the field of the defense industry is politically contested by those who criticize the European Commission’s growing involvement in this area, among whom – and indeed at the forefront – are the economic agents in this sector.

⁷https://www.ecb.europa.eu/press/key/date/2025/html/ecb.sp251006_1~a4339da1f9.en.html.



With regard to defense procurement, each European country follows and implements its own policy, obviously in accordance with its objectives, and quite often – whether encouraged or not – there may be a temptation to take the easier route of purchasing equipment from certain established manufacturers (usually American), often leading to an increase in defense spending as a percentage of GDP, sometimes merely to demonstrate to partners that defense spending has been increased. Yet this is both unrealistic and pointless—indeed, even counterproductive – given that the European defense sector is growing, generating a turnover of approximately €158.8 billion in 2023⁸, which demonstrates a consolidation of the defense industry at the European level.

What matters, in addition to states' ability to defend themselves, is being able to coordinate their efforts as an “autonomous capacity for action”. We cannot be so naive as to believe that someone from afar is coming to look after or ensure Europe's security; rather, they may be interested in selling weapons and products manufactured by their own defense industry to each European state individually. For arms and military systems dealers, it really does not matter whether these are compatible with existing ones or whether they are more or less obsolete; what matters is only the outcome of the business deal.

According to the declaration issued by the heads of state and government participating in the NATO summit in Hague on 25th June 2025, „Allies agree that this 5% commitment will comprise two essential categories of defence investment. Allies will allocate at least 3.5% of GDP annually based on the agreed definition of NATO defence expenditure by 2035 to resource core defence requirements, and to meet the NATO Capability Targets”⁹. If we take into account that some large or major European countries (such as Italy, Spain, and Belgium) have not fulfilled the commitments they made in 2014 at the Newport summit to allocate 2% of GDP to defense (of which 20% is for defense investments), we may well ask ourselves (rhetorically) about the 2025 pledges.

⁸ <https://www.consilium.europa.eu/ro/policies/defence-numbers/>.

⁹ <https://www.nato.int/en/about-us/official-texts-and-resources/official-texts/2025/06/25/the-hague-summit-declaration>.



For European countries to establish a genuine common defense, the challenge is not so much to spend money on defense, but rather to spend it better, more efficiently, and, above all, to spend it together. It is important that all these slogans not become mere platitudes. Any defense spending must provide the necessary tools to confront and eliminate threats to the national security of European states. Therefore, the level of defense spending must be determined based on an assessment of concrete risks and threats. Overestimating them – just as underestimating them – is harmful, generating economic and/or security risks.

Enhanced defence spending should normally result in all European countries being able to acquire and stockpile additional equipment, weapons, and ammunition that can be deployed when needed, without having to seek anyone's approval, especially in times of crisis. The war in Ukraine has fully demonstrated the need for freedom of action in military matters. It would be completely pointless to have the most effective fighter jets in the world, the most precise missiles, or the most effective armored vehicles if, when it became necessary to use them, the country where they were built were to deny us that right for fear of an "escalation" and a spread of the conflict. The lessons of the war in Ukraine in this regard must not be ignored or forgotten.

Indeed, in the digital age we have entered and given the hybrid threats we face today, developing applications and securing social media platforms for the citizens of European countries may become just as important as manufacturing shells or missiles. That is why it is essential that we do not let our digital guard down or surrender unconditionally.

Joint procurement of defense equipment at the EU level can serve as a catalyst for efforts aimed at better integrating the armed forces and as an important step forward in the achievement of a true European army. Spending together should mark the beginning of integration. A common budget for common defense should foster shared responsibility for the efficient use of funds, as well as stimulate the willingness to utilize the procured assets in a coordinated manner at the Union level. In this regard, EU member states should probably focus their efforts on identifying strategic catalysts that would enable their armed forces to coordinate effectively, both in terms of planning and carrying out procurement in this area and in terms of using the assets thus acquired, as well as conducting



specific exercises and operations. Foremost among these catalysts could be the development of command-and-control capabilities, as well as the provision of the intelligence necessary for military actions and operations. An illustration of this could be found in the way the North Atlantic Alliance operates its command center in Mons or its headquarters in Brunssum (the Netherlands), Naples (Italy), or Northwood (the United Kingdom). However, for this to happen, European Union member states must be able to supply the military and civilian personnel needed to operate such centers; yet, training generals and other high-ranking officers takes time and, above all, requires a training school that meets EU standards. A further issue may certainly arise: that of the location of the various command centers for European “common defense”; it is quite likely that some states will claim a leading role in this matter, or with regard to the effective command of European defense. In addition, difficulties could arise in separating European common defense from that within NATO for states that are also members of the latter organization. It will likely be necessary to align the NATO Defense Planning Process (NDPP) – that is, NATO’s planning instruments – with European ones: the “Headline Goal Process” of the EU military staff and the “Capability Development Plan” of the European Defense Agency. All of this must be thought through in advance, and every step must be meticulously prepared.

Beyond military integration, European states – or at least those that genuinely seek to achieve “common defense” – must also pursue and achieve a certain level of political integration. An important first step in this direction appears to have been taken within the “coalition of the willing” (COW) for Ukraine, in which a number of European states (and not only) have agreed to plan joint operations to provide assistance to this country. Sooner or later, however, it will be necessary to take a further step in this direction, since such *ad hoc* coalitions are subject to unpredictable political or administrative changes. At the same time, such alliances are temporary and cannot yield structural results; they cannot ensure the long-term interoperability or expertise of the forces involved, which are, after all, the true military assets upon which European “common defense” can be built.

The European “common defense” likely also requires some adjustments to the EU’s legal framework. For it would be pointless to establish a European military command if every time a decision needs to be



made regarding a security issue in a Member State, a decision by the European Council were required. In the event of a violation of a European state's airspace, for example, a military command decision must be made immediately, along with taking appropriate countermeasures.

Last but not least, European "common defense" must be based on full economic integration; among other aspects, we are referring to the integration of electricity and communications networks. Military power goes hand in hand with economic strength.

In conclusion, a genuine and effective common defense and security policy requires a higher level of European integration.

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ARMORED VEHICLES: WHERE TO?

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Abstract: *With respect to the issue at hand, out of the multitude of aspects encompassed by the simple question "where to?", we have selected only two, considering them a priority at the current stage of military theory and practice. First, there is the need for a conceptual approach, designed to clarify terminology and contribute to an accurate understanding of reality. Second, it is equally important to acquire as much information and knowledge as possible, so that the cognitive process may assist us in shaping our current activities and future projects, in full alignment with actual requirements and resources. From here, we aim to move on to more concrete examples regarding the planning and execution of both independent military operations and integrated (joint) operations by the armored forces.*

The content of this article is consistent with the reform of our armed forces and the modernization of our military, in accordance with the country's integrated national security concept, Romania's national defense doctrine, and Romania's strategic military doctrine.

Keywords: *wheeled vehicles; tracked vehicles; electric propulsion; research components; armored vehicles; anti-tank helicopters.*

In a rapidly changing world, which is also affecting armored units, it is not yet clear how these changes will influence the battlefield. Certainly, however, some of these trends are reversible. Therefore, we aim to examine these trends and their impact on armored forces, as they will indeed continue to play an important role on the battlefield.

The starting point for analyzing the future of armored vehicles is the level of development already achieved, which is characterized primarily by the following elements:

1. The cut in the defense budget will result in a smaller military in the near future and a slowdown in the provision of specialized equipment to the armed forces. The impact on armored forces will lead to the reorganization of the unit equipped with armored vehicles.

2. Antitank infantry weapons and attack helicopters are redefining the role of tanks in combat. Their combined use will provide significant antitank defense capabilities. What makes this truly revolutionary, however,



is the ability of attack helicopters and artillery to deliver anti-tank fire against areas where armored units are deployed. Artillery can scatter and destroy tank formations faster and more effectively than the enemy is able to deploy them onto the battlefield. The air force can engage targets more quickly and effectively than tank formations are able to respond. While the tank is “still the primary antitank weapon”, the old principle that the best way to destroy a tank is to use another tank will not remain true for much longer”¹. On future battlefields, concentrated fire will be far more effective than concentrated tank fire, just as it was in World War I, when machine guns were far more effective than concentrated fire from infantry.

Recent conflicts began with spectacular tactical maneuvers, then turned into wars of attrition, and the victors were ultimately those who could withstand the greatest strain. For this reason, armored units must be reinforced, highly organized in terms of firepower, and prepared to engage in prolonged defensive warfare against attacks from all directions. They consume their reserves at such a rate that they are constantly dependent on resupply from a nearby stronghold. Firepower and the ability to survive enemy fire are essential for decision-making. Armored units must be trained in attrition warfare and accustomed to situations where the front line is heavily penetrated from both sides, with the two opposing forces potentially clashing in the center of the zone following initial engagements. The ability to execute maneuvers over long distances will be the key to success, and so will the ability to make contact with the enemy at the most opportune moment.

In light of these circumstances, the following measures would be required for armored units: equipping brigades with guided rocket launchers to increase firepower (their range, and the ability to engage armored vehicles in combat zones); armored personnel carriers should be equipped with diesel engines for greater efficiency, an absolute requirement for supporting maneuvers; some wheeled vehicles should be replaced with towed vehicles, to whatever extent possible, so as to reduce supply requirements and achieve greater freedom of action; in practice, with the exception of tanks and self-propelled artillery (self-propelled guns), they will be on wheeled platforms.

¹ Cpt. Stephen L. Melton, *The future of armor*, in *Armor*, May-June 1990, p. 37.



These elements would positively influence the conduct of integrated combat operations as follows: increasing operational mobility (the ability to conduct military operations deep within the theater over extensive areas and for extended periods of time); reducing the cost of combat (operations) per km of front – important not only in wartime but also in peacetime; increasing the ability to conduct reconnaissance and ensure security in the areas where armored units are deployed; a phased transfer of fire from short-range infantry systems to armored systems in order to ensure combat effectiveness, and a corresponding increase in the use of long-range weapons (artillery, aviation), which ensures optimal strikes on critical targets. Such fire support ensures the use of maneuver forces and fire systems that will concentrate their fire on critical points.

Military reorganizations and restructurings must not overlook a key factor: the need for an adequate armored component. Since the necessity of such a vehicle is evident, we hereby propose a comparative study of wheeled versus tracked vehicles.

The key areas of technical comparison between tracked and wheeled armored vehicles are mobility, vulnerability, and noise levels (in both the interior and exterior).

A “widely held misconception is that tracked vehicles have a clear advantage in terms of fording capability”². Tests indicate that wheeled vehicles are just as mobile as tracked vehicles when the vehicle weight is kept below 15 tons for 6x6 wheeled vehicles (12 tons for 4x4 vehicles and 20 tons for 8x8 vehicles). On certain softer or more uneven terrain, tracked vehicles still retain their advantages over wheeled ones. In general, the mobility of wheeled vehicles is excellent on a variety of terrains, especially dry terrain, while tracked vehicles are more mobile on soft or very rough terrain.

The second area of comparison is vulnerability to attack. Direct-fire antitank weapons are generally effective against both light wheeled and tracked armored combat vehicles. The results³ of the quoted tests refer, in particular, to small arms and shrapnel resulting from explosions.

² *The Sight Armored Force*, Armor, 1990, p. 8.

³ *Idem*, p. 9.



The tests indicated that wheeled vehicles in the 9-101 weight class are actually less vulnerable to these types of ammunition. These results are somewhat surprising. Consequently, it is necessary to also compare the running gear. Advanced technology has enabled the production of tires that ensure sufficient mobility even after an impact, allowing wheeled armored vehicles to continue moving over long distances to ensure their safety, while tracked vehicles are instantly rendered immobile.

The final technical aspect to consider is the noise level in the interior and exterior of the vehicle. Wheeled armored vehicles are clearly superior, while tracked vehicles are 20–30% noisier in the cabin. Since neither vehicle offers any compelling advantages, beside the fact that wheeled armored vehicles are quieter, one cannot claim technological superiority for either. Taking all this into account, we will now compare cost prices, an area in which light wheeled armored vehicles offer an absolute advantage.

The cost of technology has become one of the most important factors in choosing a particular type of weapon. The current trend toward lower costs, both in the short term (research, development, and procurement) and in the long term (operating expenses related to reliability, availability, and maintenance), calls for a cost-effective weapon system. Low research and development costs may create a huge advantage for wheeled armored vehicles if used effectively.

One area where wheeled armored vehicles excel is in terms of operating and maintenance costs. The average maintenance cost per kilometer is three times higher for tracked vehicles. Wheeled armored vehicles can operate for twice as long as tracked ones before requiring major servicing. Tests have shown that tracked vehicles require twice as much maintenance, can only be used half as much as wheeled vehicles between repairs, and have 16% lower operational readiness.

From a logistical standpoint, recent military conflicts (particularly the Gulf War) have raised significant questions about the future of tanks. As a result, massive stockpiles of various types of ammunition and spare parts had to be transported for all categories of tanks involved; the issue of standardization has particularly affected logistical support.

Designers have been focusing on the issue of weight for several years; on the one hand, the need to increase protection through armor has led to an increase in the tank's weight, while on the other hand, the need for



mobility has caused its weight to decrease. Although reducing the weight of tanks has been a priority in recent years, new armor-penetration systems do not allow for this. Recent studies of the Gulf War have highlighted that maximum firepower is paramount. This conclusion has trapped those modernising armoured vehicles in a vicious cycle: light armoured vehicles for faster movement or heavy tracked vehicles for optimal protection and maximum firepower on the battlefield. In other words, the issue of mobility arises in contrast to the long-standing armoured-versus-anti-armoured dynamics. We consider this issue of mobility to be a new one, since body armor is essentially a modern version of medieval armor. How will this problem be solved? The answer seems to lie in the so-called unconventional technologies, which will break the armored-anti-armored vicious cycle. A document presented by Colonel Jeremy Taylor of the UK Ministry of Defense states that: *The unique characteristics of tanks – their firepower, durability in harsh conditions, agility, and ability to seize and maintain key positions on the battlefield – can turn the tide of battle, if not the war itself... and it is advisable to hone these qualities from time to time...*⁴.

The caliber of the tank's gun has increased to the one used nowadays, of 120mm. With a view to standardizing calibers and ensuring greater projectile effectiveness, NATO is expected to transition to the 140mm caliber. It is almost certain that the new generation of tanks will use solid-fuel projectiles, albeit larger in size. The implications for the turret are that the automatic loader will require more space than current designs. Furthermore, the larger the turret, the thicker the armor protecting the crew will need to be, and more armor means more weight, thus perpetuating the vicious cycle. Research in this field is ongoing, and efforts are being made to develop exotic projectile designs and alternative propulsion systems; however, such developments may not be ready until the current tank fleet has been replaced. Currently, two technologies are being pursued: liquid-propelled projectiles and electrolytic propulsion.

Liquid propulsion relies on the use of one or two chemicals contained within the projectile's casing. Research in Europe and the U.S. is focused on the use of monoergol (a single chemical) as well as diergol (two chemicals) for artillery and tank guns.

⁴ Chris Jenkins, *M.B.TTs. for the 2000-s Electric Lighter?*, *Armour*, February, 1991, p. 19.



Research has shown that diergol offers several advantages, including space savings, greater efficiency, and enhanced safety for crew members. For now, liquid propulsion technology is in its early stages and is not suitable for the new generation of tanks. Opinions also suggest that this technology is more suitable for artillery guns than for tank guns.

At the same time, electrothermal and magnetic guns are being tested, with the main challenge being the provision of sufficient electrical power. This system grants the projectile a higher initial velocity and a longer range, but the experiments required large battery banks and a constant current source.

Given the progress being made today, it will not be long before these technologies are put to use. Experts predict this will happen within the first two decades of the next century. Such a gun will develop an initial velocity of approximately 3,000 m/s. Projectile development continues, albeit under austere conditions. The purpose of these projectiles is to penetrate the most sophisticated armor, such as reactively-armored plates, which have now become standard on main battle tanks.

Automatic loading for tank guns is currently under study and has already been refined over the past few years (the Russians have equipped their T-64, T-72, and T-80 tanks with this system). The idea did not catch on in the West due to conservative attitudes and the view that there is no real need for an automatic loading system, which has certain drawbacks. The introduction of the 140 mm caliber will result in the mounting of automatic loading systems on tanks, with the projectile consisting of two parts that will be coupled before firing.

The *mobility and agility* that enable tanks to move quickly across the terrain during maneuvers, their speed, and, in particular, their ability to pass over any type of obstacle, are integral parts of their protection. New, smaller, and more powerful engines are being developed for the new, smaller tanks. The larger gun will require a stable platform, nearly the same size as today's tanks; more room will be needed to carry a larger number of rounds.

I would like to point out that speed is not necessarily the same as agility (the ability to drive across different types of terrain). Obviously, one leads to the other, but agility also depends on weight, the type of transmission, and the type of suspension.



A major breakthrough in the field of engines is the use of electric power. Manufacturers envision an electrically powered tank for the future, one that is much lighter than those of the current generation. The use of electricity may also provide a solution for electromagnetic and thermal guns, which have been the subject of feasibility studies. The benefits of electric propulsion include: greater flexibility in interior layout, since mechanical transmission systems will no longer be required; flexibility in a wide range of components and the ability to generate and store electricity; the vehicle's efficiency will be higher because power will be transmitted directly to the tracks, without passing through the gearbox and the conventional drivetrain.

The protection of armored vehicles is provided by various specialized materials: steel, composite materials, or reactive ones. Protection can be achieved by adding plates or other components to the armor, designed to detonate upon impact with a projectile, thereby reducing the turret's vulnerability. Recent developments include reactive armor (explosive plates mounted on the main armor), designed to detonate outward, neutralizing the projectile's impact and, at an optimal angle, increasing the thickness of the armor at the point of impact.

Heavy armor will play a secondary role in the future. It is more important for tanks to avoid being spotted and hit; in this regard, mobility and agility play a key role. For the same purpose, it is necessary to reduce or eliminate visual and thermal detection signatures.

The risk of being hit underscores the importance of a low profile as a key factor in ensuring a tank's survival. Future tanks will be protected by a so-called active system, which includes laser-based detectors linked to smoke grenade fuses; when the tank is targeted by laser, a smoke screen is triggered, making it impossible to hit.

If – as it is almost certain – automatic loading devices are to be used, the crew will be reduced to a maximum of three members.

For a single vehicle, there will be no difficulties; significant problems arise at higher levels of command, where there will be too many missions for the crew members.

A number of technologies are already being studied with a view to being incorporated into the design of the future tank. More broadly, these



technologies stem from other fields of research, such as aerospace; most of them are designed for a crew of two or three members.

This reflects technological progress; for example, in aviation, a modern bomber weighs about three times less than one built 20 years ago and can carry roughly the same amount of payload (the bombs and missiles it carries are eight times more effective than those of the past).

The tank of the future will be fully electronic, particularly in terms of targeting, firing, and radar surveillance.

Since there are still some who believe that the tank's days as the primary weapon are over, we believe that current research shows that this is hardly the case.

The next generation of tanks will almost certainly feature a host of new innovations, incorporating all the capabilities already mentioned; even before the new generation of tanks is introduced, some of these capabilities will already be in use.

Armored vehicles will remain the most important component of the armed forces. Their destructive power, combined with an improved targeting system, requires forces to be dispersed; some military theorists view this as a specific form of battlefield mobility. Armored units must be capable of operating over long distances and using the information provided by targeting systems to conduct battlefield reconnaissance, identify the enemy's main forces, and uncover their actual lines of communication. These areas become the primary targets for attack. Each Army Corps requires at least one independent Tank Brigade (Mechanized) to repel the enemy's advancing elements, maintain contact with the enemy's main forces, and influence the pace and direction of movement of the maneuver forces, thereby increasing their chances of success in the operation (battle). At the same time, independent tank brigades (mechanized) must be prepared to cover the flanks of the army corps' main forces. These requirements call for a flexible, destructive brigade that combines tanks (medium or light), armored fighting vehicles, light reconnaissance vehicles, and fighter-bomber aircraft into a powerful combined-arms force. The Tank Brigade (Mechanized) must have the capacity to defend or attack in accordance with the requirement of the principle of economy of force.



Research conducted by military experts has shown that a brigade commander needs reconnaissance units to serve as *his eyes and ears*⁵.

Their specialized equipment must include a variety of sensors and optical devices, enabling the reconnaissance personnel using them to carry out their mission without being detected themselves. Conducting effective reconnaissance provides a wide range of information for the brigade command, facilitates the maneuvering of its forces, and ensures the synchronization of combat power within its formation.

The conclusion that emerges is that the nature of future battlefields will depend largely on the reconnaissance capabilities of armored vehicles. The race is ongoing, in the sense that the equipment these people need must continue to be developed, along with the tactics, techniques, and procedures that enable maximum effectiveness. In addition, steps must be taken to improve the training of commanders, who will inspire their own forces with the boldness, strength, and decisiveness that characterize tank and mechanized units.

What does the future hold? That is the question many experts are asking. We have reasons to believe that the future of armored vehicles is particularly interesting; there are uncertainties about the transition to a smaller force, and questions regarding the extent of this reduction and how quickly it will take place. To be effective, armed forces must be efficient, modern, well-trained, led by exceptional commanders, and equipped with financial resources commensurate with their requirements; this also means a balance between armored forces, tank units, and other types of weaponry. Commanders must understand that the army exists to be permanently ready for battle and that it has two branches whose mission is to annihilate the enemy. One operates on the ground and the other with airborne troops; together, when supported by other types of forces, they constitute an unbeatable combination.

All the lessons history has taught us certainly lead us to the conclusion that the role of armored forces cannot be overlooked or downplayed; we need armored units. We must be able to deploy them at the right time and in the right place if we wish to achieve victory with minimal

⁵ Mc. Thomas C. Foley, *Muting Anaored challenges*; The Canaly, Armor, July-August 1990. p. 5.



losses. Armored forces have demonstrated mobility in all weather conditions and on all types of terrain, as well as significant firepower and fire protection on the battlefield. As a core component of land forces, tanks have often been the primary force capable of delivering rapid strikes and exploiting the enemy's vulnerabilities. This is the primary purpose of armored vehicles, and that is why it is important for tanks to be part of any force structure. However, armored units also fulfill other roles that cannot be performed by other categories of armed forces: at all levels, armored units have commanders who gather key intelligence on the enemy, terrain, and obstacles, both through reconnaissance and combat; they are capable of locating the enemy's main forces in the early stages of combat and detecting both the enemy's reconnaissance and combat forces; the firepower and shock force of the heavy armament on tanks are essential to the success of the infantry in many situations. The situation in which own tanks can outperform enemy tanks as well as other enemy combat assets represents a capability that the infantry does not possess, since it cannot, on its own, close in on the enemy and defeat it (in the case of motorized infantry brigades that do not have tanks).

An important task is to ensure that tanks are assigned to forces seeking a decisive victory with minimal losses, for which there are several options: increasing transport capacity, which allows tanks to be deployed to areas where they must secure victory; increasing the efficiency of tank formations by introducing new techniques, particularly regarding the integration of tanks into a combined force; the key element of armored forces will continue to be the crew members on board.

In order to better understand how the army will carry out its missions, we would like to highlight its vision for the future and the role of armored units within that vision, given our plans to reorganize our forces for the 21st century. Since the mission of the army has not changed, armored vehicles will continue to provide commanders with the mobility and firepower necessary to achieve a swift and decisive victory. Armored vehicles remain a priority for the modern battlefield, and their operational capabilities pose challenges to the enemy that could work to our advantage. Here are some initiatives for the armored vehicles of the future:



a. Armored vehicles will remain highly mobile, and tank units will be able to use their mobility to observe, disrupt, mislead, and defeat the enemy.

b. Armored vehicles must be fast, capable of acting more quickly than the enemy can react, and able to withstand the intense fire of modern warfare.

c. Commanders and soldiers in armored units must be prepared for a variety of missions, ranging from those requiring only a small number of armored vehicles to large-scale armored conflicts.

d. Tank units, regardless of the mission assigned to them, must be powerful enough to crush enemy resistance, withstand the brutal conditions of tank-to-tank combat, and dominate the battlefield, no matter how strong the enemy forces may be. To achieve this destructive capability, technological and tactical characteristics must be combined with technical expertise. Then, mobility, firepower, and striking power – the essence of tank forces – must be integrated with the other elements of the armed forces in combat.

e. Commands must be capable of deploying armoured units within powerful and operational formations, while continuing to maintain the high mobility of current armoured forces, in order to enable the decisive conduct of ground combat wherever it is needed, in a timely manner. Operational mobility must be developed by increasing destructive capability, survivability in various circumstances, and mobile systems that enable rapid movement.

f. In order to produce armored vehicles that combine the operational and tactical mobility required to project effective power with the penetration and destruction capabilities (essential for achieving victory on 21st-century battlefields), it will be necessary to implement innovative solutions that make the most of emerging technologies; in the near future, the necessary requirements will be met by equipping tanks with guns that utilize advanced technologies, capable of also providing anti-aircraft defense.

The armored forces of the future will possess the characteristics described above only if certain requirements are met; in this era of change, these requirements will ensure that objectives are achieved and that the approaches used to capitalize on their potential are consistently applied.



a) The first requirement concerns the development of a versatile, proactive doctrine for armored forces, which should become a guiding principle in conducting operations on the battlefield. Armored formations, as key elements of modern warfare, must serve as the starting point for the development of maneuver doctrine. As doctrine evolves to meet the demands of future battlefields, the requirement for armoured commanders is to ensure the unique and rapid characteristics of the forces involved, which are integrated into the overall operation (combat).

b) The second requirement is to maintain, within armored units, an optimal mix of forces – a combination of active and reserve elements, as well as forward forces, forces in position, and reinforcement forces. Since potential enemies possess significant armored forces, it is necessary to maintain the high level of our own armored forces, as these alone can provide the credibility needed to deter potential conflicts. The integration of all military capabilities – heavy and light, active and reserve – will result in an army capable of dominating any battlefield against any enemy.

c) The next requirement concerns prioritising the modernisation of armoured units and of the helicopters that support them.

d) Modern equipment is of little use in the hands of poorly trained soldiers. That is why the fourth imperative for strengthening armored units is rigorous, realistic training that meets high standards – the kind of training that will set the benchmark for the entire army.

e) The quality of training also depends on the quality of commanders and soldiers. Thus, the fifth imperative is to continue developing the capabilities of tank units at all levels. Commanders with initiative are not made overnight; they are the result of a career dedicated to study and training. The ability to operate armored vehicles has often been the key to launching the military careers of leaders of proven worth. This factor calls for continued efforts to train officers who are specialists in this branch of the military, thereby ensuring the enduring spirit of initiative, courage, and tenacity.

f) Last but not least, it is essential to maintain the quality of armored units. Quality is the cornerstone of this branch of the military and is indeed essential for maintaining a robust defense capability, since, ultimately, it is the caliber of combat troops that determines the fate of a nation.



As a result of the reorganisation of the army, armoured units – like all the other branches – will be reduced in number over the next decade, but this will not diminish their importance. If we wish to maintain armored units at the level required of the army in the future, we will need commanders who are dedicated to their profession and possess a visionary outlook – commanders capable of assigning armored units the same decisive role on the battlefield and knowledgeable about integrating tanks into combined-arms operations. True professionals must be devoted to the military profession, willing to work under difficult conditions, in isolated posts, on missions that demand every ounce of their strength.

The supremacy of tanks – and, by extension, of armored units – was not achieved without difficulty. From the very beginning, they faced a range of weapons, from armor-piercing bullets and artillery shells to mines, all capable to destroy them. Furthermore, as soon as new models of anti-tank weapons were introduced, tanks were repeatedly declared a thing of the past. In practice, tanks were never invulnerable, and the periodic claims that they were being phased out were always mistaken, as these claims were based on a flawed perception of the tank. To be fair, we must acknowledge that armor makes tanks immune to many types of weapons and that special or particularly powerful weapons are required to destroy them, which is why they have a high survivability on the battlefield.

Although tanks have always been vulnerable to destruction, they have nevertheless been highly effective and continue to be so to this day, for two important reasons.

The first is that the ratio between the threats they need to face – in terms of anti-tank weapons and other types of threats – and their survivability has not changed substantially over the years. Notably, the ratio between the threat level and the armor protection on the front of tanks has remained exactly the same as before. Therefore, even though the threat level has increased considerably, the survivability of tanks, relative to the threatening forces, has not deteriorated to the point where they cannot fulfill their role.

The second important reason for continuing to make effective use of armored units is that no weapon system, apart from the tank, is capable of performing the role played by tanks and armored units in general. There is virtually no other weapon system that combines firepower with mobility and



protection against chemical, biological, and radiological threats like the tank, and that can operate in all weather conditions, day and night, for extended periods. For this reason, tanks and armored units, comprising tanks, provide a unique combination of assault capability and defensive strength in fixed positions, making them the most effective weapons of the land forces.

It is therefore not surprising that armored units were decisive in the outcome of battles and even entire campaigns during World War II. The same was true during the Arab-Israeli wars. In recent years, there have been two revolutionary developments regarding tanks and armored units.

The first of these was tactical in nature. It involved the introduction, in the 1960s, of guided anti-tank missiles. Until then, the main anti-tank armament consisted of cannons, which tanks could counter on their own, as it was possible to detect the characteristic trajectory of a high-pressure firearm. Guided anti-tank missiles are more difficult for tanks to counter, as it is hard to detect the location of their launchers and the missile's trajectory. Consequently, tanks must rely more heavily on cooperation with other branches of the military to counter new anti-tank weapons, which further underscores the importance of deploying them in integrated formations or for independent operations.

The second revolutionary achievement was of an operational nature, consisting in the introduction of helicopter-mounted missiles. As a result, for the first time in history, anti-tank weapons became more mobile than tank units. Consequently, it became more difficult to deploy and maneuver armored units than anti-tank forces.

The upside of introducing helicopter-mounted missiles is that tanks were relieved of certain defensive missions, but this created a need for armored units to defend themselves against helicopters, particularly during offensive operations (battles).

Further revolutionary developments are expected in the future. Currently, tanks must withstand attacks from all directions, including those coming from above, which significantly reduce their chances of survival on the battlefield. To counter these threats, a system of omnidirectional tank protection is currently being developed. Consequently, tanks will no longer be heavily armored only on the front, but on all sides, both horizontally and



vertically. The implementation of this type of protection will decisively tip the balance in favor of tanks in the fight against modern anti-tank threats.

Another shift in favor of armored units is expected to result from the development of more effective anti-aircraft systems (we recall that aircraft revolutionized the art of war by making it possible to wage war at the strategic level, through the combination of firepower and mobility).

Until their emergence, the combination of firepower and mobility existed only at the tactical level. In the past, whenever the enemy held air superiority, armored formations were deprived of strategic and operational freedom of movement. Under these conditions, armored formations could not apply strategic mobility or execute large-scale maneuvers, which greatly reduced their effectiveness. In the future, these constraints will be reduced by the introduction of more effective air defense systems, which will significantly diminish the threat posed by air forces to armored troops.

There will also be a change in terms of how tanks are fundamentally designed. The old concepts of light, medium, and heavy tanks have already been replaced by the concept of the main battle tank, which is also set to be replaced by the new concept involving three categories of tanks: tanks with tactical mobility, tanks with operational mobility, and even tanks with strategic mobility.

The first of the three categories will be characterized by heavy armor protection, which will allow it to easily withstand attacks by heavy weapons. The second and third categories will be light enough to be air-transportable, but will nevertheless need to provide a high level of ballistic protection. This can only be achieved through the use of composite armor, which will make it possible to adjust the weight – and thus the level of protection – of tanks with operational or strategic mobility, depending on the situation.

All these changes will enable the armored forces to continue to meet the requirements set out in the principles of warfare, which include offensive operations, surprise, and the concentration of forces. In practice, they will remain the primary instrument for implementing the principles of land warfare and, as a result, will retain their position as the backbone of the land forces.

Placing armored vehicles – and tanks in particular – at the center of arms reduction treaties highlights, as clearly as can be, the increasingly



important role they play in the military operations of the land forces. Although attempts are being made, through various means and for various reasons, to diminish their importance, judged from a distance and without assuming any specific intent regarding the value of tanks, in the absence of other means capable of such performance, they will be, from the perspective of both manufacturers and tacticians, the focus of a process aimed at: enhancing the capabilities for observation, fragmentation, and deception of the enemy; and ensuring resilience in the increasingly treacherous conditions of the modern battlefield.

We consider that, specifically in defensive warfare, the destructive capability of this means of combat can only be realized through the interplay of technology, tactics, and technical performance – an integral part of the system comprising the other arms and branches of the land forces – to whose functionality it contributes mobility, firepower, and striking power, requiring, in return, immediate protection. Tactical mobility, through the new structures under consideration, with direct effects on the tanks' destructive capacity and survivability, creates the conditions for covering the entire territory at the strategic level through skillful and rapid maneuvers.

The tank is the main weapon system of the land forces, designed to close in on the enemy, break through their defenses, and capitalize on the ensuing success. It remains the primary antitank weapon system in our arsenal.

Undoubtedly, the effectiveness of armored vehicles will continue to be maximized in the future only through a flexible, eminently offensive doctrinal approach, particularly at the tactical and operational levels. In the forthcoming structures of the combatants in future conflicts – envisioned by military strategists as a combination of heavy, light, and special forces, a framework of active and reserve elements – armored vehicles remain at the core of the overall concept governing the conduct of land operations.

Recent military developments point to a completely new perspective on the scope of armored vehicle protection. A constant analysis of this issue – without any intention of diminishing the role of other arms or branches – indicates that helicopters are a priority when it comes to ensuring the security of tanks. Through a virtually perfect combination of three characteristics – the destructive power of its armament, mobility, and the



ability to protect against enemy fire – the tank demonstrates independently its tactical and operational value. The only mark of uncertainty lies in the art and science of their use, which, with a view to achieving maximum efficiency, naturally entails: the integration of tactics, techniques, and procedures; rapid adaptation of combat systems to the given situation; and the quality of communications equipment.

As we stride confidently through our lives as tankers, constantly balancing fear with joy, we will know, at the right moment, how to remain a constant surprise to any potential aggressor, all while maintaining a strange sense of calm.

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THE IMPACT OF THE RUSSIAN-UKRAINIAN WAR ON THE ENVIRONMENT

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Abstract: *The destructive consequences of the Russian-Ukrainian war on the environment. Water pollution, CO2 emissions, destruction of forests, land and biodiversity.*

Keywords: *Russian-Ukrainian war, environment, destructive effects.*

It goes without saying that, in a war, the greatest losses of all are human lives, on both the military and civilian sides. Throughout history, countless wars have claimed a staggering number of lives. Unfortunately, the current debate worldwide focuses more on war than on peace.

However, the devastating effects on the environment should not be overlooked, as they negatively impact people's lives over time, resulting in illness and, even death in some cases.

The war in Ukraine, which began in February 2022, has had and continues to have devastating consequences not only for the population and the economy, but also for the environment. The destruction caused by military actions, the pollution generated by the use of weapons, and the disruption of ecosystems have created an ecological crisis with long-term implications.

In this article, we will discuss the devastating impact of the Russian-Ukrainian war on the environment.

“The environment, sometimes referred to as **the surrounding environment, ambient environment, or natural environment**, is a concept that refers to the totality of natural conditions on Earth or in a region thereof, within which living beings or objects exist. These conditions include the atmosphere, temperature, light, relief, water, soil, etc., as well as other living beings and objects. The environment plays a very important role in the



process of evolution of living beings, which, in turn, are a factor in the transformation of the environment”.¹

February 24, 2025, marked three years since the war in Ukraine began. Over the course of these three years, people, families, and nations have been lost, while the environment has also been devastated. The catastrophic effects are staggering and show no signs of abating. Recent research, studies, and analyses in this field reveal a grim reality.

The Russia-Ukraine war has caused massive damage to the environment, according to a report cited by Euronews². According to the report, Russia’s invasion has generated nearly 230 million metric tons of CO₂ equivalents over the past three years – an amount equivalent to the combined annual emissions of Austria, Hungary, the Czech Republic, and Slovakia. Over the past 12 months, there has been a 31% increase in emissions generated by the conflict. Forest fires have contributed significantly to this increase. The amount of land burned in Ukraine has doubled in comparison to the average over the past two years, reaching 92,100 hectares. In addition, the massive destruction of ecosystems and the release of carbon due to forest fires and bombings have significantly contributed to global climate change. Emissions associated with the use of missiles, artillery ammunition, tanks, and fighter jets have not been properly accounted for in total emissions, further exacerbating the climate crisis. Fires and destruction that have released large amounts of CO₂ largely contribute to global warming, prompting humankind to constantly explore alternative solutions involving peaceful activities.

Blasts from both sides, gunfire, crashing drones, landmine explosions, and soldiers lighting campfires are all to blame for the fires. Dry weather and heat waves have created conditions conducive to massive wildfires, which are difficult to control due to military operations.

Hostilities represent the main source of emissions. Combat vehicles, such as tanks and aircraft, consume large amounts of fossil fuels. Attacks on energy infrastructure have led to a 16% increase in emissions during this period in Ukraine, as well as in Russia. Environmental damage knows no

¹Athanase Joja și colab. *Dicționar Enciclopedic Român*, București: Editura Politică, 1962-1966.

² Three years of war in Ukraine: ‘Environmental damage knows no borders’ as emissions rise to new high | Euronews



borders, and the war is exacerbating the climate crisis that the whole world is facing today.

According to some sources, the estimated cost of climate-related damage caused by Russia during the first three years of war only amounts to over \$42 billion. In the aforementioned report, the figure was calculated using a “social cost of carbon” of \$185 per ton of CO₂ equivalent.

This report points out the close link between the conflict and climate change, emphasizing the urgent need to address both issues simultaneously. It is apparent that the impact of the war on the environment extends beyond Ukraine’s borders, affecting Europe and indeed the entire planet.

The impact of armed conflicts on pollution is difficult to quantify, primarily due to a minimum of three factors: the belligerents’ lack of interest in environmental damage, the limited availability of data during military operations, and the omission of the military’s significant carbon footprint from global greenhouse gas emissions calculations. The environmental consequences of the war in Ukraine have left a destructive mark at various levels, affecting not only society and the economy but also devastating ecosystems. From aquatic ecosystems to endangered species, there are several areas of the natural environment that have been severely affected. Pollution in the Black Sea has reached very high levels due to military activities, primarily through fuel spills from damaged or sunken ships. Rivers have also been affected by oil and chemical spills resulting from attacks on industrial facilities.

The Conflict and Environment Observatory (CEOBS) conducted an assessment marking two years since the Russian invasion. CEOBS identified five categories of environmental damage caused by the conflict, namely water pollution, destruction of ecosystems, damage to agricultural infrastructure, forest fires, and the emission of pollutants.

Among the most significant environmental incidents was the one that occurred at the Azovstal steel plant in Mariupol, where bombing destroyed the facility’s power supply and contaminated its water storage systems. Drinking water systems were also affected, resulting in a large-scale environmental disaster.

Another disaster came in the form of militarization of nuclear power plants, as in the case of the Zaporizhzhia plant, which is one of the largest in Europe. Due to military actions, nuclear power plants now pose a risk of



nuclear disaster, together with the inadequate management of nuclear waste, which has led to the pollution of air, water, and soil. Heavy metals and other hazardous pollutants have been released, causing devastating long-term effects on ecosystems. The disaster also affected critical infrastructure, such as this power plant, which relied on water from the dam for cooling. The release of over two million cubic meters of industrial waste was a clear example of how armed conflicts can cause long-term ecological damage.

The large quantities of ammunition used by both sides, along with landmines, have led to the destruction of agriculture, which has suffered the loss of vast tracts of arable land, undermining food security across much of Ukraine and further exacerbating the country's economic and environmental crisis.

A report by EcoAction, a Ukrainian environmental monitoring organization, recorded more than 1,549 cases of environmental damage in various regions of the country as of December 2023, particularly in areas such as Kharkiv, Dnipro, Mykolaiv, and Kherson. Much of this damage occurred in areas near the front lines, where shelling not only destroyed infrastructure but also caused numerous forest fires.

Forest fires lead to an increase in carbon emissions into the atmosphere, exacerbating the global climate crisis. The Geneva Conventions prohibit attacks that harm the environment, and the war in Ukraine has shown that the effects of conflict can be long-term. Article 35 of Protocol I explicitly prohibits the use of actions or weapons that cause lasting damage to the environment, a provision that has been repeatedly violated in the Russian-Ukrainian conflict.

The destruction of the Nova Kakhovka Dam in June 2023 was one of the worst environmental disasters of the conflict. The release of 18 cubic kilometers of contaminated water flooded over 120 square kilometers of forest in the Kherson region, releasing toxic substances, pesticides, and heavy metals that further damaged the area's ecosystems. The collapse of the Nova Kakhovka dam also compromised the drinking water supply in areas such as Krivoi Rog, where an estimated 80% of the water supply was rendered unusable. This had a serious impact on the local population, leaving thousands of people without access to clean drinking water. The Nova Kakhovka dam, destroyed in June 2023, caused massive flooding, with the



risk of radioactive contamination due to its proximity to the Zaporizhzhia nuclear power plant.

Following the destruction of the Nova Kakhovka Dam, the United Nations Environment Programme (UNEP) identified 54 areas with severe contamination in Ukraine. A significant number of these areas were contaminated with industrial waste, oil pollutants, and pesticides that had come into contact with surrounding ecosystems, meaning that the rehabilitation of these environments will take a very long time to complete.

The conflict in Ukraine has not merely caused social and economic devastation, but has also left an environmental footprint that will persist for years to come. The need to incorporate consideration of environmental impact into international agreements for the country's reconstruction is essential to ensuring a safer and more sustainable future. Meanwhile, the militarization of infrastructure and rising carbon emissions only underscore the urgency of addressing the environmental impact of armed conflicts, both in Ukraine and elsewhere in the world.

The nuclear threat was and remains real, given that the Zaporizhzhia Nuclear Power Plant – the largest in Europe – has been at the center of the fighting, creating the risk of an accident similar to the one at Chernobyl (1986). Radioactive waste storage facilities were exposed to the risk of detonation, which could have led to the contamination of vast areas not only in Ukraine but also throughout Europe.

The recent Russian strikes on the cities of Sumy and Odessa, as well as on Ukrainian cities in the Kursk region, show that the serious environmental consequences have been underestimated.

The impact on biodiversity is almost unimaginable. Forests and nature reserves have suffered greatly as a result of fighting and deforestation for military purposes. Wild animals were disturbed by the noise of explosions and troop movements, pushing some species toward local extinction.

Although there is still no indication of when this terrible war might end, it is clear that efforts will shift toward rebuilding infrastructure and addressing the environmental impacts, regardless of the final geographical configuration. These efforts will take much longer than the years of war and will likely entail some unintended side effects. For example, clearing minefields and unexploded ordnance will cause further environmental degradation.



These few observations show, if proof were needed, that a war is undesirable, generally speaking, not only because of the loss of life, but also because of the serious damage it causes to the environment, which ultimately affects people's quality of life.

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AUTONOMOUS WEAPONS IN THE WAR OF THE FUTURE

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Abstract: *Autonomous weapons represent a major technological breakthrough with significant implications for global security and stability. These technological innovations, with their unprecedented and positive developments, have not only emerged to make people's lives easier but have ushered in new risks and threats.*

Advances in the defense industry have enabled the arms industry to apply technological innovations to new weapons systems. In this context, autonomous weapon systems have become one of the key armament policies of many states.

The inherent vulnerabilities of these systems, generated by their dependence on computer networks and complex algorithms, require the implementation of rigorous cybersecurity measures.

At the same time, it is imperative to develop and adopt international regulatory frameworks governing the development, use, and security of autonomous weapons, in order to prevent the risks associated with their uncontrolled or abusive use. Thus, responsibility and accountability in the management of these technologies become fundamental to ensuring a stable and secure international order.

Keywords: *Autonomous weapons; programmed algorithms, cyber protection; target profile; international rules.*

INTRODUCTION

In recent decades, advances in artificial intelligence, robotics, and military technology have led to the emergence of a new category of military weapons: autonomous and/or unmanned (unsupervised) weapons. These systems are capable of operating with a high degree of independence from direct human control, meaning they can detect, select, and attack targets without a human operator being involved in every stage of the decision-making process. Examples include fully automated attack drones, robotic turrets, and missile defense systems that react in fractions of a second.

It is rightly assumed that Autonomous Weapon Systems (AWS) have the potential to reshape the future of warfare. These systems, capable



of performing tasks with minimal or no human intervention, raise significant questions regarding their ethical, legal, and strategic implications.

The introduction of AWS into modern military arsenals represents a paradigm shift which challenges traditional frameworks for arms control and human oversight.

Who bears responsibility if an autonomous weapon commits a serious error or violates international humanitarian law? How can control over these systems be ensured during a conflict, especially if they are used by non-state actors or authoritarian regimes?

Furthermore, the development and use of these weapons mark a new chapter in the arms race, raising concerns about the destabilization of global security and the emergence of conflicts that are increasingly difficult to control. International discussions on regulating or banning autonomous weapons are ongoing, but a consensus is still far from being reached.

In this context, the issue of unmanned and/or autonomous weapons is not merely a technological problem, but a profoundly human and political one. Careful consideration of their long-term implications is essential before these technologies become an integral part of modern warfare.

We believe that, as this is a relatively new issue in military science, it deserves conceptual clarification before developing and analysing the challenges posed by the implementation of AWS and initiating scientific debates on the future of unmanned and/or autonomous warfare, and also on the regulatory measures that may be necessary to ensure accountability and the responsible use of these powerful technologies.

By conducting this analysis, we will assess the current state of AWS development, identify the challenges and risks associated with their implementation, and discuss the implications of eliminating human oversight in lethal operations. The ultimate goal is to ensure that, as AWS technology evolves, the process is approached with careful consideration of potential consequences and a focus on maintaining human accountability and control over critical military decisions.

1. AUTONOMOUS WEAPONS - CONCEPTS AND APPROACHES

The nature and outcomes of battlefield operations have been significantly shaped and influenced by the extraordinary technological



advancements (both civilian and, especially, military) that have occurred throughout history.

Tracing the analysis from the invention and use of the bow and arrow to the development of nuclear weapons, it is clear that each innovation came with new ethical dilemmas and challenges.

The emergence of autonomous weapon systems represents a unique achievement for humanity, one that carries an exceptionally high moral responsibility. The benefits of technological advancements, which are designed to make people's lives easier, have been overshadowed by the fact that they have brought new risks and threats to societal security in the current European geopolitical context.

Developments in the defense industry have primarily prompted the military hardware industry to apply technological innovations to new generations of weapons. Consequently, autonomous weapon systems have become, in this context, one of the main focuses of the armament policies of nations seeking maximum efficiency¹ and these artificial intelligence-based technologies have begun to be used in many defense industry products, including unmanned aerial vehicles².

Thus, Robert O. Work – an American military strategist with an impressive career in defense and national security policy – has written a report stating that the first mass-produced American weapon system with autonomous engagement capabilities was developed during World War II: the acoustic-guided torpedo³. His views and analyses on autonomous

¹ Güneysu, G. (2023), *Yeni Silahların Tabi Tutulması Gereken Hukukilik Denetimi ve Otonom Silah Sistemleri*. (In English: The Legal Review of Weapons and the Autonomous Weapon Systems), *Düşünce Dünyasında Türkiz*, 14 (64), pp. 81–105; <https://doi.org/10.59281/turkiz.1258725>, accessed on 15 January 2025; Wagner, M. (2014), *The dehumanization of international humanitarian law: Legal, Ethical, and Political Implications of Autonomous Weapon Systems*, 47 (5), pp. 1371–1424; Zurek, T., Kwik, J., & van Engers, T. (2023), *Model of a military autonomous device following International Humanitarian Law*. *Ethics and Information Technology*, 25 (1), p. 15; <https://doi.org/10.1007/s10676-023-09682-1>, accessed on 22 January 2025.

² Singh, A., Gupta, S. S., & Jain, M. M. (2022), *Adaptation of modern technologies and challenges in the defense sectors*, *Res Militaris*, 12(2), Article 2.

³ Work, R. O. (2021), *A short history of weapon systems with autonomous functionalities* (Principles for the Combat Employment of Weapon Systems with Autonomous Functionalities, pp. 5–7). Center for a New American Security; <https://www.jstor.org/stable/resrep32146.4>, accessed on 20 January 2025.



systems are based not only on theory, but also on practical experience and strategic insight gained at the highest levels of the U.S. military leadership.

A different view is presented by the International Committee of the Red Cross (ICRC), which, unlike Work, states that mines are considered primitive autonomous weapons, and that the radar, which has limited use in the military, missiles used to destroy tanks or armored vehicles, and air defense systems are also considered preliminary tools.⁴

Even though the use of autonomous weapons or the automation of weapons systems began long before the present day, advances in electronic technology have enabled a remarkable leap forward in this field. Thus, the development of computers, the invention of new devices and systems, and the manufacture of more powerful processors have naturally enabled the integration of new systems into nearly all weapon systems, while technological advances in defense-related fields have naturally allowed these weapons to become autonomous over time.

Today's international agenda, preoccupied with this issue, and the debates surrounding it are numerous and on the rise.⁵

⁴ In fact, the international community prohibited anti-personnel mines in 1997, since their effects are difficult to control and the serious harm they inflict on civilians in many conflicts is well documented. Although previous studies have shown that humans work with autonomous weapons, it can be said that the early studies were largely about armed unmanned aerial vehicles controlled by people. ICRC (2022), *What you need to know about autonomous weapons* (Europe and Central Asia/United Kingdom); <https://www.icrc.org/en/document/what-you-need-know-about-autonomous-weapons>, accessed on 28 January 2025.

⁵ Asaro, P. (2012), *On banning autonomous weapon systems: Human rights, automation, and the dehumanization of lethal decision-making*. International Review of the Red Cross, 94(886), pp. 687–709; Asaro, P. (2020), *Autonomous weapons and the ethics of artificial intelligence*. In M. Liao (Ed.), *Ethics of artificial intelligence* (Vol. 212). Oxford University Press; Carpenter, R. C. (2011), *Vetting the advocacy agenda: Network centrality and the paradox of weapons norms*. International Organization, 65(1), pp. 69–102; Krishnan, A. (2016), *Killer robots: Legality and ethicality of autonomous weapons*, Routledge; Solovyeva, A., & Hynek, N. (2018), *Going beyond the "killer robots" debate: Six dilemmas autonomous weapon systems raise*, Central European Journal of International and Security Studies, 12(3); <https://www.cejiss.org/going-beyond-the-killer-robots-debate-six-dilemmas-autonomous-weapon-systems-raise-0>, accessed on 30 January 2025.



2. APPROACHES AND PERSPECTIVES

We believe that one of the most important strategies for addressing any issue involves clarifying concepts; while this may seem like a purely academic exercise, it is particularly important for future developments. With regard to autonomous weapons, issues arise concerning their definition. Although the international community does not have a generally accepted definition of autonomous weapon systems, it should be noted that there are, nevertheless, numerous definitions⁶.

Heather M. Roff⁷, a researcher and professor specializing in military ethics, international humanitarian law, and emerging technologies – particularly in the field of lethal autonomous weapons – defines autonomous weapons as those being capable of targeting and firing on their own, without human supervision or interaction, which comply with a preprogrammed set of constraints⁸.

John Lewis⁹ argues that regulatory oversight of fully autonomous weapons (FAWs) could be more effective than a total ban, given the complexity and potential impact of such a global prohibition. He proposes a framework based on the Amended Additional Protocol to the Geneva Conventions to guide the use of FAWs and ensure compliance with international humanitarian law (*Academia, Yale Law Journal*).

⁶ Christie, E. H., Ertan, A., AdoMaitis, L., & Klaus, M. (2023), *Regulating lethal autonomous weapon systems: Exploring the challenges of explainability and traceability*. *AI and Ethics*, 1–17; <https://doi.org/10.1007/s43681-023-00261-0>, accessed on 29 January 2025; Ekelhof, M. A. (2017), *Complications of a common language: Why it is so hard to talk about autonomous weapons*, *Journal of Conflict and Security Law*, 22(2), pp. 311–331; Geiss, R. (2015), *The international-law dimension of autonomous weapons systems*, Friedrich-Ebert-Stiftung, International Policy Analysis; <https://library.fes.de/pdf-files/id/ipa/11673.pdf>, accessed on 4 February 2025; Jensen, E. (2020), *Autonomy and precautions in the law of armed conflict*, *International Law Studies*, 96(1); <https://digital-commons.usnwc.edu/ils/vol96/iss1/19>, accessed on 4 February 2025.

⁷ In 2014, Heather M. Roff published the article “The Strategic Robot Problem: Lethal Autonomous Weapons in War” in the *Journal of Military Ethics*, 13(3), pp. 211–227, in which she explored the strategic and ethical implications of using autonomous weapons in armed conflicts. She has written numerous articles on topics related to robotic warfare and the regulation of autonomous weapons, (*The Free Library*); <https://doi.org/10.1080/15027570.2014.975010>, accessed on 7 February 2025.

⁸ Heather M. Roff, *op. cit.*

⁹ John Lewis is the author of the article „*The Case for Regulating Fully Autonomous Weapons*”, published in January 2015 in *Yale Law Journal*, pp. 1309–1325.



Lewis states that autonomous weapons can select and engage targets without further intervention by a human operator. In other words, autonomous weapons do not require human intervention – once activated, they can fire on their own¹⁰. According to Boogaard's work, autonomous weapons are those that identify and engage targets without the need for human interaction or control, using artificial intelligence algorithms and other cutting-edge technologies¹¹.

Another interesting perspective comes from the Autonomous Weapons website, which defines the term "Slaughterbots" – also known as "autonomous weapon systems" or "killer robots" – as weapon systems that use artificial intelligence (AI) to identify, select, and kill human targets without human intervention¹².

On a different note, the ICRC defines the term "autonomous weapon systems" as any weapons that select and apply force against targets without human intervention¹³. Finally, the Group of Governmental Experts on Autonomous Weapons, under the United Nations Office for Disarmament Affairs¹⁴(CCW/GGE.1/2023/CRP.1), defines autonomous weapons as follows: "*Autonomous weapon systems (AWS) are systems that, upon activation by a human user (or users), use sensor data processing to select and attack a target (or targets) with force, without human intervention*"¹⁵.

This is the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects.

¹⁰ John Lewis (2015) *op.cit.*

¹¹ Van den Boogaard, J. (2015), *Proportionality and autonomous weapons systems*. Journal of International Humanitarian Legal Studies, 6(2), pp. 247–283; <https://doi.org/10.1163/18781527-00602007>, accessed on 14 February 2025.

¹² Autonomous Weapons, (2021, October 20), *Slaughterbots are here. Autonomous Weapons Systems*; <https://autonomousweapons.org/>, accessed on 18 February 2025.

¹³ ICRC (2022), *What you need to know about autonomous weapons* (Europe and Central Asia/United Kingdom); <https://www.icrc.org/en/document/what-you-need-know-about-autonomous-weapons>, accessed on 28 January 2025.

¹⁴ *Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects*, CCW/GGE.1/2023/CRP.1, CCW/GGE.1/2023/CRP.1 (2023); [https://docslibrary.unoda.org/Convention_on_Certain_Conventional_Weapons-Group_of_Governmental_Expertson_Lethal_Autonomous_Weapons_Systems_\(2023\)/CCW_GGE1_2023_CRP.1_0.pdf](https://docslibrary.unoda.org/Convention_on_Certain_Conventional_Weapons-Group_of_Governmental_Expertson_Lethal_Autonomous_Weapons_Systems_(2023)/CCW_GGE1_2023_CRP.1_0.pdf), accessed on 20 February 2025.

¹⁵ *Ibidem*.



According to these definitions, **autonomous weapons are those designed to operate either entirely or partially without human assistance**, such as missile systems that can identify and strike targets on their own using artificial intelligence.

By conducting a comparative analysis of the definitions of the concept, we can see that they all have something in common. All definitions agree that artificial intelligence can locate and destroy targets without human interaction.

It is important to distinguish between full autonomy and semi-autonomy. In fully autonomous systems, all processes are carried out by autonomous systems, whereas in semi-autonomous systems, the human factor also plays a part¹⁶.

To put it more succinctly, **autonomous weapons rely exclusively on preprogrammed algorithms to make decisions**, whereas **military unmanned aerial vehicles use a human operator** to make remote decisions regarding targets¹⁷.

¹⁶ Endsley, M. R. (2017), *From here to autonomy: Lessons learned from human-automation research*, Human Factors: The Journal of the Human Factors and Ergonomics Society, 59(1), pp. 5–27; <https://doi.org/10.1177/0018720816681350>, accessed on 28 January 2025.; Feng, L., Wilsche, C., Humphrey, L., & Topcu, U. (2016), *Synthesis of human-in-the-loop control protocols for autonomous systems*. IEEE Transactions on Automation Science and Engineering, 13 (2), pp. 450–462; Gabrecht, K. M. (2016), *Human factors of semi-autonomous robots for urban search and rescue* [PhD Thesis, University of Nottingham]; <http://eprints.nottingham.ac.uk/35458>, accessed on 26 February 2025; Werkhoven, P., Kester, L., & Neerincx, M. (2018), *Telling autonomous systems what to do*, Proceedings of the 36th European Conference on Cognitive Ergonomics, pp. 1–8; <https://doi.org/10.1145/3232078.3232238>, accessed on 28 February 2025.

¹⁷ Abaimov, S., & Martellini, M. (2020), *Artificial intelligence in autonomous weapon systems*, in M. Martellini & R. Trapp (Eds.), 21st century prometheus (pp. 141–177). Springer International Publishing; https://doi.org/10.1007/978-3-030-28285-1_8, accessed on 14 January 2025; Konert, A., & Balcerzak, T. (2021), *Military autonomous drones (UAVs)—From fantasy to reality. Legal and ethical implications*, Transportation Research Procedia, pp. 59, 292–299; <https://doi.org/10.1016/j.trpro.2021.11.121>, accessed on 4 March 2025; Scharre, P. (2016), *Autonomous weapons and operational risk* [Ethical Autonomy Project pp. 41–48], Center for a New American Security Washington, DC; https://www.stopkillerrobots.org/wp-content/uploads/2021/09/CNAS_Autonomous-weaponsonoperational-risk.pdf, accessed on 6 March 2025.



3. AN EXAMPLE OF USE

A fairly recent example of the combined use of such weapons (drones) is **“Operation Spider’s Web”**.

Ukraine’s attack on Russia on June 1, 2025, is known as **“Operation Spiderweb”**. This operation was one of the boldest and most complex military actions carried out by Ukraine during the war with Russia.

The operation was carried out by the Security Service of Ukraine (SBU) and involved a coordinated attack using 117 FPV (First-Person View) drones on Russian air bases located in Siberia and other remote regions of Russia¹⁸.

The drones used by Ukraine as part of **“Operation Spiderweb”**¹⁹, beginning on June 1, 2025, were mostly **autonomous**, guided by artificial intelligence (AI) systems, but they also involved human operators during certain stages.

The 117 FPV (First-Person View) drones of the “Osa” type (in Ukrainian, “Viespe”), manufactured by the Ukrainian company First Contact, were equipped with **“ArduPilot”** open-source software, which allows them **to fly autonomously along preprogrammed routes**, even in the absence of a GPS signal or external communications. Thus, in the event of signal loss, the drones continued to follow their established trajectories, adhering to preprogrammed routes, and accurately identifying and striking targets, including high-value aircraft such as the Tu-95, Tu-160, and A-50²⁰.

Instead of relying on GPS signals or satellite communications, the “Osa” drones used SIM cards to connect to local mobile networks, enabling remote control via the internet or 4G networks. This method made the drones resistant to GPS signal jamming, a common problem in modern conflicts²¹.

¹⁸ https://united24media.com/latest-news/ukrainian-fpv-drone-that-reached-russias-deepest-airbases-burning-tu-95ms-and-tu-22m3-8818?utm_source=chatgpt.com, accessed on 20.06.2025.

¹⁹ https://en.wikipedia.org/wiki/Operation_Spider%27s_Web, accessed on 07.06. 2025.

²⁰ <https://www.businessinsider.com/ukraines-spiderweb-drone-attack-wake-up-call-us-in-pacific-2025-6>, accessed on 07.06. 2025.

²¹ https://en.wikipedia.org/wiki/Osa_%28drone%29?utm_source=chatgpt.com, accessed on 07.06. 2025.



Moreover, Ukraine has used *Starlink*²² terminals to ensure secure, high-speed communications between drone units and command centers, facilitating real-time coordination of attacks and the exchange of tactical information.

Going back to autonomous weapons, it should be noted that **an autonomous weapons system** is preprogrammed to kill or strike a specific “*target profile*”²³. In this context, autonomous weapons are used in an environment where artificial intelligence searches for this “**target profile**”, using various sensor data – such as facial recognition – and obtains the desired outcome²⁴.

CONCLUSIONS

The evolution of autonomous weapons significantly influences the dynamics of military confrontations and combat tactics. Their ability to independently identify and engage targets provides greater operational flexibility, reduces costs, minimizes risk to military personnel, and enables rapid and precise target acquisition.

However, the use of autonomous weapons raises certain moral and legal questions. There is an increased risk of unintended attacks on civilian targets if these weapons misidentify their targets. There are also concerns

²² Starlink terminals (<https://www.starlink.com>, accessed on June 7, 2025) are physical devices used to connect to the satellite internet network developed by SpaceX, a company founded by Elon Musk. They provide internet access in areas where traditional infrastructure (fiber optics, cables) is unavailable or compromised. There are several variants, among which two stand out: the Standard Model, intended for residential and commercial use (Starlink Standard Kit AX Tri-Band Wi-Fi 6), priced at approximately 1,700 RON, and the Professional Model, intended for use in maritime or air vehicles (KVH Starlink Flat Panel Terminal with wedge mount), priced at approximately 8,500 RON.

²³ Fisher, B. A. (2022), *How international humanitarian law will constrain the use of autonomous weapon systems in the conduct of hostilities* [PhD Thesis, Murdoch University]; <https://researchportal.murdoch.edu.au/esploro/outputs/graduate/How-international-humanitarianlaw-will-constrain/991005542029107891>, accessed on 24 February 2025; Munir, M. (2022), *Autonomous weapons systems: Taking the human out of the loop*, Available at SSRN 4074072; https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4074072, accessed on 10 March 2025; Watts, T. F. A., & Bode, I. (2023), *Automation and autonomy in loitering munitions catalogue (v.1)*; <https://doi.org/10.5281/ZENODO.7860762>, accessed on 14 March 2025.

²⁴ *Ibidem*.



that these weapons could have uncontrollable or unpredictable effects, whether used intentionally or accidentally. Therefore, it is essential to develop global guidelines and appropriate oversight systems for the development and use of autonomous weapons.

We have found that there is a new trend in modern militaries toward establishing units specialized in the use of AI-based weapons and increasing the size of special operations forces. This involves special selection criteria and, of course, attracting young people to military careers by offering favourable financial conditions. The financial costs of maintaining a high-performing armed forces have always been significant; however, these funds have been *at the disposal of political decision-makers*.

We believe that an army's capabilities can also be enhanced by harnessing the intellectual resources of former active-duty military personnel who still possess creative and innovative potential and are willing to volunteer their services in support of national defense. We feel that the spirit of meritocracy should be revived within the military, even if this may entail additional costs.

Let us not forget the words of Napoleon Bonaparte: "*A nation that is unwilling to feed its own army will be forced to feed a foreign army*".

Autonomous weapons, which can locate and engage targets without human intervention, represent a significant advance in military technology. These systems offer numerous advantages in various fields, ranging from everyday life to military operations. They include unmanned vehicles or systems capable of detecting and engaging targets autonomously. They can identify and attack targets automatically under certain conditions, or carry out pre-programmed missions without human oversight.

Autonomous weapons range from advanced weapon systems to unmanned aerial, maritime, or ground vehicles, demonstrating the diverse applications of this technology.

The use of autonomous weapons has the potential to drastically change the way technology is applied in military tactics and on the battlefield. However, the moral and legal implications of such weapons must also be taken into account. Establishing appropriate norms and regulations, as well as careful consideration of their development and employment, are critical tasks for the international community. Only then



can security be maintained and the potential hazards of autonomous weapons be mitigated.

Autonomous weapons and cybersecurity have a complex but significant connection. While autonomous weapons can pose unique challenges in the field of cybersecurity, cybersecurity technologies are essential for protecting these systems.

Concerns regarding information security, and in particular cybersecurity, have been and continue to be a focus for many European and domestic experts, and the research and publications of some of them (Boaru, 2017; Boaru, 2018; Boaru, 2020; Boaru și Iorga, 2020; Mincu și Boaru, 2020; Boaru, 2021; Boaru și David, 2022; Boaru, 2023, Boaru, 2025) may be important for decision-makers in these fields.

The use of autonomous weapons could subject nations to serious new cybersecurity risks. These weapons are Internet-connected systems managed by sophisticated software and algorithms, and are therefore vulnerable to cyberattacks. Cybercriminals may be able to take control of them and redirect their targets. The consequences can be severe, including human casualties. That is why it is crucial to protect the cybersecurity of autonomous weapons.

To ensure the security of these systems, cybersecurity experts should use advanced technologies such as encryption, security protocols, and penetration testing. Adopting security standards from the design phase onward is equally important.

In conclusion, autonomous weapons represent both a major technological innovation and a significant source of vulnerability. Without adequate cybersecurity measures and clear international regulations, the risk that these systems may be manipulated or misused is considerably increased.

Consequently, protecting them from unauthorized access and ensuring their responsible use must become a global priority.

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ENERGY IS NOT PRODUCED FOR THE SAKE OF ENERGY

Lessons from an Expert on Industry, Security, and Policy Decisions

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Abstract: *The two most common global buzzwords today are “resilience” and “security.” Economic security is considered to be an extremely important aspect of security, being seen as a driving force for strengthening stability.*

Keywords: *“Green Deal”; climate change; energy transition; nuclear energy; decarbonization; green technologies; energy hub.*

Introduction – Energy: The Most Important Aspect of Security

During his speech at the "Optimizing Economic Diplomacy to Promote Romania" conference, held on February 15th, 2024, at the Romanian Diplomatic Institute, Ambassador Lazăr Comănescu pointed out that, in order to identify the “global drivers” for building sustainable economic interdependence at the global level, Romania needs a long-term vision. Competition in the economy has been a driving force for development, especially when it is “fair,” rather than an instrument of control or domination. According to him, the European Union (EU) is a prime example in this regard. Since the *Schuman Plan*, the EU has demonstrated that, while internal competition is inevitable, it can be predictable and based on principles of fairness. The main differences between macroeconomic diplomacy and operational diplomacy lie in the fact that, at the macroeconomic level, long-term trends are monitored in order to identify international trends and opportunities for the country of origin, whereas operational diplomacy identifies concrete strategies and objectives, supporting Romanian actors in cooperating with the international community at the governmental level.

The Black Sea Economic Cooperation Organization is a multilateral organization distinct from the regional institutions of ASEAN (Association



of Southeast Asian Nations¹), African Union², in which the economic dimension prevails. The Black Sea is of major importance in terms of energy, economy, and environment. In the current context, the Black Sea Economic Cooperation Organization has become an active player, especially after the outbreak of the war in Ukraine, where all 13 members³ were reunited at the same table, including Ukraine and the Russian Federation. This could still present opportunities for Romania as well. For instance, within the East-West “connectivity” framework, there are numerous pilot projects that envision the Black Sea as a *hub* or *crossroads*, with the Danube playing a key role. On the other hand, harnessing the Danube’s potential cannot take place without ensuring navigability and optimal water depth, which requires a concerted and large-scale effort. According to L. Comănescu, in order to achieve effective diplomacy, efforts are needed not only from the business community in each member state of this organization but also at the governmental level. He also highlighted the need to upgrade the focus of state institutions on the economic sector, referring to state visits that include representatives of the business community alongside national officials, which provides visibility and increased credibility for potential foreign investors. In this regard, Mr. L. Comănescu also raised the issue of the protectionist policies pursued by certain countries, such as Türkiye, as well as the degree of autonomy in formulating their own fiscal policies, noting that Türkiye is one of the

¹ ASEAN's objectives include accelerating economic growth and social progress, as well as fostering cultural development in the region through joint efforts in the spirit of equality and partnership, with a view to strengthening the foundation of a prosperous and peaceful community of nations in Southeast Asia. Member States: Brunei, Cambodia, Myanmar, Laos, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam.

² One of the African Union’s main objectives is to establish a central development bank. The partnership with the EU encompasses the following objectives: solidarity, security, peace, and sustainable, long-term economic development, as well as prosperity for the citizens of the African Union and the EU, both now and in the future, through: Africa-Europe investment packages (in 2022, these amounted to 150 billion), the supply of vaccine doses to Africa (in 2022, there were 450 million), strengthened cooperation on peace and security, a strengthened partnership on migration and mobility, and a commitment to multilateralism.

³ Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, **Romania**, Russia, Turkey, Ukraine, Serbia, and North Macedonia.



countries that protects its luxury goods. Mr. L. Comănescu pointed out that these developments are also influenced by the fact that Türkiye is not a member of the EU⁴. On the other hand, Türkiye is considered **Romania's** most important economic partner outside the EU. Ambassador L. Comănescu also highlighted the need for **Romania to expand its foreign trade beyond the EU**, so that, in the event of a crisis – such as a pandemic or a war – there would be no economic dependence on countries facing the same type of crisis or that are simultaneously affected. He recalled that, during his diplomatic postings, he was most often accompanied by representatives of the **Romanian** business community, thus encouraging the continuation of such practices in order to promote **Romania's** intentions to cooperate in the economic sector with other countries.

Türkiye is becoming a channel through which European messages are conveyed and influence is exerted in regions such as North Africa, the Middle East (MENA), and the Caucasus. In this context, the OECD is interested in regulating tax policies and represents a “ray of hope” embraced by 38 countries⁵, that apply these policies to other countries as well. That is the reason why **it is better to be among those who set the strategies and regulations rather than among those who are merely subject to them**. Moreover, Romania could explore the possibility of establishing broader partnerships between Romanian and Turkish companies with a view to achieving a stronger presence within the Central Asian markets.

Chapter I – Energy as Security Infrastructure: Romania Between Nuclear Power, Decarbonization, and Systemic Resilience

Energy in 2026: Between the Green Transition and Systemic Security

In 2026, we can no longer view energy solely as an economic good or a technical component of development. It has undeniably become an

⁴ Turkey began full-scale negotiations with the EU in 2005, having been an associate member of the European Economic Community since 1963, and concluded a customs union agreement in 1995.

⁵ OECD member countries are developed nations that account for approximately 70% of global production and trade and 90% of worldwide foreign direct investment. The organization's headquarters are located in Paris, France.



essential infrastructure, situated at the junction of national security, economic stability, and societal resilience. The successive crises of the past decade – the pandemic, the war in Ukraine, the volatility of energy markets, and the acceleration of the transition to green energy – have demonstrated that the functioning of the modern state depends directly on its ability to produce, manage, and, above all, protect energy.

In this context, Romania finds itself in a paradoxical position. On the one hand, it benefits from a diversified energy mix, with a significant share of nuclear and renewable energy; on the other hand, it struggles with structural vulnerabilities related to storage, infrastructure, long-term planning, and institutional coherence. This tension between potential and reality is one of the central themes explored by Călin Radu Vilt⁶, whose observations remain relevant even in 2026, precisely because they are not circumstantial but systemic. From the expert's perspective, energy should be viewed as a strategic service that benefits industry and citizens, rather than as an end in itself. "Energy is not produced simply for the sake of producing it," he emphasizes (Vilt, 2024)⁷, drawing attention to a common misconception in public policy: that of equating the energy transition with a mere increase in installed capacity, without assessing the impact on the security of the system and on the real economy.

The 2021-2030 Integrated National Energy and Climate Plan proposes measures for Romania to achieve its economic targets by 2030, with outlooks and directions for 2050. Romania's objectives are aligned with European goals, involving all energy sectors and taking into account the European "Green Deal" package.

⁶ Honorary Scientific Advisor to the Romanian National Committee for the World Energy Council; member of the Advisory Council on Sustainable Development within the General Secretariat of the Romanian Government; member of the Steering Committee and Vice President of the Smart Cities Romania cluster.

⁷ Interview with a representative of E-ARC, on May 22nd, 2024.



„The “Green Deal,” approved in 2020, is a set of policy initiatives from the European Commission, with the primary goal of making the EU climate-neutral by 2050. On January 15, 2020, the European Parliament also voted in support of the agreement, calling for greater ambition. A year later, the European Climate Law was adopted, which mandated that greenhouse gas emissions should be 55% lower by 2030 compared to 1990 levels. The “Fit for 55” package is a broad set of legislative proposals detailing how the EU intends to achieve this goal.

The green transition is a priority for Europe, with EU member states aiming to reduce greenhouse gas emissions by 55% by 2030 relative to 1990 levels and achieve climate neutrality by 2050.

During the “Poly EnergyFest” conference on March 15th, 2024, held at the Polytechnic University of Bucharest, it was mentioned that, from January through March 2024, there had been three public comments on the draft regulations regarding the transition to green energy, all of which focused on Romania’s lack of ambition. At the same time, Ms. Elena Popescu, Executive Director of the General Directorate for Energy Policy and the “Green Deal” within the Ministry of Energy, made it clear that the public debates had concluded on the very day of the conference (March 15th, 2024). More than that, the European Commission is said to have its own quantitative targets for reducing emissions (those stipulated in the “Green Deal”), while Romania will aim to achieve a 40% reduction by 2030. According to Ms. Popescu, energy security is the top priority; however, Romania currently finds itself in a vulnerable position, one in which energy independence is vital due to the ongoing conflict at the border (Poly EnergyFest, 2024).

With regard to Romania’s National Recovery and Resilience Plan (PNRR), the plan is to decarbonize the energy sectors and transition to renewable sources, aiming to attract more investors by reducing carbon emissions. The PNRR sets out 507 milestones and targets related to the reforms and investments undertaken. A robust package of 107 investments and more than 50 reforms should support the strengthening of economic

growth potential. It is based on six main pillars (Poly EnergyFest, 2024): 1. the green transition; 2. digital transformation; 3. smart, sustainable, and inclusive growth; 4. social and territorial cohesion; 5. health and economic, social, and institutional resilience; 6. policies for the new generation. Funds for modernization aimed at reducing carbon emissions, with support from the National Energy Regulatory Authority (ANRE), TRANSELECTRICA, and OPCOM⁸, reached approximately 3 billion lei, this information becoming public on March 27th, 2024. According to Ms. Elena Popescu, this will not have any impact on the public budget. Even at that time, Ms. E. Popescu was warning that the deadline for submitting the National Integrated Plan on Energy and Climate Change to the EC by June 30th, 2024, was not realistic, as it was merely a draft and there was only one working group at that time. On the other hand, if Romania fails to meet its obligations, it will no longer be eligible for European funds. “Although there is significant pressure, we are outlining what we can achieve at this time in the energy sector.” (Popescu, 2024).



Regarding Romania's **National Integrated Energy and Climate Change Plan (2021–2030)**, the most important aspects of the plan are: commitment to climate change and clean energy, decarbonization, energy efficiency and security, the internal energy market, research, innovation, and competitiveness, cross-sectoral measures and policies, as well as financing the energy transition.

Photo – PNIESC

The plan reflects Romania's commitment to supporting the EU's objectives on combating climate change, including reducing greenhouse gas emissions by at least 40% by 2030 compared to 1990 levels, increasing the share of energy from renewable sources to 32% and improving energy

⁸ Established in August 2000, it is a subsidiary of the national electricity transmission operator, Transelectrica, and acts as the administrator of the electricity market, in accordance with the provisions of the primary and secondary legislation in force. Between 2005 and 2010, OPCOM traded 433,480 green certificates and a volume of 58.1 TWh of electricity.



efficiency by 32.5% by 2030. At the same time, the plan emphasizes the importance of decarbonization across multiple sectors, including electricity, transportation, and industry, by promoting investments in new low-carbon electricity generation capacity and using revenues from the EU ETS and structural funds to support the energy transition. Equal emphasis is placed on increasing energy efficiency across all sectors, notably through the implementation of the Long-Term Renovation Strategy (LTRS) and the adoption of Best Available Technologies (BAT) in the industrial sector. The plan highlights the importance of ensuring the security of energy supply by diversifying energy sources, reducing energy dependence, and developing energy transmission infrastructure. At the same time, it recommends adopting measures aimed at developing a competitive wholesale and retail market, in particular through the liberalization of the electricity market and the implementation of support measures for vulnerable consumers. It also highlights the need to develop a national smart specialisation strategy for the period 2021-2027 to define national objectives and funding targets in the areas of research, innovation, and competitiveness. Regarding cross-sectoral measures and policies, the plan calls for the development of an array of policies and measures designed to reduce energy consumption and promote the use of renewable energy sources (RES) in relevant sectors, while maximizing synergies among the various actions envisaged. There is also a need to ensure adequate funding for the development of additional RES capacity and to ensure a socially just transition.

By 2026, the green transition is already an irreversible reality at the European level. Romania has rapidly achieved some of its carbon emission reduction targets; however, as C.R. Vilt (Vilt, 2024) points out, this “success” has an inconvenient explanation: the drastic decline in industrial consumption and domestic energy demand. The reduction in emissions was not solely the result of technological modernization, but also of accelerated deindustrialization, which naturally reduced energy consumption. This reality raises the essential issue of security of energy supply. An energy system is not evaluated solely by the amount of energy produced or by the percentage of green energy, but by its stability and actual availability. The difference between the installed power capacity and the power actually available at national level becomes, in this regard, a critical indicator. In recent years, Romania has experienced record lows in energy consumption,



coming dangerously close to the stability threshold of the National Energy System – a situation that requires artificial balancing measures, including “technical” energy exports and imports. In this equation, renewable energy occupies a central yet ambivalent role. On the one hand, it is the cornerstone of the green transition and an indispensable tool for reducing emissions. On the other hand, without adequate storage capacity, renewable energy can become a source of instability. Rapid fluctuations in production, particularly in the wind sector, put pressure on the national dispatcher and limit the ability to integrate new green capacity into the system, in the absence of robust energy storage solutions.

One of Romania’s most critical vulnerabilities is the lack of large-scale storage infrastructure capable of supporting the energy transition without compromising the system’s operational security. Strategic projects, such as Tarnița-Lăpușești⁹, which have been under discussion for decades, remain symbols of political indecision and the difficulty of reconciling environmental goals with energy security requirements. Thus, in 2026, Romania’s dilemma is not whether it should accelerate the green transition, but how to do so **without compromising systemic resilience**. Without this coherent approach, there is a risk that the energy transition could become less of a strategic advantage and more of a new source of vulnerability.

Chapter II – The OECD, the IAEA, and Energy Governance in Mature States

Romania’s integration into international energy governance structures is not merely a foreign policy objective, but a test of institutional maturity.

⁹ The energy companies EdF (France) and Itochu (Japan) are in advanced negotiations with Romanian authorities regarding their involvement in the construction and operation of the 1,000 MW power plant, which is essential for the stability of the National Power System. A potential partnership with Hidroelectrica could finally turn this project into a major investment for Romania’s energy future. Romania currently lacks any real energy storage capacity, and Tarnița-Lăpușești has been considered for years to be the top-priority project for balancing production from renewable sources. The 1,000 MW plant could provide storage for approximately 1,000 MWh, offering the national grid a critical reserve during periods of overproduction or high consumption. A memorandum of cooperation for Tarnița was, in fact, signed as early as November 2024 by former Energy Minister Sebastian Burduja, together with EdF and Itochu, following the failure of the tender organized by SAPE to update the feasibility study. (Foaia Transilvania, 2025)



Mr. Luca Niculescu¹⁰, Extraordinary and Plenipotentiary Ambassador of **Romania** to France, the Principality of Monaco, and the Principality of Andorra from 2016 to 2022, remarked during the conference “Optimizing Economic Diplomacy to Promote Romania”¹¹, the relevance of the OECD to the global economy and the fact that 90% of international trade takes place among OECD member states. Mr. L. Niculescu emphasized the fact that Romania would gain greater credibility upon joining the OECD, subsequently benefiting from other advantages as well, such as (Optimizing Economic Diplomacy to Promote Romania, 2024): a reduction in loan rates, harmonisation with the highest standards in the fields of research, innovation, connectivity, and digitalisation—areas that play a key role in boosting productivity and, consequently, economic development—thereby facilitating the transition to a knowledge-based economy.

From **Romania’s** perspective, its accession¹² to OECD is equivalent to EU membership from a conceptual standpoint; subsequently, however, drawing a similar parallel between the OECD and an economic NATO. Mr. L. Niculescu also stated that the OECD serves as a third major anchor for Romania, which, through Romania’s admission, would lead to a transparent Romanian economy, a stable democracy, and the implementation of better public policies, easier access to certain areas of financing, access to global statistics and data, as well as the ability to demonstrate that Romania is among the states that respect and promote numerous national and international values (Optimizing Economic Diplomacy to Promote Romania, 2024). Mr. L. Niculescu went on to express his view that every organization should have a statistics department, believing that statistics have the potential to influence global trends, at least in the early stages. The

¹⁰ In this capacity, he also represented Romania in its relations with international organizations based in Paris, particularly the Organization for Economic Cooperation and Development (OECD) and the International Organization of La Francophonie. He also served as President of the Group of Francophone Ambassadors in France (GAFF) between 2019 and 2022.

¹¹ 15.02.2024, IDR headquarters.

¹² **Romania** became an OECD candidate country in January 2022. Currently, **Romania** is in the technical phase of the evaluation process, which involves providing additional information, organizing thematic missions, and delivering presentations before the 26 OECD sectoral committees, all of which are essential to this process.



ambassador noted that Romania is evaluated by 26 OECD committees, and also mentioned five other countries that joined the OECD at the same time as Romania: BGR, CZE, PER, ARG, BRA¹³. At the same time, IDN¹⁴ wishes to join the OECD.

Mr. C.R. Vilt repeatedly stresses how being part of organizations such as the Organization for Economic Cooperation and Development (OECD) entails more than just making formal commitments (Vilt, 2024); it requires procedural discipline, consistent decision-making, and the ability to produce credible data and predictable policies.

Romania's experience with the OECD accession process highlights precisely this difficulty. Although discussions began back in the first half of the 2010s, with official efforts repeatedly relaunched, progress has been slow and piecemeal. According to the expert, one of the structural causes was the lack of a unified approach and political continuity in meeting the agreed-upon criteria. "The OECD has a quality management system. It is not based on improvisation," notes C.R. Vilt (Vilt, 2024), suggesting that Romania's difficulties are not due to a lack of resources, but to the way in which they are managed. A relevant example is the issue of energy statistics and carbon emissions. As part of its collaboration with the World Energy Council, Romania was initially ranked poorly in terms of emissions, based on data that did not reflect national reality. Correcting this discrepancy did not involve merely a technical process, but rather a complex one involving institutional dialogue with specialized agencies in Paris – a process that demonstrated the importance of data credibility in the decision-making framework of international organizations.

Similarly, Romania's membership in the International Atomic Energy Agency and the OECD Nuclear Energy Agency serves as an example of functional integration within a rigorous institutional framework. According to C.R. Vilt, the relationship between Romania and the Vienna-based agency has evolved from the tense episodes characteristic of the post-1990 transition period into a solid partnership based on transparency, rigorous inspections, and strict adherence to the nuclear non-proliferation regime (Vilt, 2024). This dimension is essential for understanding the role of nuclear energy in the security of energy supply. Within the IAEA,

¹³ Bulgaria, Croatia, Peru, Argentina, Brazil (according to NATO codes).

¹⁴ Indonesia (according to NATO codes).



Romania is not only a beneficiary of expertise but also a contributor to international governance mechanisms, notably through its presence on the Board of Governors¹⁵ and through technical cooperation in the field of nuclear safety (MAE, 2025). The incident described by C.R. Vilt regarding the accidental shutdown of the monitoring systems shows the high level of vigilance maintained by the agency and the non-negotiable nature of security standards in this field (Vilt, 2024).

Currently, the energy transition, the digitization of networks, and the development of new technologies, such as small modular reactors (SMR)¹⁶, require a substantial degree of compliance with international standards, not only in technological terms but also institutionally (nuclearelectrica, 2024). The accession to OECD¹⁷ (OECD, s.a.) and strengthening Romania's role within the IAEA¹⁸ are not merely symbolic goals, but necessary conditions for the state to be able to responsibly manage an increasingly complex energy infrastructure (MAE, 2025). The fundamental lesson is that energy security is not built solely through investments into production capabilities,

¹⁵ Romania was elected as a member of the Board of Governors of the International Atomic Energy Agency (IAEA) for a two-year term, from 2025 to 2027, in the elections held on September 19th, 2025, the final day of the IAEA General Conference. Its most recent participation in this body was from 2008 to 2010.

¹⁶ Romania has the potential to become the first country in Europe to implement small modular reactors (SMRs), thereby serving as a catalyst for the expansion of this technology in the region. The site in Doicești was chosen as the location for the first SMR, and there are plans to develop a control room simulator to train the next generation of nuclear engineers.

¹⁷ Romania became a candidate for OECD membership in 2022. The roadmap for the country's accession process was officially adopted by the OECD Ministerial Council in June 2022. Romania has become increasingly involved in OECD activities since its successful transition to a market economy. The country has played an active role in the OECD Regional Program for Southeast Europe since its establishment in 2000, sharing policies and best practices with other economies in the region and contributing to regional policy dialogue and peer learning. Its economic reforms have served as a positive example in Southeast Europe, paving the way for its accession to the European Union in 2007 and contributing to a significant increase in foreign direct investment, exports, and economic growth.

¹⁸ Romania played an active role in the General Conference; the presence of the Minister of Foreign Affairs reflected our country's commitment to supporting the IAEA's objectives and promoting international cooperation in the nuclear field, with a view to furthering the development of civilian nuclear projects and global security.



but also through integration into a culture of rule-following, transparency, and institutional accountability. In the absence of this discipline, the energy transition risks remaining vulnerable, regardless of the technological resources available.

Chapter III – Nuclear Energy as a Strategic Decision: From CANDU to the SMR Dilemma

In the current energy debate, nuclear energy is often viewed either with technological enthusiasm or with emotional reluctance. During the conference “Optimizing Economic Diplomacy to Promote Romania,” held on February 15th, 2024 (at the IDR headquarters), the president of the Romanian Agency for Investment and Foreign Trade, Mr. Rareș Ștefan Burlacu, drew a distinction between *high politics* and *low politics*. Thus, in the context of *high politics*, states foster bilateral cooperation and maintain an optimal security environment, while in the realm of *low politics*, trade relations—along with related investment activities—and cultural relations are at the forefront (Optimizing Economic Diplomacy to Promote Romania, 2024). At the same time, Mr. R. Burlacu noted that, upon the Agency’s establishment, the primary focus was on developing a strategy that would follow international trends. Thus, the Agency aims to develop a foreign trade strategy that prioritizes commercial sectors, linked to objectives, development policy indicators, and attracting investment to **Romania**. The Agency’s objectives are as follows (Optimizing Economic Diplomacy to Promote Romania, 2024):

1. international recognition, in order to respond to the entrepreneurial environment and attract investment flows for accelerated economic development. He cited the example of Canada, from which **Romania** received a 3 billion Canadian dollar loan for the construction of reactors 3 and 4 at Cernavodă, which qualifies as a success in terms of energy diplomacy.

Thus, Romania will build two new CANDU (Canada Deuterium Uranium) nuclear reactors in Cernavodă (units 3 and 4)¹⁹, which will have a

¹⁹ The project for CANDU Units 3 and 4 at the Cernavoda Nuclear Power Plant is included in Romania’s Draft Energy Strategy for 2019–2030, with a view to 2050, as well as in the National Integrated Plan on Energy and Climate Change, as a pillar of Romania’s energy independence and of meeting the decarbonization targets undertaken by Romania as an EU Member State (nuclearelectrica, s.a.).



significant impact on reducing greenhouse gas emissions. At the same time, the development of these two nuclear power plants will create significant economic opportunities for both Romania and Canada.

The construction of the two additional CANDU reactors will add 1,400 megawatts to Romania's energy system, creating significant potential for exports to neighboring countries that are currently dependent on energy resources from the Russian Federation. The new reactors will enable Romania to save approximately 8 million tons of carbon emissions annually and will mark a step forward toward achieving the goal of phasing out coal from energy production by 2032. This project is important for strengthening Romania's energy security, particularly in the context of Russia's invasion of Ukraine, and will enhance Romania's potential to become an "energy hub" in Eastern Europe, providing consumers in Romania and neighboring countries with secure, clean, greenhouse gas-free energy at a fair price.

2. successful international trade.

3. attracting investment to build large-scale projects, such as the bridge in Brăila²⁰, built with significant support from Japan²¹.

Finally, Mr. R. Burlacu added that **Romania** should become an attractive international hub for the international business community (Optimizing Economic Diplomacy to Promote Romania, 2024).

According to expert C.R. Vilt, a different approach is needed: nuclear energy must be viewed as a strategic security option, not as a short-term or purely climate-driven solution (Vilt, 2024). In 2026, this distinction becomes essential in a European context characterized by geopolitical volatility, constant decarbonization pressure, and competition for secure energy resources. Romania's decision to adopt the CANDU technology, made in the 1970s, was not accidental. As Mr. C.R. Vilt explains, it resulted from a comprehensive analysis of energy autonomy, source diversification, and the need to avoid

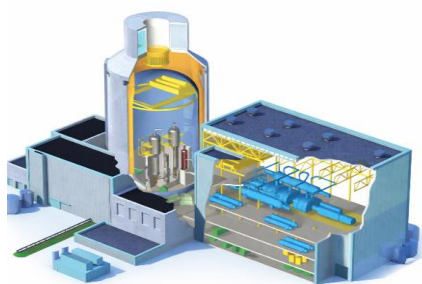
²⁰ The Danube Bridge in Brăila (€500 million) is considered one of the most complex road infrastructure projects of the past three decades, and is also the only construction site that involved a Japanese contractor, IHI Infrastructure. The 2-kilometer-long viaduct was built and installed by the Japanese company.

²¹ Another major project for transport infrastructure carried out with Japan's (financial) involvement was the M6 Metro Line connecting Gara de Nord and Otopeni. In 2010, the Japanese government granted Romania a loan of over 300 million euros at a low interest rate for the 12-station metro line; the appointment of the Turkish company Gülermak for Section II (Băneasa-Otopeni) was also made with the approval of JICA (Japan International Cooperation Agency).

strategic dependence on external suppliers of nuclear fuel (Vilt, 2024). The decision to use natural uranium and heavy water allowed Romania to build not just a power plant, but rather an entire nuclear industrial ecosystem, with production, research, and operational capacities integrated nationwide. This industrial dimension is often overlooked in current debates. As the expert points out, the Romanian nuclear program once generated over 160 specialized industrial facilities, many of which are still capable today of supporting the development of new nuclear units. The loss of a significant portion of this infrastructure was not the result of a coherent strategic decision, but rather of fragmented industrial policies and the lack of a long-term vision.

Are SMRs a technological promise or an economic trap?

In 2026, the debate on SMR²² brings to again to the forefront the issue of strategic coherence. Although SMR technology is, in itself, feasible and promising – especially in the context of microgrids and local energy security – C. R. Vilt warns that its economic viability remains uncertain (Vilt, 2024). The experience of international pilot projects, including some US initiatives that were abandoned due to significant cost increases, indicates the risk of technological enthusiasm outweighing financial realism. The Doicești case is illustrative in this regard.



Benefiting of support from NuScale company¹, Plans are underway to build a 462 MW power plant on the site of the former coal-fired power plant in Doicești, Dâmbovița County. This is to be the company's first project of its kind in the world¹. In terms of socio-economic impacts, such a NuScale plant with 6 modules will generate approximately 193 permanent jobs, 1,500 jobs throughout the construction period, and 2,300 manufacturing jobs (Nuclearelectrica, 2024).

Photo - SMR

²² SMRs are advanced nuclear reactors with an installed capacity of up to 300 MWe per reactor. NuScale SMRs have a capacity of 77 MWe per module, and the Doicești plant will include six modules, with a total capacity of 462 MWe. The 6 modules have a total capacity of 462 MWe. SMR reactors can replace coal-fired power plants by leveraging existing infrastructure. (nuclearelectrica, 2024).



The original concept behind SMRs was that of modular deployment, tailored to local electricity and heat needs. Concentrating multiple modules at a single site without a thorough analysis of the logistics chain, fuel transportation costs, or the reactor's life cycle risks turning a strategic project into a costly experiment. In the expert's view (Vilt, 2024), the problem lies not with the technology itself, but with the lack of a systemic assessment that would include economic and industrial dimensions, as well as security considerations. Furthermore, nuclear energy plays an essential role in the architecture of the energy system: providing support for the "base of the load curve"²³ (ResearchGate, 2026). Within an energy matrix increasingly dominated by fluctuating renewable sources, nuclear power remains one of the few sources capable of ensuring stability, predictability, and continuity. As Mr. C. R. Vilt points out, in the absence of such a stable foundation, the energy system becomes vulnerable to shocks, regardless of the level of digitalization or the installed capacity from green sources (Vilt, 2024). It is important to note that the future of nuclear energy in Romania cannot be decided through hasty or mechanically imported solutions from other contexts. As shown by past experience and the expert's analysis, any decision in this area must result from genuine strategic consultation, similar to that which underpinned the original nuclear program. Without such deliberation, the risk is not abandoning nuclear power, but adopting piecemeal options that could undermine precisely the energy security that the transition is intended to strengthen.

Chapter IV – Decarbonization, Renewables, and the Paradox of Low Consumption

Public debate often frames decarbonization as a competition of percentages: the amount of green energy we produce, the installed capacity

²³ A load curve is a diagram used by engineers and power producers to show the amount of electricity customers use over a specific period of time. The types of power generators vary depending on the resources available in a specific geographical area. Load curves can be calculated in various ways depending on the needs of electricity suppliers. Load curves are of particular importance, both from a technical and economic standpoint, since a series of technical-economic parameters, derived from them, allow for the assessment of the required capacity of the facility's power systems, their degree of utilization, and their efficiency. (ResearchGate, 2026).



we add, and the emissions we cut. The interview with C. R. Vilt, however, proposes a much more nuanced and, at the same time, more uncomfortable interpretation: Romania is meeting a significant portion of its European emissions reduction targets not only through technological modernization, but also through a structural decline in energy consumption (Vilt, 2024).

This reality creates a paradox. From a statistical standpoint, Romania appears to be a highly successful country in terms of decarbonization. From an economic and strategic standpoint, however, the reduction in consumption is correlated with a decline in industrial activity, the loss of productive capacity, and weaker domestic demand for energy. In other words, the decline in emissions does not automatically reflect a more efficient economy, but rather, in certain sectors, a more modest economy. C.R. Vilt explains this phenomenon through the fundamental difference between installed capacity and actual available capacity (Vilt, 2024). During years of intense industrialization, Romania operated at high consumption levels, with its energy system under constant strain. Today, although installed capacity remains relatively high, peak consumption rarely exceeds thresholds that were once considered minimum operational levels. Moreover, in certain recent periods, the national energy system has come dangerously close to the lower stability limit, requiring the national dispatcher to resort to artificial solutions to maintain balance. This vulnerability is amplified by the accelerated integration of renewable energy sources. Wind and solar energy are essential pillars of the green transition, but they introduce systemic volatility into the grid. Their output depends on natural factors that are not correlated with actual consumption patterns. As the expert points out, fluctuations in the order of thousands of megawatts over a very short period of time are not exceptions, but everyday operational realities (Vilt, 2024). In the absence of sufficient storage capacity, this volatility severely constrains the ability to add new renewable energy projects. From a strictly technical standpoint, the national grid operator can no longer guarantee the system's safe operation if fluctuations exceed the existing infrastructure's capacity to respond. Thus, paradoxically, the apparent success of the green transition ends up hindering its further expansion (*a catch 22 situation*).

In 2026, this situation calls for a reassessment of the concept of decarbonization. Reducing emissions cannot be treated as an isolated goal,



but must be correlated with energy security by finding solutions to stabilize the grid and taking into account the actual needs of the real economy. As C. R. Vilt's analysis shows, a decarbonized but unstable energy system is just as problematic as a polluting yet predictable one (Vilt, 2024). Without a solid foundation of consistent production and without adequate storage solutions, the green transition risks becoming a strategic vulnerability rather than a competitive advantage. In this context, Romania's decarbonization cannot be understood as a race to meet targets, but rather as a process of systemic reconstruction. Green energy, as necessary as it may be, cannot function outside of a coherent energy framework capable of supporting both industrial revitalization and the security of the state's daily operations. In the absence of this correlative relationship, climate performance risks masking structural weaknesses that have a direct impact on national resilience.

Chapter V – Renewable Energy Without Storage: The Hidden Vulnerability

At a time when decarbonization and the expansion of renewable energy sources define the strategic direction of European energy policies, energy storage is a genuine priority. If this is not achieved, the energy transition will remain incomplete and, paradoxically, a source of instability.

Mr. C. R. Vilt identifies storage as the "key issue" facing the Romanian energy system, which is essential for the further development of renewables from an operational standpoint (Vilt, 2024). The intermittent nature of wind and solar energy is well known, but its systemic implications are often underestimated. Energy production does not follow the consumption curve, and the lack of a direct correlation between the two compels the energy system to operate continuously in an adaptive mode. As the expert points out, fluctuations of 1,500-2,000 MW over a very short period of time are no longer exceptions but recurring situations that place direct pressure on the national system operator and on the transmission and distribution infrastructure (Vilt, 2024).

In this context, storage is no longer an optional feature or a technological "upgrade," but a structural component of energy security. Without large-scale storage capacity, the energy system cannot absorb production surpluses during favorable periods and redistribute them during



peak consumption times. This limitation explains the paradoxical situation in which Romania finds itself: despite its significant renewable energy potential, it can no longer integrate new capacity without compromising grid stability. The “Tarnița–Lăpușești” project is a prime example of this challenge. Identified as early as the 1950s as a pumped-storage solution, the project has been repeatedly delayed, even though similar projects have been successfully implemented in other European countries. A comparison of Romania’s situation with that of Switzerland, where such systems operate at much higher capacities, highlights not so much a lack of expertise as a deficit in strategic decision-making. Moreover, the obstacles are not exclusively technical or financial. They are also institutional, legal, and environmental. Restrictions associated with protected areas, a lack of coordination between energy and environmental policies, and the fragmentation of responsibilities among institutions have contributed to the stagnation of storage projects. Without them, the energy system is forced to operate at its limits, relying on artificial balancing mechanisms that cannot serve as long-term solutions.

In 2026, the issue of storage takes on an additional dimension related to systemic resilience. An energy system lacking storage capacity is more vulnerable to external shocks, whether climatic, technical, or geopolitical. The ability to isolate malfunctions, maintain supply during crises, and prevent “cascade” effects depends directly on the existence of manageable energy reserves. Thus, as C. R. Vilt’s analysis shows, energy storage is not merely a matter of efficiency or market optimization, but one of national security (Vilt, 2024). Without addressing this missing link, Romania’s energy transition risks getting stuck at an intermediate stage, characterized by operational vulnerability and increased reliance on emergency measures. In this context, investments in storage become not only necessary but actually strategically important, serving as the foundation that can support the development of a decarbonized, stable, and resilient energy system.

Chapter VI – Coal in Economic Realism and the Contradictions of European Transition

In the framework of Europe’s energy transition, coal is often treated as a symbol of the past, destined to be phased out quickly and permanently. However, the systemic analysis proposed by C. R. Vilt introduces a



necessary dose of economic and technical realism, highlighting the discrepancy between political discourse and the actual practices of member states (Vilt, 2024). Romania is in a unique position. In recent decades, the share of coal in the national energy supply has fallen significantly, from over 30% to below 14%. This reduction has been accompanied by substantial investments in the retrofitting of lignite-fired power plants so that they comply with European environmental standards. As the expert points out, these investments are not abstract, but are subject to strict economic logic, based on depreciation, lifespan, and return on investment (Vilt, 2024). Herein lies one of the major contradictions of the transition. While Romania is under pressure to accelerate the closure of coal-fired capacity, other European countries, including leading economies, are adopting a much more flexible approach. Germany, for example, produces tens of times more energy than Romania from coal and has resorted to reactivating decommissioned capacity against the backdrop of the recent energy crisis. Poland continues to rely heavily on coal, citing considerations of energy security and social stability. This asymmetry raises a strategic equity issue. As C. R. Vilt suggests, the early shutdown of power units that have not reached the end of their operational life not only raises economic questions but also legal and institutional ones (Vilt, 2024). A power plant is designed for a specific number of operating hours, and shutting it down before it has been fully depreciated can result in significant loss and administrative liabilities. In this sense, the energy transition becomes not only an environmental issue but also one of governance and public accountability. Furthermore, coal still plays an important functional role in the energy system: that of a baseload or balancing source, capable of sustaining consumption during periods when renewables are insufficient. In the absence of mature storage capabilities and a fully adapted infrastructure, the rapid phase-out of coal without established operational alternatives risks exacerbating the vulnerabilities of the energy system. C. R. Vilt also highlights another dimension that is often overlooked: the difference between closure and conservation (Vilt, 2024). The actual conservation of a power plant involves ongoing maintenance activities, the rotation of critical equipment, and the maintenance of technical parameters to enable a safe restart if necessary. In practice, however, many facilities deemed to be "in



conservation" have been allowed to deteriorate, turning a temporary solution into a permanent loss of capacity.

This year, this discussion takes on heightened strategic importance, as the energy transition cannot take place in a stable environment, but is instead unfolding amid geopolitical uncertainty, market volatility, and constant social pressure. Under these circumstances, phasing out coal cannot be a purely ideological act, but must be the result of a pragmatic assessment of the risks and benefits.

Therefore, the lesson learned is that economic realism and energy security must complement climate goals. As C. R. Vilt's analysis shows, the transition does not mean the abrupt elimination of certain energy sources, but rather their intelligent management within an energy mix tailored to national realities (Vilt, 2024). Without this approach, not only is there a risk of losing energy capacity, but also of weakening Romania's systemic resilience at a time when energy stability is becoming a strategic resource in itself.

Chapter VII – Electric Mobility and Hydrogen – Part of the Industry's Future

The energy transition does not stop at the gates of power plants. It is most visible in the transportation and industrial sectors, where decarbonization requires not only new technologies but also the restructuring of entire economic networks. In C. R. Vilt's view, one of the most significant errors within the current public debate is treating electric mobility as a universal solution, without taking into account its physical, technological, and systemic limitations (Vilt, 2024).

Electric vehicles are undoubtedly part of the future of mobility, but their applicability varies. For personal cars, light urban transport, and individual mobility, electric vehicles are a viable option. For heavy transport, maritime and rail transport, or industrial fleets, the situation changes radically. The energy density of batteries, the charging times, and the infrastructure requirements make the complete decarbonization of this segment unrealistic, at least in the near term. This limitation explains the strategic focus of major economies on hydrogen. The decision adopted at the G20 to steer heavy transport toward hydrogen-based solutions



acknowledges that the energy transition requires multiple complementary technologies, not a single universal solution. Hydrogen thus becomes an essential energy carrier for sectors where direct electricity cannot effectively replace fossil fuels. However, as C. R. Vilt points out, hydrogen is neither a simple nor a cheap solution (Vilt, 2024). Producing green hydrogen through electrolysis requires significant consumption of electricity and water, as well as the existence of markets for both hydrogen and the resulting oxygen. Without careful coordination among multiple industries, costs rise rapidly, and economic competitiveness declines. For this reason, hydrogen cannot be addressed in a piecemeal manner, but only through a comprehensive industrial policy vision. In this regard, C. R. Vilt's analysis highlights one of Romania's structural vulnerabilities: the absence of an updated industrial strategy (Vilt, 2024). The last coherent economic strategy dates back to the 1990s, and in the meantime, the energy transition has advanced much faster than the state's ability to redefine its industrial priorities. Energy, the expert warns, is not produced "for the sake of energy," but to support industry, transportation, and the daily lives of citizens. Without an industry capable of absorbing new technologies, the transition risks becoming a process of dependence on imports, not an engine of development.

The examples cited by C.R. Vilt – ranging from the potential for fuel cell production to the manufacture of vehicles for public transportation and logistics – point to a clear strategic direction: the energy transition must be accompanied by the reshoring of industrial capacity and the development of domestic technological expertise (Vilt, 2024). Without this dimension, Romania risks remaining a mere consumer of green technologies produced in other countries, losing the opportunity to turn decarbonization into an economic and strategic advantage. In 2026, the stakes for electric mobility and hydrogen go beyond simply reducing emissions; they involve reshaping the relationship between energy and industry. As the expert's analysis shows, a successful transition will depend on Romania's ability to align energy policies with policies in industry, research, and employment. Without this coordination, green mobility risks becoming a mere declarative goal, with limited impact on economic and social resilience.



Chapter VIII – Smart Cities, Data, Indicators, and Citizens as Active Participants

If energy production, storage, and transmission define the invisible architecture of energy security, cities are the space where this architecture becomes tangible, measurable, and political. Expert C.R. Vilt deliberately shifts the focus from technology to governance, emphasizing the fact that the energy transition cannot function without data, standards, and real administrative capacity (Vilt, 2024). In public discourse, the *Smart City* concept is often reduced to digitization or isolated energy efficiency solutions. In reality, as the expert's analysis shows, a smart city is, first and foremost, a resource management system in which energy plays a central role. Buildings, public transportation, lighting, and urban heating and cooling are all interconnected subsystems, dependent on the local government's ability to collect, interpret, and utilize relevant data. One of the most critical issues identified in the interview is the lack of post-implementation assessment. Energy efficiency programs, partly financed by European funds, have often been implemented hastily, without rigorously measuring their actual impact on consumption, costs, or emissions. In the absence of clear indicators and common standards, energy efficiency risks becoming an accounting exercise rather than an effective public policy tool. This issue is closely linked to the use of international standards. Although a significant number of ISO standards are relevant to sustainable development and smart cities, their adoption at the national and local levels remains limited. C. R. Vilt highlights the difficulty of implementing these standards, not because of technical complexity, but due to a shortage of specialized human resource in the local administration (Vilt, 2024). A smart city is not built solely on sensors and software; it requires people capable of managing indicators, processes, and long-term policies. In this context, **the transparency of energy data is becoming an essential element of democratic resilience**. The real-time display of information on energy production, the energy mix, and carbon emissions are not solely a matter of good administrative practice, but a tool through which citizens can become informed participants in the energy transition. As the expert points out, other European countries have already turned this data into a public benchmark, used both to assess energy performance and to raise awareness among decision-makers. Today, this aspect has taken on strategic importance.



Cities account for the majority of energy consumption, emissions, and social vulnerabilities. Without urban governance capable of integrating energy into sustainable development policies, the energy transition risks remaining an abstract process, disconnected from everyday life. Instead, through the intelligent use of data and indicators, cities can become laboratories of resilience, where energy is managed predictively, transparently, and fairly.

In this regard, the conclusion is that the energy transition does not end with power plants or national strategies, but rather within local governments and in the relationship between the state and its citizens. As evident from the interview with C.R. Vilt, without cities capable of managing energy as critical infrastructure, any technological progress remains fragile (Vilt, 2024). Following this logic, the *Smart City* is not merely an image-building exercise, but an indispensable pillar of energy security and societal resilience.

Conclusions

The analysis based on the interview with C. R. Vilt leads to a fundamental conclusion: **energy is not an end in itself, but a critical infrastructure serving security, industry, and society.** By 2026, this reality will become impossible to ignore, due to the overlapping of the green transition, geopolitical instability, and economic pressures on European nations. It is true that Romania finds itself at a strategic turning point. On the one hand, the country possesses a diversified energy supply mix, including nuclear power, renewables, and domestic resources, which offers it real potential for energy security. On the other hand, structural vulnerabilities persist in relation to storage, long-term planning, industrial capacity, and institutional coherence. As the expert's analysis consistently shows, the central issue is not a lack of resources, but a lack of an integrated vision.

The energy transition, in its current form, risks becoming a mere accounting exercise if it is not correlated with the security of the energy system. Reducing emissions, increasing the share of renewable sources, and electricity-based transport cannot be standalone objectives, detached from grid stability, the existence of baseload sources, and actual storage capacity. Without these elements, climate performance may mask critical vulnerabilities, with a direct impact on national resilience.



In this context, nuclear energy emerges not as a transitional solution, but as a strategic pillar of stability. The lessons learned from the CANDU program and the current debate on SMRs show that decisions in the nuclear sector must be made following genuine strategic consultations, not on the basis of technological trends or political pressures. Economic feasibility, supply chains, and industrial integration are just as important as technical performance.

Similarly, the rapid phase-out of coal, without established operational alternatives, highlights the contradictions of the European transition. Economic realism, investment payback, and the role of conventional sources in supporting the load curve remain essential aspects for the secure operation of the energy system. The transition cannot be managed in an ideological manner, only pragmatically, and in a differentiated way, depending on the realities of each country.

Another important factor to consider is that the future of energy is shaped at the intersection of industry, mobility, research, and vested interests. Hydrogen, electric mobility, and new energy technologies can only become drivers of development if they are accompanied by a coherent industrial policy. Without such a policy, Romania risks remaining a consumer of imported green technologies, missing the opportunity to turn the energy transition into a competitive advantage.

As far as the urban dimension and local governance are concerned, cities, energy data, standards, and sustainable development indicators are the elements by which energy transition becomes visible and measurable to citizens. Without transparency, administrative competence, and data management capabilities, the *Smart City* remains a mere concept, not a tool for resilience.

Overall, the key lesson drawn from this analysis is that the energy sector reflects **the strategic maturity of the state**. As C.R. Vilt points out, Romania does not lack technical solutions, but rather coherence between climate issues, energy security, economic development, and long-term objectives. Only through an integrated approach that treats energy as critical infrastructure – and not as a political slogan – can long-term energy transition become a factor of utility, stability, competitiveness, and security.

Within the framework of the conference “Optimizing Economic Diplomacy to Promote Romania,” participants highlighted the need for a



long-term vision to build global economic interdependence, emphasizing the role of fair competition in development and the importance of the economic dimension of security. The relevance of the Black Sea Economic Cooperation Organization as a platform for regional cooperation and **Romania's** need for active involvement therein were highlighted. The role of economic diplomacy in promoting national interests and **Romania's** attractiveness as an *energy and business hub* were also discussed, with a focus on the importance of OECD membership for enhancing credibility and economic development.

In this regard, clear and daring visions were put forward, such as the need for **Romania** to join the OECD, the possibility of increasing the number of permanent representatives from the Foreign Trade Agency in areas of interest to **Romania**, and the need for Romania to look beyond the EU – and even beyond Europe – in terms of foreign trade, to mitigate the effects of potential future crises, the need to be among the states that set strategies and regulations rather than those to which they apply, the need to access European funds to create a single digital system (which is already underway), as well as attracting investment and developing projects, such as those in cooperation with Japan, and the existence of a revised agenda for the next decade of the Black Sea Economic Cooperation Organization, described in a long-term strategy document that includes the main lines of action and economic objectives of **Romania**.

However, in the current context, Romania does not seem to have a unified “national project” expressly dedicated to economic diplomacy only. On the other hand, efforts and initiatives that could be considered part of an economic diplomacy strategy include accession to the Organization for Economic Cooperation and Development (OECD) and the implementation of the National Recovery and Resilience Plan (PNRR). Accession to the OECD is viewed as a national priority and regarded as a national project that would revitalize the local economy and improve development in the medium and long term. These initiatives underscore **Romania's** commitment to major reforms and economic growth, which are essential for economic diplomacy, although there is no explicitly defined project labeled as “economic diplomacy”.



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CRISES PROPAGATED IN THE MEDIA AND THE PUBLIC OPINION

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Abstract: *The article examines disinformation in the media. It analyzes the causes of its spread, its impact on society, and possible measures to reduce its impact. In the era of globalization and rapid development of information technology, information has acquired key importance, influencing all aspects of public life. The media have become the main channel for disseminating information, shaping public opinion, and influencing political processes. However, this has also given rise to a serious problem: disinformation, which is the dissemination of false or distorted information for the purpose of manipulation. Disinformation in the media undermines public trust in information sources, contributes to the polarization of opinions, and leads to incorrect political decisions. With the rapid development of the Internet and social networks, fake news and manipulation are becoming increasingly sophisticated and widespread, raising serious concerns about the stability and security of society. The aim of this article is to systematize knowledge about the nature of disinformation in modern media, to analyze its main distribution channels and to propose a comprehensive model of countermeasures that combines technological, educational and legal solutions. The scientific novelty of this paper lies in its interdisciplinary approach, which links theories of mass media influence, cognitive psychology, and political science. Unlike previous studies, which focus on individual aspects (such as fact-checking), this article examines disinformation as a systemic phenomenon requiring a multi-layered response. The research hypothesis posits that effective countermeasures against disinformation are possible only through a combination of “hard” measures (platform regulation, AI-powered moderation) and “soft” tools (media literacy, building trust in expertise). This study provides a framework for a detailed analysis, emphasizing that disinformation is not merely a technical problem, but a symptom of the deep social and political contradictions of the digital age. The article also pays particular attention to the role of new technologies and social media in the spread of false information.*

Keywords: *disinformation, mass media, fake news, media literacy, mass media, social networks, manipulation, fact checking, public opinion, internet.*

Introduction

In today's world, the information environment plays a vital role in shaping public opinion and perceptions of reality. However, in recent years, the problem of disinformation has become one of the most pressing threats



to society. Disinformation consists of messages that are deliberately created or distorted to mislead people¹. Along with globalization and the development of digital technologies, this issue is becoming increasingly significant, requiring a comprehensive analysis and the development of effective methods to address it.

The main reasons for the spread of disinformation

The spread of disinformation in today's information environment is determined by a multitude of factors that interact with and reinforce each other. Let us examine more closely those that are most important.

1. Rapid growth in social media use

Social media has become one of the key platforms for disseminating information in modern society. It offers users the opportunity to quickly and easily share news, photos, videos, and other types of content. Nevertheless, this freedom also creates conditions for the rapid spread of fake news and disinformation².

An important aspect is algorithmic content recommendation. Social media platforms use complex algorithms to analyze users' interests and display content they deem most interesting. These algorithms often favor sensational and emotionally charged content, which facilitates its widespread dissemination³. For example, studies have shown that fake news spreads faster and more widely than reliable information, due to its emotional appeal⁴.

What is more, social media often becomes a hub for lively discussions and reposts, further amplifying the spread of disinformation.

¹ Vosoughi S., Roy D., Aral S. Răspândirea știrilor adevărate și false online / S. Vosoughi, D. Roy, S. Aral // Science. – 2018. – Vol. 359, Nr. 6380. – P. 1147– DOI: 10.1126/science.aap9559.

² Allcott H., Gentzkow M. Rețelele de socializare și știrile false în alegerile din 2016 / H. Allcott, M. Gentzkow // Journal of Economic Perspectives. - 2017. - Vol. 31, Nr. 2. - P. 211-236. - DOI: 10.1257/jep.31.2.211.

³ Bakshy E., Messing S., Adamic LA Expunerea la știri și opinii diverse din punct de vedere ideologic pe Facebook / E. Bakshy, S. Messing, LA Adamic // Science. – 2015. – Vol. 348, nr. 6239. – p. 1130–1132. – DOI: 10.1126/science.aaa1160.

⁴ Vosoughi S., Roy D., Aral S. Răspândirea știrilor adevărate și false online / S. Vosoughi, D. Roy, S. Aral // Science. – 2018. – Vol. 359, Nr. 6380. – P. 1149 – DOI: 10.1126/science.aap9559.



Users may not verify information before posting it, relying on the credibility of the source or simply trusting their friends and followers. As a result, even an insignificant percentage of incorrect information can quickly become a widespread phenomenon⁵.

2. Economic component

The economic interests of media companies play a significant role in the spread of disinformation. In a climate of fierce competition for the general public's attention, numerous media outlets strive to attract as many readers, viewers, and advertisers as possible. To accomplish this, they employ a variety of methods, which include creating sensational headlines and publishing sensationalist news stories⁶.

This practice, known as "sensational journalism," relies on the use of shocking or provocative topics as a means of generating traffic and advertising profits. Journalists and editors may deliberately exaggerate facts or interpret events in a way that maximizes public interest. In some cases, this leads to the dissemination of false or distorted information⁷.

Another aspect of economic motivation is the influence of sponsors and advertisers. Some media companies may be compelled to publish content that benefits certain financial groups or political forces, even if that content is not true. Such situations are particularly dangerous because they undermine trust in the media and create a false perception of reality⁸.

3. Political influence and manipulation

In addition, political forces actively use disinformation to achieve their goals. In the context of globalization and rising political tensions, the manipulation of information is becoming one of the main tools in the struggle for power. Politicians and their supporters can use fake news to

⁵ Guess AM, Nagler J., Tucker JA Mai puțin decât credeți: Prevalența și predictorii diseminării știrilor false pe Facebook / AM Guess, J. Nagler, JA Tucker // *Science Advances*. – 2019. – Vol. 5, Nr. 1. – DOI: 10.1126/sciadv.aau4586.

⁶ Tandoc EC, Lim ZW, Ling R. Definirea „știrilor false” / EC Tandoc, ZW Lim, R. Ling // *Jurnalism digital*. – 2018. – Vol. 6, Nr. 2. – p. 137–153. – DOI: 10.1080/21670811.2017.1360143.

⁷ Frolova V.I. Strategii provocatoare în complexul de titluri al unui text media: aspect etic / V.I. Frolova // *Buletinul Universității Volga numită după V.N. Tatishchev*. - 2018. - Vol. 1, Nr. 1. - pp. 152-162.

⁸ McChesney RW, Nichols J. Moartea și viața jurnalismului american: Revoluția media care va da startul lumii din nou / RW McChesney, J. Nichols. – Nation Books, 2010, p. 288.



discredit their opponents, cultivate a positive image of themselves, or create artificial crises⁹.

The so-called “bots” and “trolls” play a special role in this process, actively spreading disinformation through social media and other digital platforms. These accounts are often created specifically as part of disinformation campaigns and can operate automatically, generating a huge number of messages in a short span of time.¹⁰ This creates the illusion of widespread support or, on the contrary, of outrage, which can significantly influence public opinion.

One example of such influence is the use of disinformation during elections. Fake news can distort voters’ perceptions of certain candidates or parties, which ultimately influences the outcome of the vote. In some countries, instances of disinformation have already been recorded as a means of interfering with electoral processes, raising serious concerns about democratic integrity and the transparency of elections.¹¹

4. Lack of regulation and oversight

The lack of effective regulation and oversight of information dissemination also contributes to the spread of disinformation. Unlike traditional media, online platforms often bear no responsibility for the content of the materials they publish. This creates conditions for the uncontrolled spread of false information and allows malicious actors to operate with virtual impunity.¹²

⁹ Benkler Y., Faris R., Roberts H., Zuckerman E. *Propaganda în rețea: Manipulare, dezinformare și radicalizare în politica americană* / Y. Benkler și colab. – Oxford University Press, 2018. – p. 528.

¹⁰ Howard P.N., Kollanyi B., Bradshaw S., Neudert L.-M. *Rețelele de socializare, știrile și informațiile politice în timpul alegerilor din SUA: A existat o problemă cu boții?* [Online source] / PN Howard și colab. // Oxford Internet Institute. – URL: <https://comprop.oii.ox.ac.uk/research/us-political-bots/> (accessed on 29.01.2025).

¹¹ Feldman P. Ya., Fedyakin A. V., Yezhov D. A. *Tehnologii de interferență în alegeri: înțelegere științifică în căutarea certitudinii semantice* / P. Ya. Feldman, A. V. Fedyakin, D. A. Yezhov // *Buletinul Universității de Stat din Tomsk. Filosofie. Sociologie. Științe Politice.* - 2019. - Nr. 50. - p. 210–218. - DOI: 10.17223/1998863x/50/18.

¹² Wardle C., Derakhshan H. *Tulburarea informațională: Către un cadru interdisciplinar pentru cercetare și elaborare de politici* [Online source] / C. Wardle, H. Derakhshan // *Consiliul Europei.* – URL: <https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-research-and/1680767afe> (accessed on 29.01.2025).



Even when the law stipulates liability for the dissemination of fake news, its enforcement frequently encounters obstacles. Defining the boundaries between freedom of expression and the ban on disinformation is a complex task that requires a careful balance. Furthermore, differences between the legal systems of various countries complicate international cooperation in this area.¹³

The lack of oversight by government agencies and independent organizations also fosters conditions conducive to the spread of disinformation. In some cases, governments themselves can be sources of false information, using it to manipulate public opinion or achieve political objectives. This is particularly true in authoritarian regimes, where press freedom is limited and access to reliable information is restricted.¹⁴

5. Technological factors and new media

Technological advances are creating new opportunities for generating and disseminating disinformation. One such example is the use of artificial intelligence (AI) and machine learning to create high-quality fake content. For example, deepfake technologies allow for making videos in which real people say things they have never said or do things they have never done¹⁵.

These technologies pose a serious threat because they make disinformation more persuasive and harder to detect. Even experienced users can be misled if they lack the expertise and tools to verify the accuracy of the content. This presents new challenges for journalists, researchers, and law enforcement agencies, who must adapt to the changing environment.¹⁶

¹³ Norris P. *Decalajul digital: Implicare civică, sărăcia informațională și internetul la nivel mondial* / P. Norris. – Cambridge University Press, 2001 – p. 312.

¹⁴ Chesney B., Citron DK *Falsurile profunde: O provocare iminentă pentru confidențialitate, democrație și securitate națională* / B. Chesney, DK Citron // *California Law Review*. – 2019. – vol. 107, nr. 6. – p. 1753–1790.

¹⁵ West J. *Deepfakes și noul război al dezinformării: Epoca viitoare a geopoliticii post-adevăr* [Online source] / J. West // *Foreign Affairs*. – URL: <https://www.foreignaffairs.com/articles/china/2019-01-15/deepfakes-and-new-disinformation-war> (accessed on 29.01.2025)

¹⁶ Newman N., Fletcher R., Schulz A., Andı S., Nielsen RK, *Raportul de știri digitale al Institutului Reuters 2020* [Resursă electronică] / N. Newman și colab. // Institutul Reuters



In addition, the rise of new media is creating a new information environment in which traditional news sources are losing their relevance. People are increasingly turning to bloggers, vloggers, and other independent content creators, who may not have the necessary training to verify information and adhere to professional standards. This creates additional risks for the spread of misinformation and requires new approaches to prevent it.¹⁷

The impact of disinformation on society

Disinformation carries a wide range of negative consequences for various aspects of society. Its influence extends to politics, the economy, healthcare, social relations, and even individuals' perceptions of reality. We will examine these issues in greater detail.

1. Political influence

One of the most significant aspects the influence disinformation has is its impact on politics. Disinformation can significantly influence the results of elections, the public opinion, and the confidence in government institutions.

Shaping public opinion

Fake news and disinformation are capable of altering people's perceptions of certain political figures or parties. For example, spreading false information about corruption, ties to criminal groups, or other scandals can seriously damage the reputation of a candidate or a political party¹⁸. This is particularly relevant in the context of information warfare, in which opponents use disinformation to discredit one another.

Research shows that fake news can significantly influence elections. More specifically, it can shift voters' preferences by creating artificial trends

pentru Studiul Jurnalismului. – URL: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-06/DNR_2020_FINAL.pdf (accessed on 29.01.2025).

¹⁷ Pennycook G., Rand DG Efectul adevărului implicit: Atașarea de avertismente unui subset de știri false crește acuratețea percepută a știrilor fără avertismente / G. Pennycook, DG Rand // Management Science. – 2019. – Vol. 66, Nr. 11. – P. 4944–4957. – DOI: 10.1287/mnsc.2019.3478.

¹⁸ Benkler Y., Faris R., Roberts H., Zuckerman E. Propaganda în rețea: Manipulare, dezinformare și radicalizare în politica americană / Y. Benkler și colab. – Oxford University Press, 2018 – p. 528.



and manipulating their emotions.¹⁹ Some studies suggest that fake news can have long-term consequences, creating stereotypes and biases that persist even after the lies have been debunked.²⁰

Interference in electoral processes

Over the past few years, it has become clear that disinformation is used not only for internal political battles, but also as a means of interfering in the electoral processes of other countries. One such example is the interference in the 2016 U.S. presidential election, where there were instances of fake news and bots being used to influence public opinion.²¹ Such actions undermine democratic principles and raise serious concerns about the security and transparency of elections.

Romania's experience also illustrates the way in which disinformation can influence political processes. For example, a study conducted by American researchers found that, during the country's elections, social media was actively used to spread false information that might have influenced the outcome of the vote.²²

Undermining trust in government institutions

Disinformation can also undermine public trust in government agencies and institutions. If citizens come to believe that official information is false or distorted, it can lead to a decline in trust in the government, parliament, and other public institutions. This creates

¹⁹ Levitsky S., Ziblatt D. *How Democracies Die* / S. Levitsky, D. Ziblatt. – Coroana, 2018 – p. 320.

²⁰ Grady RH, Ditto PH, Loftus EF Cu toate acestea, partizanatul a persistat: avertismentele privind știrile false ajută pe scurt, dar prejudecățile revin în timp / RH Grady, PH Ditto, EF Loftus // *Cercetare cognitivă: principii și implicații*. – 2021. – Vol. 6, Articolul 52. – DOI: 10.1186/s41235-021-00315-z.

²¹ Howard P.N., Kollanyi B., Bradshaw S., Neudert L.-M. Rețelele de socializare, știrile și informațiile politice în timpul alegerilor din SUA: A existat o problemă cu boții? [Online source] / PN Howard și colab. // Oxford Internet Institute. – URL: <https://comprop.oii.ox.ac.uk/research/us-political-bots/> (accessed on 29.01.2025).

²² Derevyanchenko A.A. Frauda în alegerile pentru Duma de Stat a celei de-a VIII-a Convocații în centrul atenției rețelelor sociale / A. A. Derevyanchenko // *E-Scio*. - 2022. - Nr. 9 (72). - pp. 76 - 82.



conditions for increased political polarization and social conflict, as people lose faith in the prospect of fair and objective governance.²³

2. Impact on public health

Disinformation in the medical domain poses a particular threat, as it can have a direct impact on people's health and lives. Disinformation about medical treatments, vaccines, and other aspects of healthcare can have serious consequences.

Refusal of vaccination

One of the most striking instances showing the impact of disinformation on public health is vaccine hesitancy. In recent years, a number of countries have seen an increase in the number of parents refusing to vaccinate their children due to the proliferation of myths about the risks of immunization. These myths are often based on false information spread through social media and other platforms.²⁴ As a result, collective immunity is reduced, increasing the risk of outbreaks of infectious diseases such as measles and polio.

In Romania, vaccination rates are declining, partly due to the spread of anti-vaccination campaigns. The results of a study aimed at identifying the connections between anti-vaccination behavioral strategies (among Romanians) have shown that disinformation about vaccines has become one of the reasons for the refusal to vaccinate among population.²⁵

Incorrect medication

Disinformation can also lead to the use of inappropriate treatments. People may rely on advice found online that is not based on scientific evidence and may even be dangerous. For example, the spread of false information about "miracle" cures for cancer or other serious diseases can

²³ Roser M., Ritchie H., Ortiz-Ospina E., Hasell J. Pandemia de coronavirus (COVID-19) [Online source] / M. Roser și colab. // *Lumea noastră în date.* – URL: <https://ourworldindata.org/coronavirus> (accessed on 29.01.2025).

²⁴ Nyhan B., Reifler J. Efectul verificării faptelor asupra elitelor: Un experiment de teren asupra legislatorilor statali din SUA / B. Nyhan, J. Reifler // *American Journal of Political Science.* – 2019. – Vol. 63, Nr. 3. – p. 547–564. – DOI: 10.1111/ajps.12423.

²⁵ Leskova I. V., Zyazin S. Yu. Neîncrederea în vaccinare ca o falsitate informațională / I. V. Leskova, S. Yu. Zyazin // *Probleme de igienă socială, îngrijire medicală și istoria medicinei.* – 2021. – Nr. 29 (1). – p. 37 - 40. – DOI: 10.32687/0869-866X-2021-29-1-37-40.



cause patients to abandon recommended treatments and use ineffective or even harmful medication.²⁶

Professional studies also confirm this trend, as scientific data show that numerous patients prefer to use alternative therapies based on unreliable information, potentially causing adverse health effects.²⁷

Psychological impact

In addition, disinformation related to health issues can have a psychological impact, causing fear, anxiety, and panic among the public. For example, the spread of rumors about the possible end of the world due to a global pandemic or an environmental disaster may lead to mass hysteria and chaos²⁸. This presents additional challenges for health and law enforcement agencies, as they need to deal with the consequences such panic can cause.

During the COVID-19 pandemic, Romania reported a significant number of cases of false information related to the virus and the measures taken to prevent it. A study conducted with the support of the Romanian Ministry of Education and Research found that this incorrect information about the coronavirus caused anxiety and concern among the public, thus complicating the work of health care services.²⁹

3. Economic impact

Disinformation also has an impact on the economy, as it can undermine confidence in the financial markets, companies, or goods.

Decisions on investments

False information about the health of the economy, the financial position of companies, or market prospects can lead to poor investment

²⁶ Shiller RJ.. *Economie narativă: Cum devin virale poveștile și conduc evenimente economice majore* / RJ Shiller. – Princeton University Press, 2019. – p. 352.

²⁷ Zotova L. A., Chetvertakova S. I. Analiza frecvenței utilizării independente a medicinei alternative și netradiționale de către pacienții cu patologie reumatologică în practica clinică ambulatorie / L. A. Zotova, S. I. Chetvertakova // *Probleme moderne ale științei și educației*. - 2023. - Nr. 2.

²⁸ Iyengar S., Sood G., Lelkes Y. Afect, nu ideologie: O perspectivă a identității sociale asupra polarizării / S. Iyengar, G. Sood, Y. Lelkes // *Public Opinion Quarterly*. – 2012. – Vol. 76, Nr. 3. – pp. 405–431. – DOI: 10.1093/poq/nfs038.

²⁹ Burkova V.N., Butovskaya M.L. Coronafobie, infodemie și falsuri în timpul COVID-19 / V.N. Burkova, M.L. Butovskaya // *Cercetări istorice siberiene*. - 2023. - Nr. 2. - pp. 55-75. - DOI: 10.17223/2312461X/40/3.



decisions. Investors may make decisions based on inaccurate information, which may result in capital losses and even bankruptcy.³⁰ For instance, rumors circulating about a major company's imminent bankruptcy can cause its stock price to plummet, even if the rumors are unfounded.

Business damage

Furthermore, disinformation can directly undermine a business. For example, spreading false information about the quality of a company's products or services can damage its reputation and cause it to lose customers. This is especially true for small and medium-sized firms, as they may not have adequate resources to protect their reputation.³¹ In some cases, companies are forced to spend significant resources to fight disinformation and restore their brand image.

Romanian companies are also facing problems related to disinformation. Small and medium-sized enterprises in Romania often suffer from the spread of false information, which leads to reduced profits and a loss of competitiveness.

4. Social consequences

Disinformation has the potential to significantly influence social relationships and societal structures by increasing polarization, creating artificial conflicts, and fostering false stereotypes.

Polarization of society

One of the most visible effects of disinformation is the increase in social polarization. False information is often used to generate opposing viewpoints and exacerbate conflicts between different groups. For example, spreading myths about an ethnic group being the source of all societal problems can lead to an increase in racism and xenophobia. This creates the conditions for social tensions and even violence.

The Romanian society is also facing the problem of polarization caused by disinformation. The spread of false information on social media

³⁰ Mutz D.C. *Ascultând cealaltă parte: democrație deliberativă versus democrație participativă* / DC Mutz. – Cambridge University Press, 2006. – p. 328.

³¹ Eagly AH, Karau SJ *Teoria congruenței rolurilor în prejudecățile față de femeile lider* / AH Eagly, SJ Karau // *Psychological Review*. – 2002. – Vol. 109, Nr. 3. – p. 573–598. – DOI: 10.1037/0033-295X.109.3.573.



networks contributes to an increase in intergroup tensions and a decrease in mutual understanding among different social groups³².

Creating artificial conflicts

Disinformation can also be used as a tool to create artificial conflicts between different segments of the population. For example, false information about a professional group (such as doctors or teachers) receiving excessively high salaries may cause discontent among other categories of workers and lead to social unrest. As a result, society becomes increasingly divided, and its ability to address issues of common concern is diminished.

Romania has also seen cases of disinformation being used to create artificial conflicts. Research has shown that spreading false information about salaries across various professions is likely to lead to social unrest and protests³³.

Fostering false stereotypes

Ultimately, false information can create misconceptions and prejudices that persist over time. For example, spreading the myth that women are less competent than men in certain professions may lead to discrimination and limited opportunities for women³⁴. This creates additional barriers to equality and social justice. Research also confirms the existence of false stereotypes³⁵.

Possible actions aimed at reducing the impact of disinformation

Reducing the impact of disinformation is a complex task that requires a comprehensive approach involving individuals, societies, tech

³² Panishchev A.L., Saprionov A.V. Factorii polarizării sociale / A.L. Panishchev, A.V. Saprionov // Buletinul Universității de Stat din Sud-Vest. Serie: Economie. Sociologie. Management. - 2019. - Vol. 9, Nr. 4 (33). - pp. 175-182.

³³ Murasheva S.V. Conflictele sociale ca și cauze și consecințe ale contradicțiilor din societatea rusă / S.V. Murasheva // Perspective asupra societății și securității. - 2021. - Nr. 2. - pp. 151-164. - DOI: 10.14258/ssi(2021)2-12.

³⁴ Fedorov V.Kh., Shekhova M.S., Safonova S.G., Kuvichkin N.M. Influența stereotipurilor de gen asupra formării și eficienței pieței muncii din Rusia / V.Kh. Fedorov, M.S. Shekhova, S.G. Safonova, N.M. Kuvichkin // Jurnalul Economic din Moscova. - 2021. - Nr. 12. - pp. 457 - DOI: 10.24412/2413-046X-2021-10724.

³⁵ Bartenev D.G. Profesii interzise pentru femei: un nou motiv pentru dialogul dintre Curtea Constituțională a Rusiei și Comitetul ONU? / D.G. Bartenev // Justiție internațională. - 2016. - Nr. 3 (19). - p. 37-47. - DOI: 10.21128/2226-2059-2016-3-37-47.



platforms, and governments. We will now look at the necessary measures that can be taken to combat disinformation:

1. Education and improving media literacy:

- Media literacy: Programs that promote critical thinking and information analysis will help people distinguish credible sources from fake news. It is important to be able to recognize manipulative techniques, such as quotes taken out of context or altered photographs;

- Funding for educational programs: schools and universities should include modules on media literacy in their curricula, so that pupils and students can learn to critically evaluate information and understand the mechanisms of disinformation³⁶.

- Public campaigns: Developing public awareness campaigns aimed at promoting information literacy may help a wider audience understand the importance of critically evaluating the news.

2. Regulation of social media and digital platforms:

- Strengthening platform oversight: social media and other online platforms need to be held accountable for the content they distribute. This could include the mandatory use of algorithms for detecting fake news, as well as transparent rules for advertisers;

- Algorithmic transparency: Platforms should be more open about the way their algorithms determine which news stories to surface to users. Doing so will help minimize the impact of “information bubbles”, in which people are only exposed to information that reinforces their existing views;

- Legislation against disinformation: Countries can pass laws regulating social media platforms and require them to block or label certain information as being false.

3. Promoting journalistic ethics and media independence:

- Establishing and supporting independent media: Independent media organizations play a vital role in providing high-quality, verified information. Supporting these organizations through grants, donations, or other forms of funding can help create a reliable information environment;

³⁶ McGrew S., Breakstone J., Ortega T., Smith M., Wineburg S. Pot elevii să evalueze sursele online? Învățând din evaluările raționamentului civic online / S. McGrew și colab. // Teorie și cercetare în educație socială. – 2018. – Vol. 46, nr. 2. – pp. 165–193. – DOI: 10.1080/00933104.2017.1416320.



- Journalistic ethics: Journalists must adhere to strict standards when writing and publishing stories, including fact-checking and refraining from using unreliable sources;

- Fact-checking: Developing independent fact-checking projects contributes to refuting false claims and preventing the further spread of misinformation.

4. Coordination among various participants:

- Public-private partnerships: Governments, tech companies, and civil society can work together to develop and implement effective measures to combat disinformation. For example, governments can provide data for analysis, and platforms can use it to improve their content filtering mechanisms;

- International cooperation: Disinformation is often a cross-border issue. It is therefore important to coordinate efforts among countries, particularly within international organizations such as the UN or the OSCE, to develop unified approaches in order to address it.

5. Technological solutions:

- Use of artificial intelligence (AI): AI algorithms can automatically scan content to detect hoaxes, manipulated images, and videos (known as “deepfakes”). Such technologies can help identify and block unreliable information faster³⁷;

- Early warning systems: creating systems capable of quickly responding to the widespread dissemination of disinformation will make it possible to promptly curb its impact;

- Content labeling: Platforms can implement systems that flag controversial or unverified content, warning users of potential risks.

6. Responsibility for the generation and spread of disinformation:

- Legal liability: Enacting laws that establish legal liability for the intentional dissemination of disinformation can serve as a deterrent³⁸.

³⁷Silverman C. Minciuni, minciuni blestemate și conținut viral: Cum răspândesc (și infirmă) site-urile de știri zvonuri online, afirmații neverificate și dezinformare [Online source] / C. Silverman // Centrul Tow pentru Jurnalism Digital, Universitatea Columbia. – URL: <https://academiccommons.columbia.edu/doi/10.7916/D8QF8NFJ> (accessed on 29.01.2025).

³⁸ Wardle C., Derakhshan H. Tulburarea informațională: Către un cadru interdisciplinar pentru cercetare și elaborare de politici [Online source] / C. Wardle, H. Derakhshan //



However, it is important to find a balance between protecting freedom of expression and countering fake news;

- Fines for platforms: If platforms fail to comply with their obligations to remove or label inaccurate information as such, they may be subject to fines or other penalties.

7. Increased trust in official sources of information:

- Data transparency and accessibility: Government agencies and organizations must be as open as possible about their activities and provide accurate data so that people may trust them as reliable sources of information;

- Communication during crises: During emergency situations, such as outbreaks or natural disasters, authorities must actively engage with the public, providing accurate and timely information to minimize the risk of false information spreading.

Conclusion

Thus, the problem of disinformation is one of the most pressing and complex challenges confronting modern society. It affects various spheres of life, including politics, the economy, science, and social relations, posing significant risks to stability and security. Our research has shown that combating disinformation requires a comprehensive approach that must address multiple aspects – from increasing public media literacy to implementing technological solutions and creating legislative mechanisms.

The first step in this direction is improving media literacy. Educational programs aimed at developing critical thinking and information analysis skills play a key role in building a resilient society that is capable to resist manipulation. It is important not only to educate the younger generation but also to pursue educational efforts among adults, as disinformation has the potential to impact everyone.

At the same time, digital platforms must take greater responsibility for the content they disseminate. Technology companies must be more transparent regarding the functioning of their algorithms and actively participate in filtering out false information. Introducing legal liability for



the production and dissemination of disinformation, as well as employing artificial intelligence to detect it, could be important tools in this fight. However, it is important to maintain a balance between regulation and the protection of freedom of expression, so as not to restrict citizens' rights to express their opinions.

Supporting journalistic ethics and media independence also plays a vital role. Independent media organizations and fact-checking projects help secure access to reliable information and minimize the impact of fake news. States and international organizations should support such initiatives by providing them with the necessary resources and protection against pressure from those interested in spreading disinformation.

In addition, it is important to strengthen international cooperation in the fight against disinformation. Since this problem often transcends borders, coordinating efforts among different countries and organizations can significantly increase the effectiveness of the measures taken. Establishing global standards and practices, as well as sharing experience and knowledge among stakeholders, are important steps forward in successfully addressing the problem.

Finally, it is worth noting that disinformation will continue to evolve alongside technological advances. It is therefore crucial to continuously refine the strategies and methods used to combat it. Research on new forms of disinformation, such as deepfake videos and automated botnets, and the development of appropriate technologies to detect and prevent them, should be a priority for the scientific community.

Consequently, combating disinformation is a multifaceted and constantly evolving task that requires a systemic approach and the joint efforts of various stakeholders. Only through the concerted efforts of citizens, governments, technology companies, and international organizations can meaningful results be achieved in this area. It is important to remember that success in combating disinformation depends not only on the implementation of specific measures, but also on changing cultural norms and attitudes that promote a society based on trust and mutual respect.



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PARTNERSHIPS WITH CIVIL SOCIETY TO BUILD TRUST IN LAW ENFORCEMENT AND PUBLIC SAFETY AUTHORITIES

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Abstract: *The development of a partnership model between the state and civil society institutions is a pressing issue in the field of national security studies, both in Romania and abroad. Of particular interest are the theoretical and practical aspects of defining the essence, characteristics, and principles of social partnership, whose manifestations vary across different legal systems. This article attempts to characterize partnership as a type of social interaction.*

An analysis is conducted regarding the significance of the term “partnership” in modern foreign academic literature. The key characteristics of the partnership model—which represents the interaction between actors—are described, with a focus on the partnership between the police and civil society institutions. Conclusions are drawn regarding the effectiveness of the partnership model, which represents cooperation between the police and civil society institutions in modern Romania; patterns of public involvement in the implementation of state functions in the field of public safety under present-day conditions; and the importance of trust for the implementation of effective partnerships.

The article outlines the key components of a partnership mechanism between state institutions and civil society organizations in the field of law enforcement. It also describes the experiences of various countries regarding partnerships between law enforcement agencies and civil society institutions. Understanding these experiences should contribute to the development of effective forms of partnership between the police and civil society institutions in modern Romania.

Keywords: *law enforcement function of the state, police, civil society, interaction, cooperation, partnership, partnership model for cooperation.*

The relationship between the state and society is becoming particularly relevant in today’s world, primarily due to the desire of civil society to engage in addressing significant social issues across various spheres of public life. Society strives to actively participate in government activities by forming unique community structures to assist and support government bodies. Taking into account the positive results of active cooperation with individual citizens and civil society institutions in various



areas of public life, the state allows society to enter into the mechanisms of governance and recognizes the possibility of establishing partnerships with its institutions.

Despite the attention devoted by scholars from various fields to the phenomenon of “civil society” and the functioning of civil society institutions in contemporary Romania, the theoretical and legal aspects of the formation of partnerships between government bodies and civil society in modern Romania have not yet become a specific subject of academic research.

The multifaceted issue of the relationship between the state and civil society has been addressed by many researchers. At the same time, as a historiographical analysis has shown, issues regarding the theoretical and legal aspects of forming partnerships between government agencies and civil society institutions, partnership, as a model of cooperation between the state and civil society institutions in implementing the state’s law enforcement function, has not yet been comprehensively characterized . Moreover, the potential of partnerships between civil society institutions and the state in implementing the modern state’s law enforcement function has not been comprehensively assessed. The issues surrounding the interaction between the police and civil society in Romania, which create difficulties in implementing cooperation, have not been adequately identified and evaluated¹.

The reality of public life in Romania has been shaped by various models of relations between the state and society. The notions opposing the state and society, or the absorption of civil society by the state or that of the state by civil society, have lost their relevance. Practice shows that cooperation between the state and civil society lies at the heart of modern social relations.

In the modern era, which marks a new stage in social development, in order to fully safeguard private and public interests, the state and civil society are closely interacting in various ways, through mutual influence within certain limits of intervention, mutual assistance, mutual oversight,

¹ Departament for International Development. Programme partnership arrangements. Londra. DFID. 2020. - <https://www.gov.uk/international-development-funding/programme-partnership-arrangements>.



mutual accountability, and cooperation in the implementation of state functions².

Relations between the state and civil society institutions can constitute a form of social partnership, involving citizens, on the one hand, and the state, on the other. The nature of this partnership and its distinctive characteristics have been the subject of particular interest among social scientists and government officials.

What is the meaning of the term “partnership” in modern academic literature? International academic literature notes that partnership involves cooperation, mutual trust, and interaction among individuals and organizations, which are necessary for achieving a common goal. In modern international social sciences, the term “partnership” has become part of common vocabulary, although it still lacks a unified definition and retains multiple interpretations. International researchers most often view partnership as a form of organization or as a characteristic of political institutions³.

R. W. McQuaid and D. Lewis view partnership as a model of cooperation, mutual trust, and interaction between people and organizations, necessary for attaining a common goal. They believe that partnership involves relationships between two or more stakeholders who pool their various resources in order to jointly achieve common objectives⁴.

² Ferreira S. Parteneriatul public-privat în Angola: cazul atelierului de dezvoltare și al companiei de apă. *Disertação (Mestrado em Estudos do Desenvolvimento)*. Centro de Estudos do Desenvolvimento. Universidade din Țara Galilor, Swansea, 2003, p.234.

³ Menshikova N. S. Parteneriatul ca o condiție pentru aplicarea eficientă a legii în condiții moderne // *Probleme actuale de drept și aplicare a legii: Lucrările Conferinței științifice și practice din întreaga Rusie din 29 septembrie 2017*. Krasnodar: Universitatea Krasnodar Ministerul Afacerilor Interne al Rusiei, 2017. pp. 398–404.

⁴ McQuaid R. W. Teoria parteneriatului: de ce există parteneriate? // Osborne S. P. *Parteneriate public-private: teorie și practică în perspectivă internațională*. Londra: Routledge, 2002, pp. 9–35.

Lewis D. Construirea unui parteneriat „activ” în țările beneficiare de ajutor: lecții dintr-un proiect de dezvoltare rurală în Bangladesh // Osborne S.P. *Parteneriate public-private: teorie și practică în perspectivă internațională*. Londra: Routledge, 2002, pp. 252–264.



International researchers point out that partnerships have become widespread worldwide, particularly in the field of governance⁵, as well as in formal and political institutions⁶. This type of cooperation is most often established in line with the main areas of government activity⁷.

The development and implementation of partnership initiatives are largely dependent on the legal provisions of current legislation and on the government's ability to establish incentives that encourage innovation. R. Evans emphasizes that "the distinctive features of partnerships are the complementarity of the collaborating parties and the fact that their interactions are guided by formal authorities' directives"⁸. The complementarity between partners is aimed at "problem-solving" and efficiently finding solutions to specific social issues. Success in addressing socially significant problems strengthens cooperation, confirming that partnerships "can be quickly established"⁹.

A review of the studies conducted by domestic and international researchers suggests that this partnership has the following key characteristics:

- equality among partners;
- mutual trust;
- self-organization of the parties;
- voluntary participation in the partnership;
- mutually beneficial participation in the partnership;

⁵ Evans P. Acțiunea guvernamentală, capitalul social și dezvoltarea: o analiză a dovezilor privind sinergia // Evans P. Sinergia stat-societate: guvern și capital social în dezvoltare. Berkeley: Universitatea din California, 1997. pp. 178–210.

Tendler J. Buna guvernare în zonele tropicale. Baltimore: John Hopkins University Press, 1997. p. 221.

Banca Mondială. Parteneriat public-privat. Washington: Banca Mondială. 2020. – <http://www.worldbank.org/en/topic/publicprivatepartnerships> (accessed on 27.01.2020).

⁶ Ibidem

⁷ Banca Mondială. Parteneriat public-privat. Washington: Banca Mondială. 2020. – <http://www.worldbank.org/en/topic/publicprivatepartnerships> (data accesării: 27.01.2020).

⁸ Evans P. Acțiunea guvernamentală, capitalul social și dezvoltarea: o analiză a dovezilor privind sinergia // Evans P. Sinergia stat-societate: guvern și capital social în dezvoltare. Berkeley: Universitatea din California, 1997, p. 200.

⁹ Ferreira S. Parteneriatul public-privat în Angola: cazul atelierului de dezvoltare și al companiei de apă. Disertação (Mestrado em Estudos do Desenvolvimento). Centro de Estudos do Desenvolvimento. Universidade din Țara Galilor, Swansea, 2003, p.176.



– complementarity between partners; - transparency and openness of partnership activities.

As shown by an assessment of the interaction between government agencies and civil society institutions in Romania and abroad, the participation of self-organized communities in the planning and management of long-term public programs minimizes the conflicts of interest that may arise between various stakeholders and promotes the interests of society as a whole.

According to V. L. Lyubashits, “the emergence of partnerships between civil society institutions and government bodies requires a set of specific conditions: compliance with the legal provisions of normative acts; non-interference in the jurisdiction of the parties’ competent bodies, as defined by law; interaction on an equal footing; the adoption of coordinated decisions; and the rejection of public cross-sectoral confrontation”¹⁰. In order to establish a partnership between the government and civil society, efforts are needed from both sides, as well as dialogue between government agencies and civil society organizations.

In modern Romania, civil society institutions have been granted the authority to operate in various fields: together with government agencies, they can help combat extremism, ethnic and religious hate speech, and rising interethnic tensions; they can participate in the development of management decisions regarding the country’s national policy; they can participate in efforts to prevent crime, ethnic conflicts, and manifestations of interethnic intolerance or hostility; they can exercise public oversight; they can participate in activities aimed at raising civic awareness and harmonizing interethnic relations. The partnership between the state and self-organized communities determines the success of public policies and ensures the effective implementation of state functions.

“The coexistence of the modern state and civil society is a complex process in which ensuring security and public order becomes the responsibility not only of the state, but of society as a whole, while the state, as an entity vested with powers, allows civil society to enter its sphere of

¹⁰ Lyubashits, V. L., „Societatea civilă ca tip istoric de organizație socială”, Buletinul juridic al Caucaziei de Nord. 1998. Nr. 2. p. 45.



activity, enabling civil society institutions to address significant social issues in law enforcement.”¹¹

The interaction between government agencies and society also takes place in the field of law enforcement. In all developed countries, civil society institutions actively collaborate with law enforcement agencies to address internal security issues. In the world today, it is only with public support that law enforcement agencies can effectively combat crime and successfully protect individual rights and freedoms.

In modern Romania, the Ministry of Internal Affairs has identified the strengthening and development of partnerships with civil society institutions as one of the priorities of the Romanian police. Identifying the mechanisms for building partnerships between the police and civil society in modern Romania has the following implications:

- the theoretical and methodological significance, driven by the need for theoretical jurisprudence to come up with new doctrinal approaches, which reflect the current state of knowledge regarding civil society, its interaction with the state, and the models of cooperation implemented between police agencies and civil society institutions in the field of law enforcement, the role of the public in preventing and combating crime;

- the practical significance associated with the complexity and multi-stakeholder nature of civil society and the qualitative heterogeneity of interaction practices between the police, socially active citizens, and civil society institutions in the field of law enforcement, which raises issues related to empowering nongovernmental organizations with the right to participate in law enforcement activities and in the field of human rights, as well as the interaction between the police and civil society institutions in the implementation of the state's law enforcement functions, the participation of self-organized public groups in ensuring public safety and order in the modern Romanian state;

- socio-political significance, driven by the need to address a range of issues related to the ideological underpinnings of political and legal processes in society, concerning the participation of various civil society

¹¹ Menshikova N. S. *Poliția și societatea civilă: Problemele formării parteneriatelor în Federația Rusă (aspect teoretic și juridic): Disertație în științe juridice*. Sankt Petersburg, 2019, p. 3.



institutions in ensuring law and order, and the development of active, value-based attitudes among police officers and members of civil society in their daily professional and public lives.

Forging partnerships between the police and the public is acknowledged as one of the key objectives of the Organization for Security and Co-operation in Europe¹². The desire for police-community partnerships is well established in modern democratic states. The mechanism for partnerships between civil society organizations and the state in the implementation of law enforcement functions comprises several components:

- the subjective component: the group of entities involved in carrying out the state's law enforcement function;
- the legislative component: legally binding acts that serve as the basis for regulating the relationship between state institutions and civil society;
- the functional component: areas of common activity and organizational forms of interaction between the state and civil society.

The foundations of the partnership between the police and civil society organizations are enshrined in the "Declaration on the Police" of the Parliamentary Assembly of the Council of Europe [Resolution No. 690, 1979], as well as in Romania's relevant legislation:

- National Defense Strategy for the period 2025–2030, of November 26, 2025;
- Law No. 61/1991 on the Punishment of Acts Violating the Rules of Social Coexistence, Public Order, and Public Peace;
- regulatory legal acts adopted by the legislative bodies of the constituent entities of the Romanian state.

When a partnership model for relations between the state and civil society is implemented, oversight is exercised over the activities of government agencies. The police only operate within the scope defined by current legislation.

The search for innovative forms of police-civil society partnership in law enforcement is being conducted by drawing on the experiences of

¹² The Final Act of the First CSCE Summit of Heads of State or Government. – <http://www.osce.org/node/39501>.



various countries where the police operate under the principle of “active social partnership”, which involves integrating public engagement into the law enforcement system.

Community policing and problem-oriented policing are of particular interest ¹³.

The following experiences should be considered for reflection and evaluation in terms of their potential application in Romania’s public and legal life:

- implementing crime prevention at the local and community levels in various forms (creating online communities of citizens who participate in law enforcement and crime prevention [Japan, the Netherlands]);
- patrolling of public spaces by self-organized citizens (United Kingdom, Germany, Canada);
- creating law enforcement groups, primarily consisting of volunteers (Belarus, the United Kingdom, the United States, Estonia, Israel);
- forming a police reserve (U.S.);
- cooperating with private security companies (Peru); - practicing police cooperation with religious organizations in the fight against crime (Roseville Police Department Interfaith Task Force [U.S., California])

The following experiences gained from implementing special programs are particularly interesting:

- „Neighborhood Watch” (U.S.);
- „Safe City” (Poland)¹⁴ [Polish Police: official website, 2016];
- „Pathfinder” (Denmark)¹⁵ [Danish Police: official website, 2016];
- the concept of “Law and Order” (United Kingdom);
- the concept of “close policing” (France).

Thus, the partnership model for cooperation between the police and civil society institutions – based on the principles of mutual trust, self-organization, voluntary participation, complementarity among partners, legal equality of the parties, and public and transparent activities –

¹³ Sluchevskaya Yu. Experiența străină a parteneriatelor dintre poliție și populație // Professional. 2011. Nr. 3. p. 19.

¹⁴ Polish Police: official website. 2020. –<http://www.policja.pl/pol/english-version/4889,PolishNational-Police.html>

¹⁵ Danish Police: official website. 2020. –<https://www.politi.dk/en/servicemenu/home>



demonstrates high efficiency in the implementation of state policy and the effectiveness of state functions in the field of public safety.

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GREENLAND - SECURITY CHALLENGE OR ECONOMIC STAKES?

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Abstract: *In recent times, more or less direct references made by U.S. President Donald Trump regarding the United States taking control of Greenland have been increasingly noticed within the public discourse.*

An analysis of the underlying reasons for this concern reveals that, alongside those related to national security, as cited by the White House, there are also economic considerations. Even if these remain somewhat in the background, they are, at the very least, just as important for future economic development.

Even though official rhetoric prioritizes a strategic necessity – that of countering China's presence in the region – the actual data reveals an even more nuanced reality, intertwining this objective with fierce global competition for critical mineral resources.

Therefore, to properly and thoroughly understand the interest in this geographical area, as well as the complexity of the geopolitical situation, it is necessary to look beyond official statements.

Keywords: *resource extraction; national security; duration of maritime routes; strategic autonomy.*

According to official statistics, Greenland covers an area of approximately 2.16 million square kilometers, about 80% of which is covered by ice. As for the population, the country has about 56,000 inhabitants, concentrated mainly in settlements along the coast, with no efficient land-based transportation links in between.

China and the Arctic Region the White House justifies its interest in Greenland by citing the need to counter what it describes as China's growing influence in the Arctic. It is true that in 2018, the Chinese government declared itself a "near-Arctic state"¹, arguing that this is because it is one of the continental states closest to the Arctic Circle, and that the changes in the Arctic "have a direct impact on China's climate and

¹ http://www.xinhuanet.com/english/2018-01/26/c_136926498_2.htm



environmental systems and, in turn, on its economic interests in agriculture, forestry, fisheries, the maritime industry, and other sectors”².

At the same time, the same strategic document emphasizes that, as early as 1925, “China played a constructive role in formulating international rules related to the Arctic and in developing its governance system” and that it is launching an important cooperation initiative to build a polar route, dubbed a “Polar Silk Road,” and to facilitate connectivity and the sustainable economic and social development of the Arctic, so as to bring more opportunities to all the parties involved.

In line with its transparently promoted policy, China has strengthened its access capabilities in the region by building a new icebreaker, designed in partnership with the Finnish company Aker Arctic Technology. According to the company’s estimates, the research vessel Xue Long 2 (Snow Dragon 2), which entered service in 2019, is extremely advanced and will enable scientists to travel to and from Antarctica, where China has four permanent research stations³. However, the Chinese government has only three icebreakers⁴, in comparison with the fleet of over 40 vessels operated by Russia⁵, and their actual presence in the Greenland area is more than modest – almost symbolic – and certainly not as the White House portrays it⁶.

At the same time, China’s attempts to gain a foothold in the island’s economy have encountered major obstacles. For example, in March 2018, authorities in Greenland selected the Chinese state-owned company China Communications Construction Company (CCCC) as one of the finalists for a contract for a major expansion of the airports in Nuuk and Ilulissat. Given that the island’s GDP is only about \$3 billion, Danish and American officials have expressed concern that China’s completion of the approximately \$550 million project would give it undue influence over the

² Chapter II, “China and the Arctic,” from “China’s Arctic Policy” – a document published by the State Council Information Office of the People’s Republic of China.

³ <https://akerarctic.fi/reference/xue-long-2/>

⁴ Xue Long 1 (Snow Dragon 1) was a Ukrainian Arctic cargo ship that was modernized in Shanghai in the 1990s; Xue Long 2 and Zhong Shan Da Xue Ji Di – operated by Sun Yat-sen University.

⁵ <https://www.rosatomflot.ru/press-centr/galereya/>

⁶ <https://www.newsweek.com/map-shows-where-chinese-ships-have-been-detected-off-alaska-2111537>



island's infrastructure⁷. At the same time, Chinese investments in the island's infrastructure could have posed a threat to the U.S. base at Thule/Pituffik. So, the Danish government intervened directly, offered a preferential financing package, and acquired 33% of the project, committing to its completion and thereby preventing the Chinese from gaining access to critical infrastructure.

A similar situation occurred in 2016, when the Hong Kong-based company General Nice attempted to acquire the Danish naval base at Grønnedal, taking advantage of the fact that Denmark had put the facility up for sale after decommissioning it. At that time, Danish Prime Minister Lars Løkke Rasmussen, following the suggestion of Danish and American intelligence agencies, reportedly intervened personally to prevent the Chinese company from completing the acquisition⁸. The Danish government effectively blocked the initiative, simply citing national security concerns, namely the military's return to training and stockpiling activities.

In turn, resource extraction projects involving Chinese participation were blocked, so none of them materialized. For example, in 2015, the Chinese company General Nice acquired the license to operate the Isua iron ore mine from London Mining Greenland, a 100% subsidiary of London Mining Greenland. Not only was the license revoked by the Greenlandic government in 2021, but after several years of inactivity and failure to pay debts⁹, but what is more, the Greenlandic government asked the Chinese company to return all geological data related to the mine, clean up the mining area, and pay the remaining amount owed, approximately 1.5 million kroner¹⁰.

The project to extract zinc from Citronen Fjord, located in the north of the island, for which China Nonferrous Metal Industry had signed an agreement in 2014 with the Australian exploration group Ironbark Pty Ltd

⁷ <https://securingdemocracy.gmfus.org/incident/chinese-state-owned-company-bids-in-airport-construction-contract-that-would-grant-it-significant-influence-in-greenland/>

⁸ <https://www.highnorthnews.com/en/analysis-did-danish-pm-prevent-chinese-acquisition-greenland>

⁹ <https://www.mining-technology.com/news/greenland-cancels-general-nice-isua-iron-ore-project-licence/>

¹⁰ <https://www.reuters.com/markets/commodities/greenland-strips-chinese-mining-firm-licence-iron-ore-deposit-2021-11-22/>



(which holds the rights to exploit the deposit until 2046), lost momentum after its supporters turned to American investors. On December 8, 2021, Ironbark Pty Ltd revealed that it had secured a \$934 million financing agreement with the U.S. EXIM Bank, as part of a U.S. government program designed to help companies compete with China¹¹.

As for the development of the rare earth deposit at Kuannersuit, located in the southern part of the island, the project was halted following the ban on uranium mining imposed by the Greenlandic government in 2021. Although between 2013 and 2021, several foreign mining companies – including the Chinese group Shenghe Resources – received mining licenses and began extraction projects, the Greenlandic parliament voted to halt uranium mining, through Act No. 20 of December 1, 2021. The regulation prohibits “the prospecting, exploration, and mining of uranium” and “the prospecting, exploration, and mining of non-uranium mineral resources, if the average uranium content of the total resource exceeds 100 ppm.¹² in weight”¹³. This situation led to the de facto termination of the project and the withdrawal of the Chinese group Shenghe Resources, as uranium concentrations far exceeding the legal limit were found alongside the rare earth elements. Regarding this project, the Australian parent company, Energy Transition Minerals, has sought, through international arbitration, compensation of \$11.5 billion for the damage suffered as a result of that decision (\$7.5 billion), plus \$4 billion in interest¹⁴.

If we take into account all of China’s failed attempts to establish a foothold in the Arctic region in general, and in Greenland in particular, we can conclude that the White House’s narrative on this subject is, nevertheless, exaggerated, and there is no evidence of a Chinese omnipresence in Greenland, just as there is no basis for claiming a supposed

¹¹ <https://www.afr.com/companies/mining/how-an-aussie-zinc-miner-switched-horses-from-china-to-the-us-20211208-p59fpt>

¹² That amounts to 0.01% uranium by mass of the mined rock.

¹³ https://www.americanbar.org/groups/environment_energy_resources/resources/natural-resources-environment/2026-winter/testing-greenlands-legal-autonomy-regulate-minerals/?utm_source=chatgpt.com

¹⁴ https://etransmin.com/wp-content/uploads/ETM-Summary-of-dispute-and-SoC-Eng-FINAL.pdf?utm_source=chatgpt.com



Danish inability to counter China's growing influence on the island, which is portrayed as a threat to U.S. security.

The military importance of Greenland

On the other hand, even the need for urgent action, based on national security grounds, as claimed by U.S. leaders, cannot be considered sufficiently grounded in strong arguments. Moreover, such a position contrasts with the fact that the U.S. already maintains a substantial presence on the island. Thus, the Pituffik Air Base (formerly Thule) is the northernmost such U.S. facility, which is part of the North American missile defense system and has been operating continuously since the Cold War. The base was built in the summer of 1951, in just 60 days, as part of a secret operation codenamed "Blue Jay"¹⁵. Over the years, the defense mission of Thule Air Base has somewhat changed. At certain points during the Cold War, Thule Air Base and its adjacent facilities housed more than 10,000 people at a time. Currently, the base is home to the 12th Space Warning Squadron, Detachment 3, the 22nd Space Operations Squadron, as well as Danish, Greenlandic, and American contractors.¹⁶

In addition to military assignments, Thule Air Base was also used for scientific initiatives, the most notable being the construction of Camp Century, built near the base with Denmark's approval – essentially a city carved out of ice, 150 miles from Thule. In 1959, a nuclear reactor was installed there to provide heat and power. The research included studies on the structural properties of snow, meteorological studies, and ice coring conducted by the U.S. Army Cold Regions Engineering and Research Laboratory; all of this was a cover that provided the U.S. with a pretext to dig underground the facilities necessary to deploy the missile defense system¹⁷.

On the other hand, according to foreign policy experts, Danish officials were puzzled by the Americans' recent desire to take control of Greenland, since there is already a long-standing agreement allowing the U.S. to increase its military presence there. As far back as 1951, the US and

¹⁵ <https://www.thuleab.dk/index.php/thule-air-base/thule-air-base>

¹⁶ <https://www.petersonschriever.spaceforce.mil/Pituffik-SB-Greenland/dvp/>

¹⁷ <https://www.atlasobscura.com/places/camp-century>



Denmark signed a little-known defense agreement that allows the US to “improve and, in general, adapt the area for military use”, as well as to “construct, install, maintain, and operate facilities and equipment” there¹⁸. In practice, under this agreement, the U.S. could achieve nearly any security objective it deems necessary. In fact, the North American Aerospace Defense Command confirmed on January 19, 2026, that several aircraft are en route to the Pituffik Space Base in Greenland to support planned operational activities, an announcement made amid growing political tensions regarding the status of the Arctic Island.¹⁹

Climate Opportunity

The interest in Greenland cannot be separated from the transformations that climate change is bringing about in the Arctic. The accelerated shrinkage of the ice sheet is opening up new possibilities that seemed impossible just a few decades ago.

Between 1979 and 2024, the extent of the sea ice cover has decreased rapidly, exposing coastal areas and facilitating access to territories that were previously very difficult to reach. These climate changes have direct consequences in terms of natural resources, and the island’s vast territories, which harbor immense deposits, are becoming technically exploitable and economically viable.

At the same time, the reduction in the ice cover is expanding opportunities for maritime access and the transport of minerals either via the Northwest Passage to Canada – shortening voyage times by about two weeks compared to the current route through the Panama Canal – or via northern Siberia to Asia and Europe.

In this context, gaining control over Greenland takes on a forward-looking dimension. It is not, therefore, merely the present situation that is at stake, but rather the anticipation of a scenario in which the Arctic becomes a hub for commercial transit and resource extraction, comparable to other strategic regions of the world. The US, however, does not have a significant Arctic coastline, with the exception of Alaska, while Russia holds half of the Arctic coastline and Canada a quarter. Even though Arctic shipping routes currently operate with certain limitations due to the seasonal nature of

¹⁸ <https://fortune.com/2026/01/08/trump-military-presence-1951-agreement-greenland-denmark/>

¹⁹ <https://defence-blog.com/norad-deploys-aircraft-to-pituffik-space-base-in-greenland/>



navigability, climate models predict that, in the coming decades, ice will no longer be present here during the summer. Located a short distance from the United States (in some places just a few dozen kilometers away) and with over 40,000 kilometers of coastline, Greenland serves as a prime gateway to this new arena of competition for resources.

The race for critical minerals: a major challenge

While the “security argument” can be nuanced – as we have shown – and climate change unfolds over the medium and long term, there is an immediate motivation that can easily and precisely explain why control over Greenland is being sought so insistently. In our view, the key issue is critical minerals, considered essential for the economy, technology, and national security. The supply of these minerals is vulnerable to potential disruptions in traditional supply chains, either because production is concentrated in a few countries or because of geopolitical, commercial, or environmental risks. According to geographical data, Greenland possesses about 25 of the 34 minerals that the European Union has classified as critical for the energy and technological transition²⁰, especially rare earth elements, graphite, cobalt, and copper. In addition, estimates of the quantities of such ores indicate that they are as large as those of the United States and larger than those of Canada²¹. These geological resources take on strategic importance considering the current structure of the global market in this sector. China controls about 70% of global production and approximately 85% of global rare earth processing capacity²², which are essential for the manufacture of wind turbines, electric vehicles, certain military systems, and advanced electronic devices in general. Amid trade tensions with the U.S., China announced on October 9, 2025, restrictions on the export of rare earth and related technologies²³, which raised concerns at the European level²⁴ and globally, including in the U.S., where this vulnerability was keenly felt, as

²⁰ Regulation (EU) 2024/1252 of the European Parliament and of the Council of April 11, 2024.

²¹ <https://www.enca.com/business/minerals-mines-hydrocarbons-greenlands-key-limited-resources>

²² <https://labnews.io/usa-koennen-vollstaendigen-lieferstopp-chinesischer-seltener-erden-nur-wenige-monate-ueberstehen/>

²³ https://www.mofcom.gov.cn/xwfb/xwfyth/art/2025/art_16a053dcadd4095991cf39bb26.html

²⁴ <https://epthinktank.eu/2025/11/24/chinas-rare-earth-export-restrictions/>



the development of certain defense technologies depends on imports from China²⁵.

On the other hand, U.S. efforts to develop its own mining capabilities at the Mountain Pass mine in California have not yielded the expected results, as the deposits there consist primarily of light rare earth elements; it was not until March 2025 that progress was made in the extraction and processing of heavy rare earth elements²⁶. Even the Vulcan Elements project, launched in August 2025, and ReElement Technologies' recycling facilities – though they represented some progress in this area – remained insufficient to meet current needs and were unable to change things in the short term²⁷.

However, integrating Greenland into the U.S. economic sphere would offer a much more direct solution. The island's mineral deposits, if they could be exploited on a significant scale, would provide the U.S. with a source of supply, reducing its exposure to Chinese restrictions and strengthening its strategic autonomy in key sectors. This logic would fit into a broader trend in current U.S. foreign policy, which has also been evident in the mining agreements signed with Ukraine²⁸ aiming to secure access to raw materials through bilateral agreements. However, the issue of distance and transportation routes between the deposits and their extraction sites remains, as Greenland lacks transportation links between its various points of interest, and port infrastructure is very limited. At the same time, a political risk has emerged following the revocation of mining licenses in Kuanerssuit, an act that has weakened investor confidence. Under these conditions, it can be estimated that over the next 10–15 years, even with investments of several billion dollars, no rare earth project would be able to reach the stage of economically viable mining in Greenland. And even then,

²⁵ <https://www.cnn.com/2025/04/15/us-is-unable-to-replace-rare-earths-supply-from-china-warns-csis-.html>

²⁶ <https://www.nationaldefensemagazine.org/articles/2023/2/10/us-begins-forging-rare-earth-supply-chain>

²⁷ <https://labnews.io/usa-koennen-vollstaendigen-lieferstopp-chinesischer-seltener-erden-nur-wenige-monate-ueberstehen/>

²⁸ <https://www.euronews.com/my-europe/2025/05/01/washington-signs-historic-rare-earths-minerals-deal-with-ukraine>



the mined ore would likely have to be sent to China for processing, given China's monopoly on refining capacity.

Challenges for Europeans

An analysis of the Trump administration's approach to Greenland reveals an apparent gap between official rhetoric and underlying motivations. Apparently, the "argument" of the Chinese threat serves merely to legitimize the insistence regarding Greenland by providing a rationale that is easy for the public to understand and accept. It seems evident, however, that the central element of this issue is not the actual presence of Chinese representatives on the island—which is, in fact, very limited—but rather, above all, the prospect of accessing the island's mineral resources, and thereby reducing Chinese dominance within the critical minerals value chain.

In this equation, climate change acts as a catalyst that transforms a remote, hard-to-reach, and economically unattractive region into an area whose strategic importance is growing exponentially, with the focus on critical minerals, without which the energy transition remains entirely at the mercy of the Chinese government.

For the Danish government and the island's autonomous administration, these converging factors create constant pressure and even a dilemma because, on the one hand, the island's economy depends largely on subsidies from Denmark, while political and economic relations with the U.S. are an essential component of Denmark's national security. In this context, U.S. proposals to acquire the island's territory are in flagrant contradiction with both the Greenlanders' right to self-determination and the Danish government's sensitivity regarding interference in its sovereign territory. Therefore, it is highly likely that debates regarding the future of the island, which has its own executive branch, will intensify in the future.

For the European Union, the issue of Greenland raises yet another problem: even though Greenland remained outside the Union when the EU was established in 1973, since 1985 this territory has had association agreements with the European institutions. Thus, a decision regarding the island would require the European Council to adopt a common position. However, this would further highlight the existing differences among EU



member states – between those advocating for strategic autonomy and those supporting the continued development of the transatlantic relationship.

If EU member states fail to adopt a common position regarding the sovereignty of one of the member states, not only will the viability of the European project itself be called into question, but so will the EU's desire to be recognized as a geopolitical actor.

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